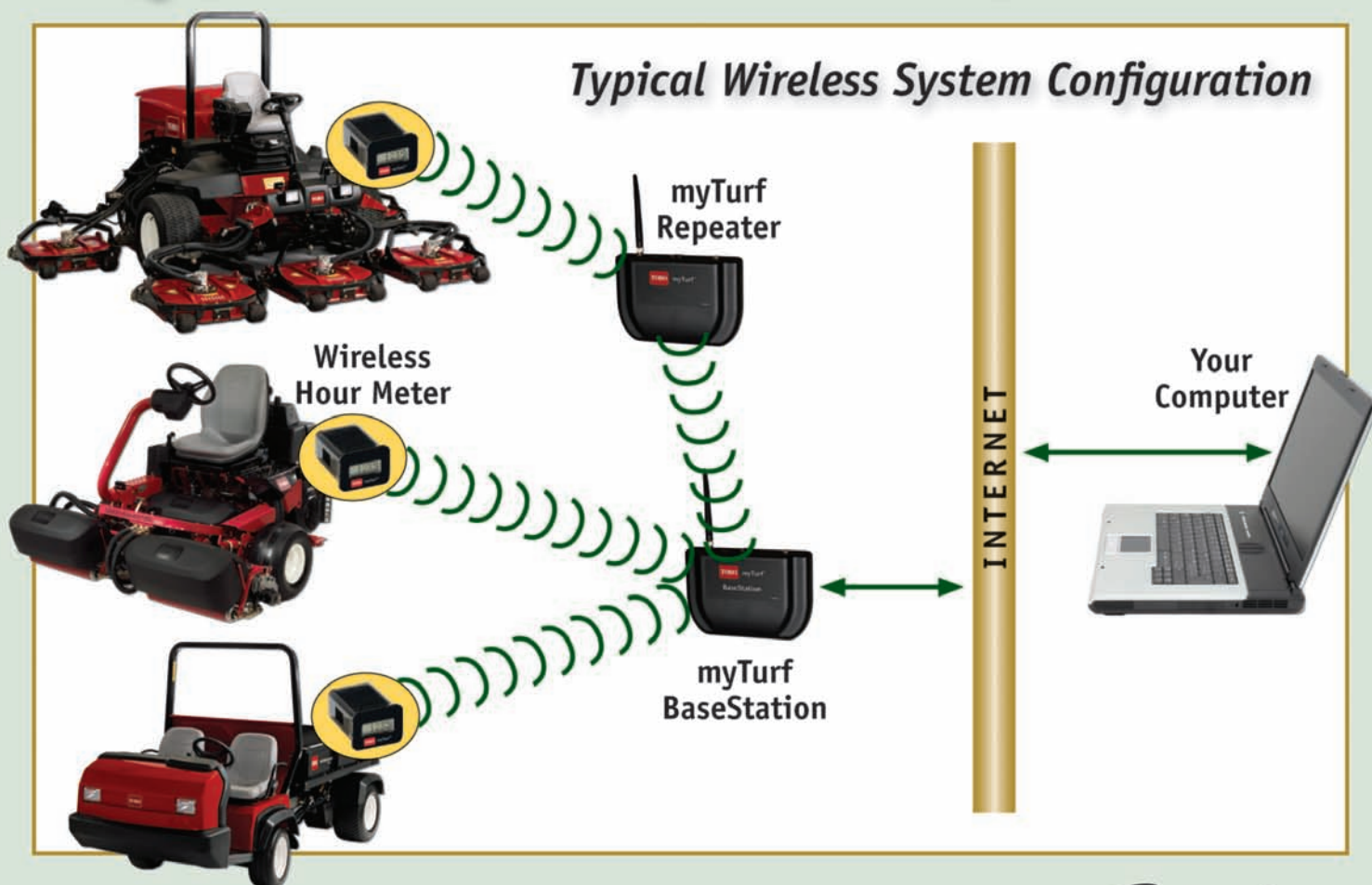


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MAY 2010 Volume 64 No. 1



The third hole at Idlewild, a par 3, from the tee, in early Spring.

**FRONT COVER**

The third hole at Idlewild Country Club from the green, the site of the 2010 ITF - MAGCS combined play day.  
*Photo credit: Luke Cella*

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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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## ON COURSE WITH THE PRESIDENT

Scott Witte, CGCS, Cantigny Golf Club



# Success... The Long and Short of It

*There is something special about the busyness of spring. Most of us are hustling and bustling about trying to meet the demands of another opening day. I'm sitting here attempting to balance the time spent between new construction projects, course clean-up, tidying up around the club house, and every day mowing as the grass begins to scream out of the ground. Spring time seems to resemble every other day in the life of the golf course superintendent. In many ways 2010 is no different from any other year I guess, but how did spring get here so soon? The balancing act begins with everything at the golf course during the day, and then it quickly switches to getting home in time to drive my son to baseball practice. Later on in the evening, I move on to feeling stupid while attempting to help the kids with homework. As the days fly by during the busyness of spring, I can't help feeling that I better stop and smell the roses – in this case, apple blossoms. I also keep thinking back to the toast I made during the Midwest Hospitality event in San Diego, California. I proposed a toast... "To Our Success in 2010," and I'm afraid that it may have come off as a bit trivial and insincere. That toast was anything but insincere. In fact, my vision of success in 2010 goes deeper than you might think.*

The most obvious component of our success in 2010 will be maintaining our facilities at the highest level possible. During uncertain economic times this will require us to step it up a notch throughout the entire season. Our best efforts in communicating strategies to our key constituents, increasing operating efficiencies, and forward thinking will all be a part of our success this year. Stretching staff and resources has become common place throughout our industry, and it seems to be business as usual these days.

Success in our profession is an extremely high priority, but I believe that true success in 2010 will involve a lot more than growing grass and stretching budgets. As much as I enjoy being a golf course superintendent, I'll be attempting to put equal amounts of energy into my responsibilities as a husband and a father. However, the golf course has a strange and powerful allure. It sucks us in and consumes us during the summer, when everyone else is frolicking around and loving the hot, dry weather. I am no different from anyone else in this regard, and striking that balance is a challenge. If I'm going to be honest though, "true success" in 2010 will mean that I have worked hard to schedule time for family and friends.

I believe that another key to success is taking time to recharge. For many of us, the start of the golf season signifies

a 24/7 mentality that ends up being unhealthy if you aren't careful. I think it's important to make a promise to yourself and commit to stepping away from the course if you can. Everyone is wired up different. Only you know your best method of recharging. For me, it's a quick trip up to Portage, Wisconsin, after work on Saturday. A simple 16-hour getaway can work wonders to recharge my batteries. A successful 2010 will definitely involve spending some time recharging and resting when necessary.

When it all boils down, the simple "toast to success," was intended to express my sincere wishes for the well being of the entire MAGCS membership. It is also intended to be an encouragement to everyone in the beginning of this new season. I am able to keep my passion for the profession of green keeping intact by maintaining the right level of balance in the key elements of my life. I'd like to think that I will continue to love what I do even though the economy is less than perfect for our industry. If there was ever a time when our "A" game and passion were required, it's now. Our best efforts to keep our facilities performing at a high level are in high demand. I know the MAGCS membership has the ability to bring it in 2010. I am optimistic about a great golf season, and I wish the "Best of Success" for all of you this season! **-OC**



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## FEATURE I

David Marquardt, *Dirt-N-Turf Consulting*



# Why “New” Greens Fail

*Cubs or Sox; Bears or Packers; Bud or Miller; conservative or liberal; blonds or...well you get it. There are many easy ways to split a room and begin a debate. In the horticulture industry there's no easier way to divide a room than to spark a conversation about container or field grown nursery stock or which is better, dry or liquid nutrition.*

Turf is no different. Debates will always rage about old grass varieties vs. new; new chemistries vs. old; or green vs. red. But perhaps the best way to split a room is to crank up the debate over sand vs. soil. And, like any good debate, each side will have their positive and negative points. Over time, most superintendents will experience both sides of this debate and favor the environment that they like to manage the most.

Logic tells us that it is highly unlikely that we will ever build 'new' soil greens again, which means that someday we will all find ourselves on the same side of this debate. So, since most of us will deal with sand based greens in our careers, let's look at 3 typical construction pitfalls.

### Compatibility of Construction Materials

The first and least likely pitfall to occur has to do with material compatibility. More precisely, the compatibility of the sand used in the greens mix and the gravel used for drainage. (The USGA has developed recommendations for each which can be found on the Green Section website and thus will not be duplicated here.) This first picture shows what happens when proper procedures are not followed.



In this photo you can see that the greens mix has infiltrated the drainage gravel and created a layer that is difficult for water to penetrate. This is much like making a pot of coffee with one filter....no problem. Add a second or third filter and you can still make coffee, but chances are the water will overflow out the top since it will be coming in faster than the finished coffee can permeate multiple filters. In a golf green, this will result in the lower portion of the profile staying full of water and eventually going anaerobic. Gases will form, roots will come to the top in search of oxygen and decline will set in.

The sand used in this construction falls well within the USGA recommendation and the ruler photo shows that the mix, after about an inch of topdressing, was used at the proper 12" depth.



The gravel however is a different story. This course is in an area where bridging gravel is very scarce and expensive to haul. So, instead of adding an 'intermediate layer' with a choker sand/gravel that would have separated the mix from the drainage gravel, the builder simply placed the mix on the locally

*(continued on next page)*



available gravel. I am sure the greens functioned pretty well for a period, but 10 years worth of moving water, freezing and thawing, and aerification have finally migrated enough sand into the gravel that the layer is no longer permeable.

Several superintendents failed on this course before the problem was identified. And unfortunately, there is no quick or cheap fix for this problem. New 2" drainage lines laid above the gravel in the worst areas, along with smile drains, will alleviate some of the symptoms but will not correct the problem. The profile will drain, but much like the double coffee filter, it will take some time. Venting aerification following every major rain event is a must here as is the monitoring of soluble salts, since flushing is near impossible.

### Wrong Construction Sand

Improper selection of construction sand is the 2nd most popular reason for failures in sand greens. Again, the USGA Green Section publishes recommendations for construction sands, but that doesn't mean the standards are always followed.

This lab report is from a green that was supposed to be built according to USGA recommendations. The percent of sand classified as fine to very fine is well above the 20% threshold allowed. Therein, the saturated conductivity is also below the minimum allowance of 6"/hour.

To see what this means in a more visual sense we need to look at a moisture curve of this mix.

Mat (360 deg C ash)		0.71
d Fractions		
re Size	% Retained	
mm		
- 2.0 Fine Gravel	0.61	2.0mm <= 3.0%
- 1.0 Very Coarse Sand	1.19	2.0mm + 1.0mm <= 10%
- .500 Coarse Sand	12.01	
- .250 Medium Sand	53.53	0.5mm + 0.25mm >= 60%
- .150 Fine Sand	22.30	0.15mm <= 20%
- .106 Very Fine Sand	5.87	0.106mm + 0.053mm <= 5.0%
- .053 Very Fine Sand	1.61	
l Moisture Measurements		
rated Conductivity in/hr	3.0	
l Density		
g/cc	1.58	
g/cc	2.60	

A moisture curve is developed by measuring the capillary and air-filled pore spaces at various tensions. The ideal graph would have equal amounts of capillary and air-filled pore spaces at the 30cm level, which is the depth of a 12" green. When the mix is used at the left side of **where the lines cross**, then the mix will carry too much capillary water and remain too wet. When the mix is used at a depth to the right of where the lines cross then the mix will have too much air and be classified as droughty. You can see by this graph that the lines don't even to cross at 40 cm (16") tension which would suggest that this mix will hold a great deal of water.

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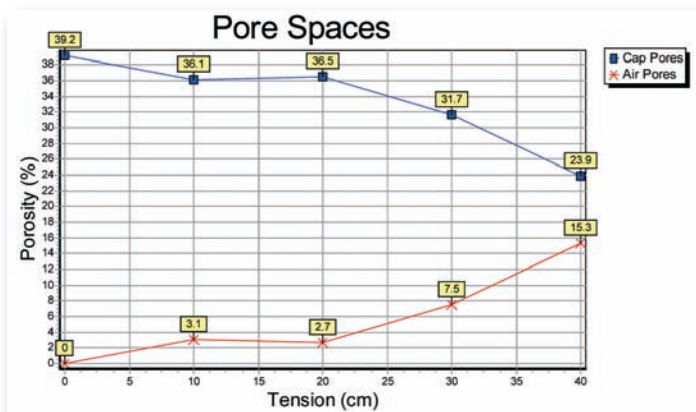


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*A moisture curve is developed by measuring the capillary and air-filled pore spaces at various tensions.*

The profile picture indicates that this green has 14" of mix even after 10 years of topdressing, which suggests that it was built at around 12" in depth. The result is that the mix is constantly wet, there is no oxygen for root development, and thus a heavy matt is developing on the surface since this is the only place where roots can survive.

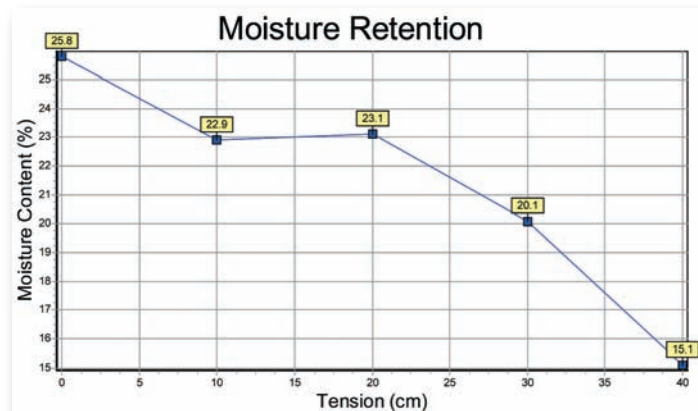


The fix for this superintendent is lots and lots of holes and lots and lots of topdressing. Since there will be no way to correct the lower half of the profile, the superintendent should concentrate on diluting and removing as much of the matt that has developed and provide a more fitting sand to fill aerification holes. Over time this method will alter the moisture curve in the top 6" and form a suitable surface media.

## Improper Mix Depth

Above all else, using greens mixes at depths that are in accurate is by far the #1 pitfall we see in sand based greens construction. This is slightly different than the use of the wrong sand, but many of the physical principles are the same. Two scenarios are most common, but before we get to them it is important to understand the basic principle of capillary and air-filled pore space. Over simplified, capillary water is the water that is held on the surface of the media particles being either sand or organic matter. A simple illustration is to roll up a paper towel and submerge one end into a glass of water. The water climbing up the roll is capillary water. In a sand based, perched water table green, we would hope that the capillary water would 'wick' back up the profile to provide hydration to the turf. When capillary pore space and water is lacking, greens are droughty and additional surface water will be required. Again, this is vastly over simplified but a necessary understanding before we move on. (I would suggest that it should also be fodder for future study.)

The first mix depth pitfall is the use of sand based mixes at the depth of 12" when the physical properties dictate otherwise. In other words, when a moisture curve (illustrated earlier) shows that capillary pore space will raise water 14", then the mix should either be redesigned or used at the 14" depth. If the mix is used at 12" as called for in the USGA recommendations, then the excess 'pull' or 'wick' of water will result in water filling pore space that should be occupied by air. The result of this mismatch will be very shallow rooting and/or black layer. Tension table moisture content readings should also be taken to further determine if adequate moisture holding capacity exists to support germination.



The second, and perhaps the most common mistake on sand based greens, is using the mix to shape the green surface. Recently a client took the time to probe a few of their greens to measure the depths of mix. The most consistent green measured, averaged between 15" and 20" in depth. The least consistent green measured, varied from 10" to as much as 24". Again, employing the principles we have thus far discussed, it is easy to see how parts of these greens will stay far too wet, while others will be continuously droughty. Wetting agents may help some, but the reality is that the irrigation heads need to be turned off and all moisture controlled by hand watering. This long-term expense and management nightmare is avoided by making sure that the gravel bed is properly shaped and accepted prior to adding the greens mix. Suffice it to say that those who shape greens out of mix have never had to manage a sand based environment.

Yes, someday most of us will deal with sand based greens and it is nice to know that when we do, we have some tools to work with. While superintendents may not choose to understand all of the physics that are involved with construction materials, (and only a few have been discussed) they should gain familiarity with the construction and testing methods that are available. I would further suggest that when looking at job opportunities, growers get detailed information about the methods and material testing that was employed during construction. It might keep them from making a terrible mistake.

Lastly; definitely Cubs, Bears and Bud! The rest is up for discussion. -OC



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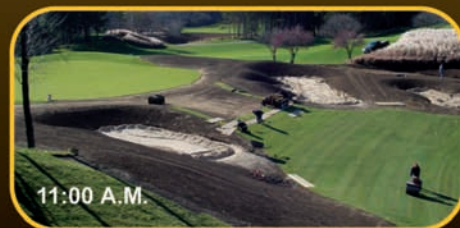
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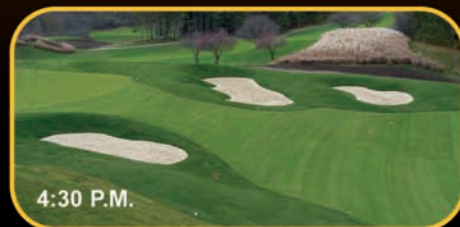
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# Take Care of Yourself...Literally

*As we travel down the road of life, we often encounter speed bumps along the way. It is how we handle these challenges that affect our life and future.*

When I was asked by my good friend, Bob Kohlstedt, to write an article for *On Course*, I told him I would, and then I thought about the many topics I could discuss. After deliberating for over a month, I realized that Bob has been on the board for over two years, and yet I have never read any of his musings.

I thought about the topics that I could write about and whether I should proceed and write an article. I have to be honest. I was somewhat embarrassed about my level of participation within the association. I am the only salesman for a small privately owned company and call on about 100 turf customers, and I also do the purchasing and distribution. It doesn't leave a whole lot of extra time to attend monthly meetings or be involved on a committee. Only after thinking about the many friends, customers, and the competitors for whom I have respect and regard did I make up my mind and proceed with my thoughts.

What should I write about? The topics of fertilizer pricing, the different controlled release products that are available, and the life and times of a salesman crossed my mind, but I decided to write about something we all could relate to – our health.

I turned 50 a few years ago. As the surprised guest at a birthday party, I was the recipient of many gifts and many barbs about being "over the hill." I distinctly remember thinking to myself: what in the heck are they talking about? I was in good health; I could toss bags of fertilizer with no problem; and I still enjoyed tossing back a few Miller Lites with my friends. The next day, as I was going toward town for some groceries, I saw someone pointing and laughing behind me. When we got to a four-way stop, I got out of my vehicle and asked the driver behind me what was so funny. When I realized that my sisters had put a metallic bumper sticker on my car that read, "honk, driver just turned fifty," I returned to it sheepishly.

The next year the Golf Industry show was in Orlando. When I returned home, the next night was the Super Bowl.

After going to a party, my heart was pounding. I was afraid that I was having a heart attack. I drove myself to the hospital to learn I had an upper respiratory infection and a bad case of acid reflux.

It gets better. The next year the show was in New Orleans. The Friday night before we were to leave I walked out to my vehicle and slipped on some "black ice." While I was sliding, my right foot hit a protruding chunk of ice and my right leg broke in four different places. My foot was turned 90 degrees to the right after the fall. I endured surgery, the insertion of two screws to keep the damaged ligaments in place, and over four months of therapy before I was finally able to walk normally.

But nothing could prepare me for this past January. I was scheduled to have surgery to remove the two screws from my ankle. Once again my heart had been pounding over the Holiday Season. I didn't like my current doctor. Based on recommendations from several of my friends, I decided to make a change. It turns out that it might have been the best thing that I have ever done and possibly saved my life.


The new doctor scheduled several tests and asked me to postpone the surgery on my ankle. He called me the night of my CT scan and asked me if I was sitting down. He then informed me that they had discovered an aneurysm right outside my heart. He asked me to come into the hospital and admit myself so that they could check some more things out and have the cardiologists and surgeons review my results.

After that call you could have knocked me off my chair with a feather. I sat there for about an hour with a myriad of thoughts and emotions running through my mind. I finally got enough strength and resolve to call my mother and family to tell them what was going on. It was a tough thing for me to digest.

The purpose of writing this is not only about me. It's about all of us. We all need to think about our health and make sure we are doing the right things to confront life's speed bumps.

*(continued on page 11)*





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