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Table Of Contents

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NOVEMBER 2009 Volume 63 No. 7

The last time the sun shone in October was for the MAGCS College Championship, at least that's how it has felt. Arrowhead's finishing hole with a great mum display.

FRONT COVER

No other profession in the world uses the tools on the cover.
The cup location on the 10th hole of Dubs on Friday of the BMW Championship.
Cover and above photo: Luke Cella

ON COURSE WITH THE PRESIDENT

3 In the 11th Hour.
Tony Kalina

SUPER –N– SITE

5 Renovation of Medinah's Course Number Three
Josh Therrien

FEATURES

7 Save Some Green with CDGA Research
Keith Rincker

13 Ten Years After
Fred Behnke

DEPARTMENTS

16 Midwest Breezes
Charles Anfield

18 the Bull Sheet
John Gurke

27 News from Allied Groups
Luke Cella

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.

All editorial and advertisement inquiries should be directed to Luke Cella, Publisher, *On Course*. 11855 Archer Avenue, Lemont, IL, 60439. (630) 243-7900 or visit www.magcs.org for rates and requirements. Statements of fact and opinion are the responsibility of the authors alone and do not imply an opinion on the part of the officers or members.

ON COURSE WITH THE PRESIDENT

Tony Kalina, *Prairie Landing Golf Course*

In the 11th Hour.

My term as MAGCS Chapter President will come to a conclusion at the 57th MAGCS Annual Meeting and Midwest Turf Clinic on November 4th. The past eleven months have been one of the most rewarding episodes of my professional career. I thoroughly enjoyed serving our membership as chapter president. Sixty-seven men have served as Chapter President before me. I am humbled, honored, and proud to be included among them. I appreciate and admire those who have served on the MAGCS Board of Directors this year, and in years past. They have held me high upon their shoulders with hard work and devotion. Your efforts have advanced our association's causes, mission, and goals. Thank you.

Last November, as my term started, I thought that this term would be no different from other Chapter President's terms. I'd take my place, follow the protocols in the "Chapter President's Handbook," incorporate some new twists, and work through a 'normal' term.

It wasn't that calculated.

With the assistance of Luke Cella, he and I developed a new board management tool we called the 'Director's Dashboard.' The Dashboard was developed to streamline the internal business transmissions of the MAGCS Board, via the web. It provided directors the opportunity to do Board work and reporting, at their leisure, outside of work. The Dashboard gave directors instant access to an updated calendar of events, to reports, and communication. I think this year's version of the Dashboard was a very good, working, first draft of this tool. I am certain that future boards will continue to use the Dashboard and tailor it to their changing needs.

During my Board service, I have thought that greater attention to the needs of our commercial members and their companies was needed. I felt that this would fill a gap and boost the benefits to the Association. Toward this end, I shaped a special task force this year within the committee structure of MAGCS Board, called the Partnership Task Force (PTF). The goals of the PTF were: 1) Increase visibility and advertisement value, 2) Boost sponsorship opportunities, and 3) Provide greater 'touch' opportunities between Commercial Members and Superintendents. In opening this dialogue, we attempt to address the needs of this important class of members and build a good foundation for future work.

Without question, the economic downturn of '08 and '09 affected the Chicagoland golf market. Many operations - club house and grounds, public and private - had their operating and capital budgets suddenly revised and stretched in order to pull through. I think we all felt the need to buckle down and find ways to be more frugal and efficient. The absence of summer's normal heat and disease stresses were a blessing to many bottom lines. It was the easiest July in my memory for golf course conditioning and heat stress management. Although the economy is displaying a rebound and recovery, I believe there is much work ahead to regain profitability and conditioning standards in this new economy.

In closing, I am looking forward to functioning as MAGCS's Immediate Past President, and I pledge to whole-heartedly serve, our new President, Scott Witte, CGCS, however he sees fit. It will be exciting to have my friend and close confidant follow-up on my term. I know I have plenty of energy in the tank to continue to contribute, serve, and support him and our association. I am looking forward to the new board challenges and opportunities ahead. All in all, for me, it was great year – it was a pure, professional pleasure to serve.

The clock is approaching 12 p.m. A new day is near. My time is up! **-OC**

SUPER –N– SITE

Josh Therrien, *St. Charles Country Club*

Renovation of Medinah's Course Number Three

Late in the summer, Curtis Tyrrell, CGCS, and his staff took major steps in the renovation of Medinah's Course Number Three. The renovation has included the re-seeding of fairways, reconstruction of greens, and a complete overhaul of the fifteenth hole. Prior to this leg of the construction, liners had been installed and new sand was put into all of the bunkers. Additionally, the practice facility endured many upgrades, including a brand new short game area. Many of the target greens at the newly established practice area were seeded with a variety of bentgrass cultivars. Curtis used these to evaluate the best choice for use in the renovation of Course Number Three. Construction of the practice facility began in August of 2009 and was completed in November.

At the completion of the Course Number Three project, all eighteen greens plus a practice green will meet USGA Specs. Six of those greens had already been constructed to USGA Specs, so they were sterilized with Methyl Bromide, slightly re-graded, with a few swales put in according to natural slope, then seeded. The subsurface of the remainder of the greens was revamped to meet USGA specs. Curtis decided to seed with a blend of Seed Research of Oregon's (SR) 007 at (70%), and SR 1119 (30%). The seed went down at 1.75 pounds per 1,000 square feet. A chicken-based compost was added in order to give the seed the right amount of fuel to germinate and establish in the sand. Irrigation heads had to be adjusted to accommodate a slight resizing of the greens. The contours of the green surrounds remained the same with exception of the fifteenth hole.

Renovation of the fairways began on August 17, 2009. By September 17, all were seeded and had been cut for the

(continued on page 15)

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FEATURE ARTICLE I

Keith Rincker, *Turfgrass Research Manager*

Save Some Green with CDGA Research

Over the past year, many golf courses were faced with reduced budgets. Thankfully Mother Nature helped which enabled fungicide use to be reduced. So far the worst of the economy's worries appear to be over, but for many, budgets will still be a topic and the question remains the same: "How can I reduce my expenses and still keep the same quality standards?" The Chicago District Golf Association (CDGA) Turfgrass Program was founded in 1985 to assist courses with acute problems, primarily diseases. The program has grown to conduct yearly research on Sunshine Course and off-site research on other golf courses. In part, research is driven by the common goal of how to improve quality or save money while maintaining the same quality. A year ago I started thinking about the numerous ways our recent research and information can be used to save money. Here are my ten money saving picks.

USGA Funded Research

1) In 2006, Dr. Derek Settle and Dr. Randy Kane conducted research to suppress moss that commonly invades putting green surfaces. They tested baking soda—a common household item—as a spot application. Additional treatments were the herbicide Quicksilver and the fungicide Daconil Ultrex, as well as a three-way fungicide treatment of Daconil Ultrex, Fore, and Spotrete. All of the treatments were found to suppress moss without phytotoxicity but the baking soda treatment only required two spot applications in the spring compared to twelve fungicide applications every 14 days! In the research, baking soda was mixed at a rate of 6 oz/gallon and applied to each moss colony with three sprays from a hand spray bottle. The surface of the moss will become wet and the baking soda works as a desiccant to suppress the moss. This can work well when moss is localized into spots. I must note that baking soda is not labeled for this use. Larger areas of a moss and bentgrass mixture would be better treated with a broadcast mixture of Quicksilver at 6 oz/Acre.

Figure 1.
A mixture of baking soda and water can be used as a cheap control of moss on putting greens.

2) Research conducted on Sunshine Course and at the University of Maryland in 2007 and 2008 put six biostimulant products in a side-by-side test. The results were not as expected and while many of these products are not normally used as a stand-alone fertilizer for a putting green, the research left me asking myself two questions: "What added benefits am I gaining from

(continued on page 9)

each product?" and "Are these benefits worth what I am paying?" "Back to the basics" is an old saying and I heard it a lot this year. Introductory turfgrass management classes teach us what all plants need to survive. If we categorize six of the most important nutrients, we get three from the air or soil: carbon, oxygen, and hydrogen. Those needed in the next largest quantity are nitrogen, phosphorus, and potassium—also known as N-P-K. These nutrients comprise the majority of our fertility program because they are needed in the plant for primary functions. The end result was that nitrogen provided by spoon-feeding urea every 14 days performed best by providing best overall plant health on a consistent basis both years.

Disease Control Research

3) CDGA research has been conducted off Sunshine Course over the last two years at North Shore Country Club and Coyote Run Golf Course. A single study has evaluated fungicide programs with the objective of reducing applications and total cost on a *Poa annua*/bentgrass fairway (North Shore in Glenview) versus a 'Southshore' bentgrass fairway (Coyote Run in Flossmoor). There are various strategies that can be used in fungicide programs. Some are strictly preventative and applications are made before conditions are favorable. Others are based on a curative approach or possibly a mixture of both. Dr. Derek Settle composed a program that used both a curative approach and then later in the season, a preventative. During 2009, the first application of this program was held off until June 16 when symptoms of dollar spot appeared and weather conditions were favorable for development. Emerald was then applied and scouting began again after approximately a month of control; in times of low disease pressure, the length of control can be as much as 45 days. The next applications were systemic products based on a 21 day schedule followed by the last application of Emerald around the beginning of September. For the CDGA program, only five applications were needed in 2008 and four in 2009. The program saves money by waiting until dollar spot conditions are favorable and increasing the number of days between sprays. This is easiest in early summer when environmental conditions are not favoring the rapid development of dollar spot disease. Another program tested was preventative but relied on rotating three systemic products: Emerald, Chipco 26GT, and Banner Maxx. This program could have become expensive with eight total applications but low rates were used. The most expensive fungicide program was Daconil Ultrex every 14 days. The eleven total applications add up quick as well as the cost.

4) Fungicide trials have increased at the CDGA over the last few years. New chemistries, names, and combinations have come out and now fill the market. This year on Sunshine Course in Lemont, we tested thirty treatments for their dollar spot control in a bentgrass fairway in addition to conducting two studies on putting greens with approximately one dozen treatments each. Every year several new products are tested and our research field day is a great place to see these new products and help base your fungicide decisions for next year. In recent years, combination products have added more names and complexity to the decisions. These products often have two or more active ingredients and can easily become an expensive product, but the effectiveness of the product must be evaluated to determine if the money is well spent. Two different classes of fungicides can be very beneficial; however, in some cases, mixing the two ingredients in your own tank can save you money. With more options available, we have the opportunity to make decisions based on the longest control and cost.

Figure 2.
Fungicide testing has become more important as additional products become available.

5) This past year we included research treatments of biorational products to control dollar spot. Biorational products use biological or alternative methods to control disease. These are not labeled as pesticides and are typically used to reduce fungicide inputs. Once the decisions are made to use these products to reduce fungicide input, research is needed to help determine which products can perform the way they are marketed. Biological products are typically not as effective as fungicides at controlling dollar spot because it is hard for the biological (e.g., bacteria) to become established and survive within the turfgrass environment. High rates are typically used and application intervals can be frequent. Occasionally costs add up quickly without adequate control. Pigment products must also be considered as an alternative. Although many fungicides are being released with pigments, the green color itself may help to mask the symptoms of disease or phytotoxic effects. One biorational product that has surprised us with its control of dollar spot is DewCure by Mitchell Products. This product is designed to control moisture on the leaf blades that are needed for fungal growth. Our research has included this product with only one or two curative applications of fungicide within the last two years. However, phytotoxicity often occurs and further testing is needed to improve its quality. Perhaps a green pigment may help mask yellowing of certain products?

6) Fungicide trials are also set up yearly to control diseases other than dollar spot. During the last two years, control of Waitea patch has been studied. This is an old disease that has gotten a lot of press lately and a new name. Dr. Randy Kane identified this disease as *Rhizoctonia zeae*. However, with more information and a new genetic finger-printing method, we have found out that fungal pathogens are more accurately called *Waitea circinata* var *circinata*. The symptoms appear on *Poa annua* in Chicago as bright yellow rings. In Japan, the disease in bentgrass has been described with symptoms that

(continued on page 10)

include brown rings and gave the disease the common name 'brown ring patch'. In research trials to control the disease, most fungicides have shown to be effective except the contact fungicide Daconil Ultrex. We have learned, Waitea infects the leaf sheaths and systemic products are needed to control the disease. We also now know a broader spectrum of fungicides (i.e., nearly all DMIs) can suppress this Rhizoctonia disease which is now called Waitea.

Fairy Ring research has escaped us the last two years. Cool summer temperatures have kept the disease from developing in research trials. However, in 2006, preventative research found demethylase inhibitor (DMI) and Prostar fungicides can provide suppression of fairy ring symptoms. The problem with DMI fungicides is that phytotoxicity can occur when applied in hot weather or when applied to certain turfgrass such as sensitive *Poa annua* biotypes. In 2006, applications were timed in June and July. During the months of July and August, Prostar should be used as a curative treatment and it will not risk phytotoxicity. In recent golf green tests, at Kemper Lakes Golf Club in Kildeer and Ruth Lake Country Club in Hinsdale the best visual quality has come from urea plots that used nitrogen to mask the effects of fairy ring. Our research on Waitea and fairy ring are two more examples of fungicide testing to control problematic turfgrass diseases. It should be noted that these results can be used in an integrated pest management program (IPM) and allow suppression of more than one disease. For example, fungicides used to control Waitea or prevent fairy ring could be used to suppress dollar spot as well.

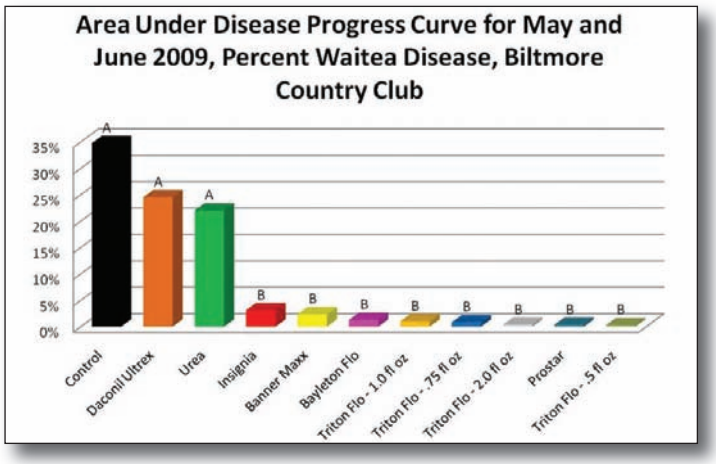

Figure 3.
Systemic fungicides used to control Waitea in the spring could be used as the first application to prevent dollar spot.

Turfgrass Varieties and Species

7) Genetics can ultimately determine much of the costs to manage a turfgrass at a desired quality. When varieties are chosen with genetics in your favor, cost savings can begin to occur. Within the last year we established two new bentgrass variety trials on Sunshine Course. Both are cooperative efforts with eleven Midwestern universities. We are looking at dollar spot resistance and the inputs required in maintaining acceptable conditions. New varieties have been released with better resistance than the 'L-93' standard of over ten years ago. 'Declaration' has shown good resistance in National Turfgrass Evaluation Program (NTEP) tests. Now all that remains is to figure out how many fungicide applications are needed to maintain quality and to compare the findings to older varieties. Genetic disease resistance in your newer varieties can save money by requiring fewer fungicides. Another genetic component that will get more attention in the future is thatch production. For now the data is limited. In the future, we hope to determine which varieties may require more cultural inputs.

Figure 4.
Bentgrass varieties vary in their level of dollar spot resistance and fungicide requirements.

8) Selecting the correct turfgrass species is equally important. Sunshine Course was established with six different turfgrass species as well as many other prairie and pasture grasses that were included for research and demonstration. Dr. Tom Voigt established many species including fine fescue, buffalograss, and blue grama to investigate reduced mow areas. In fairways we learned that colonial bentgrass does not perform well in Chicago. Brown patch becomes a big problem and weeds such as "creeping bentgrass" become established. Today, Sunshine Course and our off-site research locations have replicated trials that include the species: creeping bentgrass, colonial bentgrass, velvet bentgrass, Kentucky bluegrass, and tall fescue. Velvet bentgrass has shown a propensity for pink snow mold damage at North Shore Country Club and is another bentgrass we do not recommend for northern Illinois. In contrast, tall fescue may be an option to reduce inputs and save money but it is not used frequently this far north. Our extensive tests on Sunshine Course will help answer if this species is an option for the Chicagoland area.

For demonstration our number 3 teebox has Supina bluegrass (*Poa supina*) and warm season turfgrasses such as zoysiagrass and bermudagrass. This past spring we learned that one warm season species did not survive the cold temperatures of last winter. All of our seashore paspalum varieties and 'Tifway' bermudagrass did not survive while other bermudas and zoysia did survive. Testing of different grasses is important for understanding the benefits they may offer. The differences between turfgrass species are much greater than within varieties of one species. For example, it can be difficult to find a variety with heat and drought tolerance but perhaps the answer could be found in a different turfgrass species. As we further refine our abilities to reduce costs, I believe alternative species will fill more niche roles in reduced management areas.