

The GRASS ROOTS

AN OFFICIAL PUBLICATION OF THE WISCONSIN GOLF COURSE SUPERINTENDENTS ASSOCIATION

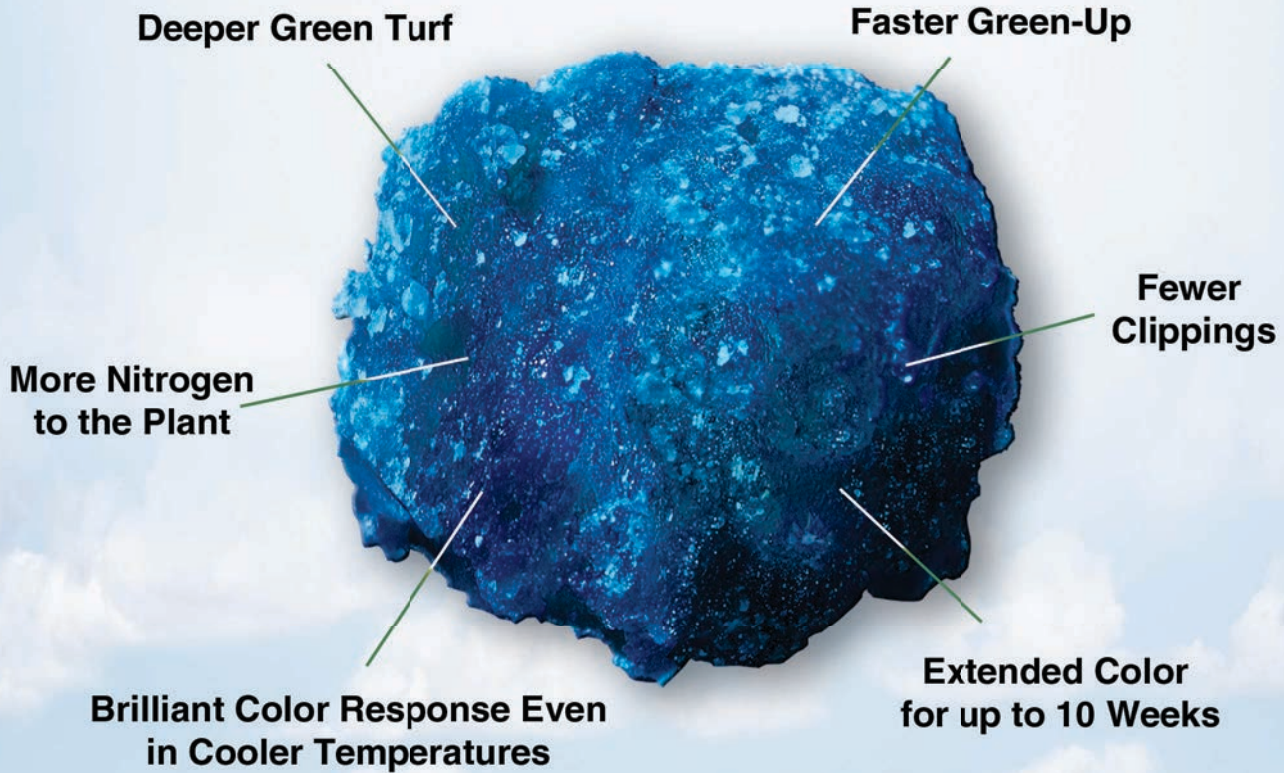
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ABOUT THE COVER

The 593 yard par 5 17th hole at The Bog in Saukville. The Bog recently hosted the Wisconsin State Amateur Championship.

Twenty years from now you will be more disappointed by the things that you didn't do than by the ones you did do, so throw off the bowlines, sail away from safe harbor, catch the trade winds in your sails. Explore, Dream, Discover.

By American Author Mark Twain (Samuel Clemens)(1835-1910);
 This quote by Twain reminds us to leave our protective shells and try new things and enjoy our careers and lives.

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THE GRASS ROOTS

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EDITOR

David A Brandenburg, CGCS
 Rolling Meadows Golf Course
 PO 314 Theresa, WI 53091
grassroots@wgcsa.com



2013 WGCSA OFFICERS AND DIRECTORS

Front Row: Chad Harrington, Colin Seaburg, Jim Van Herwynen, Jon Canavan. Back Row: Brett Grams, Jeff Millies, Jeff Barlow, Josh LePine, Jake Schneider, Scott Bushman, Kevin Knudtson. (Not pictured Steve Wasser.)

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Chad Harrington
 Autumn Ridge GC
 335 Berge Street
 Valders, WI 54245
putter@lakefield.net

DIRECTORS

Scott Bushman
 Fox Valley GC
 W1759 CTH UU
 Kaukauna, WI 54130
foxvalleygolf@netzero.com

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 South Hills Golf & CC
 1175 Fond du Lac Ave.
 Fond du Lac, WI 54935
jkvanherwynen@charter.net

Josh Lepine, CGCS
 Maple Bluff CC
 500 Kensington Drive
 Madison, WI 53704
mrpiner@aol.com

TREASURER

Colin Seaburg
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 1175 N River Road
 Mequon, WI 53092
colin@auzaukeecc.com

Kevin Knudtson
 Geneva National GC
 2200 Petrie Rd.
 Lake Geneva, WI 53125
kknudtson@gnresort.com

SECRETARY

Jon Canavan
 Milwaukee County Parks
 9480 Watertown Plank Rd
 Wauwatosa, WI 53226
jon.canavan@milwcnty.com

Jeff Barlow CGCS
 Waupaca CC
 1330 Ware St.
 Waupaca, WI 54981
jbarlow@solarus.net

VENDOR LIAISON

Steve Wasser
 John deere Golf
 1700 Peters Road
 Kaukauna, WI 54130
swasser@johndeeregolf.com

PAST PRESIDENT
 Jeff Millies, CGCS
 Edgeweod GC
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 Big Bend, WI 53103
jmillies@wi.rr.com

Class C Representative

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 3606 Blackhawk Dr.
 Madison, WI 53705
[Email: jake@blackhawkcc.com](mailto:Email:jake@blackhawkcc.com)

CHAPTER MANAGER

Brett Grams
 N9122 Virginia Dr.
 Waupaca, WI 54981
bgrams@wgcsa.com

Dreams


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

I attended a twenty-five year class reunion a couple weeks ago and I have to admit, it actually made me think about some of the choices we make. A fellow class member was asked if he would be willing to address the group as the keynote speaker as one of the few individuals in our country who has literally and figuratively climbed Mt. Everest. The thought of such a feat seems impossible, but when we let our minds wander, we start to realize that we all have Everest's that we have to conquer.

Everyone has dreams. Without dreams we would have not goals in our life, families or even or careers. Our dreams

are what push us to improve every day. They inspire us to be better than we were the day before and give us a reason keep moving forward. In our profession, I have dreamed of 75 degree sunny days and light rains every other night. I have dreamed that hydraulic leaks would never happen and that turf disease could be treated with an immunization. I dream that golfers would truly understand the rules and etiquette of the game and they respect the facility as we do, and would care to leave the course in the same condition they had it to enjoy. Fortunately for us as Superintendents, those dreams are just that....Dreams.

Without the hurdles and pitfalls of poor weather conditions, unrealistic player demands, and the ever changing industry there wouldn't be a need to have the educated professional Superintendent in the roles we have worked to so hard to achieve.

We never know when a true dream will inspire us and give us a goal to chase. We don't know where a dream will guide us or in what way it will impact our lives. I can just hope that each and every one of us has the strength to dream and peruse our goals. I wish each and every one of you the best, and good luck climbing your Mt. Everest....Whatever it may be. 



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Impact of Spring and Fall Fungicide Timings On The Development of Typhula Blight and Dollar Spot On Golf Course Turfgrass

By **Dr. Paul Koch**, Department of Pathology, University of Wisconsin - Madison and
Dr. Jim Kerns, Department of Pathology, North Carolina State University

Author's Note: This article is based on research previously published in the International Turfgrass Society Research Journal, Vol 12. Support for the research was provided by the Wisconsin Turfgrass Association and the Wisconsin Golf Course Superintendents Association.

Over 70 different fungal diseases can adversely affect turfgrass planted as home lawns, golf courses, athletic fields, and other settings around the world (Smiley et al., 2005). Approximately 12 of these are severe enough to require routine or repeated fungicide applications, most often on creeping bentgrass (*Agrostis stolonifera* L.) in intensively-managed golf course settings (Latin, 2011). In temperate climates, the number of diseases that require routine fungicide applications on creeping bentgrass can be narrowed down to five or fewer. In climates similar to the Great Lakes region of the United States, the majority of fungicides applied to creeping bentgrass are applied to manage dollar spot (*Sclerotinia homoeocarpa* F.T. Bennett), Microdochium patch (*Microdochium nivale* (Fr.) Samuels & I. C. Hallett), and Typhula blight (*Typhula incarnata* (Fr.); *T. ishikariensis* Arsvoll and J.D. Smith). Reducing the overall number of fungicide applications required to manage just these three diseases could lead to a significant reduction in overall fungicide usage, providing environmental, toxicological, and financial benefits to the turfgrass manager.

Conventional fungicide programs to preventatively manage dollar spot, Microdochium patch, and Typhula blight in regions such as the Great Lakes can result in ten or more fungicide applications in a single growing season. Repeat fungicide applications can pose ecotoxicological risks if applied improperly and fosters a negative social profile of turfgrass management (Alavanja et al., 2005; Robbins et al., 2001). Routine

fungicide applications also administer a substantial financial burden on most golf courses, with season-long protection of putting greens costing upwards of \$10,000 (Vincelli and Dixon, 2003).

Previous research has demonstrated that early-spring fungicide applications made well before dollar spot onset can reduce initial dollar spot inoculum levels and delay dollar spot symptom development (Kaminski and Putman, 2007; Koch et al., 2009; McDonald and Dernoeden, 2006). Previous research has also demonstrated that fungicides applied to manage Typhula blight and Microdochium patch in the fall may reduce dollar spot development the following season, presumably due to a reduction in dollar spot inoculum the previous fall (Burpee et al., 1990; Landschoot et al., 2001). This research suggests that the impact of both fall and spring fungicide applications on the initial level of dollar spot inoculum may be significant, and could allow golf course superintendents to reduce fungicide usage the following growing season without sacrificing turfgrass quality. The primary objective of this study was to determine the impact of fall and spring fungicide applications on the development of dollar spot, Microdochium patch, and Typhula blight.

MATERIALS AND METHODS

The study was conducted on two plots maintained as either a golf course fairway or putting green at the O.J. Noer Turfgrass Research (OJN) and Educational Facility in Madison, WI. The study was initiated in the fall of 2008 and lasted through the summer of 2011, with the first disease ratings in spring 2009. The fairway study was conducted on mature creeping bentgrass (*Agrostis stolonifera* 'Penncross') maintained at a height of 0.5 inches on natural soil, and the putting green study was conducted on mature 'Penncross' creeping bentgrass maintained at a height of 0.14

inches and grown on a USGA-recommended root zone. In order to determine the cumulative effect of fungicide applications in subsequent years, the same experimental layout was used at each plot in each year of the study.

Treatments consisted of six different fungicide timings, a non-treated control (NTC), and a conventional fungicide program (CP). The six individual treatment timings were; one late fall application (LF), one late spring (LS); one late fall plus one late spring (LF/LS); one early fall plus one late fall (EF/LF); one early spring plus one late spring (ES/LS); and two fall plus two spring applications (2F/2S). Specific fungicide application dates are listed in table 1. The conventional program for both the fairway and putting green plots were provided by a local golf course superintendent and is listed in table 2.

The active ingredient boscalid (Emerald®) was used in the EF and LS applications because of its efficacy against dollar spot. The EF and LS applications were made once soil temperatures at a 2 inch depth reached 50 to 55°F for a five day period in the fall or spring of each year, respectively. A combination of the active ingredients iprodione (Chipco 26GT®) and chlorothalonil (Daconil WeatherStik®) were used for the LF and ES applications because of their efficacy against Microdochium patch and Typhula blight. The LF application was made 2 weeks prior to expected snowfall when 2 inch soil temperatures ranged from 34 to 40°C. The ES applications were made once the 2 inch soil temperature reached 46 to 54°F for a five day period each spring. All fungicides were applied at the full label rate using a CO₂ - pressurized boom sprayer at 40 p.s.i. equipped with two XR Teejet 8004 VS nozzles. All fungicides were agitated by shaking and were applied in the equivalent of 2 gallons of per 1000 ft².

WISCONSIN PATHOLOGY REPORT

Table 1. Application dates for each fungicide timing treatment in 2009, 2010, and 2011 at the OJ Noer Turfgrass Research Center in Madison, WI. Applications were made to the fairway and putting green plots at the OJ Noer on the same date.

	2008-2009	2009-2010	2010-2011
Non-treated Control			
Late Fall	11/23/08	11/12/09	12/2/10
Late Spring	5/15/09	5/19/10	5/13/11
Late Fall + Late Spring	11/23/08, 5/15/09	11/12/09, 5/19/10	12/2/10, 5/13/11
Early Fall + Late Fall	10/31/08, 11/23/08	10/20/09, 11/12/09	10/21/10, 12/2/10
Early Spring + Late Spring	4/17/09, 5/15/09	4/19/10, 5/19/10	4/7/11, 5/13/11
Both Fall + Both Spring	10/31/08, 11/23/08, 4/17/09, 5/15/09	10/20/09, 11/12/09, 4/19/10, 5/19/10	10/21/10, 12/2/10, 4/7/11, 5/13/11
Conventional Program	See Table 2.		



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Table 2. Approximate dates of application, product, and product rate of the conventional program used on both fairway and putting green plots in 2009, 2010, and 2011 at the OJ Noer Turfgrass Research Facility in Madison, WI. Program was provided by a local golf course superintendent, and approximate application dates were the same in all 3 years.

Approximate Application Date	Product	Product Rate	Active Ingredient
June 1 st	Emerald®	5.5 g/100 m ²	Boscalid.
June 28 th	Daconil WeatherStik®	101.8 ml/100 m ²	Chlorothalonil.
July 12 th	Daconil WeatherStik®	101.8 ml/100 m ²	Chlorothalonil.
July 19 th	Daconil WeatherStik®	101.8 ml/100 m ²	Chlorothalonil.
July 26 th	Daconil WeatherStik®	101.8 ml/100 m ²	Chlorothalonil.
August 2 nd	Curalan®	30.5 g/100 m ²	Vinclozolin.
August 16 th	Emerald®	5.5 g/100 m ²	Boscalid.
September 27 th	Curalan®	30.5 g/100 m ²	Vinclozolin.
October 11 th	Curalan®	30.5 g/100 m ²	Vinclozolin.
December 1 st	Instrata®	295.7 ml/100 m ²	Chlorothalonil, Propiconazole, Fludioxonil.



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WISCONSIN PATHOLOGY REPORT



University of Wisconsin-Madison
Turfgrass Pathology

Dollar spot incidence - 2009

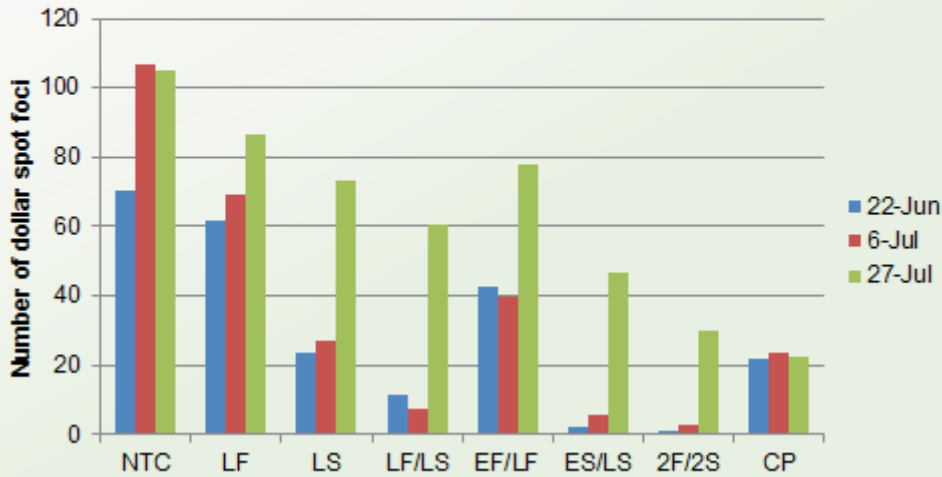


Figure 1: Number of dollar spot foci on putting greens at the OJ Noer Turfgrass Research Facility in Madison, WI during the summer of 2009. NTC – Nontreated control; LF – Late Fall; LS – Late Spring; LF/LS – Late Fall + Late Spring; EF/LF – Early Fall + Late Fall; ES/LS – Early Spring + Late Spring; 2F/2S – 2 Fall + 2 Spring; CP – Conventional Program.



University of Wisconsin-Madison
Turfgrass Pathology

Dollar spot incidence - 2010

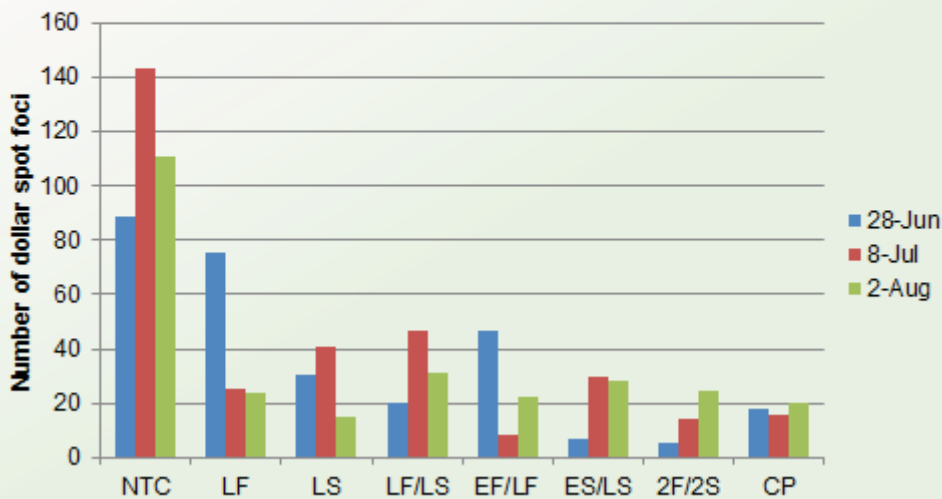


Figure 2: Number of dollar spot foci on putting greens at the OJ Noer Turfgrass Research Facility in Madison, WI during the summer of 2010. NTC – Nontreated control; LF – Late Fall; LS – Late Spring; LF/LS – Late Fall + Late Spring; EF/LF – Early Fall + Late Fall; ES/LS – Early Spring + Late Spring; 2F/2S – 2 Fall + 2 Spring; CP – Conventional Program.

Dollar spot severity was assessed by counting individual foci per plot every other week throughout the summer. Typhula blight and Microdochium patch severity were visually assessed each spring following snowmelt as a percent area of the plot affected. Mean disease severity from both putting green and fairway plots in all three years was assessed separately. Disease severity values were subjected to analysis of variance (ANOVA; PROC MIXED) and mean separations using the Waller-Duncan k-ratio t-test (k=100) in SAS (Version 9.1; SAS Institute, Cary, NC).

RESULTS AND DISCUSSION

In general, dollar spot was less severe on the fairway compared to the putting green plot in both 2009 and 2010 and hence fairway results are not presented here. Optimal conditions for dollar spot development were more consistent in 2009 compared to the dry summer of 2010, resulting in increased dollar spot severity over the course of the summer. Dollar spot severity in 2011 was very low on both the fairway and putting green plots and consequently the results are not included here.

On the putting green plot in 2009, all fungicide treatments including the conventional fungicide program reduced dollar spot severity compared to the NTC at each rating date until 11 August (Figure 1). On the 22 June and 6 July dates, those treatments containing LS fungicide applications provided increased dollar spot suppression compared to those containing only fall fungicide applications. In addition, those treatments containing both an ES and LS application provided even greater dollar spot suppression compared to the LS application alone. The EF/LF treatment slightly reduced dollar spot severity on 22 June and 6 July compared to the NTC but was no longer distinguishable from the NTC by 11 August. The LF treatment did not suppress dollar spot compared to the NTC. The treatment containing all four fall and spring applications provided similar reductions in dollar spot development compared to the ES/LS treatment.

Minor amounts of dollar spot were present on the CP treatment prior to the initial application on 1 June, and minor to moderate dollar spot breakthrough continued to be observed with this program during periods of heavy disease pressure throughout the summer.

Results from the 2010 putting green plot mirrored those from 2009 (Figure 2). In general, treatments containing multiple springtime fungicide applications were more effective at delaying dollar spot than single springtime fungicide applications, which were more effective than only fall fungicide applications. Significant dollar spot reductions with all fungicide timing treatments were still being observed on the 2 August rating date when compared to the NTC, though dry conditions not conducive for dollar spot development in late July and August may have contributed to the low dollar spot levels.

All fungicide treatments reduced dollar spot severity on the OJN fairway in 2009 compared to the NTC on both the 22 June and 6 July rating dates (data not shown). As seen on the putting green plots, those treatments containing multiple springtime fungicide applications were more effective at delaying dollar spot onset compared to those with a single springtime application, which was more effective than fall fungicide applications. Dol-

lar spot severity increased rapidly on all treated plots near the end of July, and no treatments reduced dollar spot severity compared to the NTC on the 27 July rating date. Dollar spot pressure was low in 2010 on the fairway plot, and no differences between fungicide treatment timings were observed.

Typhula blight and Microdochium patch were not observed on the putting green plots at OJN in 2009, 2010, or 2011. Typhula blight was observed on the OJN fairway plots following the winters of 2009-2010 and 2010-2011 (Figure 3). Only those treatments containing a LF fungicide application, including the CP, provided acceptable control of Typhula blight. Treatments containing only springtime fungicide applications did not impact Typhula blight development compared to the NTC.

The research presented here supports previous research that has demonstrated that fungicide applications targeting dollar spot made in late spring, well in advance of the traditional first fungicide ap-

plication targeting dollar spot, can delay the onset of dollar spot incidence (McDonald and Dernoeden, 2006; Kaminski and Putman, 2007; Koch et al., 2009). Two springtime fungicide applications spaced four weeks apart, beginning when 2 inch soil temperatures reached 50°F, provided an increased level of dollar spot suppression well into July compared to a single application targeted at a soil temperature of 60°F. This suggests that initial dollar spot activity may occur 4 to 6 weeks ahead of symptom development, and that fungicide applications targeted for this period can reduce initial dollar spot inoculum and significantly delay and reduce dollar spot well into the summer months in the Great Lakes region.

In addition, our research partially supports past studies that have documented the impact of fall-applied fungicides on dollar spot development the following summer. Burpee et al. (1990) demonstrated that fall applications of triadimefon and propiconazole significantly reduced dollar spot severity the following summer, and Landschoot et al. (2001) showed that multiple fall applications of pentachloronitrobenzene (PCNB) at high label rates also reduced dollar spot development the following year. Our research did show that early fall fungicides applied when 5 cm soil temperatures were approximately 50 to 55°F did provide a minor reduction in dollar spot the following season. Our research did not observe an impact, however, of fungicides applied targeting Typhula blight and Microdochium patch when soil temperatures were approximately 34 to 40°C on dollar spot the following season. This suggests that fall fungicide applications made when the dollar spot fungus is actively growing in the fall can have a minor effect on dollar spot development the following year, though late fall fungicide applications made when the fungus is presumably dormant will not have a significant impact.

Although excellent results were achieved on golf course putting greens in our research, the small acreage and high value of golf course putting greens give superintendents little incentive to reduce fungicide applications on their putting surfaces.

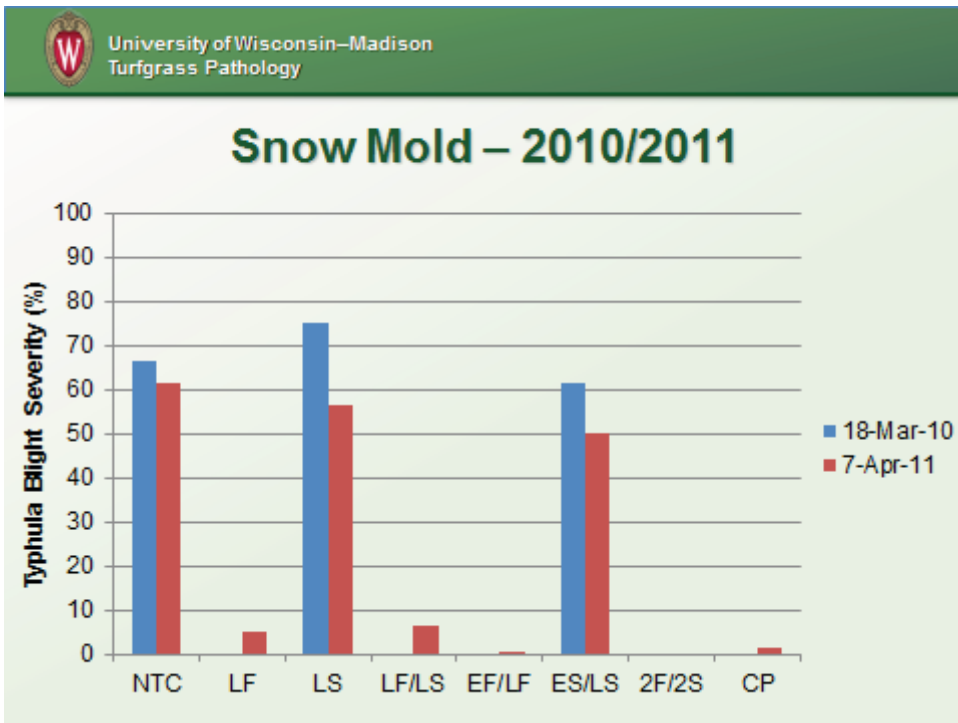


Figure 3: Typhula blight severity (%) on fairway plots at the OJ Noer Turfgrass Research Facility in Madison, WI following the winters of 2009-2010 and 2010-2011. NTC – Nontreated control; LF – Late Fall; LS – Late Spring; LF/LS – Late Fall + Late Spring; EF/LF – Early Fall + Late Fall; ES/LS – Early Spring + Late Spring; 2F/2S – 2 Fall + 2 Spring; CP – Conventional Program.

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Fairways, however, encompass a much larger area of the golf course and elimination of even one fungicide application would result in significant financial savings. Spraying large acreages of fairways can also be time consuming, and the reduction of one or two fungicide applications in the summer months may free up valuable labor for other pressing golf course needs and reduce the fuel costs required to power the application equipment. With the large acreages fairways encompass, reducing pesticide applications to golf course fairways by one or two per year would also result in a significant reduction in pesticide exposure to the environment.

CONCLUSION


The results presented here show that fall and spring fungicide applications can have a significant effect on the development of the primary diseases affecting golf course turfgrass in the Great Lakes region of the United States. The non-conventional timing that provided the greatest disease reduction with the fewest pesticide applications was the LF/LS timing. This treatment provided effective control of snow mold from the LF application while also significantly delaying the dollar spot epidemic as a result of the LS application. While EF and ES timings did appear to

reduce or delay dollar spot incidence, the degree of additional control was minor and didn't appear to warrant the extra application. However, if fungicide applications are to be made during the EF and LF

“With the large acreages fairways encompass, reducing pesticide applications to golf course fairways by one or two per year would also result in a significant reduction in pesticide exposure to the environment.”

time frames, it is a good idea to apply a fungicide or mixture of fungicides that is efficacious against dollar spot.

In addition, reduced rates of fungicides may be able to be used once conventional applications resume in mid-summer because of the reduced dollar spot inoculum level and warrants further investigation. Along with the inclusion of proper cultural practices associated with integrated pest management, significant reductions in pesticide usage on large acreages of golf course turfgrass in the Great Lakes region of the United States can be achieved immediately without conversion to disease-resistant turfgrasses or sacrificing turfgrass quality. These reductions have both

financial and environmental benefits that can aid superintendents in times of financial distress and lessen the environmental impact of golf course management. 

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Effect of Humic Acids on Golf Putting Green Performance

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

Golf course putting greens are maintained under extremely stressful conditions including high traffic and low mowing heights. Golf course managers are constantly seeking ways to improve stress tolerance and turfgrass responses. Humic acids have been identified as having the potential to improve turfgrass health, yet little information exists regarding the performance of individual humic acid products and their responses on root zone of varying carbon contents. This study was designed to investigate the agronomic effects of organic amendments on golf putting greens varying in total and bioactive soil carbon content.

Methods and Materials:

The study was initiated on May 8, 2012 at the O.J. Noer Turfgrass Research Facility. The treatments included two liquid humic acid products, ANO12011 and KOH ex-

tracted Humic Acid (KOHA) both from AMCOL International Corporation, and Humic DG, a granular product from The Anderson's. Treatments were applied on May 8, June 6, July 3, and August 7. Liquid treatments were applied using a CO2 pressurized backpack sprayer calibrated to deliver 2 gallons of water per 1000 sq. ft. The ANO12011 was applied at 3.8 fl. oz. per 1000 sq. ft., KOHA was applied at 12 oz. per 1000 sq. ft., and Humic DG was applied at 2 lbs. per 1000 sq. ft.

The treatments were arrayed in a randomized complete block design with four

replications. Individual plots measured five feet by five feet. The study was replicated on three sand based root zones constructed according to USGA specifications. The oldest root zone was constructed in 2000 and planted to 'L-93' creeping bentgrass, the middle-aged root zone was constructed in 2005 and planted to 'Memorial' creeping bentgrass. The youngest root zone was constructed in 2008 and planted to 'A4' creeping bentgrass. The age distribution of the root zones ensured a range in soil organic matter content and quality (Table 1).

Table 1. Characterization of soil carbon and organic matter in the three root zones.

Putting Green ID	Age	Bioactive C	Total Organic Matter
	yrs	mg/L	%
Youngest	4	8.8	0.4
Middle-Aged	7	32.5	1.2
Oldest	12	24.3	1.2

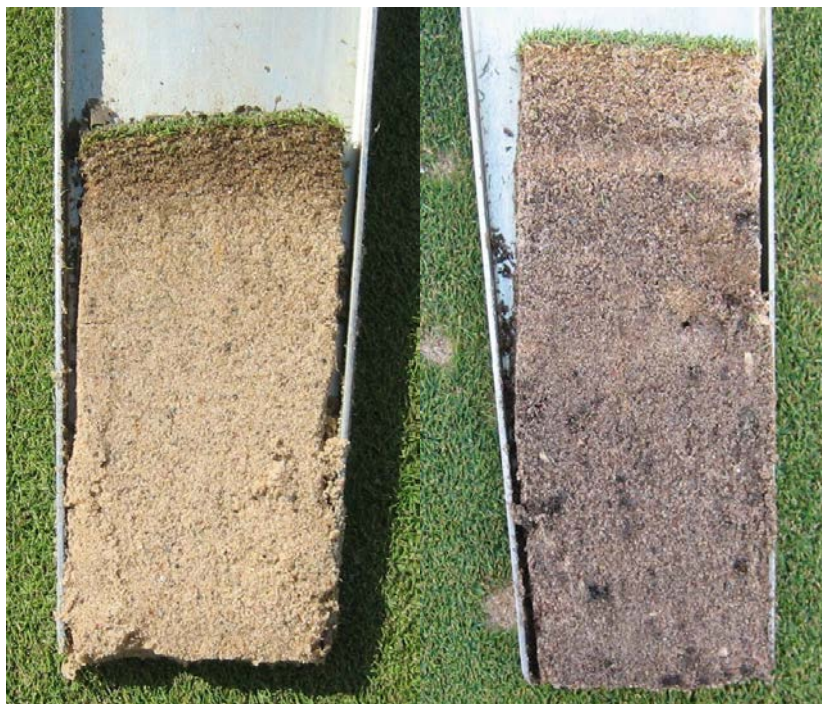


Figure 1. The youngest root zone profile is shown on the left, and the oldest root zone profile on the right. Positive responses to humic acid were only found on the youngest root zone, likely because of its lower organic matter content.

Putting greens were maintained typical to high quality putting greens in the Upper Midwest. Turf was mowed six days per week using a walk behind mower set to a cutting height of 0.125 inches. Light top-dressing was applied approximately weekly. Nitrogen fertilizer (as urea) was applied every other week at 0.2 lbs. N/1000 sq.ft. Irrigation was applied three times each week to replace 70% of reference ET as measured from an on-site weather station.

Impact of the treatments was quantified by assessing the visual quality, turfgrass color, and clipping weight. Turfgrass quality was assessed weekly on a 1 to 9 scale, where 9 represents perfect turfgrass quality and 6 represents the minimally acceptable quality. Turfgrass color was measured weekly using a hand held reflectometer from Spectrum Technologies (CM-1000). Turfgrass clipping weight was measured approximately monthly. Statistical differences were calculated using JMP software, means were separated using Fisher's LSD at alpha=0.10, where appropriate.

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Results and Discussion:

Over the duration of the season no significant differences in clipping yield, turfgrass color, or quality were observed on the middle-aged and oldest root zones (Table 2). On the youngest root zone, no significant differences in clipping yield or turfgrass color were observed, however the KOHA and ANO12011 treatments had significantly greater turfgrass quality than the Humic DG and the non-treated control.

The turfgrass quality over the season for the youngest root zone is shown in Figure 1. The KOHA and ANO12011

treatments generally were generally 0.5 to 1.0 turfgrass quality units greater than the Humic DG and Non-treated control for much of June, July, and early August. This suggests that the KOHA and ANO12011 were improving summer stress tolerance of the bentgrass. However, it is unusual that no significant differences in turfgrass color or clipping yield were observed during this time, as grass exhibiting greater stress tolerance usually show increases in these two parameters as well.


Conclusions:

1. ANO12011 and KOHA have potential

to improve turfgrass quality on sand-based putting greens with low total and/or bioactive soil carbon content.

2. There were no advantages of applying humic acid products on sand putting greens with higher soil organic matter and bioactive carbon.

3. Humic DG did not improve turfgrass response compared to the non-treated control, even on the low organic matter content root zone.

4. More work is required done to confirm, and better understand the nature of the summer stress response of turfgrass to ANO12011 and KOHA. 

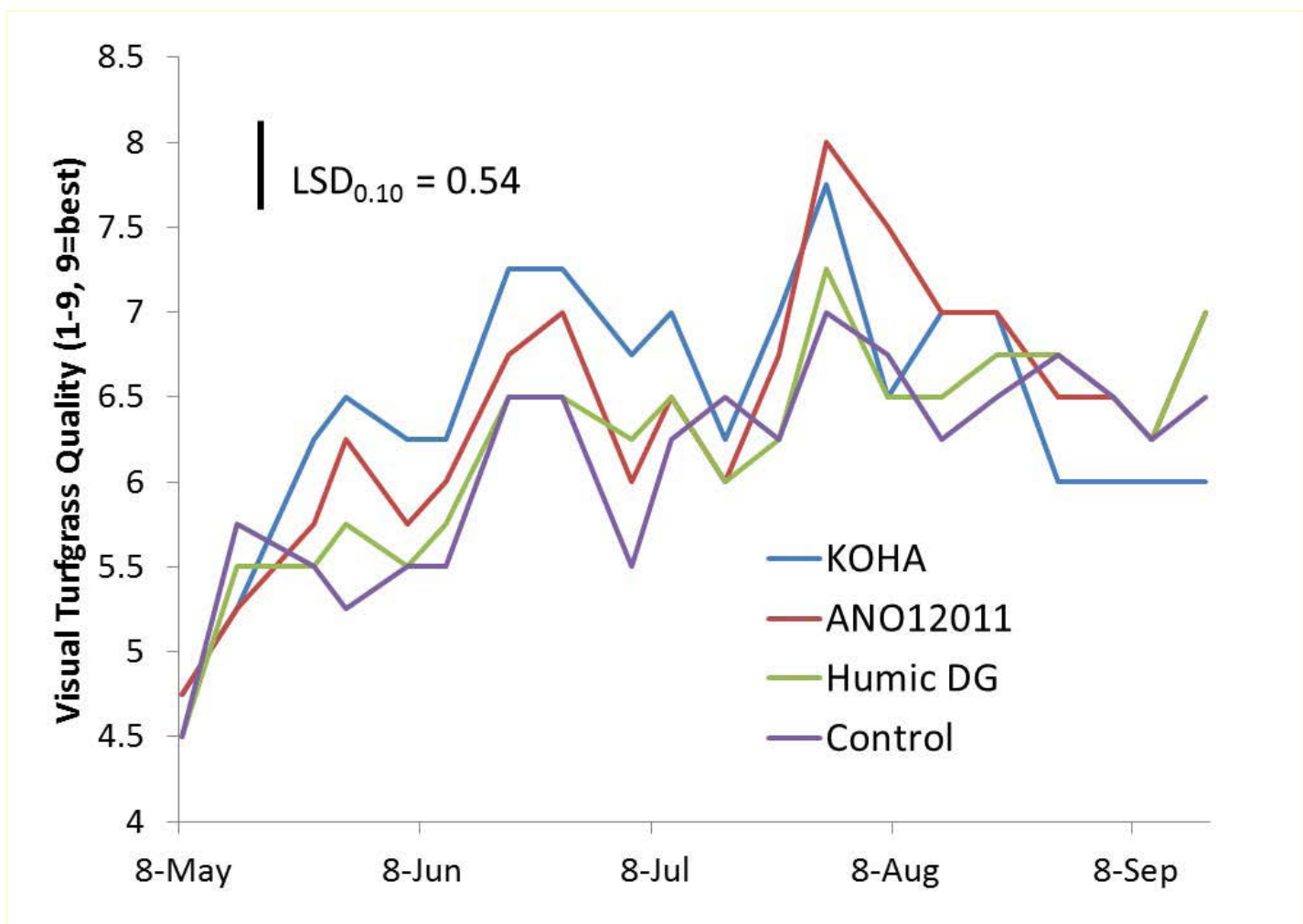


Figure 2. Visual turfgrass quality during the season on the youngest root zone (low organic matter). This was the only root zone for which a significant response was observed. Differences between treatments greater or equal to 0.54 are considered statistically significant according to Fisher's LSD at $\alpha=0.10$.

WISCONSIN SOILS REPORT

Table 2: Average growth and visual responses for the treatments on the (a) oldest root zone, (b) middle-aged root zone, and (c) youngest root zone. Treatment means were separated using Fisher's LSD at alpha=0.10.

(a) Oldest Root Zone

Treatment	Clipping Yield g/m ² /day	Turfgrass Color 0-999, 999=best	Turfgrass Quality 1-9, 9=best
KOHA	3.07 A	259 A	5.50 A
ANO12011	2.51 A	257 A	5.54 A
Humic DG	2.52 A	264 A	5.66 A
Non-Treated Control	2.50 A	263 A	5.61 A

(b) Middle-Aged Root Zone

Treatment	Clipping Yield g/m ² /day	Turfgrass Color 0-999, 999=best	Turfgrass Quality 1-9, 9=best
KOHA	2.20 A	276 A	6.21 A
ANO12011	2.23 A	278 A	6.31 A
Humic DG	1.99 A	280 A	6.35 A
Non-Treated Control	2.14 A	277 A	6.21 A

(c) Youngest Root Zone

Treatment	Clipping Yield g/m ² /day	Turfgrass Color 0-999, 999=best	Turfgrass Quality 1-9, 9=best
KOHA	1.71 A	271 A	6.45 A
ANO12011	1.92 A	266 A	6.43 A
Humic DG	1.96 A	271 A	6.20 B
Non-Treated Control	1.99 A	264 A	6.10 B

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Summer Lab Update

By Bruce Schweiger, Turfgrass Diagnostic Lab Manager, O.J. Noer Turfgrass Research and Education Facility

I received the friendly reminder from Dave Brandenburg that my next article for the Grassroots and was due and he said, "Hopefully there will be no talk of excessive rain, cold, heat, snow, hail or locusts." So there I sat with a thousand ideas of what I could write about and then that comment. OK, I hope you have enjoyed my article!

I know that will not fly, so I will share the happenings around the OJ Noer and TDL. The lab has had a steady stream of sample submissions. The two most common sentences in the lab this year have been: "Paul do you have a minute to check on my diagnosis?" Or "Paul do you have minute, what is this?" Ok three sentences, "They call this a what?" Ok so looking at these samples through a microscope is different than in the

field, but I am getting a good handle on the process. I am thankful to a good, patient teacher, thanks Paul! I will apologize to Dr. Kerns and Dr. Koch for all the trouble I caused them in the past, there is so much going on here every day, I guess they were working and not just playing golf. My number one goal this year is to get Dr. Koch an afternoon to play golf somewhere! Any volunteers to find Dr. Koch a tee time, call me I will make it happen?

The spring soil temperatures were able to stay in that 50-65 degree ranges for a long period of time. This meant that the period for active infections of Necrotic Ring Spot (*Ophiospherella korrea*), Take-all-patch (*Gaeumannomyces graminis* var. *avenae*) and Summer Patch (*Magnaporthe poae*) was

longer than usual. Dr. Koch and I had been discussing the possible increase in these diseases this summer. We did not have to wait long and the Take-all-Patch (*Gaeumannomyces* spp.) samples began arriving. To date we have seen many samples with Take-all-patch but to a lesser degree so that is may not be the only factor in the turf sample. I assume that the Take-all-patch (*Gaeumannomyces* spp.) is causing the plant to not function at its peak performance and we are seeing anthracnose and other secondary pathogens invading the plant. In the southern part of the state with all the rainfall and cooler early season temperatures the plants were not showing the usual signs of Take-all-patch (*Gaeumannomyces* spp.) due to the cooler weather pattern.

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TURFGRASS DIAGNOSTIC LAB

The last few weeks the true story for the severity of our Take-all-patch (*Gaeumannomyces* spp.) has shown itself. Just a reminder we can find Take-all-patch (*Gaeumannomyces* spp.) in many samples but just because it is present does not mean it is causing the symptoms or the damage.

Earlier in the year we had many cases of *Ascochyta* leaf blight (spp.) and *Septoria* Leaf Spot (spp.) affecting many general turfgrass areas. Both of these diseases are most common during periods of cool moist conditions. *Ascochyta* can be distinguished from other leaf spot from the almost white necrosis on the leaf tip, whereas *Septoria* has a more normal leaf spot appearance with a general thinning and tan leaf with black or dark brown pycnidia. The best cure for both of these diseases is sunny days with low humidity, and to mow the area once the leaf blades have dried.

As usual we have many dollar spot (*sclerotinia* spp.) trials at the OJ Noer Research Facility. Unfortunately the dollar spot has not been cooperating. In June when our trials flooded Dr. Koch speculated that much of the dollar spot (*sclerotinia* spp.) inoculum might have washed away. I think he was correct because as I begin to write this article we are struggling to get dollar spot (*sclerotinia* spp.) on our bentgrass plots.

We also have a Brown Patch (*Rhizoctonia solani*) trial and a few weeks ago Dr. Koch made some adjustments to our maintenance program and we had Brown Patch everywhere, we were so happy. Three days later the morning lows were in the 40's and all of our hard work was gone. We decided to cover our Brown Patch trial with a tent and have added some nitrogen to try to encourage the return of the Brown Patch. The weather as I write this is 90+ degrees and plenty of humidity and we have been very successful. Come by during Field Days and check our brown patch.

They say it is hard to teach old dog new tricks; well they are doing a good job of it at the Noer. The other day I came in from walking the plots and I was so happy to report some disease activity. For the last ___ (fill in the blank) years my main goals has to provide turfgrass with NO DISEASE, and if I saw disease I was disappointed the program had possibly failed., Now no disease means no research. Ok I will admit that this week, with the weather we have experienced, I have seen everything on the OJ Noer Facility, dollar spot, brown patch, pythium, cutworms and isolated dry spots. Now I am sleeping so sound knowing I have been successful!

Oh how my life has changed! 



Turfgrass Diagnostic Lab
O. J. Noer Turfgrass Research
& Education Facility
2502 Highway M,
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Slow Start Results in Delay in Japanese Beetle Emergence

By Dr. R. Chris Williamson, Department of Entomology, UW-Madison


Rarely are any two years (seasons) alike, after all it's weather! Compared to last year, as of about June 20, we were between 230-350 GDD (growing degree-days) or the equivalent of 2-3 weeks behind in heat units this year. Because insects are cold-blooded animals, they are dependent on temperature for biological activity, most insects are inactive at temperatures below 50°F. Japanese beetle adults typically begin emerging around 1030 GDD, and on June 20 (when they normally start to emerge) we had only accumulated about 760 GDD units in the Madison area. It was not until around July 4 that we reached 1030 GDD units, this is often when peak adult emergence occurs.

As a result, Japanese beetle emergence is measurably behind compared to the average. This occurrence of the delayed emergence has a profound impact the timing of preventative insecticide treatments for Japanese beetle; applications should be delayed accordingly (i.e., about

a two week delay). This being said, it is important to understand that nature frequently tends or finds a way to make-up or catch-up to get things back to some degree of normalcy. What does this mean for your management approach or strategy for managing insect pests such as the Japanese beetle?

The ideal IPM strategy is be to closely monitor adult emergence by either using pheromone traps or merely observing preferred hosts of Japanese beetle adults such as linden, birch, maple, etc. Once Japanese beetles adults are captured in traps or observed on plants, respective preventative grub insecticide treatments can be applied. There are several preventative insecticide treatments available, they include: 1) chlorantraniliprole (Acelepryn); 2) clothianidin (Arena); 3) imidacloprid (Merit as well as numerous other brand names); and 4) thimethoxam (Meridian). It is important to make certain to appropriately water grub insecticide treatments into the turf with

an adequate amount of water (about 0.10-0.20 inches) immediately following insecticide application to move the insecticide into the soil profile where the grubs are located to ensure maximum performance.

Should you choose to make a curative or corrective grub control application over the preventative approach, understand that smaller grubs (younger) are much easier to control than larger (older). Since most curative or rescue grub insecticides are relatively short-residual products (< 15 days) and the grub are delayed as a result of the cool conditions, be sure to closely inspect the turf for the presence of young larvae to ensure maximum control. The result of the delayed emergence of adult Japanese beetles directly influences the timing of insecticide treatment applications. Consequently, be sure to routinely monitor and sample Japanese beetle adults to accurately determine the appropriate insecticide timing to ensure the greatest likelihood of success. 



Japanese Beetle Adults feed and defoliate the leaves on a number of plants.

The adults feed on over 300 species but prefer apples, cherries, grapes, peaches, plums, birch, crabapples, hollyhocks, linden, maples, mountain ash, roses.

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Dialed In


By Robert Vavrek, Senior Agronomist USGA Green Section

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I was in a rut. It seemed like every course I visited was having issues with excessive organic matter accumulation in the upper soil profile of 5- to 8-year-old greens. Some were new, some were completely rebuilt, some were fumigated then regrassed, but all were seeded to an improved, ultra-dense cultivar of bentgrass. Spongy, pitted ball marks, black layer, moss, algae...you name it, they had it. The problem was easy to diagnose and the cause was always some combination of too much water, too much nitrogen, not enough cultivation and not enough topdressing.

You begin to wonder if thatch problems on new greens are inevitable until you finally

visit a course where the superintendent "gets it." They have the topdressing, cultivation, fertility and irrigation practices dialed in from day one. The greens provide golfers a superior putting surface with a minimal buildup of organic matter. In fact, you can't even find the grow-in layer that occurs during establishment. Those visits always energize me and I can make unpopular recommendations of aggressive cultivation and topdressing to other courses with more confidence.

Need proof? Check out the soil profile of this over 5-year-old bentgrass green...great surface and no thatch. With the office being located in Milwaukee, there was only one last statement to make at the conclusion of this enjoyable visit; "It's Miller time, and I'm buying!" 



This is a great example of how to manage an ultra-dense cultivar of creeping bentgrass on a new sand-based green. The putting surface has been open to play for almost six years, but timely inputs of cultivation and sand make it difficult to distinguish the original construction mix from the topdressing accumulation.

Coming Events!

Tuesday August 20th, Joint meeting w/NGL, Stevens Point CC, St. Point, Host - John Femal

Monday September 16th, Wee One, Pine Hills CC, Sheboygan, Host - Rod Johnson

Monday September 23rd, WTA Golf Fundraiser, Maple Bluff CC, Host - Josh Lepine CGCS

Monday October 1, NGLGCSA Crew Outing - The Woods Golf Course, Ed Hoover

Saturday October 5th, Couples Outing/Party, Wild Rock GC, WI Dells, Host Michael Blazich

Tues and Wed Dec 10th-11th, Wisconsin Golf Turf Symposium, American Club, Kohler

Tuesday January 14th, WTA Turfgrass Research Day, Pyle Center, Madison

Feb 2-7, Golf Industry Show, GCSAA Conference, Orlando FL

Monday March 3rd, WGCSA Spring Business Meeting, Fond du Lac



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Better Grasses Make For Better Fairways

By **Jim Skurolski**, Senior Agronomist USGA Green Section, Northeast Region.

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The golf industry is being pressured on multiple fronts, including heightened scrutiny over the use of water, pesticides, and other resources. A sluggish economy and stagnant growth in play have created a challenging business environment. The uphill road just got a little steeper with recent droughts and widely fluctuating weather conditions adding even more stress and challenge to golf course maintenance operations.

Turf managers are expected to produce quality course conditioning to satisfy golfer expectations in this changing environment and, to their credit, most do. However, continuing to do so only becomes more difficult and costly as pressures intensify. Therefore, isn't it critical that our industry take every available measure to enable continued success? I certainly think so.

But where does one begin? Arguably the first step is for golf facilities to maintain course infrastructure and implement programs and maintenance practices that provide the best opportunity for success. Because this gets to the very core of practically every aspect of golf course operations, perhaps there is no better place to start than to utilize the best turfgrasses available; hence the focus of this article.

Even the best management practices and growing conditions will not compensate for inherently inferior turfgrass plants. Unfortunately, utilizing new, improved turfgrasses requires that the current stand be eliminated. Regrassing programs continue to be the best way to establish a new stand of turf. The concept has been widely accepted for putting greens, but it makes even more sense for fairways.

Under the right circumstances, regrassing provides a fresh start, a clean palette.



Older golf facilities frequently contend with a mixture of cool-season species, including creeping bentgrass, perennial ryegrass, and annual bluegrass. Fairway regrassing is the most effective means to eradicate unwanted turfgrasses and establish a new species or cultivar that will provide a more uniform playing surface that can be managed with less water and pesticides.



Glyphosate, a nonselective herbicide, provides control of existing vegetation, allowing new turfgrasses to establish without weed competition.

USGA GREEN SECTION

Old technology is frequently replaced with new, and the same goes for turfgrasses as newer, improved varieties become available. This includes turfgrasses that boast greater resistance to disease and are selected for their ability to better tolerate traffic, shade, drought stress, and temperature extremes, qualities that will make it possible to manage the turf with less water and fewer pesticides while producing firm and uniform playing surfaces. A fairway regrassing project is indeed ambitious, but the reward is such that it deserves greater consideration by more golf facilities.

WE HAVE THE TURFGRASSES!

The USGA Turfgrass and Environmental Research Program has invested in turfgrass breeding to produce turfgrasses that are vastly improved over those that were available even 10 to 15 years ago. New cultivars provide excellent playing quality and can be managed with less water, provide higher levels of disease resistance, and exhibit greater tolerance to environmental stress.



A fairway recently treated with glyphosate is overseeded with creeping bentgrass as part of the renovation process

A cartoon golf ball character with arms and legs is pointing with a white stick to a chalkboard. The chalkboard has the following text: "What Makes A Good Greensmix?", "HOMOGENEOUS BLEND - consistent mix for consistent performance", and "MEETS USGA SPECS - all components & finished mix tested to ensure adherence to USGA specifications". To the right of the golf ball is a red circular stamp that says "ALL PRODUCTS LAB TESTED GOLF COURSE APPROVED". At the bottom right is the logo for "SAND & SOLUTIONS WAUPACA".

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Again, we have the turfgrasses. We just need golf facilities to utilize them. While inter-seeding or spot-seeding programs may improve surface quality to a very limited extent, complete regrassing is necessary to realize the full potential of improved turfgrasses.

Fairway grassing options are extensive. Creeping bentgrass, colonial bentgrass, bentgrass/fine fescue mixtures, and Kentucky bluegrass are the most common selections for fairways in northern climates. It takes some effort to identify the species and cultivars best suited for your site and growing conditions. The opportunity to regrass surfaces is usually a one-time deal, so the selection process is critical, as is being willing to invest in the best seed or sod that is available. Your regional Green Section agronomist can assist in selecting the best turfgrass option for your facility.

WHERE THERE IS A WILL, THERE IS A WAY

Fairway regrassing is not for the faint of heart. Mere mention of killing grass on purpose and closing the course is sure to attract a firestorm of criticism. A convincing case must be made to gain approval. The anticipated benefits resulting from regrassing must be significant, clear, and deemed critical to the success of the facility. Proposals should emphasize the potential to significantly reduce water and pesticide use, improve playability, and create more reliable and aesthetically pleasing fairways. The age-old adage "there is nothing like rapid and complete failure to promote action" may be accurate in regard to regrassing programs at some facilities.

Hopefully, fairway regrassing programs are not predicated on turf failure alone. A more effective approach is to take action before problems occur. This allows the project to be planned effectively at reduced cost and with fewer disruptions and surprises. Ultimately, planning will lead to a better finished product.

Most fairway regrassing projects at northern golf facilities are initiated in late July or August, when a nonselective herbicide is applied to control the existing turf stand. Shortly thereafter the fairways are seeded or sodded with new turf. At that point the fairways are closed to traffic for about six weeks or until the new turf has fully established and matured.



Fairways are closed to play during regrassing projects so new seedlings can establish and mature into a uniform and durable playing surface. In most northern locations, seeding is performed in late summer and fairways are opened to play the following spring or early summer.

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USGA GREEN SECTION

Disruption to play is perhaps the greatest downside of a regrassing project, and it is probably the reason why the program has not become more popular. Some disruption to play is inevitable, but it can be minimized through proper planning and some creativity. Completing the project in multiple phases may be one option to appease golfers, but there are other techniques that have been used successfully as well. The use of sod for fairway regrassing, though less common, is certainly an option available in northern climates where a very short golf season makes it less practical to renovate with seed. Again, where there is a will, there will be a way.

BEGIN WITH A DEMONSTRATION PROJECT

Not yet fully convinced of the merits of the project? Then consider introducing the concept using a smaller regrassing demonstration project. Demonstration plots can be initiated over a sizable fairway area where several different establishment techniques and turfgrasses can be used. The demonstration project is an inexpensive and less disruptive way to introduce golfers to the regrassing concept and the playing surfaces that are attainable. It can also be helpful to test specific cultivars, varietal blends, species mixtures, and renovation techniques before taking on a larger project.

CONCLUSION

It is hoped that more golf facilities will begin to initiate regrassing programs to upgrade fairway surfaces that may currently be underperforming or are more costly to maintain due to inferior turfgrasses. Fairway regrassing offers the only real opportunity to eradicate outdated turfgrasses and replace them with newer, improved options that will better survive weather extremes and can be maintained using less water and pesticides. New turfgrass options play a major role in the solution to provide quality playing conditions long into the future. The turfgrasses are already here, and the road to successful surface renovation is easier than you think. The choice is yours. 



Finished product! A new stand of creeping bentgrass using varieties with genetics superior to older bentgrass options provides quality playing conditions and a surface more resistant to disease and cold temperature stress in northern climates.



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Changing Places

By Jake Schneider, LMD Production Manager, The Bruce Company

By the time that this article gets distributed, I will be a few weeks into my new position (listed above) at The Bruce Company. It all happened quite suddenly, and I would have never know of the job had it not been for an automatically-generated email from the website LinkedIn; that's how things work sometimes. As it has been since shortly before my 16th birthday, my name will still be on the payroll at a golf course, and I told Chad that his consolation for losing his assistant in the middle of summer is gaining a fairly well-qualified weekend employee.

For much of the past dozen or so years,

it has been my goal to become the superintendent at a high-caliber course in Wisconsin, and there were a few times that I was close to realizing that goal. But, the stars never did seem to align, and here I am. I can honestly say that I am not disappointed to be moving on and to have not reached this goal. While I have enjoyed working on golf courses, it's awfully tough to have a normal life in the summer. When you add in the fact that my wife works every other weekend as a nurse, finding time to getaway during the golf season has been nearly impossible.

When it came down to it, my decision to pursue and accept this position was as much about the increased responsibilities and salary as it was about a different lifestyle. Plus, I will still be able to get outside and use the knowledge of maintaining top-notch properties that I've hopefully accumulated through my years at North Shore and Blackhawk. I don't expect it to be a cakewalk and now have to manage 50 seasonal employees as opposed to 15 at Blackhawk. While there are some unknowns going into this new role, I believe that it will be a change for the better.

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Here's what I won't miss: handwatering when it's 95 degrees (or 70 degrees for that matter), worrying about grass dying in summer or winter or anytime in between, spraying, not leaving the Madison city limits from June-August, dealing with bunker washouts, hauling rollerbases to keep the rough from entering dormancy, and irrigation pump failures at 2 am.

On the flip side, here's what I will miss: providing golfers with a great golf course in spite of the obstacles that are faced, sunrises over Lake Mendota, Monday golf at a really nice courses, free golf balls, attending the Golf Industry show with some of the industry's finest (and Mike Bremmer), the Symposium, the immediate satisfaction that comes with a job well done, and working with a truly outstanding staff at Blackhawk.

Besides being a golf course superintendent, I always hoped that I would follow in the footsteps of my mentor, Monroe Miller, and serve as the WGCSA president and as the editor of The Grass Roots. Those plans are obviously on hold for now, but who knows what the future will bring. Two years ago, I never thought that I would be in the position that I am in now. Although I will likely not be a stranger to the association, I am grateful for the many outstanding individuals that I've had the chance to meet and to collaborate with, and my time serving as the assistant superintendent committee chairman and on the PAR 4 Research committee were not only rewarding, but they helped me grow as a professional.

As Tom Harrison said while accepting his distinguished service award at the Spring Business Meeting, please involve yourselves with the organizations and facilities that have made Wisconsin a vibrant state for turfgrass and its research. Without dedicated service and servitude, things can quickly change. Change, after all, is constant.



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State Amateur At The Bog

By David Brandenburg, Golf Course Manager, Rolling Meadows Golf Course

The Bog in Saukville hosted the 112th Wisconsin State Amateur Championship July 22-25, 2013. The Arnold Palmer Design last hosted the "Amateur" in 2004 but considering most of the top finishers are under 25 they did not compete then.

The Bog will challenge the states best as it measures 7,221 yards from the back tees with a rating of 75.3 and slope of 143.

Wisconsin State Golf Association Director of Rules and Competitions Bill Linneman loves the ability to significantly change yardage on holes due to the multiple tee boxes and angles.

To enter the 72 hole stroke play event players need have a handicap index of 9.4 or less, be one of the approximately 41 exempt players or qualify at one of the 9 qualifying tournaments. Players must qualify in the district of their home course unless providing a good reason why they cannot do so. 168 players make the field with a cut after 36 holes to allow the top 70 players and ties to play for the championship.

Four days of championship play will provide for the true state champion and winner of the Sinnissippi Cup. The cup received its name from the first championship in 1901 when the amateur was played at Sinnissippi Country Club which is now the Janesville Country Club. While players compete for individual honors WSGA member clubs with three qualifiers compete for the Yule Cup awarded to the low club after the first 36 holes of play.



Teamwork is needed to host a big event as shown on the Par 4 5th hole. The hole plays 469 yards from the back tee.



The golf course borders the 1,600 acre Cedarburg Bog which has been designated a National Natural Landmark. It is the most intact bog in South Eastern Wisconsin and known for its expanses of cedar-tamarack swamp forests and 9 lakes.

2013 WSGA Amateur Championship Qualifying Sites

DISTRICT #1A: DRUGAN'S CASTLE MOUND CC, Holmen

DISTRICT #1B: EAU CLAIRE G&CC, Altoona

DISTRICT #2: LAKE ARROWHEAD GC (LAKES), Nekoosa

DISTRICT #3: EVERGREEN GC, Elkhorn

DISTRICT #4: REEDSBURG CC, Reedsburg

DISTRICT #5: RIDGEWAY G&CC, Neenah

DISTRICT #6A: HARTFORD GC, Hartford

DISTRICT #6B: NAGA-WAUKEE GC, Pewaukee

DISTRICT #6C: WHITNALL PARK GC, Hales Corners

COVER STORY

Past winners of the State Amateur include US Open Winner Andy North, and PGA Tour Players Steve Stricker, JP Hayes and Mark Wilson.

This year Jordan Niebrugge held the lead from start to finish and entered the 4th round with a 8 shot lead over Charlie Danielson but saw it dissipate through the final round. In the end Niebrugge finished with a 6 under par 282 (69-66-71-76) one shot ahead of Danielson with 283. (72-74-68-69)

Jordan plays out of the Bull at Pinhurst Farms and attends Oklahoma State has had quite a spring with wins at the WSGA match Play and the U.S. Amateur Public Links Championship. The latter win should garner Niebrugge a spot in the 2014 Masters Tournament.

The event had a youthful feel to it with the top 6 finishers current college players. In the top 12 the only "old guys" were a 25 year old and a 53 year old.

Jordan is not done for the year as he is scheduled to play Western Amateur and the U.S. Amateur.

In the Yule Cup team competition the Bull at Pinhurst Farms won for the first time in part



The 430 yard Par 4 18th hole with the clubhouse in the background makes for a perfect morning picture.

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Member 9 With Anthony Gonzalez

1. **First Vehicle?** *Ford F250.*
2. **Favorite Piece of Golf Course Equipment?** *Field Scout moisture meter.*
3. **18 Hole Handicap?** *Too high to count, seriously!*
4. **Current Vehicle?** *2008 Chevy Silverado.*
5. **Favorite TV Show?** *48 Hours.*
6. **Favorite Pro Sports Team?** *Packers of Course.*
7. **Favorite Main Course Meal?** *Anything my Mom makes especially authentic Mexican.*
8. **Pets?** *I have a female Wemaraner named Chance.*
9. **Favorite Thing About Working In Golf Industry?** *Connecting with nature and the wide range of people encountered daily.*



The Bog's maintenance staff led by Golf Course Superintendent Anthony Gonzalez.

COVER STORY

due to Jordan Niebrugge's opening 69-66. Rounding out the tem competition was The Legends shooting 442 and Merrill Hills at 449.00

The Bull is owned by Terry Wakefield and was built on a 290 acre site and opened for play in 1995.


Superintendent Tony Gonzalez entered the golf business through a summer job in high school working at then Ville Du Parc CC under Mike Handrich (currently at Racine CC) and Steve Allen (currently at Songbird Hills GC). When Eric Jasin (currently at Lake Arrowhead GC) joined the staff as Assistant Superintendent Tony realized the golf industry could be a viable career option.

Gonzalez graduated Michigan State and interned at Ozaukee CC before a brief stint at Westmoor CC. Tony has been involved at The Bog pretty much since the beginning giving him knowledge of the infrastructure and location of irrigation and drainage systems. Tony took over as head superintendent at The Bog in 1999.

The soils of the rolling golf course are mainly glacial till but the fairways were sand capped with 4-6" of sand during construction. The sand cap turned out to be a benefit but caused some problems but overall the South Shore/ Putter/ Penlinks fairways and tees have done well over the years and the course has hosted a number of statewide tournaments in its young life.

Bordering the Cedarburg Bog forces Gonzalez to pay attention to the environmental sensitivity of the bog. With such a large property the irrigation system is expansive and has over 1500 sprinkler heads. Tony explained that just checking each head for proper operation can take three days of longer depending on play levels and fall blowout is a 4 day operation.

In my time on the course the maintenance staff worked as a well oiled machine working through the golf course in quick fashion. Tony was quick to give credit to them for the condition of the golf course and expressed his appreciation for the job they do.

The 112th Wisconsin State Amateur Championship is in the books and the players were quick to give thanks to Tony and the maintenance staff for providing great conditions for the event. Congratulations Team! 

Future WSGA Amateur Championship Sites

2014 - Ozaukee Country Club, Mequon - Host Superintendent - Brett Hosler

2015 - Erin Hills, Erin, Host Superintendent - Zachary Reineking

2016 - North Shore Golf Club, Menasha, Host Superintendent - Scott Schaller

2017 - Oconomowoc Club, Oconomowoc, Host Superintendent - Dustin Riley



ABOVE: Keegan Drugan son of WGCSEA member Mike Drugan hits his approach shot into hole 7. Keegan finished tied for 37th place.

LEFT: 396-yard Par-4 2nd hole plays downhill to a well protected green.

COVER STORY



LEFT: Sandhill Cranes wander across the 7th Fairway.

MIDDLE LEFT: This bunkers serves both the 12th and 18th holes.

MIDDLE RIGHT: The green on the 348-yard par4 12th hole can provide agronomic challenge due to the lack of air movement.

BOTTOM LEFT: 528-yard par5 14th hole.

BOTTOM RIGHT: The boulders on the 430-yard par 4 18th hole provide a dramatic view.



Summer and Fall Events For You To Enjoy

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

I know many of us were wondering if the Spring would ever arrive this year but the warmer weather finally came even though it was far later than average. I hope the nicer weather brought golfers to your facility and that your operations are running as planned. As I write this message it is late July and we can already see over the hill of summer into fall. The WGCSA – NGL Joint meeting at Stevens Point CC (host Supt. John Femal) on Tues August 20th is a great opportunity to help plan for fall snow mold applications. Dr. Paul Koch's presentation topic of "Around the World of Snow Mold in 60 Minutes" should be informative and worth the trip to central Wisconsin.

The fall is a favorite season for many of us. Fall colors, cooler temps, and hopefully a little less stress for you and your operations. Please consider attending the great events that are being planned. The Wee One Foundation continues to grow thanks to the support of our industry. The 10th Annual WI Wee One Outing will again be hosted by Rod Johnson, CGCS at Pine Hills CC in Sheboygan on September 16th. The WTA leaders have been planning the annual WTA Golf Fundraiser. For the first time in many years we have the opportunity to play the historic and prestigious Maple Bluff CC


on Monday September 23rd. WGCSA Board Member Josh LePine will be our host. Please consider taking a short get away with your spouse/significant other and join us and host Supt. Mike Blazich at Wild Rock GC at the Wilderness Resort in the WI Dells for the Couples Event on Friday/Saturday Oct. 5th-6th. We have modified the event and received special pricing so you can bring the family along if you like and still attend the Saturday AM golf event and attend the hospitality gathering in the afternoon. If you want to come the evening before and bring the kids please do so as we will have child supervision available on Saturday for the golf and the hospitality events. The final details will be finalized and available on the WGCSA Website shortly.

The Assistant Superintendents of the WGCSA have been planning an exciting and generous project. They will be building a new practice green at Monona GC in Madison over a series of weekends this fall. This ambitious effort will be a donation to The First Tee Project. Any members that want to learn more about green construction, drainage, or irrigation installation are welcome to participate. The project is being managed by the Assistants Committee so please contact Joe Sell at joseph.sell@kohler.com

for more information.

Any Class A, SM, C, AA members who have children, or grandchildren in college please consider having them apply for one of our three Legacy Scholarships. Details and application for the scholarship can be found on the News and Articles Page of our Website. Deadline is October 1st with winners being announced at the Turfgrass Symposium in December.

The final plans are also being planned for the WI Golf Turf Symposium. We will again head to The American Club in Kohler on Tues and Wed December 10th and 11th. This year's topic will be Extreme Turf Management. Details for the event will be sent out this fall and will also be available on the WGCSA website as they become available.

Should the WGCSA offer a member service that we are currently not offering? Do you have a question about your membership status? Have you moved or have a new phone number? Do you have a good idea for an Education Topic? Interested in hosting a monthly meeting? Please contact me, I will do my best to help you as I can. Thanks for being a member of the WGCSA, I look forward to seeing you at the fall events. 

WELCOME NEW MEMBERS

Eric Bucholz SM	Waushara Country Club	John Meyer E	Koch Agronomic Services
Bruce Buckert D	JW Turf Inc.	Jack Meyers C	North Shore Country Club
John Femal SM	Stevens Point Country Club	Scott Pace E	Rain Bird Services Corp.
Craig Filley SM	Nakoma Golf Club	Ted Reierson C	Geneva National GC
Ryan Fritsch C	Northbrook CC	Josh Smith C	Milwaukee Country Club
Brad Gilbertson D	River Run Golf Club	Nicholas Strain D	Barenburg Seed
Chris Goeben D		Matthew Sullivan SM	Currie Golf Course, Milwaukee County Parks
Brennen Herther C	Oconomowoc Country Club		
Brian Holz SM	Crystal Springs Golf Club	Eric Swenson D	
Benjamin LaBarre SM	Legends at Bristlecone Pines	Andrew Thompson D	Davenport Country Club
Joel Larsen C	Milwaukee Country Club	Mark Wallace D	Western Lakes Golf Course
James McAdam SM	Rolling Hills Golf Club	Brett Ziegler E	ProGro-Solutions


A Thousand Words

By Tom Schwab, Manager, O.J. Noer Turfgrass Research and Education Facility, University of Wisconsin-Madison

You've all heard the saying, "A picture tells a thousand words". Those pictures are how I'm going to describe this year's Wisconsin Turfgrass Association Summer Field Day. The event was so educational and fun with great camaraderie and perfect weather that I wish you all could have been there to experience it. The crowds were down with only 186 attendees, but the trade show was well staffed with 27 companies and an additional 65 knowledgeable sales staff there

to answer all your commercial questions.

Many highlights took place during the day. One was the presentation by the Wisconsin Green Industry Federation (WGIF) of their 2013 Hall of Fame Award to the late Dr. Charles Koval. Dr. Koval's wife Patricia and son Mike were present to accept the award. Then there was a surprise visit by Dr. Jim Love, who started the Turf and Grounds Management Program at the UW-Madison in 1961 at the suggestion of world renowned golf turf agronomist and UW-Madison alumni O.J. Noer.

His many former students were so happy to visit with him. Another highlight was to witness a grass court tennis demonstration by U.S. Tennis Hall of Famer, and U.S. senior Player of the Millennium John Powless. A number of attendees took the opportunity to hit some balls with John on the grass. The whole day could not have been any more perfect with temperatures in the low 70s, slight breeze and overcast skies. 

Summer Field Day Exhibitors

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 Harris Golf and Utility Cars
 Heritage Seed Company
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 J W Turf
 John Deere Landscapes

Midwest Turf Products
 Pendelton Turf Supply
 ProGro Solutions
 Purple Cow Organics
 Reinders
 Spring Valley
 Syngenta
 The Andersons
 Waupaca Sand & Solutions



Three generations of advising Turf and Grounds Management students in the Department of Soil Science were all present including Drs. Doug Soldat, Wayne Kussow, and Jim Love.

NOTES FROM THE NOER

Top Left: Dr. Paul Koch talks about the UW's latest initiatives in turfgrass rust research.

Top Right: Dr. Chris Williamson talks about management of mound building ants in turf.

Bottom Left: UW-Madison Turfgrass Diagnostic Lab manager Bruce Schweiger talks about managing fine fescues in various landscapes.

Bottom Right: Former UW-Madison graduate student and soon-to-be assistant professor at the University of Nebraska Bill Kreuser talks about his latest research findings on applying colorants for turf management.



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NOTES FROM THE NOER



Six past or present WTA presidents visited Field Day including Wayne Horman, Dan Biddick, Paul Huggett, Dan Barrett, Chris Wendorf, and Curt Larson.

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NOTES FROM THE NOER



Top Left: 1951 Toro tractor being driven by O.J. Noer staff members Nate and Ryan Kruser.

Top Right: PhD student Brad DeBels talks about drought tolerance and management of different turf species and cultivars.

Middle Left: Master artist Paul Zwaska from Beacon Ballfields helping beautify the grounds for Field Day by painting Bucky Badger.

Middle Right: WTA ambassador Monroe Miller, WTA president Paul Huggett, and WGIF past president Tom Halter.

Bottom Left: Patricia Koval and son Mike accepting the WGIF Hall of Fame Award for her late husband Dr. Charles Koval from past president Tom Halter.

Bottom Right: U.S. Senior Tennis Player of the Millenium John Powless posing with Spencer Grams.

June Tournament Meeting Visits South Hills Golf & Country Club

By David Brandenburg, Golf Course Manager, Rolling Meadows Golf Course

Jim VanHerynen Certified Golf Course Superintendent at South Hills Golf and Country Club served as host for our annual Tournament Meeting on June 17th.

Each summer the members gather with hopes of bringing their “A” game and knock off perennial champion Scott Bushman or at least placing in their respective flight.

Results from the event are on page 42 but congratulations to Scott Bushman who won with a low gross of 77 on the beautifully conditioned South Hills.

In 1925, Mr. A.D. Filiatrault owned the land that is now South Hills Golf & Country Club. With the help of his farmhands, Bill Mullen and Elmer Burleton, the three men laid out the course exactly as you see it today. The course first opened for play two years later in 1927.

The course was originally called “Takodah” meaning “Welcome”. The name was decided after a contest ran in the local newspaper. Mary Dana, a local resident, came up with the idea of naming the course “Takodah”. Local high school graduate Dick Watson was then hired on to become the club’s first professional.

Members paid annual dues of \$37.50 in Takodah’s first year.

After 24 years of ownership, Mr. Filiatrault decided to sell the 152 acre course in 1951. Fred Thiel and Nate Manis who owned the Riverdale Golf Course in Sheboygan purchased the course in 1951 for \$77,000. That same year Fond du Lac Judge C.F. Van Pelt suggested that Manis and Thiel sell the land back with the hopes of making it a private course.

Fond du Lac residents and community leaders Judge Van Pelt, Russ Hansen, Ben Sadoff, J.R. Ahern Sr., Ralph Kraut, Andre Perry, A.D. Edgerton, Dr. L. McCabe, Dr. M. Korb, Bill Cochrane and Nate Manis met to discuss the details of turning “Takodah” into a country club. Judge Van Pelt came up with the idea to call the club “South Hills Club” choosing to omit the word “Country” for fear that residents would think only the rich or affluent were allowed. In order to fund the launch of the club, \$1,000 debenture notes were issued. \$100,000 was raised in that first week and South Hills was off to a flying start in the summer of 1951.

In 1986, with members paying dues,

the question as to who actually owned the club was asked. After getting clearance from the Wisconsin Security Division and the SEC, it was decided that each current member was invited to buy one share of South Hills stock for \$1,000. On January 1st, 1987 South Hills officially became an equity club and its name was changed to South Hills Golf & Country Club.

Jim VanHerwynen grew up in the Fox Valley area and by sixteen Jim knew he wanted to pursue a career in golf course management.

VanHerwynen earned an Associate Degree in science at the UW-Fox Valley and then received a Bachelors Degree in Soil Science specializing in Turfgrass Management at the University of Wisconsin-Madison. Jim worked at Blackhawk Country Club during college and as the Assistant at Golf Course Superintendent at Kenosha Country Club for six years before joining South Hills in 1996.

Dr. Kathryn VandenBosh, Dean of UW Madison College of Agricultural and Life Sciences (CALS) joined us at lunch as a special guest.



Left: Kris Pinkerton drives a ball out of the rough on Hole 16
 Right: Dr. Doug Soldat leads a discussion on Irrigation Efficiency
 Next Page: Photo Layout by Brett Grams

ANNUAL TOURNAMENT MEETING RESULTS

CHAMPIONS

SCOTT BUSHMAN - LOW GROSS (77)
ANDY WEISNER - A FLIGHT (NET 75)
CHAD HARRINGTON - B FLIGHT (NET 71)
BRUCE SCHWEIGER - AFFILIATE (NET 68)

FLAG EVENT WINNERS

CHAD HARRINGTON - LONG DRIVE
KRIS PINKERTON - CLOSEST TO PIN
AARON GONINEN - CLOSEST TO PIN
RICHARD STRAIN - LONG DRIVE
JOE SELL - LONGEST PUTT

OUR HOST JIM VANHERWYNEN, CGCS



WTA AMBASSADOR MONROE MILLER RECEIVING
2013 PAR 4 RESEARCH PROCEEDS
FROM AUCTION CHAIRMAN DUSTIN RILEY, CGCS



THREE OF OUR 2013 CHAMPIONS
(L) CHAD HARRINGTON, (C) SCOTT BUHSMAN AND
(R) BRUCE SCHWEIGER



Dean Vandebosh joined the UW in March of 2012 from the University of Minnesota where she served as department head of the plant biology department. Kathryn spent 12 years as a faculty member of Texas A&M University and holds a MS and Ph.D. degree in botany from the University of Massachusetts Amherst and spent time at both UW-Madison and the John Innes Institute in Great Britain as a postdoctoral associate has focused her research on the genetics of plant-microbe interactions and nitrogen fixation in legumes.

The members in attendance were very honored to have Dean Vandebosh attend our meeting and education.

Dr. Doug Soldat was our speaker for the day as he spoke on Irrigation Efficiency. He started with discussing how golf as an industry leads the way in fertilizer and water efficiency but we need to do a better job in communicating our conservation strategies.

Things we should be doing include using water efficient cultivars and reducing irrigated areas on our golf courses. Turf managers can look at water sources and although non-potable water is not an option yet in Wisconsin increasing water holding capacity from run off is a feasible option for many courses.

Doug explained how Westmoor Country Club recently increased their irrigation pond from a 3 million gallon capacity to 12 million. That will help the club get through future dry periods without pump-

ing from a well or buying municipal water.

Many turf manager are using technology such as soil moisture probes to monitor moisture percentage levels and watering based on evapotranspiration (E.T.) rates rather than guessing. Measuring Distribution Uniformity and fixing any glaring problems is key to knowing how much water is being applied each cycle.

And finally we as group and individuals need to communicate more to educate our staffs, customers and the public on our efforts to conserve water. During the drought last July Doug was contacted by the DNR because they were receiving a lot of call on why golf courses were using so much water.

Dr. Soldat was able to use 2011 survey results to show how golf courses have reduced water use. Fortunately the rains returned and the discussion was dropped but golf is a easy target for groups who think we waste water. That being the case we need to continue to educate ourselves, improve our methods and our communication with the public.

Doug explained although deep and infrequent irrigation is best for lawns or rough areas as it reduces shoot growth and leaf succulence it is hard to do on greens and fairways while maintaining quality.

Soldat explained deficit irrigation is a better method and basically managers apply less water than is lost from E.T.. The soil slowly dries down maintaining the benefits of deep and infrequent irrigation while keeping plant quality. Studies have

shown that 60-80% E.T. is a good starting point.


Every course is different but for the average green keeping the soil profile at 10 to 20% moisture will allow the turf to dry down better at night because water holds onto heat in the soil profile. Dr. Soldat's research has shown greens can tolerate high daytime temperatures if allowed to cool at night. He laid out the following goals for us in 2013 starting with out problem greens and moving out from there.

1. Do a catch can audit to know uniformity and the amount of water being applied each cycle then tweak your scheduling to account for inefficiencies and terrain.
2. Apply the right amount of water at night
3. Monitor and track moisture percentages with a moisture probe.
4. Water by hand in the morning and overhead at night.

Water with the overhead system to bring the wettest spots on the green to 18% and then hand water to get the rest of the green to 18%.

By starting only with problem greens you will not be overwhelmed with work and those greens will improve allowing more time to monitor all greens.

Although water use is not a issue so far in 2013 the golf industry must be ready to prove we are efficient users of water and resources.

Thanks to Dr. Soldat, Dean Vandebosh and our Host Jim VanHerwynen for playing host and providing us a great venue to test our skills on. 



**Left: The Par 3 4th Hole plays 178 yards and is protected by the DeNeveu Creek on the left.
Right: Our host Jim VanHerwynen puts a little body english on his putt on the 18th green.**

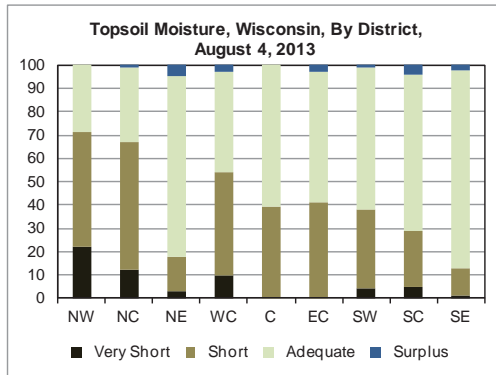
Summer is Fading Fast!

By David Brandenburg, Golf Course Manager, Rolling Meadows Golf Course

It is hard to believe that summer is nearing its end and our student staff members will be leaving us soon. It has been a season of unusual weather and I am sure most of us will take the cooler than normal in July and August over the rain and cold of spring or the hot and dry of last season.

One week of heat left us scrambling to stave off pythium infections but overall the summer has been easy on turf so far.

From the Soil Moisture Graph on the right you can see the North and Central West are on the dry side on average while the North and South East average adequate moisture while little of the state is wet.



You may be looking for the Badger State Turf Clippings and the news and notes

from Matt Kinnard. Unfortunately Matt did not have enough items for an article so use this as a reminder to toot your own horn and let the DHD Team know what is going on with job changes, baby's, weddings and other items in your lives.

We did have one fish tale with John Turner of Bayer landing the huge musky below. Nice catch J.T!

WGCSA Member Chad Ball will be hosting the PGA Tour BMW Championship Sept. 12-15. Class A and SM GCSAA Members and their immediate families should get free admission for the event by going to the will call with proper ID.

I feel embarrassed to say so but I just took my first 4 full days in a row away from the golf course in season in 25 years. Our family joined a couple others up north for some fishing and relaxing. It felt good to get away and relax with nothing to do but watch the sun set and rise.

25 years is a long time and I am lucky to have a staff I can trust to handle things while I am away. I should have started this 24.5 years ago. Good luck to you and yours as we enter the fall season.



John Turner of Bayer landed this 38" Muskellunge.



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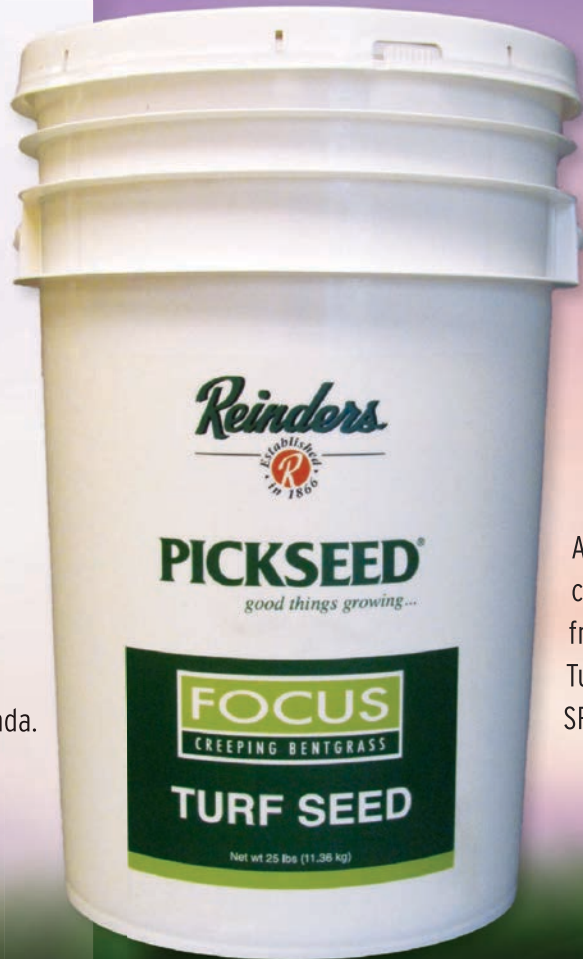
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