

# The GRASS ROOTS

AN OFFICIAL PUBLICATION OF THE WISCONSIN GOLF COURSE SUPERINTENDENTS ASSOCIATION

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*42nd President of Wisconsin Golf Course Superintendents Association  
Chad Harrington, Golf Course Superintendent at Autumn Ridge Golf Course*

# Top 12 Reasons

to Attend the Reinders 21st Green Industry Conference

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11. Enjoy a delicious luau lunch included with your registration.
10. See all of the latest equipment and product innovations.
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4. Hot homemade donuts each morning - a Reinders tradition.
3. Take advantage of show specials to save money.
2. Network with fellow green industry professionals from the Midwest.
1. Choose from more than 35 educational seminars to enhance your knowledge and skills.



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Chad Harrington as drawn by  
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## THE GRASS ROOTS

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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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## The Gavel Passes

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

It is hard for me to believe that the day has come for me to sit down and write my first "President's Message" for the Grass Roots. It seems like it was yesterday that David Brandenburg asked if I would volunteer as a Director of our association. What an honor and privilege it was to be asked to serve the WGCSA, even though I will admit I was nervous about it. The thought of serving on a board consisting of individuals that I have looked up to in our profession seemed a bit overwhelming, but the leadership and camaraderie of the board of directors made it a very welcoming experience.

I would like to express my sincere gratitude to all of you that have given me the opportunity to become 42nd President of the WGCSA. With the long tradition of leadership this association has possessed, the tracks have been laid for a successful future that I aim to continue. I would like to thank a few of our members that have had a significant impact on my time as a board member of

the association and have been able to propel the WGCSA through very difficult times. Past Mike Lyons, Dustin Riley, Brian Zimmerman, and Jeff Millies have served our association with exemplary leadership and vision. I can't thank you enough for your efforts and friendship. You have all made being a member of the WGCSA board very educational and enjoyable experience.


Executive Director Brett Grams has also been a key organizational force of the WGCSA over the past few years, and I would like to thank Brett for everything he has done for our association. Brett's work with our Industry Partner Program has given us the chance to host great events and educational opportunities and we look forward to a great time of networking at the GIS Hospitality room in San Diego. I would also like to welcome our newest board members Josh LePine, Kevin Knudson, and Jeff Barlow along with Vendor Liaison Steve Wasser. I look forward to working with all of you over the next two

years.

Turf research has always been part of the mission of the WGCSA. The induction of the PAR4Research Auction has given us the resource for funding many turf research projects in our state. This funding is only possible if the Auction has items to sell to raise the funds. Please be proactive in asking the owner, general manager, or whoever is responsible for donation requests at your facility, for rounds of golf to benefit turf grass research in Wisconsin. This is an extremely important imitative and we need everyone's help. Thank you to members who have participated in the past and we look forward to even more in 2013. Let's make it the largest PAR4Reaserch effort yet.

I remember, roughly twenty years ago, sitting in an interview for an Assistant Superintendent position with the owner and superintendent of the facility. I couldn't get past the fact that the owner of the Golf Course kept referring to the Superintendent as "My Super." I think it was the word "My" that had me bothered. I couldn't help but wonder what type of team work would be exhibited with this type of leadership. Our association is no different than any of our respective clubs in regard to working together. That single comment of "My Super" has fueled my opinion of leadership for the past twenty years. We all play a key role in the success of an association and without teamwork it will be difficult to move forward. The point I am trying to make is that communication and working together as an association will keep us on our current path of success we have been traveling.

It has a goal to work with the WGCSA and other allied associations in our state to help promote the game of golf within Wisconsin and share the importance of the superintendent within the game. We have been given a solid foundation from the many individuals within our association who have carried our torch so proudly.

Thank you for the privilege to serve the WGCSA and I look forward to working with all of you. 



Past President Jeff Millies accepts the presidents plaque from President Chad Harrington.



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## Year End Highlights

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

I would like to wish all members of the WGCSA a belated Happy New Year! I was fortunate to spend the holidays with family and friends. Even though recent years weather has extended the length of the golf season December snows and weather marked a definite end to golf here in WI. I hope this allowed you to enjoy some time away from your operations and you were able to be with those you love during the holidays as well.

I am happy to report that the moving of the WI Golf Turf Symposium back to the first week in December appears to be a positive change. Attendance was up over the previous years. The symposium committee will be meeting shortly to finalize dates for next year along with working on topics and themes for the event. It is my personal hope that we can continue to grow this event as it is our flagship educational event of the year. The support we receive from MMSD (Milorganite) allows us to bring in speakers from around the country and to have our unique day and a half event at one of the nicest meeting


locations in WI. I challenge all members to make it a 2013 resolution to attempt to attend this year!

Although we do not have a new President in Washington we do for the WGC-SA. Please join me in welcoming Mr. Chad Harrington as our 42nd President of our Association. Thanks to the hard work and leadership of Jeff Millies and the 2012 Board of Directors our new leaders will be able to continue to focus on the future and challenges we will face this year. Our current leaders will be meeting and planning for 2013 in the coming days. If you have questions, ideas, or suggestions please seek out a board member (or myself) so your opinion can be heard.

I would also like to thank those of you that have renewed your membership for 2013. As I write this article I am happy to report that the renewal rate is well ahead of past years. Those who have not been able to renew yet please do so today. Any member that has missed the deadline PLEASE renew prior to March 1st so you

avoid the \$25.00 late fee.

Thanks to the generous support of the sponsor companies we have been able to again have a WI Hospitality event at this year's GIS in San Diego. I am currently completing the solicitation of the sponsors and hope that you join me in letting the sponsor companies know how much you appreciate their support. The support of the WI Room, Directory, Grass Roots, monthly meetings, and website by our Industry Partner companies is critical to our success. Please join me in supporting those companies that support us!

Lastly, I look forward to seeing many of you in Fond du Lac on February 25th for our annual Spring Business Meeting and Education day. Please consider making the time to attend. We have some interesting educational topics and will also be honoring six(6) members who have attained 25 Year Member Status during our brief but important business meeting. The education takes place in the morning followed by the business meeting right after lunch. 

### WGCSA MISSION STATEMENT

The Wisconsin Golf Course Superintendents Association is committed to serve each member by promoting the profession and enhancing the growth of the game of golf through education, communication and research.

### WGCSA VISION STATEMENT

The Wisconsin Golf Course Superintendents Association is dedicated to increase the value provided to its members and to the profession by:

- Enhancing the professionalism of its members by strengthening our role as a leading golf organization in the state.
- Growing and recognizing the benefits of a diverse membership throughout Wisconsin.
- Educating and promoting our members as leaders in environmental stewardship.
- Offering affordable, high value educational programs at the forefront of technology and service.
- Being key to enjoyment and the economic success of the game of golf.



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## Uncle! A 2012 TDL Year in Review

By Dr. Paul Koch, Turfgrass Diagnostic Lab Manager, O.J. Noer Turfgrass Research and Education Facility

Well that was unpleasant. They say that time heals all wounds, and as we sit comfortably in our office chairs this winter some may look back at last summer and say, “You know what, that wasn’t so bad.” Those people are weird. 2012 was a record-setter on many levels, mostly in a bad way. 2012 was the warmest year on record for Milwaukee and amongst the warmest for most of the state. Milwaukee also broke its record for most consecutive days without measurable snowfall, and snowfall across most of the state was a rarity. In addition, most of the state, especially the southern half, saw the worst drought in decades. Add in the stretched-to-the-limit budgets, and it’s a wonder we didn’t collectively throw down our hoses on July 1st and apply to business school. Let’s take a look back at the year that was, from the often distorted view of the Turfgrass Diagnostic Lab.

If the past few summers could be described as ‘St Louis summers’, then certainly the winter of 2011-2012 could be described as a ‘St Louis winter’...or maybe even an ‘Atlanta winter.’ The winter that wasn’t was initially greeted with open arms as many courses across the region opened for play for several weeks in January, bringing in some cash flow during a normally dead period. But record warm temperatures in January and February turned to ridiculous record warm temperatures in March, with highs topping 80°F for a several day stretch and feeling more like June or July. While many courses achieved their earliest opening ever, this early warm-up led to some isolated cases of intense disease activity that would have likely been much more severe and widespread if not for the main story from 2012.

The drought of 2012 will go down as one of the most severe on record, rivaling the legendary droughts of 1995 and 1988. Nearly two dozen counties in Wisconsin were designated federal disaster areas. For most in southern Wisconsin, it stopped raining in mid to late May and didn’t start up again until late July. Moisture is the driving environmental factor for most plant diseases, and the dry conditions limited the development of many turfgrass diseases such as brown patch and Pythium blight in 2012. But areas of poor irrigation coverage and high-stress areas on the collars and clean-up passes suffered badly in the prolonged drought. As a result, diagnoses of abiotic turf damage and stress-related anthracnose (Figure 1) jumped sharply in 2012 (Table 1).



**Above: Figure 1. Anthracnose, both basal rot and foliar, was widespread amongst golf course turfgrass throughout Wisconsin and the Midwest in 2012.**



**Right: Figure 2. Along with anthracnose, summer patch was the premier disease of annual bluegrass in 2012.**

# TURFGRASS DIAGNOSTIC LAB

The only disease aside from anthracnose that was diagnosed more frequently in 2012 was summer patch (Figure 2). Record springtime warmth jumpstarted the growth of the summer patch fungus earlier than normal, allowing for prolonged periods of infection and widespread incidence of the disease on annual bluegrass putting greens throughout the region. Disease severity would likely have been much worse if not for dry conditions.

One of the ongoing debates in turfgrass pathology in recent years has been the influence of bacterial infections on turf health, and numerous submissions to the TDL had notes attached that said 'suspected bacterial wilt.' Of all the suspected or potential bacterial wilt/decline submissions, bacterial streaming was not observed on a single one, including those with clear etiolation. This is not meant to say that I think bacterial decline is not a true turfgrass disease. In fact, research out of Michigan State and North Carolina State has shown that bacteria can cause decline of creeping bentgrass turf. With that said, I'm not sure how extensive the bacterial wilt phenomenon is, since we were not able to observe any bacterial streaming in any of the sample submitted to the TDL last year.

This is something we will continue to monitor in the years ahead, but AT THIS POINT I do not believe bacterial decline to be a serious issue on turfgrass in Wisconsin or even throughout much of the Midwest. The fall conditions were relatively tame with seasonal temperatures, though still quite dry for long periods. No major disease outbreaks occurred and the fall allowed many superintendents to take a deep breath and undertake any renovations delayed by the intense summer stress. Overall, the Turfgrass Diagnostic Lab continued to expand its reach across the region and country.

The 130 professional samples were amongst the largest professional samples in a given year since the diagnostic lab opened in the mid-90's. Of those submissions, over 1/3 were from outside the state of Wisconsin. Samples were submitted from such Midwest states as Minnesota, Illinois, and Ohio but also from courses in Colorado, California, Oregon, Washington, and Oregon.



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and Education Facility  
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# TURFGRASS DIAGNOSTIC LAB

Increased interest from other areas of the country, especially the west, has led to requests for articles describing the TDL's services in regional turfgrass trade magazines. While the TDL remains first and foremost committed to the turfgrass managers of Wisconsin, its increasing importance to turfgrass managers across the region and country cannot be denied. With the continued extraordinary support the TDL receives from the state's turfgrass industry, I have no doubt the lab will continue to thrive for both the stakeholders within the state and those outside the state looking to us for leadership.

### Thanks to our 2012 contract members

As always, I would like to offer sincere thanks to our 2012 contract members (Table 2). Quite simply, the lab would not exist without their generous support. I am well aware that more is asked of you every year, both at your own facility and in support of the associations that work on your behalf. In addition, we at UW and the TDL in particular rely on you to make our programs viable and successful. We do this knowing that every dollar in your budget, both personal and professional, is stretched to the limit and we work hard to make sure every dollar you send our way is managed in the most efficient way possible and that in the end it will make some aspect of your job easier in the future.

UW's turfgrass program is currently in unsettled waters. The departures of Dr. Stier and Dr. Kerns means the program faces an uncertain future, but there are numerous people (both inside and outside the turfgrass industry) working tirelessly to make sure the program's future remains bright. I hope that no matter what the future holds, you will continue to support the UW and the TDL to the same degree you have in the past. If you aren't a contract member with the TDL, I urge you to join 70 of your industry colleagues and help to make the TDL the foremost center for turfgrass diagnostics in the Midwest and one of the premier turfgrass centers in the country. We can't do it without your support. For more information, please visit the TDL's website at [www.tdl.wisc.edu](http://www.tdl.wisc.edu).

## 2012 TDL Diagnoses

<u>Diagnosis</u>	<u>Professional</u>	<u>Homeowner</u>
Take All Patch	10 (6)	0 (0)
Abiotic	53 (42)	21 (25)
Microdochium Patch	1 (2)	0 (0)
Leaf Spots	3 (3)	2 (10)
Insects	0 (0)	0 (2)
Anthracnose (foliar & basal rot)	17 (13)	0 (0)
Fair Rings	8 (3)	0 (1)
Necrotic Ring Spot	1 (1)	9 (8)
Summer Patch	15 (6)	16 (28)
Brown Patch	1 (3)	0 (0)
Brown Ring Patch	2 (3)	0 (0)
Etiolated Tiller Syndrome/ Bacterial Wilt	1 (NA)	0 (NA)
Typhula Blight	1 (1)	1 (6)
Weed ID	4 (2)	20 (15)
Dollar Spot	2 (2)	0 (0)
Pythium Foliar Blight or root rot	7 (4)	0 (1)
Other	5 (7)	1 (3)
<b>TOTAL</b>	<b>131 (91)</b>	<b>70 (106)</b>



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## Ecological Annual Bluegrass Management

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

Annual bluegrass management is a perennial battle. Over the years, scores of management techniques and strategies have been employed in an attempt to tip the scales in favor of creeping bentgrass over annual bluegrass. The popularity of the management techniques and chemical control strategies ebbs and flows like trends in fashion. As in fashion, some of the bad ideas don't stick around very long, while the better strategies become part of the plan every

season. Entire books have been written on these techniques, so I won't attempt to cover them here. I will, however, spend some time discussing the latest fashion, which is a comprehensive plan involving the use of low disturbance, low nitrogen, growth regulators, soil acidification, and iron. For lack of a better phrase, I am calling this approach "ecological annual bluegrass management". In this article, we'll take a look at each of the components of an ecological ap-

proach to annual bluegrass management based on some recent work done at the O.J. Noer Turfgrass Research and Education Facility and elsewhere.

### Disturbance

Disturbance (i.e.) core cultivation, likely plays an important role in annual bluegrass invasion. Annual bluegrass spreads by prolific seed production, and those seeds need an opening in the canopy (bare soil) to germinate. We often create these opportunities for annual bluegrass by cultivating in spring and fall. Research tells us that annual bluegrass seed will germinate anytime temperature and moisture conditions are adequate (Vargas and Turgeon, 2004) which can be all year long in Wisconsin. Indeed, we can see the effect of disturbance on annual bluegrass invasion by comparing the putting greens at University Ridge Golf Course to the research putting greens at the O.J. Noer Facility. The annual bluegrass invasion at the University Ridge was so strong that they recently re-grassed their putting surfaces, but right next door, we lament at the lack of annual bluegrass on our plots which seems to be easily out-competed by the bentgrass. We normally core cultivate at least once per year, but our greens lack the ball marks and traffic of the golf course which means there are fewer opportunities for annual bluegrass to establish and thrive.

There have been far too few studies on how cultivation affects annual bluegrass. Core cultivation will remain an important practice on fine textured playing surfaces to alleviate compaction. However, there is debate about the necessity of core cultivating sand root zones. Sand root zones are not nearly as susceptible to compaction, but are very susceptible to problems associated with organic matter accumulation. Core cultivation of sand root zones has been a strategy to manage this organic matter accumulation.



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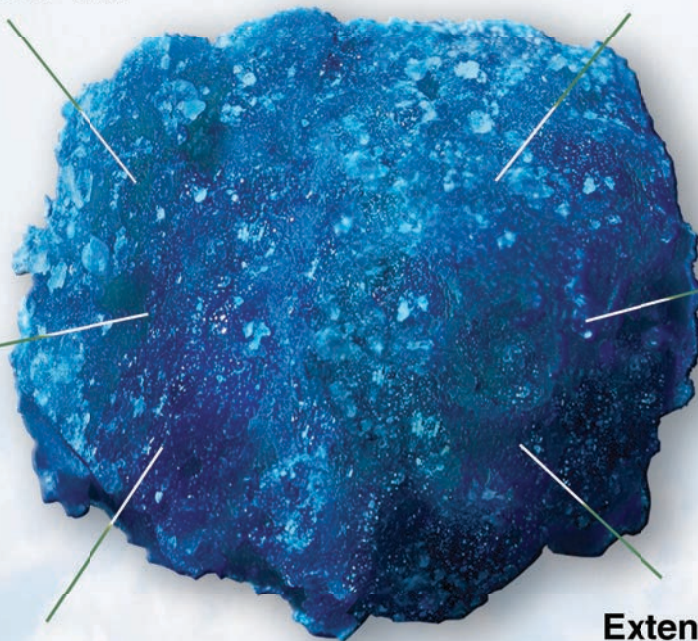
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# WISCONSIN SOILS REPORT

However, Dr. Roch Gaussoin and colleagues research at the University of Nebraska has shown that topdressing (not core cultivation) is the key practice for managing organic matter. In a massive survey, they found golf courses applying more than 18 cubic feet of sand per thousand square feet have lower organic matter levels than those applying less than that amount. While there still is a time and place for pulling cores on sand surfaces (layering issues comes to mind), there is a growing consensus that the most important management strategies on sand greens is frequent sand topdressing to dilute organic matter and bury the crown, and poking holes to temporarily increase the oxygen content of the root zone. This minimal approach to disturbance will likely reduce the opportunity for annual blue-

grass invasion.

## Nitrogen

The conventional wisdom says that high nitrogen fertilization favors annual bluegrass invasion. There have been many studies documenting this phenomenon. A study we conducted at Oconomowoc Golf Club over the past two years has also confirmed this notion. In that trial, we found that applying about 5 lbs of N/M to a majority bentgrass fairway led to a doubling of the annual bluegrass population in that two year period. The control plots received about 2 lbs of N/M and held steady at 12% annual bluegrass. One of the major challenges is finding that balance between nitrogen low enough to discourage annual bluegrass, but still enough for healthy bentgrass. It's impossible to say what the "right" amount

is for because different soils will have different N needs, and different traffic levels dictate the amount required for recuperation. The best I can do is to tell you that in theory and practice more nitrogen will favor annual bluegrass invasion than less.

## Growth Regulation

We've done quite a bit of work on growth regulation here at UW-Madison in the past six years. We've found that applying Primo every 200 growing degree days (base temperature 0°C) is the best for regulating the growth of bentgrass. What little data we have on annual bluegrass suggests that Primo causes slightly more growth regulation than on bentgrass, but the regulation lasts about the same 200 GDD. This suggests that Primo use may actually discourage annual bluegrass growth.

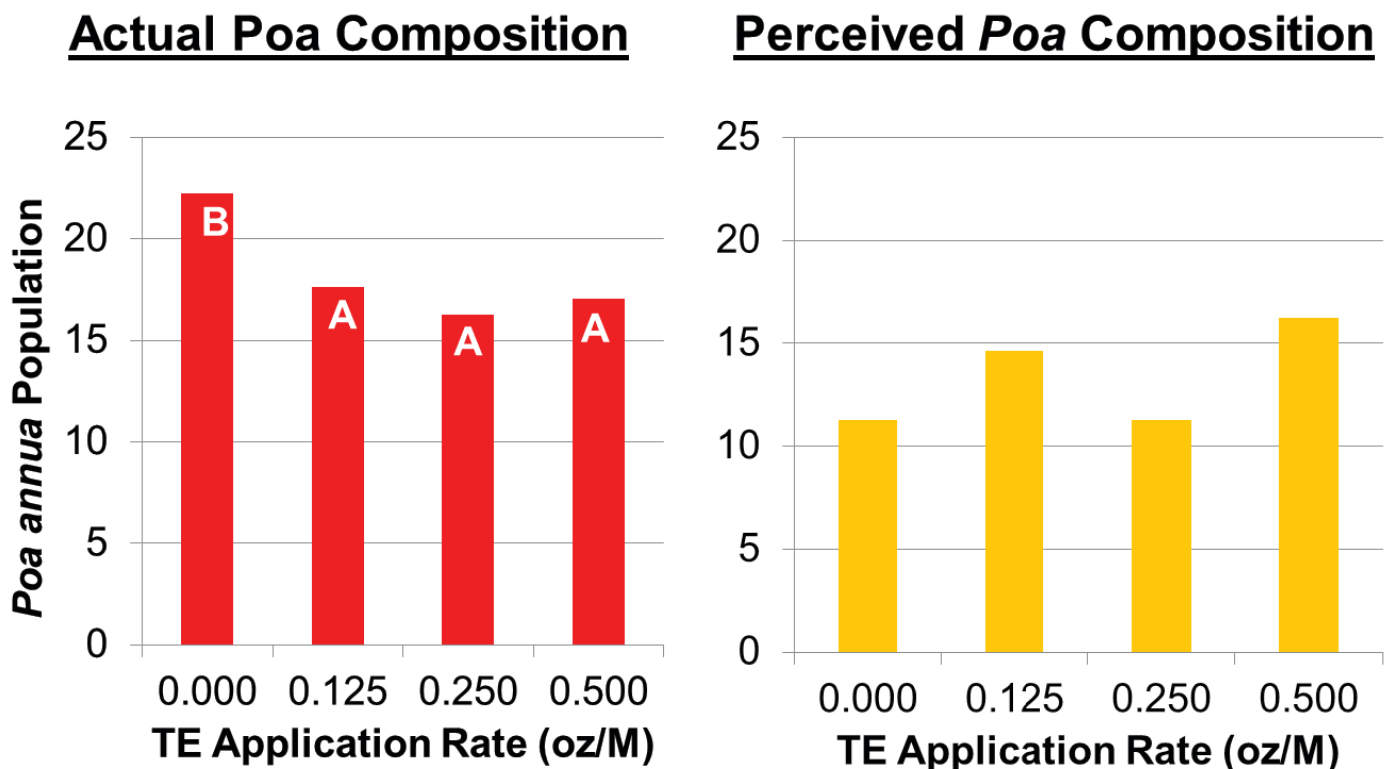
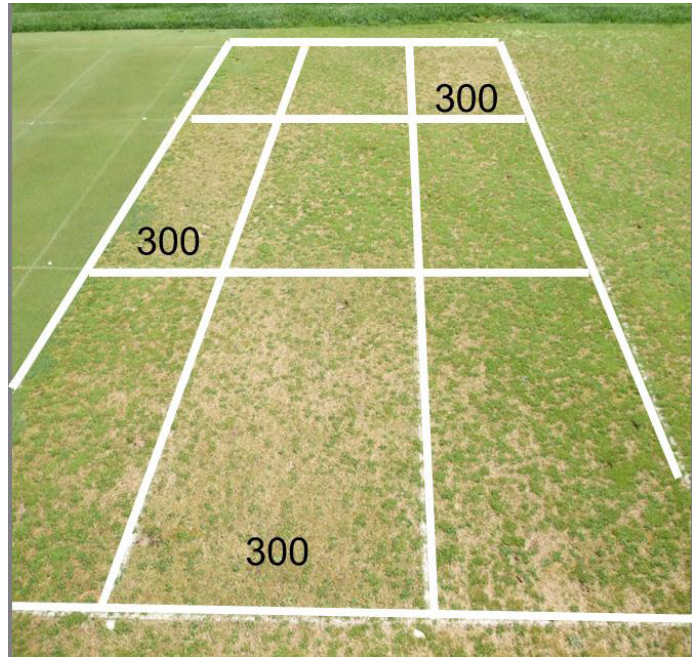


Figure 1. Superintendents underestimated the amount of annual bluegrass on plots not treated with Primo (they estimated 11%, when the actual was 22%). However, superintendents were fairly good at estimating the percent annual bluegrass on plot that had been treated with Primo (actual amount was 16-17%, while estimates ranged from 11-16%).

# WISCONSIN SOILS REPORT

In a companion study, we found that two years of Primo applications at 200 GDD led to a 25% decrease in annual bluegrass populations at the O.J. Noer compared to non-regulated turf. However, Primo seems to make the annual bluegrass stand out more in a mixed stand, so superintendents notice it more easily. We found that superintendents attending field day underestimated the annual bluegrass in non-treated plots, but were pretty good at visually estimating the annual bluegrass in Primo treated plots. Even though the Primo plots had less annual bluegrass, it stood out more which led superintendents to believe it had more than the non-treated plots (Fig. 1). A counterpoint would be that Primo increases the summer stress tolerance of turf, so it can increase the survival of annual bluegrass during the summer. Suffice it to say that Primo probably doesn't have much of an effect one way or another on your annual bluegrass populations.

However, class B growth regulators like flurprimidol and paclobutrazol, have shown the potential to reduce annual bluegrass populations. On that same fairway at Oconomowoc Golf Club described above, we found applying Trimmit at 16 oz/A every 300 growing degree days (base temperature 0°C, about every three weeks in summer) led to a fairly large reduction in annual bluegrass populations (from 12% to 5%). This high rate of Trimmit had a negative effect on the visual turfgrass quality, however, and this must be factored into the decision process. In the photo below, you can see that reapplying Trimmit every 300 GDD led to a more rapid decline in annual bluegrass than in the other two plots in each row which were treated with Trimmit at the labeled rate, or nothing at all (Fig. 2).



**Figure 2: Trimmit injures annual bluegrass more severely when applied at 300 growing degree days (about every three weeks in mid-summer). The other two plots in each row, which look similar, are either Trimmit applied every seven weeks or non-treated. Photo: Bill Kreuser.**



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## Irrigation

We won't spend much time on irrigation. You've surely heard that high moisture levels favor annual bluegrass and I will not dispel this notion. Annual bluegrass is shallow rooted, so only has access to the moisture in the top few inches of the root zone. Creeping bentgrass roots are often twice as deep (or more), so it has a lower irrigation requirement. In our trial at Oconomowoc, however, we found no difference in annual bluegrass populations after two years from plots that received normal irrigation compared to those receiving the same amount plus a thorough hand-watering once per week. The best advice is to use soil moisture meters to fine tune the irrigation distribution in the soil. Turn off heads in wet areas and increase the runtimes for heads in dry areas. Improve subsurface drainage at every opportunity. By improving drainage and maintaining soil moisture in the ideal range, you'll ensure that excess moisture isn't playing a role in favoring annual bluegrass.

## Iron and Root Zone Acidification

Iron and root zone acidification is probably the newest fashion in annual bluegrass

management. The previous strategies have been around for awhile, and are likely here to stay. While iron has long been used to enhance color, the rates I've been seeing of late are out of this world. Up to 40 oz/M or iron per month — that's 2.5 lbs/M! This high rate of iron is being used to mask very low nitrogen application rates and to reduce root zone pH which may favor creeping bentgrass. Defining optimum pH is not an easy task; some authors claim annual bluegrass can tolerate lower pH than creeping bentgrass, while others have stated the opposite. Dr. Max Schlossberg at Penn State has been fine tuning the optimum pH range for bentgrass and finds improved growth and quality when soil pH is less than 7.0. For maximum nitrogen availability, I prefer to keep the soil pH above 5.5 units. Because soil pH influences everything from grass growth to diseases to nutrient availability, I think we could benefit from having more science on this topic.

Back to iron, when I first heard of these high rates I became worried about unintended side effects — particularly the possibility of forming impervious iron layers in the soil which is something Glen Obear

and I have been documenting for the past few years (Fig. 3). We are still investigating the formation of these iron layers, and have not ruled out high rates of iron application as contributing to them.

We have been applying high rates (40 oz/M/month) of iron to a putting green at the O.J. Noer Facility for two years. The color response is incredible (see below) and lasts for about two weeks, which is our re-application interval. In fact, the color response from the iron is strong enough to mask the visual difference between a plot receiving 0.1 lbs N/M/month with iron and 0.4 lbs N/M/month without iron. Similarly, the iron hides the bentgrass "injury" from Trimit. I put injury in quotes because I am not sure how else to describe it, but if you are a Trimit user, you know what I mean. In addition to the masking effect, we found a 50% reduction in dollar spot on the plots treated with iron (Fig. 4). However, at Oconomowoc Golf Club iron applications had no effect on annual bluegrass populations over the two year study period. Granted, the iron rates were lower (12 oz/M/month), and the soil type was less resistant to pH change than a sand might be.



Figure 3. An impermeable iron layer at the sand/gravel interface in a USGA putting green. Photo: Glen Obear

# WISCONSIN SOILS REPORT




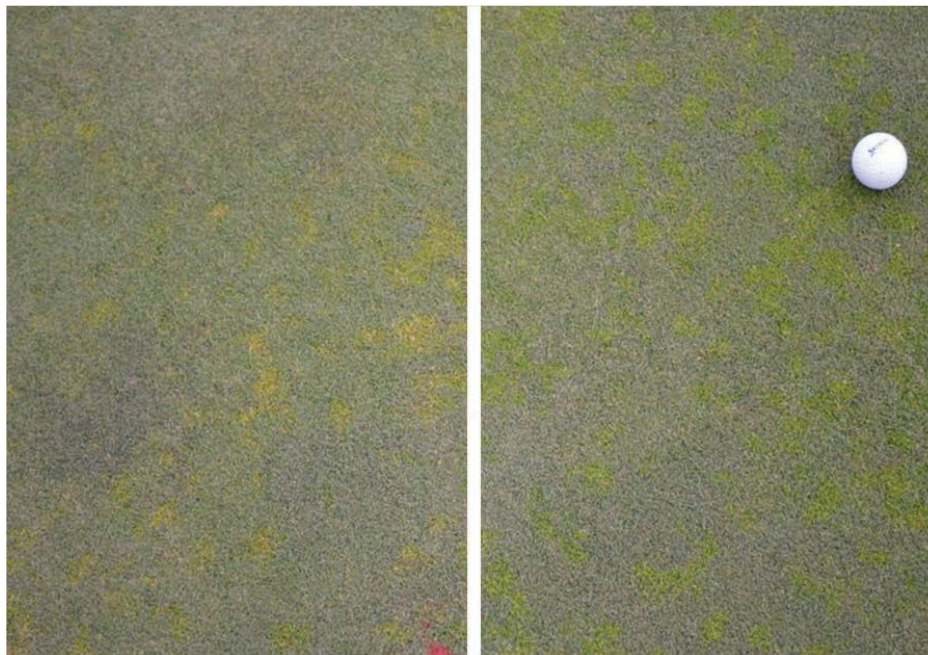
**Figure 4.** This picture shows the masking effect of iron, and also the reduction in dollar spot disease. Photo: Glen Obear.

While the benefits of very high iron may sound tempting, I am believer in “everything in moderation” and the recent trend towards extreme iron rates has me a bit worried. We will continue to closely monitor our high iron plots to see what happens over the long term. For now, I suggest using only moderate rates of iron and perhaps trying other soil acidification strategies like elemental sulfur or ammonium thiosulfate if soil pH reduction is your goal.

## **New Chemical Control?**

The excitement over PoaCure is palatable. This product has been promoted to take annual bluegrass out very slowly, and has a wide margin of safety on creeping bentgrass. We have been testing it since spring 2012, and we have certainly seen the “very slowly” aspect. In fact, we observed no injury or reductions in annual bluegrass on a putting green at Oconomowoc Golf Club through fall. However, OGC’s superintendent, Mr. Dustin Riley, sent me the picture below (Fig. 5) from an application he made in fall where the yellowing of the annual bluegrass is evident. I look forward to tracking the progress of the trials and hope to report some good news at the end of next season.

In summary, there are many management techniques available to you for annual bluegrass management. Obviously, none of these techniques are sufficient for total eradication. If there was a tried and true method, we wouldn’t be talking about this and researching year after year. Each golf course setting is unique and we hope you can use the information we’ve generated to improve (or at least not hinder) your annual bluegrass control efforts. 



**Figure 5.** The plot on the left was treated with PoaCure seven weeks prior to taking this picture at Oconomowoc Golf Club. The plot on the right was untreated. Photo: Dustin Riley

## Grow the Game with a PAR

By Dustin Riley, Certified Golf Course Superintendent, Oconomowoc Golf Club

Play A Round (PAR) 4 Research was created by the Wisconsin Golf Course Superintendents Association in 2010. The goal was to assist in funding sustainable turfgrass and environmental research for golfers, homeowners and everyone in between who enjoys a little green in their life. Whether at home, at parks, at sports facilities, or on golf courses, turfgrass improves the quality of our lives by enhancing property values, providing open space, and creating recreational opportunities. Wisconsin is home to over 300,000 acres of turfgrass that equate to a nearly one-billion-dollar-a-year industry that continues to thrive due in part to the cutting-edge turfgrass research at the University of Wisconsin-Madison.

With the support of PGA Tour Professional, Steve Stricker, and our natural spring fever, the PAR 4 Research Auction has become a spring board for Wisconsin Golf in each of the last 3 golf seasons. Since the inaugural event, this event has raised over \$33,850. All net proceeds were donated to the Wisconsin Turfgrass Association for turfgrass and environmental research funding.

But, it's not just about raising funds to support the evolution of our related sciences. It's also about having a direct influence in the growth of the game of golf. Many believe that an elaborate marketing

plan is required to help restore the interest in golf. It doesn't. So what is needed to help grow the game?? It's actually simple...To help grow the game; we simply need to provide opportunities to actually...play the game. Introducing the game to a non-player is fantastic. But, so is increasing the enthusiasm of the casual golfer. If a 4-some of friends

Start with a 4-some and maximize their enjoyment and their experience. If each of us provides such an opportunity, then it can become large scale.

The PAR 4 Research Online Auction is the perfect avenue to help grow the enjoyment and experience of golf in Wisconsin. PAR 4 Research provides many opportunities for all

Wisconsin golfers to obtain a golf experience which may not normally be available. Sample auction items include golf packages to many exclusive private golf or country clubs, nationally renowned golf courses and many other quality golf courses throughout Wisconsin and bordering states. These opportunities could lead to return play, new members or even introduce the game to a beginner.

This message is targeted toward all of us that want to see the interest in golf increase. Join in the effort. Donate a golfing opportunity to the PAR 4 Research Online Auction. Promote the auction to your family, friends, members, clients, etc. Finally, maximize

the enjoyment of those who experience your donation. Your participation is a win-win for everyone, including the game of golf.

To learn more about the PAR 4 Research On-line Auction and help sustain the Turfgrass industry while playing the great game of golf, please visit [www.WGCSA.com](http://www.WGCSA.com) or [www.PAR4Research.com](http://www.PAR4Research.com).



typically play golf together 2 times per season and can be increased to 4 times, isn't this growing the game? Growing the game doesn't need to be viewed as a large scale mission.



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## Jim

By Jake Schneider, Assistant Golf Course Superintendent, Blackhawk Country Club

Jim has been a summer seasonal employee on our staff for the past three seasons, and we're all hoping that he will be back for many more. Granted he only works about four hours per week, but he has become an indispensable component of our crew. Everyday, he comes to work with an ear-to-ear grin, and with rare exception, this grin stays on his face during his time on the course. It's safe to say that Jim is a morale booster to all who pay attention.

When he's at work, he wants to work, and he does so at 100 miles-per-hour. As much as he tried talking me into letting him chip brush during his first summer here, that hasn't happened, and his specialties include helping mow the clubhouse lawn (his favorite job), changing water in the on-course coolers, weeding flower beds, and freshening the water/detergent in the ballwashers. On one occasion, he had to correct Angel, one of our full-time employees, on the proper procedure for changing said ballwasher water.

Overall, he's a man of few words with an impressive sweet tooth. Jim never goes into the field without the proper safety equipment (or his water jug), and he may actually have too much PPE on occasion. He's not always the best with names, but that leaves him in good company. On the weekends, he attends church. Working at Blackhawk is more

of a second job for him, and his primary job involves custodial work.

In many ways, Jim is the perfect employee; he is punctual, has a great attitude, and works hard. Plus, he never forgets to remind us to "clock me out". He is 50 years old but has the energy level of a man 20 years younger. Jim is also autistic.

The above is 100% true, and I can assure that it's meant to be neither a self-serving narrative on hiring "disabled" workers nor a pity party for Jim. Rather, it's meant to serve as a reminder for how lucky we are to work the jobs that we do and on how our attitudes can affect all of those around us. If given the opportunity, I have no doubt that Jim would happily work on the course for 40 hours/week, and in spite of the challenges, we should do our best to maintain that same attitude. Like Jim, let's not dwell in what we don't have in our lives, bank accounts, or maintenance budgets but instead embrace what we do have. Pardon the pun, but the grass isn't always greener on the other side.

After getting over the shock that maintaining a golf course is, in fact, a decent-paying, legitimate career, I'm surprised by the amount of people who think that it's a really cool job. I may not have agreed with that assertion from July 7-August 7 of this past year, but for the most part, I see where they are coming


from. We get paid to work on properties that many with the so-called "desirable" jobs come to relax and to spend their leisure time. Although many of our days are neither relaxing nor leisurely, there are certain days when the weather is just right that it seems like a crime to get paid to do what we do. Rather than staring at a cubicle wall, we get to oversee picturesque landscapes.

Normally, I'm not one to set New Year's resolutions, but this year, I have resolved to be as happy with what I have in all aspects of life. Hopefully, you will do the same. This doesn't mean that I am or that you should be complacent. In fact, quite the opposite is true (I'm talking to you, elusive head superintendent job). Heck, after the hand that we were dealt last year, 2013 has to be better, right?

Prior to leaving on a family vacation to the Ozarks this summer, Jim typed a letter that was addressed to me and various other staff members. I will be hanging onto this letter for a long, long time. In this letter, he briefly details the trip and asks me to call his sister about having the days off to travel. His closing was as follows:

Lots of Love,  
Jim

If only all of our employees felt that way about me...

Have a great year, and enjoy your job as much as Jim does. 

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## Charlie G. Wilson Receives Distinguished Service Award

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

Late is better than never and sometimes for unknown reasons things are not done at a specified time. Awarding Charlie Wilson with the WGCSA's highest honor is one of those things.

If you read your directory you can see the list of WGCSA Distinguished Service Award winners is short on names but long on history of service to the WGCSA and the Wisconsin Golf History.

Although retired since 1979 and now 91 years old Wilson is well deserving of this late honor.

As part of the "Greatest Generation" Wilson grew up in the eastern US moving around a bit due to his fathers sales job as a buyer for the Atlantic and Pacific Food Company. The family was in Washington DC when World War II broke out and he enlisted in the Navy serving 37 months in the Pacific serving for a time under John F. Kennedy.

After the war Charlie enrolled in the University of Maryland and wanted to get a degree in agriculture despite his city upbringing.

Wilson started mowing lawns to raise some money to supplement his GI Bill income and wanted to learn more about lawn care and turfgrass.

This quest for knowledge led him to the USDA Plant Industry Station in Beltsville, MD where the USDA Green Section had it office. Reading was allowed at the office but material could not leave the building

so Charlie spent many days and hours poring over material that included USGA Green Section Journals.

Dr. Fred Grau, Green Section Director took a notice of Wilson and offered him a summer job that led to a part time school year job and after graduation in 1950 a full time position as a extension agronomist. After a year working in the Maryland USGA office Wilson was sent to California to see if there was any interest in having a visiting turf service for USGA clubs. There was a lot of interest so Wilson was chosen to open an office in Davis California and pioneered the USGA turfgrass advisory service as the first director.

After three years O.J. Noer wanted Charlie to be his understudy at the Milorganite Division of the Milwaukee Metropolitan Sewerage District. The opportunity to work under the worlds foremost turfgrass agronomist brought Wilson to Wisconsin in the summer of 1955.

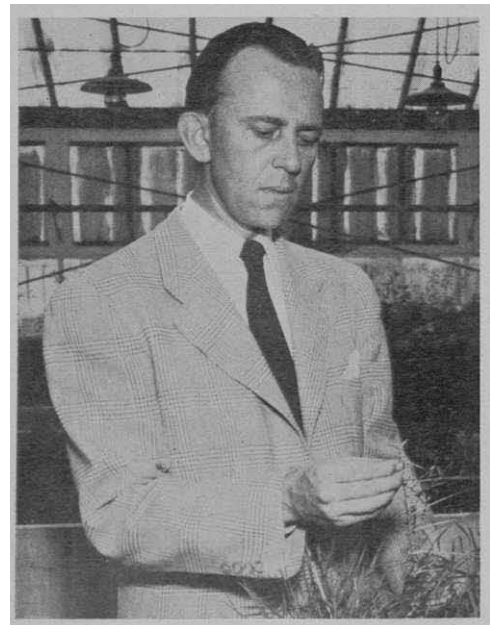
Wilson and Noer worked together for 5 years before Noer's retirement in 1960 when Wilson assumed his position as head agronomist and director of marketing for Milorganite. He spent much of his time traveling the country, visiting distributors, attending and speaking at conferences and visiting golf courses.

The job took Wilson to every state in the union and most of provinces of Canada. It was during Wilson's time at Milorganite he along with Jim Lathem and Bob Welch

approached WGCSA's Ron Verhaalen and John Stampfl to work out details on a day and half conference and in 1966 the first Wisconsin Golf Turf Symposium was held. It was fitting the WGCSA was able to award Charlie the DSA at the very conference he helped found.

In a relationship that continues today Milorganite paid for speaker travel, rooms and expenses while attendees paid for the conference rooms and meals. Any profit is given to the O.J. Noer Research Foundation.

The O.J. Noer Foundation was spearheaded by Wilson although it was a plan "B" proposal. The idea was to do something nice for O.J. so Charlie and several Milorganite Distributors wanted to send them on a trip around the world. Well O.J. caught wind of the idea and said under no circumstances!



Charlie Wilson becomes the first USGA Green Section Director in Davis California. (Picture courtesy of Golfdom Magazine June 1952)



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Plan “B” was to form a turfgrass research foundation in O.J.’s name and the O.J. Noer Foundation was started. Wilson served as the research director and on the board of directors for the foundation named in honor of the man who taught him so much.

According to Wilson the first project funded by the O.J. Noer Foundation was one of the greatest research projects ever done on turf. UW Wisconsin’s Dr. James Love work on how turfgrass responds to mineral nutrient deficiencies was ground-breaking for the time as that work had never been done. At that time turf research was hard to find and only a few colleges had recognized turf programs or professors.

The O.J. Foundation has provided over 1 million dollars in research grants and has been instrumental in helping build the O.J. Noer Memorial Collection at Michigan State University Library as part of the Turfgrass Information File.

When he retired in 1979 Wilson didn’t stop working and developed a product called Aquashade after seeing a Florida property that dyed a pond to make it look better after seeing it on a golf course where a movie was shot.

The colored pond looked better and did not have any weeds due to the filtered sunshine. Wilson did some research, developed the patented product and later sold the business to fully retire.


Charlie and his wife Marion retired to Wisconsin the state where they raised three children and created a Legacy with the Wisconsin Golf Turf Symposium and the O.J. Noer Foundation.

Wilson was awarded the USGA Green Section award for his work in 1982. In his speech with Marion at his side he is quoted as saying “We are proud to have helped the grass grow.” That is a simple synopsis of a career that spanned nearly 30 years as a turf agronomist. Charlie Wilson has seen a lot over his life.

He has seen golf course superintendents go from on the job trained farmers to educated professionals who are still trained on the job and through continuing education.

He helped turfgrass research go from near-non-existent to providing a wide scope of solutions for turf managers.

He served his nation in World War II, went to college, found a career and raised a family.

Charlie G. Wilson is very deserving of The Distinguished Service Award for his work as an agronomist, educator, researcher and his role in the golf industry. Congratulations Charlie! 

*(Editors Note: More can be found on Charlie Wilson in the July August issue of The Grass Roots, archived at the Turfgrass Information File at Michigan State. Lori Ward Bocher Personality Profile penned “Hear It Again For the First Time”.)*



**Above: The first USGA Agronomist Charlie G Wilson with current USGA Agronomist Robert Vavrek.**

**Below: Charlie Wilson as caricatured by Gene Haas**





## 5th Annual WGCSA Assistant Seminar

By **Jake Rath**, Assistant Golf Course Superintendent, Bishops Bay Country Club

Whispering Springs Golf Club and Superintendent Matt Schmitz once again hosted the assistant seminar. With this summer's weather, the main focus of the seminar was, fittingly, water use. Together, the speakers provided great insight and information on what makes a successful irrigation system and program.

Tom Emmerich of T.J. Emmerich Associates Inc. was the first speaker of the day. He used his 42 years of experience in the field to provide a great overview of the irrigation industry. Tom began by covering the basics as to why you would consider renovating or replacing your current system. Not only can a new irrigation system reduce water use, it can also improve coverage and system reliability, reduce energy costs, and increase your level of control. Tom then discussed various parts of the irrigation system providing a glimpse of both the


new and old.

Following Tom, Larry Lennert, a territory manager for Aquatrols, discussed some benefits and components of improving irrigation efficiency. Larry discussed the importance of minimizing over and under watering and creating uniform infiltration throughout the soil profile. To demonstrate how to assess an irrigation system, Larry walked through a sample irrigation audit. He then discussed various alternatives to improve distribution uniformity. Adjusting head sizes and spacing, checking for damaged or worn nozzles, and adjusting times all can help create a more uniform playing surface.

Following lunch, Ken Schwark of Watertronics discussed the ins and outs of pump stations. Ken has over 36 years of experience in the industry. He covered both new and old pump system equipment and overall operation. As each

pump station is different, it was great to see examples of different stations that Ken had worked on throughout the years. Not only can a new pump station improve reliability, it can also bring electricity savings.

To finish the day, Patrick Sisk, Certified Golf Course Superintendent of Milwaukee Country Club, gave an overview of his experience in planning and installing a new irrigation system. The process leading up to the installation of a new irrigation system starts many years before it actually goes in the ground. Patrick noted the importance of evaluations, personal observations, and consideration of playability issues. Finally, he emphasized the need for consultation and communication between all those involved in the process.

Thanks to all who organized the event and especially to Matt and the speakers for a great day at Whispering Springs. 



Seminar Speakers included from left: Tom Emmerich, Pat Sisk, Larry Lennert and Ken Schwark.

A eager crowd at the 5th Annual Assistants Seminar at Whispering Springs Golf Club in Fond du Lac.



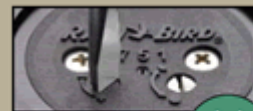
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## News and Notes From WGCSA Members By Matt Kinnard and the DHD Team

From everyone at DHD I'd like to say Happy New Year! We also hope you all had a very Merry Christmas and Holiday Season. And, hey, as a bonus the Mayan Apocalypse was a bust. With a new lease on life after December 21, I was thinking of all the things I could be thankful for now and look forward to in the coming years. So here are just a few...

- 1) I will be able to continue to watch the Bears suck for many more years to come.
- 2) Dedicating 7 days of my life to Discovery Channels Shark Week.
- 3) Paying \$1 per oz of beer at Summerfest. (This is sarcasm)
- 4) Having the privilege of sharing all of your good news, such as the following.

### Career Moves

Dustin Peterson is the new superintendent at Rolling Greens Golf Course in Durand, WI. Dustin recently graduated from Chippewa Valley Technical College in 2012. He has previous golf course experience at Eau Claire Country Club. Congratulations Dustin on your first Superintendents position!

Steve Blake at Ridgeway Country Club in Neenah promoted his second assistant Chris Goeben to the position of Assistant Superintendent. Chris graduated from the Rutgers Turf Program in 2010. Chris started working in golf as a seasonal at Crystal Springs in Seymour. During college he had the opportunity to intern in Kohler at Whistling Straits on the Irish Course in 2009 and then in 2010, the year of the PGA Championship, on the Straits Course. Congratulations Chris!

Harrison Beal has returned to the golf course where he had his first summer job, Kenosha Country

Club. Harrison has accepted the position of Assistant Superintendent under Scott Verdun. He graduated from the Rutgers Turf Program in 2010 after interning at Glen Arbor Golf Club in Bedford Hills, NY. When he returned to Wisconsin, he began work at Oconomowoc Golf Club as the Second Assistant, and was promoted to Assistant Superintendent in 2011. Congratulations Harrison!

### Newly Married

Garrett Luck, the Superintendent at North Shore Country Club in Mequon, and Ann Engel were married on December 15, 2012. The newlyweds are looking forward to a warm February honeymoon in Jamaica. Congratulations Garrett and Ann!

### Family Additions

Fox Lake Golf Club Superintendent, Brian Igl, and his wife Kayla received a late Christmas present on December 27, 2012 when they welcomed a baby girl into the world. Kynslee Mae, 11lbs 5 oz (not a typo), came home in time to ring in the New Year with her brother Teagan and Junior the dog. Congratulations Brian and Kayla!

Scenic View Country Club (Slinger) Superintendent, Kasey VandeBerg and his wife Brooke had a baby girl September 10, 2012. Harper Marie weighed 6lbs 10oz and was 20 inches. Congratulations Kasey and Brooke on the new addition to you family!

### Retirement

Peter Fay, superintendent at Haw-

thorne Hills Golf Course in Saukville, has retired after dedicating 40 years to the Ozaukee County Parks Department. Pete began his career at the Parks Dept. when he accepted the position of Greenkeeper I on June 1, 1972. Pete witnessed a tremendous amount of change occur in our industry over the length of his career but what never changed was the commitment he had for his job, his indelible work ethic and genuine personality. The result was an outstanding golf facility that is known for its excellent playing conditions year in and year out. On January 2nd, 2013, Pete's 'meritorious and dedicated service,' was recognized by Ozaukee County. Hopefully with more free time now, Pete and his wife Sharon, will be able to enjoy as much time as they want touring the country in their RV. Congratulations Pete on the conclusion of your remarkable career and from all of us in the turf industry, we hope you enjoy your retirement.

### Winning

Lee Mahnke, superintendent at Old Hickory Country Club in Beaver Dam, was the winner of a \$200.00 GCSAA Gift Certificate after his name was drawn for participating in the GCSAA Research Panel. Other winners received various gift cards, ipods and even a chainsaw. Any superintendent can participate in the Research Panel and doesn't have to be a member of the GCSAA. For more information visit [www.gcsaa.org/news/ResearchPanel.aspx](http://www.gcsaa.org/news/ResearchPanel.aspx).

Congratulations Lee!

Please pass along any significant news or happenings around the state to Danny, Mike or me. We want to spread the good news. You can also email me at [m.kinnard@sbcglobal.net](mailto:m.kinnard@sbcglobal.net) or call at 920-210-9059. ✓



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## Fall Business Meeting

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

Attendance numbers at the fall business meeting of the Wisconsin Golf Course Superintendents Association is a mixed blessing. The low turnout is a sign the members trust and appreciate the job executive director Grams and the board of directors are doing. A high turnout could be the result of an angry mob so although I shouldn't complain I do wish more members would participate in this important part of your as-

sociation.

Outgoing President Jeff Millies opened the meeting and discussed his ten years on the board of directors. He will serve two more as Past President and will still be involved in committee work with the Symposium and Nominations Committee.

Executive Director Grams presented the membership numbers. In 2012 only 38% of members renewed on time and we saw a net

reduction in members. Overall we are better than the national association where overall numbers are down 27%.

Par4Research donations were down 20% from 2012 as less clubs participated in this valuable program. The Par4Research allows WGCSA to provide funds for research to the Wisconsin Turfgrass Association to they can support turfgrass research at UW Madison and the O.J. Noer Turfgrass Research Facility.

WGCSA Legacy Scholarships were announced with \$500 scholarships given to:


- Katherine Barlow, daughter of Jeff and Jennifer Barlow. Katherine is a Freshman at UW Madison studying Biomedical Engineering.
- Mikka Schaller daughter of Scott and Joan Schaller. Mikka a Senior at UW Madison is studying Communication Arts with a emphasis in Film.
- Abbey Shaw daughter of Pat and Debbie Shaw. Abbey is a freshman at UW Madison studying Chemistry.

Next up was the presentation of the budget and the approval of the scholarship and research funds for 2013. Scholarship and research funds include

- J.R. Love Scholarship - \$1,500,
- Legacy Scholarship - 3 at \$500 ea.
- M.S. Miller Literary Scholarship - \$1,000
- Turfgrass Diagnostic Lab - \$2,000
- WTA - \$10,000
- WTA though the Par 4 Research Program - \$10,000
- Environmental Institute For Golf - \$500
- O.J. Noer Foundation from Symposium Profit - \$2,375

The total for scholarship and research is \$28,875 for 2013.

For 2012 the association had a prosperous year with income projected at \$18,114 well above the budgeted \$7,535

The last order of business was the election of officers was held and after no nominations came from the floor a unanimous ballot was cast for the candidates. 



Soon to be Past President Jeff Millies leads the Fall Business Meeting.



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**2013 Board of Directors**

**Back: Brett Grams, Jeff Millies, Jeff Barlow, Josh LePine, Jake Schneider, Scott Bushman, Kevin Knudtson. Front : Chad Harrington, Colin Seaberg, Jim VanHerwynen, Jon Canavan (missing Steven Wasser)**



**Newly elected President Chad Harrington opens the Symposium.**

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# 47th Annual Wisconsin Golf Turf Symposium

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

The new December date for the Wisconsin Golf Turf Symposium seemed to be a hit as attendance was up and attendees were able to concentrate without worry about golfers, blowing out irrigation systems or applying snow mold products.

For now the date will be two weeks after Thanksgiving. This year that was Dec 4 and 5th because Thanksgiving was as early as it ever could be. However next year Thanksgiving is as late the symposium will be Dec. 10 and 11.

The program got off to an exciting start with Monroe Miller presenting Charlie Wilson with the WGCSA Distinguished Service Award on behalf of the association. Please see the article on Mr. Wilson on page 22.



**Dan Dinelli, Certified Golf Course Superintendent, North Shore CC, Glenview, IL**

The Title for the 47th Annual Golf Turf Symposium was “What’s In Your Tank?” and there is no better Keynote Speaker than Dan Dinelli certified golf course superintendent at North Shore CC in Glenview IL. Dinelli is well known for doing

research on his golf course with a variety of products. His talk titled “What’s in Your Tank, Before Going Mainstream” gave attendees some insight into his programs, experiments and property.

After a wet 2011 and a dry 2012 Dan was able to get some defining results along with Dr. Derek Settle. At North Shore the goal is to have healthy but thin turf.

They have found Primo to provide a short but fat plant so they have experimented with Embark to provide a short and skinny plant. Mainly used for seedhead suppression Dan’s work is to see if it can be used all year.

There are two different formulations with the Turf and Ornamental (T&O) and the 2S which is the stronger of the two. To combat turf yellowing Dinelli suggests using an iron product two weeks before use and to read the label carefully because in a tank mix Embark can be neutralized by a non-chelated iron.

In Dan’s trials he has found that .125 ounce of primo and .5 ounce of Embark two weeks apart can give turf a droughty look that leads golfers to think the turf is firm and fast. He has noticed a quick rebound from high rates of Embark where the turf will go from “bad to green” in less than a week. He has seen no loss of root mass and the benefits have been reduced mowing, drought tolerance and reduced dollar spot.

Embark is absorbed foliarly so no water for 8 hours is important as well is nozzle selection. Flat fan with a fine spray have provided the best results. One negative is slow recovery from damage or traffic and it best to treat healthy turf after spring green up.

Poa Cure is a new weapon for your old poa problem. So far it is only a experimental in the United States but has shown safe control on many biotypes of bentgrass and many biotypes of poa just seem to melt away.

Xonerate is a newer product but is not tolerated by all bentgrasses so do your testing on small trials. Also do not apply over

80 degrees and the 4 ounce rate will smoke turf if sprayerpasses overlapped at all.

Dan then switched gears to new dollar spot technology with Emerald, Secure and some new products with broad spectrum control. As a alternative product Dew Cure can provide up to two weeks dew control to reduce leaf wetness and in turn dollar spot. Civitas provides plant health boosters that are not yet understood and mixed results overall.

Dinelli has tried microbiological products but storage issues and mixed results have left him searching for better results.

In conclusion Dan recommends turf managers experiment on their own courses and be sure to leave a control to help document results with photographs and even video.



**Dr. Brandon Horvath, University of Tennessee**

Next up Dr. Brandon Horvath presented “Dealing With The Stress Of Summer With Dollars And Sense In Mind: Creating A Fungicide Program”

Brandon has a connection to the Golf Turf Symposium and the O.J. Noer Foundation

as he received a Noer Foundation Grant to fund his masters work.

His first statement may have been the most important when he said for fungicide programs to have a chance to work soil and turf fertility and foundational management programs must be in place.

Bentgrass requires 3-4 pounds of nitrogen per year. Turf managers have a lot of choices for their fungicide programs and are often overwhelmed. Brandon recommends a good fungicide plan starts with no budget limit. If money was not an issue what product applications would you make? From there pare down your program until you reach your budget number.

With fungicide performance effected by rate, interval, timing, water volume and product degradation it is important to make an accurate application of the products you choose to use. Getting the product to the pathogen through uniform coverage is key to success.

Due to the cost of applications it is important to get an accurate diagnosis and often there is no disease pathogen present. At that point managers must look at nutrient

analysis from soil and tissue, drainage, layering and black layer because soil problems are a common cause of turf decline.

Brandon recommended superintendents understand the mode of action of their turf fungicides and whether the product is a contact, localized penetrant, systemic penetrant or a combination of products with different modes of action. Dr. Horvath gave two take home messages. First it is difficult to get recovery so early or preventative programs are important for success. He added when turf gets damaged during the stress of summer it can get better but never good until fall.

The second take home message is the name of the product is not important, but the mode of action is very important. The first two applications are also important so use good products.

Our very own Dr. Doug Soldat of the University of Wisconsin Madison took the floor with a talk titled "Wetting Agents and Water Chemistry".

2012 offered a unique year for moisture management and the opportunity for widespread dry spot problems. Doug of-

fered that often moisture problems develop while the grass is still green and by the time dry spots show it may be too late for the turf to recover. Moisture probes are the best way to track moisture content.



**Dr. Doug Soldat,**  
University of Wisconsin - Madison

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In golf turf, greens are the key playing surface and are often built with a high percentage of sand to provide smooth conditions. Sand has little surface area so it is easy to coat with hydrophobic particles to reduce water penetration.

Surfactants are used to reduce the surface tension of the water. For example a drop of water on a piece of was paper will just sit there but add a wetting agent to the water drop and it spreads out. Products differ by chemistry, application rate, soil mobility and decomposition.

Doug recommended an article in the July 20, 2012 *Green Section Record* by Dr. Stanley Kostka and the late Stanley Zon-tek titled "Understanding The Different Wetting Agent Chemistries" as a guide to the different types of products and how they work.

Along with soil moisture probes water drop tests can be used at different depths in the soil profile to see how long it takes for water to infiltrate the soil. For most turf soil moisture uniformity is the goal more than dry or wet turf. Surfactants reduce moisture more effectively on soils with a lower organic content.

Surfactant users need to follow the label for how much water to apply when watering the product in and how to tank mix wetting agents with other turf protectant products.

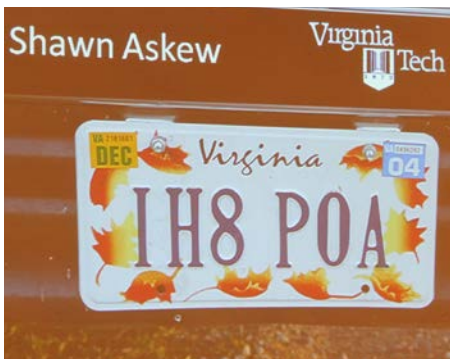
Dr. Soldat discussed algae and crusts on dead turf that can be difficult to control. Blue green algae occur naturally from the soil and prefer high pH and sunlight. Control can be increased by reducing the surface pH below 6 and frequent top-dressings. Ammonium sulfate and ammonium thiosulfate reduce surface pH but may consume oxygen and cause black layer so using a sulphur burner or acid injection system may be a better route.

Finishing off the first day we welcomed Dr. Shawn Askew from Virginia Tech with a discussion titled "30 Herbicides". He started with cultural weed control is the best method and for long term control healthy turf kills more weeds than herbicides.

Dr. Askew covered many of the different organic and synthesized products available for varied weed control. Even though new products are available there are still weeds that cannot be controlled

effectively without using a non-selective product. As plants adapt to new weather conditions and weather patterns change Wisconsin will begin to see more hard to control weeds on a regular basis.

Besides the typical grassy weeds and



**Dr. Shawn Askew has a hateful relationship with poa annua!**

broadleaves Shawn has a hate relationship with poa annua.

In the March 1921 *Green Section Record* Dr. Piper and Dr. Oakly had an article on Poa Annua and the fight to keep it out of putting greens. It was a problem then and according to Shawn it is just a "bad grass".

New to the battle to fight poa annua the experimental product Poa Cure or Methiozolin developed at the Moghu Research Center in Daejeon Korea is showing promise.

Shawn has had good luck using Trimmit and Cutless with proper nitrogen treatments and regular use. The problem is if you stop using those products the poa will return fast. Poa Cure has shown to be a longer lasting product.

A guesstimate on pricing when it becomes available in the United States is \$2,500 per acre per year on greens. It has shown to be safe on turf except during heat or with water saturated soils. Although it may be a little pricey when compared to the full cost of other poa control products and reduced turf quality it may well be worth it to members and owners. Shawn is starting research on ball roll; not necessarily ball speed but uniformity of roll as a selling point for pure bentgrass greens.

After a great breakfast Wednesday started with a return of Dr. Brandon Horvath

and his talk titled 'Fungicides First: What Are The Secondary Effects?'

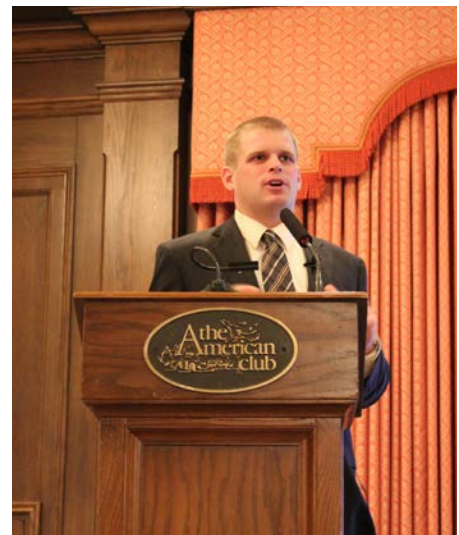
Strobilurin fungicides are a naturally product derived from strobilurus tenacellus mushrooms. Over 70,000 molecules were tested and 556 patents have been developed from the fungi which has shown to keep other fungi out.

In turf there are a lot of "strobi" choices with Heritage, Insignia, Compass and Disarm to name a few and it is a low rate, broad spectrum, reduced risk fungicide with extended residual efficacy. What else can this product do for turf as far as plant health benefits?

In corn and wheat it has shown to green the plants and produce a better yield. In turf it is believed to enhance stress tolerance, increase root length, heat tolerance and enhanced recovery from stress.

So the question is does a slight increase in plant health result in greater visual quality in turf? In 2009 research in absence of disease the turfgrass treatments showed no greater visual quality.

DMI research showed the treated plots had a darker green color and the slight turf regulation reduced scalping but no great increase in quality ratings alone. They are great products when mixed with Daconil Ultrex to control anthracnose and dollar spot but caution should be used when mixing with growth regulators.



**Mr. Bill Kreuser, PhD Candidate, Cornell University**

Wisconsin raised Bill Kreuser took over with his talk on "Plant Health Products". A recent explosion of products and claims of success from vendors and users have left turf managers wondering which product works and why.

Stress on turf from temperature, water, nutrient levels, UV and high light along with biotic stress from people, traffic and mowing lead to oxidative stress and damage from free radical oxygens. Oxidative stress triggers stress hormones in the plant.

Cytokins from sea weed extracts help reduce oxidative stress and promote bud formation, delay senescence, increase Co2 exchange and provide higher chlorophyll levels.

With the diverse number of products with many modes of action it is hard to tell what really works. If the goal is to reduce or prevent oxidative stress how is that done? Turf managers must ask "What is in that jug?"

Civitas was a product used to lubricate food processing equipment and has shown good and bad results. It has shown to induce systemic disease resistance in plants and increases fungicide efficacy. It primes the plant defense pathway and research on Civitas with low rates of Emerald showed great dollar spot

control through a synergistic effect.

That is the good but the bad is Civitas alone can show phytotoxicity, chlorosis and reduced density and chlorophyll. In trials the pigment added to Civitas not just colors the turf but truly eliminates the side effects.

Kreuser discussed how the harmonizer absorbs different light frequencies to reduce high light stress. There is more research to be done to understand how the products work together to enhance plant health.

It was clear Bill knows his products and research and I look forward to him finding his answers on these different products.

Dr. Askew returned to discuss "Spray Technology and New Regulations." Shawn jumped right in with good news on a EPA "pet project" to define spray drift. Proposed changes includes vague language open to different interpretation such as "could harm". which could be any negative effect to humans, beneficial insects, fish, birds and other wildlife.

New product labels are including language on increased nozzle requirements and droplet size. Some of the droplet size requirements could reduce product coverage and efficacy. Air induction (AI) and drift guard air induction (DGAI) may be a solution. to proposed



**Dr. Shawn Akew,  
Virginia Tech**

regulations. Sprayer technology is changing rapidly in agriculture and coming soon to golf with GPS driven sprayers and spreaders.

Fungicide failure can be traced to a large droplet size reducing coverage but AI nozzles produce a large droplet with less drift but rather than bounce off the turf leaves it explodes on contact and spreads because the droplet is infused with air bubbles.

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For contact fungicides water rates are 1 gal per thousand square feet while for systemic fungicides water rates of 2 gallons per thousand are needed while root fungicide products need 2 -5 gallons per thousand.

Herbicides are taken up differently than fungicides so low water rates of .5 gallons per thousand square feet for systemic products and 1 gallon for contact and root products.

Nozzle material can make a big difference with brass nozzles only lasting 15 to 30 hours spray time while stainless steel up to 200 hours. Ceramic nozzles cost the most but can last several years. It is important to regularly test each nozzle not just one or two.

Adjuvants can help with application quality with spreaders that reduce surface tension and allow water to stay on plant and stickers that reduce evaporation of droplets before the product can enter the plant.

For poa control in relatively clean turf stands Dr. Askew recommends hand dabbing with poa cure or velocity rather than just round up. Round up will kill surrounding turf for sure while the other products may only set it back.

Finishing the morning session was Dr. Chris Williamson with his talk "Factors That Affect Insecticide Performance". Insects are affected by biotic and abiotic factors along with chemical controls we may apply for them.

For good control of any insect it is important to understand the biology of the pest. Life cycle and the vulnerable life stage guide product application times. It is also important to know the behavior and habits of the target pest.

Once you know when to apply and where



**The Afternoon Panel Discussion Included  
Steven Schmidt, Butte des Morts CC, Colin Seaberg, Ozaukee CC  
and Scott Verdun, Kenosha Country Club**

to apply you need to examine other factors. Water quality tops the list for insecticide products as it effects mix uniformity because of suspended solids and debris in the water. Water pH and hardness should be tested as each water source is unique and may even change during the season.

Water pH should be 6-8 for most insecticide applications or rapid degrading of the product can occur.

Cold water has less effect than high temperatures which could cause hydrolysis.


Product incompatibility may or may not be listed on the label and due to temperatures, pH, hardness and fertilizer that mixes easily one day or tank may have problems the next.

Dr. Williamson offered that product age can reduce efficacy and products should be used in the same year when possible or at least use all open products the same year.

After a great lunch the panel of Steven Schmidt, Butte des Morts CC, Colin Seaberg, Ozaukee CC and Scott Verdun, Kenosha Country Club. The group started with their general ideas on programs. Steve looks back over a three year period and what has worked for him given the weather. Scott is making plans for improved plant health on fairways and dollar spot control. Colin shared a copy of his program and prefers to start early with low rates. Staff communication on what is going on is key to his success. Other topics discussed were brand name versus post patent, moss control, check plots, spray volume,

GPS, crabgrass control and what they are doing to promote plant health for greens.

They provided some great information for the group before USGA Agronomist Bob Vavrek followed tradition with the "Roundup" discussion on all the speakers and their take home messages.

The 47th Annual Wisconsin Golf Turf Symposium was a huge success with education second to none for the attendees. Thank you to Milorganite our "silent sponsor" without whom this would not be possible. Next years session will be Dec. 10 and 11 at The American Club. We hope to see you there to take advantage of this benefit. 

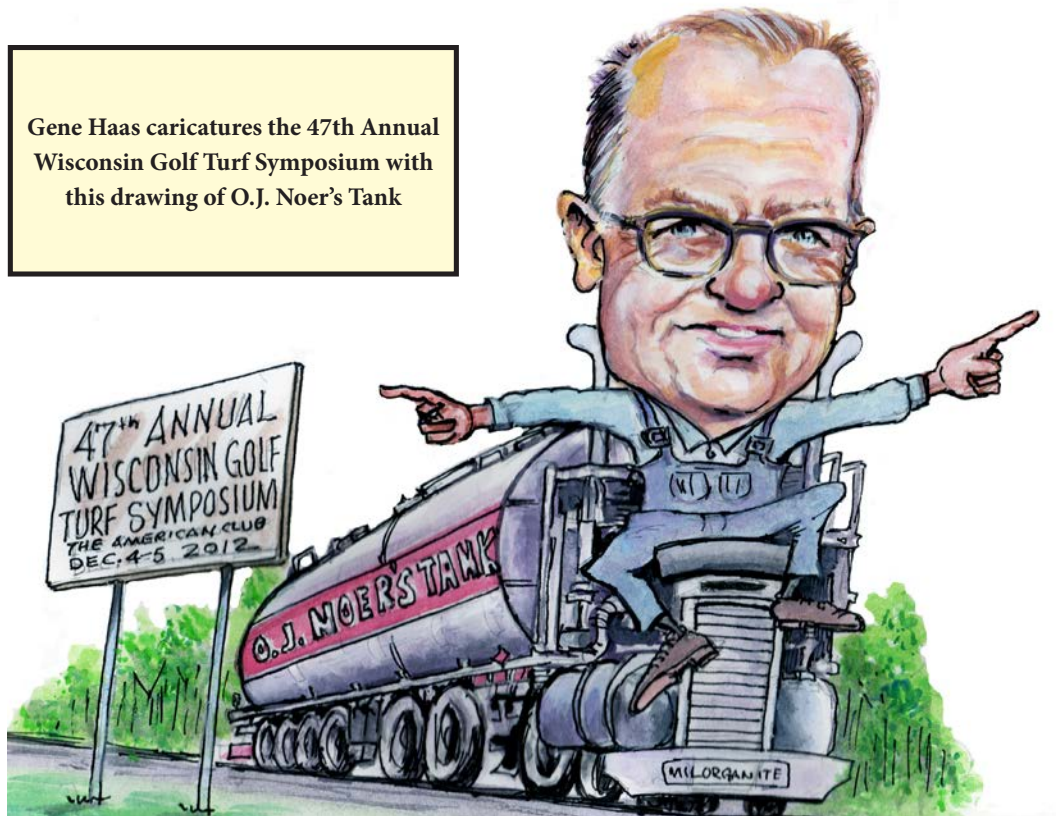


**Dr. Chris Williamson,  
University of Wisconsin Madison**



**USGA Agronomist Bob Vavrek closes  
the Wisconsin Golf Turf Symposium  
with Roundup.**

Gene Haas caricatures the 47th Annual Wisconsin Golf Turf Symposium with this drawing of O.J. Noer's Tank



## NGLCGCSA EDUCATION CONFERENCE

TUESDAY MARCH 4, 2013 8:30 - 4:00

### Agenda

- **Stress Guard Formulation Technology & Plant Health Benefits:** Dr. Robert Golembiewski, Green Solutions Specialist, Bayer Environmental Sciences
- **Understanding the Types of Winterkill and Potential Preventative Solutions:** Dr. Kevin Frank, Michigan State University
- **Reestablishment Practices Following the Kill:** Dr. Kevin Frank, Michigan State University
- **Trends in Fertility:** Dr. Doug Soldat, University of Wisconsin Madison
- **The Impact of Winter Covers on Turf Health and Disease Development:** Dr. Paul Koch, University of Wisconsin Madison.

### Monday Night:

4:30 Annual Meeting and Election  
 6:30 - 10:00 Hospitality Room  
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## The Fun Factor

Understanding what makes golf fun will be good for your bottom line.

By Chris Hartwiger, Senior Agronomist, Southwest Region, USGA Green Section

*Editors Note: "This article is reprinted from the January 25, 2013 Volume 51 (2) of the USGA Green Section Record. Copyright United States Golf Association. All rights reserved."*

Whether it is a junior-high girl sinking a putt to make her first par or a professional

making a clutch putt on the 72nd hole to win the U.S. Open, the game of golf has an appeal and enjoyment that keep people interested for life. I call this the "fun factor." However, golf is difficult, and what should be an engaging challenge can become unduly difficult given certain course conditions.

Golf course superintendents, professionals, course officials, and owners all play a pivotal role in the enjoyment of the game and therefore have a vested interest in keeping the game fun. Doing so will positively impact the bottom line for the golf facility.

So, is golf fun at your course? This depends on how the next three key questions are answered.

1. Who is your best customer?
2. What makes golf fun at your facility?
3. What makes golf difficult at your facility?

Once these questions have been examined, suggestions for evaluating your facility and improving the fun factor will be offered.

### NOW ON THE FIRST TEE — YOUR BEST CUSTOMERS

After a couple of practice swings, your best customer addresses the ball and proceeds to hit a left-to-right shot that comes to rest in the rough 200 yards from the tee. He has three other best customers with him. One outdrives him and the other two come up short. Why are this foursome and many of the other foursomes that play the course on this day considered to be your best customers? They are your best customers because there are more of them . . . many more. In fact, the majority of

golfers fall into this category. Below are additional information about your best customers and resources for further research.

#### Male golfers:

- Have an index between 7 and 16
- (Men's USGA Handicap Statistics).
- The median handicap index is 14.5.
- Male golfers with a Course Handicap of approximately 20, or the typical male "bogey golfer," hit the ball an average of 200 yards off the tee, including carry and roll. The longest par-4 hole these golfers are able to reach in two is 370 yards (see Bogey Golfer).

#### Female golfers:

- 51% have handicap indexes between 16 and 31 (Women's USGA Handicap Statistics).
- The median handicap index is 27.
- Female golfers with a Course Handicap of approximately 24, considered a typical female "bogey golfer," hit the ball an average of 150 yards, including carry and roll. The longest par-4 hole they can reach consistently in two is 280 yards (see Bogey Golfer).

A brief review of the statistics above reveals that your best customers are not great golfers and don't hit the ball Herculean distances. Is your golf course set up and managed in a way to make the game fun for this group? To answer this question, we must first affirm what makes the game fun for them and what makes it difficult as well.

#### WHAT MAKES GOLF FUN?

In simple terms, the game of golf challenges a player to hit the golf ball from point A to point B in as few strokes as possible. But what makes this challenge enjoyable? A survey published by Golf



**Getting to know your best customers and how they play golf is the first step toward increasing their enjoyment.**

20/20 in 2005 was designed to identify what makes the game enjoyable. The results are presented in Figure 1. Underlined are factors influenced by those working at a golf course. When these factors are added together, it can be stated that 60 percent of the elements that make the game enjoyable are influenced by those working in the golf industry. A quote from a Golf 20/20 paper published in 2005 is worth considering as well: "When asked to choose between playing golf on a very challenging, but sub-optimally maintained golf course or a less challenging, but immaculate facility, nine out of ten golfers would prefer playing on the less challenging courses in 'top-notch condition' . . ." In this question that linked conditioning and difficulty together, golfers overwhelmingly favor top-notch conditions on less difficult golf courses. When linked together with the survey results in Figure 1, an interesting conclusion is drawn. If changes to your course are desired and you would like to positively influence the outcome, make sure they favor improving conditioning and not making the course more difficult for our best customers, who we identified earlier.

## WHAT MAKES GOLF DIFFICULT?

The elements of the game that make golf difficult are the final piece of the puzzle before recommendations can be made to improve the enjoyment of the game for your best customers. USGA Course Rating Resources provides excellent information that helps assess relative difficulty of certain elements of the golf course. Difficulty can be broken down into two primary categories: effective playing length and obstacles.

**Effective Playing Length** — This is a catch-all phrase that encompasses numerous factors (listed below) related to how long a given golf hole will play. The effective playing length is more than just the distance listed on a scorecard. Take the time to review these factors and how long each hole on your course plays.

- Slope
- Landing zone
- Roll
- Elevation change
- Dogleg / forced layup
- Prevailing wind
- Altitude

**Obstacles** — This is the second category that impacts the relative level of difficulty of a golf hole. As we learned, a 350-yard golf hole may effectively play longer or shorter, but the presence or absence of obstacles also impacts difficulty. Below are the obstacles that impact the difficulty of a golf hole.

- Topography — tilted lies
- Fairway width
- Green target
- Recoverability from rough
- Bunkers
- Out of bounds / deep rough
- Water hazards
- Trees
- Green surface slopes
- Psychological factors

## ENHANCING THE FUN FACTOR AND IMPROVING YOUR BOTTOM LINE

After identifying who golf's best customers are and understanding why they enjoy the game and what makes the game difficult for them, those involved in the operation of a golf facility are equipped to reexamine their own golf course and implement changes to improve the "fun factor." When golfer enjoyment is maximized more golf will be played and financial results will be more fa-



**The effective playing length of a hole is often more than the yardage posted.**

vorable.

The information presented thus far provides numerous opportunities to make your golf course more enjoyable for those who play it. To get this creative process started, three ideas are presented.

**Grow Healthy Turf** — This may seem like an obvious place to begin, but as shown earlier, golfers appreciate a well-conditioned golf course. In order to produce quality golfing conditions, healthy turfgrass is a must. As a result, every golf course should be in a program of continuing to improve on the building blocks for maintaining healthy turf. This begins with choosing the



**Moving up a set of tees, or TEEING IT FORWARD, is an inexpensive way to enhance the enjoyment of the game for almost every golfer.**

**Figure 1**

The results of a Golf 20/20 survey in 2005 on what makes the game enjoyable for golfers. Underlined are factors influenced by those working at a golf course. When added together, they account for 60 percent of golfer enjoyment.

## What makes golf enjoyable?

- Course conditioning 19%
- People they play with 19%
- Course design 17%
- Ball striking 12%
- Score 8%
- Weather 7%
- Amenities 6%
- Course aesthetics 6%
- Exercise 4%
- Competition 3%

right grass for the location and extends to making sure all the basics are covered – sunlight, air movement, irrigation, drainage, nutrition, pest control, and cultural programs.

# USGA GREEN SECTION

**TEE IT FORWARD** — This joint initiative between the PGA of America and the USGA encourages golfers to move up one or more sets of tees on golf courses they play. Guidelines for selecting tees based upon how far golfers hit the ball with a driver were developed and are presented in Figure 2.

Golfer response to the program in 2011 has been positive:

- 70% had more fun
- 47% played faster
- 91% will TEE IT FORWARD again in the future
- 52% are likely to play golf more often

**Make Adjustments to Course Maintenance** — Decision makers at a golf facility should review each of the factors related to course difficulty. This is an ideal way to identify areas that can be enhanced to increase enjoyment for your best customers. On USGA Turfgrass Advisory Service visits, I routinely observe areas that make the course unduly difficult for your best customers. These are listed below with a brief comment.

- Reasonable rough — The era of maintaining championship rough on a daily basis is over.
- Fair fairways — In parts of the country where bermudagrass is used, there is great flexibility in adjusting fairway widths. If your best customer is on the tee of a long par-4 and his average drive (200 yards with carry and roll) finds a landing area narrower than the average on shorter par-4 holes, adjust the fairway width or relocate the tee.
- Proportional difficulty — Designing and setting up a golf hole to be difficult is not hard to do. The art of design and course setup consists of creating a golf hole that will appropriately challenge low-handicap players yet allow the less-skilled golfer to navigate around the trouble and post a reasonable score. Evaluate each hole and determine if difficulty is proportional. Are there too many bunkers? Too many hazards? Is there a safe side of the fairway or the putting green for an average golfer to bail out? If not, see if changes can be implemented


**Figure 2**  
Guidelines for selecting tees based on average driver distance.

Driver Distance	Recommended 18 Hole Yardage
275	6,700 - 6,900
250	6,200 - 6,400
225	5,800 - 6,000
200	5,200 - 5,400
175	4,400 - 4,600
150	3,500 - 3,700
125	2,800 - 3,000
100	2,100 - 2,300

with tee placement, course setup, or even the removal of bunkers.

- Best green speed for your course and players — Identify the green speed that satisfies most of your customers most of the time and is agronomically achievable.
- Keep things dry — Dry fairways produce more ball roll and allow carts off the path more frequently.

## CONCLUSION

The “fun factor” should be applicable not only to your best customers, but to those who manage the course and make decisions affecting the course. Take some time to identify and understand your best customers. Reconsider your course in light of those who play it most often. Make appropriate changes. The more your customers enjoy the game, the more golf they will play and the more likely they are to bring a family member or friend out to the course, too. Most important, your bottom line will improve. Now that’s fun! 



The era of maintaining championship rough for daily play is over. Reasonable rough improves pace of play and enhances the “fun factor”!



## Coming Events!

Wed February 6th, Wisconsin Hospitality Room at GIS 6-9 PM, Bootlegger, 804 Market St, San Diego, CA

Mon February 25th, Spring Business Meeting, Ramada Inn, Fond du Lac

Tue March 4th, Northern Great Lakes GCSA Spring Education Conference, Wausau

Wed/Thur March 13-14, Reinders Green Industry Conference

Tue April 23rd, April Golf Meeting, The Club at Strawberry Creek, Kenosha, Host - Matt Kregel

Mon May 6th, May Golf Meeting, North Hills CC, Mequon, Host - Randal Dupont

Wed May 29th, Super/Pro, Fox Valley Golf Club, Kaukauna, Host - Scott Bushman

Mon June 17th, WGCSA Tournament Meeting, South Hills CC, Fond du Lac, Host - Jim Van Herwynen

Tue July 30th, UW - Summer Field Day, OJ Noer Facility, Verona, Host - Tom Schwab

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

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

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

Sat 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



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## Harrington Takes The Presidents Gavel

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

Chad Harrington, Golf Course Superintendent and General Manager at Autumn Ridge Golf Club was elected to serve as the 42 president of the Wisconsin Golf Course Superintendents Association on December 4th at the fall business meeting. Harrington has prepared for the job with 7 years of board and committee service. Chad has served as chair for the Education, Symposium, Scholarship and Research committees.

Harrington entered the turf business early when he started a lawn maintenance business at age 11 in his hometown of Plainfield with a old pull golf cart as a trailer.

He entered the golf business in 1988 working at Waushara Country Club in Wautoma under Golf Course Superintendent Jack Drew in 1988 as a senior in high school. The course had 18 holes at the time and half the sand based course was still watered with quick couplers. Chad's first job was at night moving sprinklers

and doing some light equipment maintenance to stay busy between rounds on the golf course.

He continued at Waushara through his time at Ripon College and was offered a full time job after graduation in 1992.

Harrington started as the Golf Course Superintendent at the new Autumn Ridge Golf Course in Valders in February 1996. He was there to open the front 9 in September of 1996 and the second 9 in July of 1998. Overseeing the construction and grow in of a hilly rolling terrain provided some great experiences for Chad.

The course changed hands in 2000 and that can be a stressful time for staff members but it worked out and in fall of 2002 Chad was asked to serve as the interim General Manager and eleven years later he still serves as Golf Course Manager and Superintendent.

Wearing two hats can stretch his time and Chad is quick to recognise Assistant

Superintendent Julian (JJ) Mejia as a key component of the Autumn Ridge team. Communication with Julian and the rest of the staff is key to success facility wide.

Wearing two hats can lead to some long days and variety in the job. A morning might involve work on the golf course, the afternoon book work in his office and the evening helping with a wedding or party.


Agronomically the course offers some challenges with rolling terrain and many areas of micro climates and stagnant air. The soils are primarily red clay making water management a key to healthy turf. The greens are Pennlinks, tees Penncross and the 17 acres of fairways are Penneagle. The course was carved long ago by glaciers and is located on the northern tip of the Kettle Moraine.

One change Chad has made is to primarily mow fairways in the afternoon to eliminate clipping problems and provide a cleaner surface. This frees the staff up in the morning to concentrate on other tasks and most days they are able to find a lull in the tee sheet to get fairways mowed without too much interruption from play.

Autumn Ridge hosts over 100 events each season and have had some very unique outings. The course hosts a benefit for the visually impaired each year in memory of owner Tom O'Connor's father but the course actually hosted a regional Vision Impaired Golf Championship.

Chad has been married to his wife Jackie for 15 years and she works as a nurse in Manitowoc for Dermatology Associates of Wisconsin and helps out at the golf course in whatever capacity needed.

Chad and Jackie have two sons, Colton 11 and Thane 8. The boys enjoy downhill and water skiing, snowboarding, wrestling, football and of course golf. They also enjoy coming out to the golf course and helping where they can.

With many years in business and experience on the board of directors Chad Harrington is in perfect position to lead our association for the next two years. 



Colton, Chad, Jackie and Thane Harrington.

# COVER STORY



**Top Left: Hole 10, 312 yard par 4**

**Middle Left: The fountain and waterfall make a nice setting.**

**Below: A hole made just for weddings and party's looks like the real thing.**

**Top Right: Hole 1, 408 yard par 4 with the club-house in the background.**



# COVER STORY



**Top Left: Hole 5, 335 yard par 4**

**Top Right: Hole 9, 565 yard par 5 is rated as the number one handicap hole for men.**

**Right: Hole 15, 129 yard par 3**



## **Member 9 With Chad Harrington**

- 1. First Vehicle?** *1978 Volkswagen Rabbit*
- 2. Favorite Piece of Golf Course Equipment?** *Probably the greens roller or anything not in the shop for repair*
- 3. 18 Hole Handicap?** *10.5 and rising*
- 4. Current Vehicle?** *Dodge Durango and GMC 2500HD depending on what kind of day I expect.*
- 5. Favorite TV Show?** *Sporting events or many of the Discovery & History Channel Programs*
- 6. Favorite Pro Sports Team?** *Green Bay Packers*
- 7. Favorite Main Course Meal?** *It is hard to go wrong with a great Tenderloin*
- 8. Pets?** *Two Springer Spaniels, Putter (15) and Divot (3). They take care of the goose issues with over 80 acres of wetland on the property.*
- 9. Favorite Thing About Working In Golf Industry?** *The majority of people that come to the course are there to have a good time so the atmosphere at the facility is always upbeat.*



## Great Education With A New Format

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

The WTA Turfgrass Research Day brought a new format to the Winter Expo. Outside of a couple of us hayseeds not knowing where to park in the big city moving the educational session to The Pyle Center on the University of Wisconsin Campus was well received and packed full of great education.

The event was available in person or from the comfort of your office or home via a webinar link.

Dr. Doug Soldat was the master of ceremonies and opened with the explanation that the change from a traditional trade show was to refocus on what is going on at UW Madison. Over time the event had moved away from the important and groundbreaking work the staff and grad students were doing. The new format allowed the staff to recognise their students while educating all of us.

Scholarship winners were recognized with the following students and awards.

The WGCSA supported J.R. Love Scholarship went to Jens Arneson who has the double major of Scandinavian Studies and Turf Management. Jens was able double his internship value when he traveled to Norway to intern for Bioforsk.

The Spring Valley Scholarship was awarded to Adam Wepfer who has interned at Erin Hills and with the USGA Green Section.

The Charles O Newlin Scholarship was awarded to Pat Reuteman who interned at Ridgewood Country Club in New Jersey.

The WTA James Huggett Scholarship was

awarded to Bryan Fenney who interned at Erin Hills.

The WTA Scholarship was awarded to Jarvis Weber who interned at Rochester Golf and Country Club along with Somerby Golf Club in a unique intern trade program the two courses have.



**Brad Debels a Soil Science PhD student discusses "Radiometric Sensing as a Turfgrass Evapotranspiration Measurement Tool"**

Brad is working on finding a more accurate evapotranspiration rate in turf to allow turf manager to calculate their irrigation needs.

With 90 to 95% of water taken up by the

plant used for cooling a simple temperature gun reading may give a accurate E.T. calculation. Current reading use solar radiation, humidity, wind and air temperatures.



**Sabrina Ruis a Soil Science PhD student discusses "Understanding the Dynamics of Carbon Storage in Turfgrass Systems"**

Turf is becoming a important part of the landscape as farmland and natural areas are converted to subdivisions, parks and recreation fields. When native areas are converted to turf there is a dip in Carbon uptake at establishment but than a increasing amount of carbon is taken in for 30 to 40 years when the area reaches a "steady state".

Irrigated turf with the clippings returned resulted in the greatest carbon storage but also the most lost in decomposition. This ties into nitrogen amounts and leaching rates.

Leaching occurs in the form of rain wash and soils that are just full of carbon and nitrogen so they just cannot take up any more so the majority of the rest is leached away.

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**Glen Obear a MS Student in Soil Science and Entomology under the Wayne R Kusow Fellowship presented three talks. 1- "Iron Layering in Sand Based Putting Greens." 2-"Algae and Bicarbonate: is There a Connection". and 3- "Do Fungicides Provide Control of White Grubs?"**

During a internship in Hawaii in 2008 the course Glenn was at saw thin areas of turf in low areas. During aerification it was clear these areas had darker soil and black layer impeding drainage and turf health. While investigating the problem it

was found a impermeable iron layer had developed at the sand/gravel layer interface.

Glen's work has focused on why the layer develops and where the iron is coming from and why it does not show up on greens without the gravel layer.

The problem has been seen in Wisconsin and so far the only solution has been to drill and fill the areas hoping to go deep enough to hit the gravel layer.

Glen's second talk looked at which comes first the Algae or the Bicarbonate film and which causes the other? Research is showing that on pure sand or a healthy stand of turf high bicarbonate is not a problem but when algae filaments clog macro pores at the surface the bicarbonate builds up on the Algae.

Glen put on his entomologist hat and explained that Japanese Beetles like short cut turf with moisture and plenty of sunlight but are rarely found on putting greens? Could it be the fungicide applications deter or kill the grubs?

In work with chlorothalonil and propiconazol in the 3rd instar there was no difference but in the 2nd instar a high rate of Banner Max did result in noticeable larvae mortality. Work will continue next year on 1st instar grubs. It could be the fungicides but it could just as well be the abrasiveness of the sand in putting greens coupled with temperatures or moisture levels.



**Dr Doug Soldat presented "Trends in Bentgrass Fertility and Organic and Reduced Risk Turf Management."**

Dr. Soldat discussed how historically high fertilizer prices have led most turf managers to look at ways to reduce costs and in turf fertilizer applications. Doug explained in agriculture increased fertility levels can relate to crop yield increases. Or so much N-P-K equals so much crop. In turf it is not that easy so Doug has done work to hone in the minimal amount of Phosphorus and Potassium needed for healthy turf saving courses money while still providing good turf.

Dr. Soldat's second talk focused on organic lawn care and how the desire for perfection is a hindrance to going organic in turf. He also discussed the regulations and terminology involved in organic lawn care.

To have success with organic turf a premium is placed on proper soil selection and preparation, grass selection, proper mowing and fertilization. Organic fertilizer programs can cost a little more while organic pest control can be very expensive and less than effective.

Topsoil is a problem for many home lawns where owners are left with a compacted mess of soil not suitable for growing quality plants. To produce a healthy lawn, turf should be cored twice a year and have 1/4" of compost applied in spring and fall.

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The key to healthy low maintenance turf is good soils, compost, irrigation when needed and a sharp mower.



**Yunlong Wang MS Student in Plant Pathology presented research on “Temperatures Effects on Appressorial Formation of Colletotrichum Cereale.”**

Turfgrass anthracnose is a devastating disease of poa annua and creeping bentgrass and it seems intense putting green management has increased the incidence and severity of the disease. Wang is doing work to track the effects of temperature on the fungi on both detached and attached leaves at different temperatures.

The development was similar on the live and detached plants with a 12 hour delay on the live plants. Overall the results so far suggest the colletotrichum cereale infects the host well prior to the onset of symp-



**Dr. Paul Koch was also called to double duty with talks on “Effect of Snow Cover on The Duration of Microdochium Patch Control Provided by Iprodione and Chlorothalonil” along with “Effect of Temperature and Mowing on The Persistence of Iprodione and Chlorothalonil on Golf Course Turfgrass.”**

toms.

Snow mold is a unique disease because turf managers often only have one chance to treat for it as winter re-treatments are hard to apply due to temperature and snow cover or wet conditions. Paul wanted to see how long products last to suppress snow mold and how degradation from light would change that. The research used plots with and without snow so they would shovel snow from the no snow plots onto

the snow plots to ensure coverage through winter. So far snow or no snow had no effect although snow melts and rain did reduce coverage.

Dr. Koch's second talk was to explain why we see disease breakthrough each year even on treated turf.

The research focused on the depletion of fungicides and fungicide persistence at different temperatures by using growth chambers. Overall warmer temperatures equalled faster breakdown so re-application intervals may need to be shorter. Also the grass plant may be growing faster and the leaves with the turf care products are being mowed off.



**Dr. James Kerns presented “Getting the Most Out of Your Fungicide Program.”**

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Dr. Kerns discussed the many factors that determine performance including rate, interval, timing, water volume along with degradation from light, biological factors, metabolic transformations.

To improve your results be sure to identify the pathogen, use the best product and the right time and put the fungicide where the pathogen is.



**PJ Liesch presented two talks with the first titled "Controlling Black Cutworm: Some Products Work, Others Just Don't" and "Which Caterpillars are Chewing On Your Turf and What is Chewing on Them"**

PJ offered reasons on why some applications fail and urged attendees to rotate products and classes of chemicals and to be aware of timing and re-treatment intervals. Consider using products with good residual control.

Liesch's second talk focused on using black cutworms as bait at night to see what other insects fed on them and may be natural predators. More work will be done next year.



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**Turfgrass and Ornamental  
Entomology**



**Dr Chris Williamson presented "A year of Chaos and a Glimps Into the Future"**

With the variety in weather we have had the past few years Dr. Williamson asked what is a normal year. The challenges for insect control are many as the turf is a complex ecosystem of good and bad bugs.

Seldom to two insects occur or are treated at the same time and most insecticides are not effective on multiple pests. Timing is important and product formulations can make a huge difference on control levels.

Despite the warm start to the year the cold May and dry conditions seemed to slow insects down. Chris offered that ants seemed to balloon after the rains returned.

Understanding the life cycle, application timing, product selection and getting the product to the pest are keys to future success.



**Mark Garrison a PhD Student at the Nelson Institute for Environmental Studies discussed "Nitrous Oxide Emissions and Nitrate Leaching from Synthetic and Alternatic Turfgrass Management Programs"**


Marks work is showing how Nitrous Oxide escapes into the atmosphere where it depletes the ozone layer. Work with synthetic and organic fertilizers have shown the organic products do not reduce N<sub>2</sub>O emissions.

Garrison's nitrate work involved comparing seeded and sodded plots to see which reduced leaching. Both practices increased nitrate leaching during establishment even if nitrogen was not applied due to the soil being disturbed. Leaching decreased in year 2 but by year 10 will increase again if extra nitrogen is applied beyond what is needed.



**Joslyn Mink a MS candidate at the Nelson Institute discussed "Do Native Plant Mixtures Reduce Invasions Along Roadside In Wisconsin?"**

Joslyn has worked with the DOT to see if forbs and grasses along with Eurasian plants can stop or reduce weed outbreaks along state highways. So far they have not due to plant selection and site management.

The WTA Turfgrass Research Day was full of education for the attendees in person or though the webinar. The varied speakers had a message for almost everyone. It should be an event that can only grow due to the hard work of the staff and the skill of the researchers. 

## Variety

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

The dead of winter! And what a winter of variety it has been with near record warm days followed by deep freeze. A early blizzard to make snow enthusiasts happy followed by rain and then snow and then rain. You get the picture. It is too early to forecast or predict the health of turf coming out of winter. Little ice could be found after the early January thaw but every course is unique in topography and micro-climates.

Winter is a time for education and we have plenty of opportunities. The grand daddy of them all the Golf Industry Show is the first week of February and will offer attendees the chance to not only visit with vendors from around the world but to attend education sessions on every topic imaginable. The GCSAA Conference and Golf Industry Show offer everything from turf diseases to blogging and financial management to sustainable turf.

The WGCSA Spring Business Meeting agenda is out and will offer a great educational opportunity along with networking on Monday February 25th. On the agenda are Bob Vavrek with his popular year in review, Don Rice from John Deere Financial to compare leasing to buying equipment and GCSAA's John Miller to discuss Better Turf Through Water Management.

On Tuesday March 4th The Northern Great Lakes Golf Course Superintendents Association will have their spring educational conference in Wausau. On the agenda are Dr. Doug Soldat and Dr. Paul Koch from UW Madison, Dr. Kevin Frank from Michigan State and Dr. Robert Golembiewski from Bayer Environmental Studies

On March 13 and 14th in Waukesha Reinders will host their 21st Green Industry Conference. Although there is a trade show aspect of the event the education is great with Dr. Layne Treadway, Dr. Joe Vargas, Dr. Bingru Huang, Dr. Frank Wong, Dr. Karen Plumley, Dr. Zach Reicher, Dr. Laura Jull along with industry experts and Reinders own staff scheduled to speak.

The Reinders Conference is unique in

that it offers sessions for your entire staff with topics on irrigation and equipment maintenance.

All these events offer continuing education points along with the knowledge you can gain.

\*\*\*\*\*

Congratulations to Colin Seaberg, Ozaukee CC for achieving certification with GCSAA in November and to Marc Davison and Doug Devries who renewed their certification in December.

\*\*\*\*\*

The USGA has revised the stimpmeter after many years as the 36" green stick that peaks the interest of golfers who guesstimate the results and what a number means to their putting skills. The new design is 36" long and is now blue. I realize that is not earth-shattering but the new design offers two notches to release the ball from. The second notch will cut in half the ball roll out to allow readings on smaller flat surfaces.

The results from the second shorter hole are not as accurate but are better than not taking one at all. The USGA is offering a \$35 rebate off the purchase price if your old stimpmeter is sent back through June.

\*\*\*\*\*

As we start the new year I offer thanks to the advertisers who make this publication possible. Many other chapters have gone to digital only magazines that are read by only a handful of members. As you can imagine printing is our number one cost so be sure to use and thank the advertisers you see on these pages and do not be afraid to twist a arm or two of someone you do not see advertising here.

I also need to thank the great writers we have who provide the educational and informational content each issue.

If you have a new idea or a project at your golf course the members would love to read about it. Perhaps as small as a new program you use or a revision to a hole or the entire golf course.

Articles can vary in length but pictures are key to the reader understanding what

you did or had before. If you not sure where to start feel free to e-mail me at [grassroots@wgcsa.com](mailto:grassroots@wgcsa.com) to discuss your ideas.

We will miss the great articles from Dr. Kerns and hope the university can fill his valuable position soon.

\*\*\*\*\*

2012 is officially over and numbers are being tallied and examined on what kind of year the golf industry had.

Early national numbers show a increase of rounds and revenue of 6-8%. Much of that can be attributed to weather but it is hard to quantify that statistically.


Operators I talk to in Wisconsin had a better year than the past couple leading to a feeling of optimism for the future. All operators compare this years numbers to last year but it is also recommended a three or five year average is used for a realistic picture of long term trends.

I felt we had increased business because of the warm spring but also because golfers seemed interested in playing more often. I remember Paul DeFosse the retired superintendent/manager at Brown County Golf Course explaining that a warm spring gets golfers thinking about golf before they have time to enjoy their other hobbies where a cold spring does the opposite.

Although the final numbers have not been released more courses closed than opened nationwide again in 2012. That is a good trend for the courses that remain but bad if yours was one of the courses closed.

Management consolidation continues with more sharing of staff and equipment and more maintenance staff's being laid off for all or part of the winter.

These overall challenging times can be made easier by following the research at the O. J. Noer Research Center and attending the many education sessions this spring.

Enjoy what is left of your winter and I hope we all have healthy turf in spring for masses of golfers. See you at the spring business meeting! 





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