

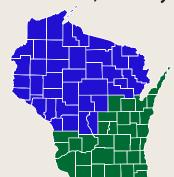
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ABOUT THE COVER

Kurt Hockemeyer at the OJ Noer Turfgrass Research and Education Facility. Kurt is the manager of the Turfgrass Dignostic Lab

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Wisconsin is the center of the golf universe"

By Golf Course Architect Greg Martin

Martin serves as President of the American Society of Golf Course Architects and stated a common theme of the recent WSGA Symposium. It is a reminder that with the US Open, Senior Tour, Women's Tour and the opening of Sand Valley the eyes of the golf world on Wisconsin.

THE GRASS ROOTS

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PRESIDENT'S MESSAGE

Spring Fever

By Jon Canavan, Golf & Recreation Turf Manager, Milwaukee County Department of Parks, Recreation & Culture

s I write this article most superinten-Adents are putting the finishing touches on all the winter work that needs to be done. Some may have already opened the course once or twice during the beautiful late-February heat wave!

I find that most of my off season has less to do with golf maintenance and more with how I can help out other departments within the Parks System. This seems to be a common thread among all superintendents.

It was nice seeing everybody at the GIS this year. Josh LePine and I were able to attend a class on the rollout of the GCSAA's new Best Management Program (BMP). The GCSAA has modeled this after programs developed by other state chapters. I personally feel that this is going to be a great asset to Wisconsin superintendents. Josh is going to be heading up a committee to create this document. I foresee the make-up of this committee including superintendents, vendor reps, Bob Vaverk and our UW professors. (Sorry Bob - I had to point you out in this article!)

We have also invited our friends from the NGLGCSA to join in this venture. Since this is a statewide program we will need their help and support. If you would like

to volunteer, please contact Josh LePine.

Hosting the WGCSA room was a great honor; it gave me the ability to put a lot of names with faces. It seems like this event gets bigger and bigger each year, and I do really enjoy Wisconsinising! I would like to thank all the vendors that donated time and treasure for this event!

I am always amazed at the different products that are at the show! It seems like bunkers were the big issue this year. ! I believe I counted at least 5 different companies offering different bunker liners. I'm still amazed at how much money is spent on maintaining a hazard on the golf course! Unfortunately, I do not see this trend going in the other direction.

Hosting the WGCSA room was a great honor; it gave me the ability to put a lot of names with faces. It seems like this event gets bigger and bigger each year, and I do really enjoy Wisconsinising! would like to thank all the vendors that donated time and treasure for this event!

Another product that I find absolutely fascinating is the application of GPS technology on the golf course. I foresee this becoming a driving force in our industry. I spoke with a few companies about using GPS for precision spraying on the golf course. This will save money for the facility and lower the amount of pesticides and fertilizers that are applied to the golf course. I also think it will only be a matter of time until the golf course superintendent programs driverless mowers every day to maintain their courses.

Please check out this year's schedule of events; we have some very nice venues for golf. We will then be capping off the season in November with the Wisconsin Golf Turf Symposium at Kohler. Please plan to attend this fantastic event. Every time we have visitors attend or speakers at the symposium they are amazed at how great the event is. If you have never attended, or if it's been awhile please make an effort to join us!

Here's to another great spring; I hope everybody has a very profitable season! As always, if you ever have any concerns or questions about the WGCSA do not hesitate to call myself, any other board member, or Brett Grams.

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.
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WISCONSIN PATHOLOGY REPORT

The Continuing Debate Surrounding Snow Mold Fungicide Reapplications

By Paul Koch, Ph.D. Department of Plant Pathology, University of Wisconsin - Madison

A nother winter has brought another mixed bag of snow, rain, big warm ups, and big cool downs. Overall I think most courses are in good shape heading into the golfing season, but I received numerous questions again this year on whether fungicide reapplications are needed to protect the turf until spring fully arrives. We have conducted years of research investigating the impact that these variable conditions have on snow mold fungicide persistence, and the results have been pretty clear. But just because the results are fairly clear doesn't mean how you respond is.

What do the results say?

Most of you have heard these results multiple times so I'll be brief, and those that would like a deeper refresher can flip back to their September/October Grass Roots issue from 2015. In summary, winter rainfall events or snow melt events led to rapid degradation of both iprodione and chlorothalonil, and it didn't matter whether plots were under snow cover or not (Figure 1). These results were consistent over a 4-year pe-

riod between 2009-2010 and 2012-2013.

Expanding on the results from that first winter fungicide degradation study we decided to investigate the impacts of snow cover on the depletion of propiconazole and chlorothalonil with and without the inclusion of the anti-transpirant Transfilm® (Figure 2). We have conducted this trial the past two winters and plan to conduct it for a third year next winter, so the results have not yet been fully analyzed. However, the preliminary results very much mirror the results from the first experiment in that the major drivers of snow mold fungicide degradation are rain and snowmelt (Figure 3). And we had plenty of rain and snowmelt the past two winters. In fact, I would venture that for the vast majority of you, nearly all of your snow mold fungicide was gone from the plots by early to mid-January at the latest (certainly earlier in 2015-2016).

Why would I not need to reapply?

I have presented to numerous audiences on the above degradation data in the past five years and one of the most

difficult aspects to understand is why, if the fungicide is no longer there, would I not need to reapply to protect myself? The winter of 2015-2016 offers us a perfect case study to investigate why fungicide applications were generally not warranted but also identify situations where reapplications may be warranted.

If you recall, the winter of 2015-2016 was incredibly warm and rainy, especially in December. Our research indicated that fungicide applied in late November was gone by January 1st (Figure 3). Snow mold did not develop on those particular plots, and in fact there was very little breakthrough anywhere in the state on treated areas. One could simply say that the warm, rainy winter didn't provide conditions that were conducive enough for snow mold to develop. However, we observed numerous non-treated sites (non-treated bentgrass, bluegrass roughs, etc) where snow mold was clearly evident and in some cases severe. This would seem to suggest that conditions were conducive for snow mold to develop...so why didn't it develop on treated areas if the product had degraded?

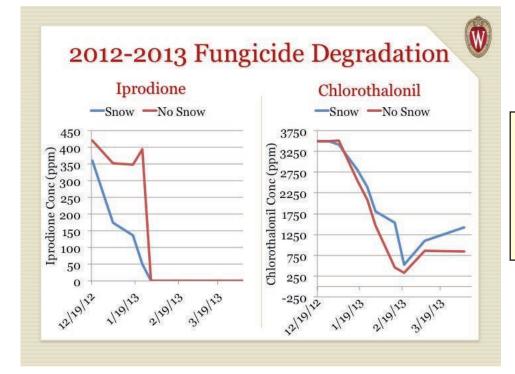


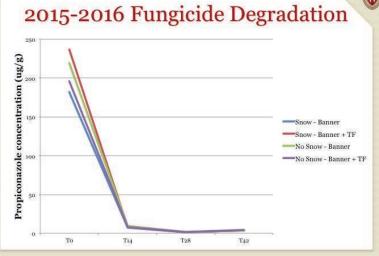
Figure 1. Impact of rainfall on persistence of iprodione and chlorothalonil during the winter of 2012-2013. Heavy rainfall in January led to rapid depletion of both fungicides.

WISCONSIN PATHOLOGY REPORT



Figure 2. Winter fungicide degradation research study at the OJ Noer Turfgrass Research Facility in January of 2017.

Figure 3. Impact of rainfall on the persistence of propiconazole during the winter of 2015-2016. Heavy rainfall in December led to rapid depletion and whether the plots were under snow or tank-mixed with Transfilm (TF) didn't make a difference.





WISCONSIN PATHOLOGY REPORT

The most likely answer, in my opinion, is that treated areas still had a lower fungal population than non-treated areas as a result of the fungicide application the previous fall. Similar to fungicide applications targeting summer diseases, the fungicide comes into contact with the fungus and stunts it back for a period of time. Depending on the environmental conditions, the fungus then gradually rebounds until the point it can once again cause symptoms to develop. So even though your snow mold fungicide application made in November is gone somewhere in January, it still knocked back the snow mold fungal population and in many cases knocked it back to the point it can never recover to the point of causing symptoms. A theoretical graphical representation of what this might look like is included in Figure 4.

Are there any cases where I will need to reapply?

Sure. If you look again at Figure 4 and imagine a scenario with the treated fungal

population where optimal growth conditions occur for a long enough period after the fungicide is no longer present, then the fungus may regrow to the point of causing disease. I believe we started to see some of this at our snow mold research site at Marquette CC in the spring of 2016. Marquette had the same rainy December as the rest of us, but following that they had deep snow cover until early March. We saw that non-treated plots were destroyed, and even many treated plots were beginning to show a little more breakthrough then they normally do (Figure 5). I think that if Marquette had retained snow cover for another 3 to 4 weeks that the level of breakthrough on treated areas would have been much more significant.

The scenarios where reapplication MIGHT be warranted then are when breakdown events (rain, snowmelt) occur very shortly after the application AND when you reside in an area where a long snow cover duration of 60 or more days is likely or if the long-term forecasters are predicting a snowy winter (insert hearty

laughter here about the ability of forecasters to accurately predict winter snowfall levels). In most cases during an average winter, reapplication is probably not required. But if the above scenario is likely to occur at your facility, thinking about a reapplication to high-value areas like one or more putting greens may be a wise decision.

Future Research Directions

The case I laid out above is purely theoretical, though I would argue one that is quite plausible. However, we need to conduct multiple research trials to prove my theory above actually holds water, and we will be writing grants this upcoming summer and conducting preliminary research on different methods for tracking fungal populations in the field. Hopefully in a couple years we'll have a much better idea of how multiple turfgrass pathogens grow in the field in the absence of symptom development, and how that impacts disease development, as a result of our research. Stay tuned!

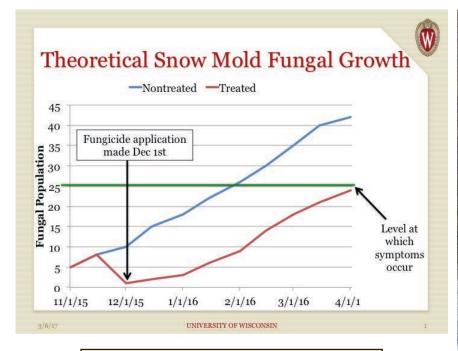
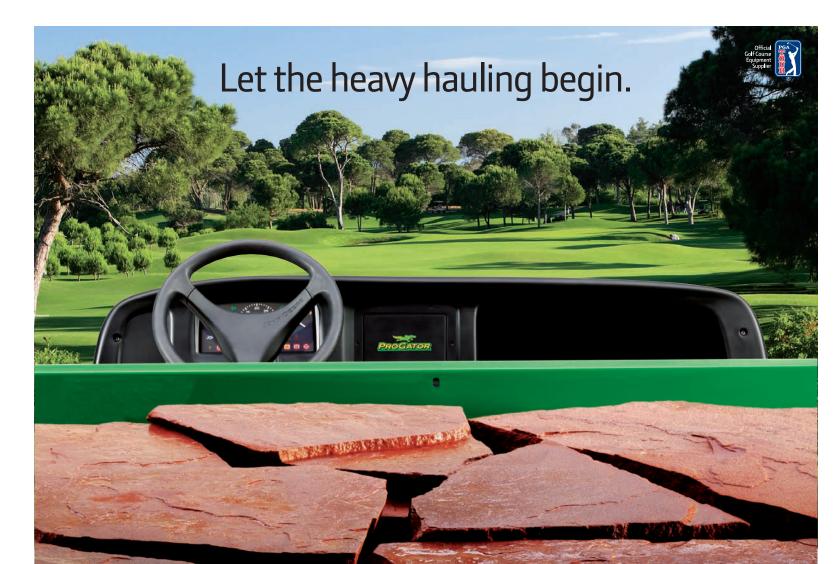


Figure 4. Theoretical figure showing how fungicide applications can impact snow mold development by impacting their population size long after the application has been made. In this scenario a fungicide application was made on December 1st and a fungal population of 25 is when symptoms occur.



Figure 5. Despite a much shorter then average period of snow cover for Marquette CC in 2015-2016, snow mold pressure was high as evidenced by the level of disease in the non-treated control.



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BUSINESS OF GOLF

WSGA, WPGA Spring Symposium Covers Wide Range of Topics

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

A fter the recent early spring turned back into winter I had the opportunity to attend the Wisconsin State Golf Association / Wisconsin Professional Golfers Association (WSGA/WPGA) Member Symposium at Westmoor Country Club. The event is inviting to a varied audience and was attended by professionals, general managers, owners and club officials along with industry leaders and Matt Kregel and myself as superintendents. I think the target audience is club presidents and board members to help inform them of what is going on outside of their own clubs.

The Saturday date is a downfall for bringing in those who work in the industry but helps for club officials and those working outside the industry. The venue was outstanding and I had not seen Westmoor since the revision work done by Lohmann Golf Designs. The open views from the clubhouse were incredible even with a light layer of snow on the turves.

The day started with an awesome lunch before being welcomed by Rob Jansen, Executive Director of the WSGA and Chuck Heath, WSGA President. Joe Stadler, Executive Director and Rob Elliot, President of the WPGA tag teamed a discussion on junior golf and some of the different things the PGA has been involved in including Golf In Schools, Operation 36, Drive Chip and Putt Contest, PGA JR League, Par 3 League, the Junior Futures Tour, Junior Tour and the Players Tour for more advanced students.

On a side note our PGA Professional Jeremiah Hoffmann had just finished three weeks working in our three middle schools introducing the game to kids through the Physical Education classes using the Golf In Schools programming and equipment. Hopefully this introduction will convince kids to try a junior golf program at one of Fond du Lac's courses.

What stuck with me the most from Joe and Rob is the discussion that a 7 year old golfer cannot go from lessons to playing a regulation golf course without becoming frustrated. They need the par 3 layouts or at minimum forward tees to give them a chance to enjoy the game.

The PGA Junior League is growing and provides a unique format for individual





clubs to offer golf as a team sport. The players have numbered jerseys and are in teams of 12. For matches 3 players will play in a scramble format against 3 players from another team. Uniquely only 2 from each team play at a time with the 3rd player walking along offering encouragement and guidance. Players switch every 3 holes so each team member plays 6 of the 9 holes in a two person scramble format.

There are a lot of activities in and out of school for children to be involved in so it is important we continue to introduce golf at an early age to mold future players. As turf managers we often just look at junior day as a little extra work setting up the course or some activities on the practice areas but take the time to be involved in what your club is doing to develop future players. Read up on these programs and suggest them to your professional.

The second thing to stick with me and it should serve as a reminder to all of us who set up the golf courses is when Joe said "golf is supported by those shooting 90 to 100". Now this can vary from club to club but get to know who your customers are and ensure you are providing a product they can enjoy.

Next up Glenn Murray, General Manager at Sand Valley Golf Resort gave an informative talk on the progress at the unique property as the Bill Coore / Ben Crenshaw course will open on May 2 this spring and work continues on the David Kidd layouts along with preliminary planning for a layout by Tom Doak and a par 3 course.

Murray gave the history of the resort as Craig Haltom found the property while hiking with his wife in 2012. Haltom had a vision for the property and contacted Mike Keiser who had a history of working with unique golf courses and sand dunes. Keiser prefers to work with ocean side properties but with a little convincing by Haltom and others within a few months Keiser had bought 1,500 acres for the soon to open resort

Although the course is a little off the beaten path near Nekoosa but so was Keiser's other project in Bandon Oregon when it started and now it features 81 holes and lodging. At Sand Valley 24 rooms are available along with a 12 bedroom lodge with expectations of 72 total rooms by the end of this year.

The clubhouse should be open this May and the entire project will be one more reason Wisconsin is the center of the golfing world right now.

Murray was enthusiastic in telling those in attendance we need to tell the story of Wisconsin golf. Between the many great public and private course we have to offer this year we will host the US Open, the second American Family Championship as part of the Senior PGA Tour and the Inaugural Thornberry Creek Classic as part of the Ladies PGA Tour.

Chad Ritterbusch, Executive Director of the American Society of Golf Course Architects came up to give a quick state of the game update and introduce the society's president Greg Martin. Ritterbush discussed a Jan 2017 about the golf industry by Erik Matuszewski in Forbes Magazine that looked at the many positive things about the golf industry in contrary to the many articles proclaiming golf's death.

Chad expressed business is increasing for his membership of architects with a few new projects but also a lot of needed remodeling to catch up from years of deferred maintenance during tight budget times. A little known fact is the headquarters of the ASGCA is located right in Brookfield, WI.

THE GRASS ROOTS March / April 2017



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BUSINESS OF GOLF



Greg Martin has worked more in Illinois but has been in the badger state to design The Oaks Golf Course in Cottage Grove, Wildridge at Mille Run in Eau Claire and Glen Erin Golf Course in Janesville. Greg echoed the reoccurring theme that Wisconsin is the center of the golf universe right now as he started his talk titled "Renovation & Reinvestment – The Cost of Doing Nothing". Greg presented how there is a cost to ignoring an aging course with infrastructure or design flaws. Bunkers and other features wear out causing maintenance costs to rise and player satisfaction to decrease. The course can become less competitive leading to a decline in revenues just as maintenance costs increase.

This cost of doing nothing should be subtracted from the cost of upgrades and improvements when looking at long term plans for a golf facility. For instance, a course with drainage problems and high maintenance poor quality bunkers can assign a value to lost days of golf or cart revenue due to the course being too wet along with decreased business as golfers find a golf course that can provide consistent conditions. The increased costs of bunker pumping and pushing up sand should also be assigned a value.

Looking at costs this way does not lower the total price of renovation work but it can help justify the investment in property upgrades. Martin gave 3 case studies comparing a full revision to a phased revision and systematic improvements. He suggested each club should do a brutally honest SWOT analysis to determine the facilities strengths, weaknesses, opportunities and threats.

Greg cautioned to not just include the best golfers in course improvement discussions but a cross representation of those who play the course. Or better yet to include those who do not play your facility and figure out why they don't. In closing the main goals of small or large improvements should be to increase play, reduce maintenance and improve golfer satisfaction.

Joe Martinez, Senior Manager at Granular discussed "Digital Marketing Tactics You Should Use to Promote Your Golf Course." Joe gave a whirlwind look into Google, Bing, Facebook, U-tube, AdWords, Quality Score, Pay for Click (PPC) and Search Engine Optimization (SEO). Both SEO and PPC

Google is the number one site used for internet searches but surprisingly U-Tube is second, and if you didn't know U-Tube is owned by Google. Both PPC and SEO with Bing or Google are ever-changing confusing algorithm determined features that are difficult to do part time. In other words you are better off working with a firm that understands and lives social media advertising.

As course operators we can do a few things on our own starting with looking at our websites on a desktop but also on our smart phones. Mobile Google searches surpassed desktop and tablet searches in 2015 so we need websites that are mobile optimized. Martinez said we have 3 seconds to capture the attention of a web site visitor before they move on. Does your page quickly give customers what they want, news, tee times, rates, online store? It should.

Joe also suggested courses claim their Google and Bing profiles so they can improve their message and respond to bad reviews by interacting with the reviewer. For our golf course we have reviews that are clearly not meant for us. One is for a different golf course and the other is for a restaurant that has a name close to ours. By claiming our Google profile we can control the message potential customers see.

Your course may not have an official Facebook page but they may have a fake one. So again, claim your page so you can take control of it and control the message customers see. The customers are looking and will be influenced by what they find.

BUSINESS OF GOLF

How does your course do in generic internet searches? In the golf season 2,000 people a month Google "golf course" in Milwaukee County. Listed first are courses that paid for placement at the top if there are any. Following that is a map where those that advertise with Google have highlighted placement. Then the other courses are listed in an order based on a complicated formula. Martinez said less than 5% of searchers go to the second page of a Google search. If your course shows up on page 2 you need to make some changes or you will be overlooked.

Once you have a feel for how your course does in searches and have claimed your profile you can determine if you need professional help to guide you into digital marketing Bob Vavrek, Green Section Regional Director for the United States Golf Association Central Region was up to give a talk titled "Looking Ahead: The Impact of Winter and How Technology Can Help Your Course". Bob covered the history of the Green Section and the USGA agronomist program along with the research they have conducted or sponsored.

He explained how technology is improving the game while reducing inputs golf courses have to use to maintain quality conditions. Moisture meters have improved water management, reduced water use and lowered maintenance costs, especially in states where water is expensive.

Pace of play can be monitored and improved with the use of flagstick tops that relay when a flagstick is removed or replaced on a green. It will not be long and these toppers may be able to track temperature and humidity to give the superintendents data from 18 unique weather stations. With this information decisions can be made on when and where to apply irrigation or chemicals to control disease forecasted by the weather information.

Vavrek also showed how tracking devices can show how players travel a golf course. This could help a course to determine to remove a little used sand bunker or allow high maintenance turf to be converted to naturalized areas. Or it could show operators where cart paths are needed or traffic needs to be dispersed. The crowd was interested in the technology talk but Bob had time so he switched over to his favorite things in 25 years as a USGA agronomist.

The use of primo and other growth regulators along with lower mowing heights and increased rolling have all increased green speed and consistency. New grass cultivars require increased topdressing and aerification to reduce organic matter buildup.

Topdressing has increased in frequency to dilute thatch on a consistent basis while courses try to incorporate sand without damage to mowers or a short term reduction in putting quality. In his 25 years poa annua is still here, except when it dies, and then we wish it was still here.

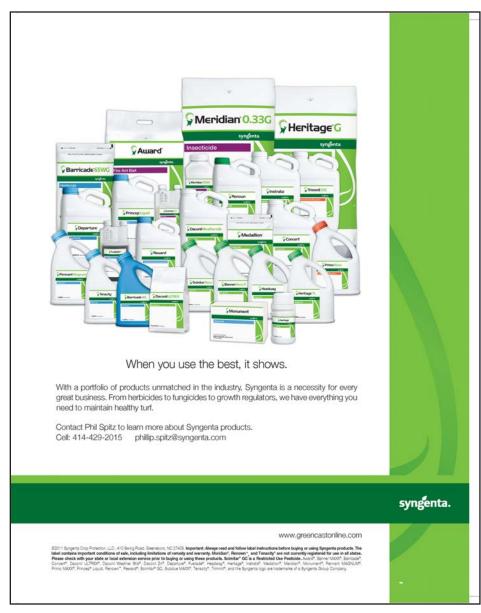
Shade and tree problems remain despite research and new apps that can show how the trees produce shade through the golf season, reducing putting quality. A golfer may say "But the tree makes the hole". Bob's answer is often, "yes it does, it makes it bad"!

Unproven testimonials on the greatness of different products have not changed in 25 years. Neither has winter kill on all turf types including poa annua. Vavrek finished with discussing how the current warm up reduced or eliminated the cold tolerance of poa annua leaving it open to damage from

future temperature swings.

The day finished with a Championship Golf Panel including Eric Steimer, Championship Manager for the 2017 U.S. Open at Erin Hills, Nate Pokrass, Tournament Director for the American Family Insurance Championship at University Ridge and Kelly McAnally, Tournament Director for the Thornberry Creek LPGA Classic. Each one gave a update on their events and the goals for 2017. All of them agreed weather, parking and traffic are things that keep them awake at night especially if local fields become too wet for traffic and they need to go to plan 2.

The day ended with a cocktail reception and further discussions. Although the day was not all turfgrass the speakers provided an important educational event. Thank you to the WPGA and WSGA for putting it together and I hope you plan to attend in 2 years when the next symposium is held.



Patrick Reuteman and Jaime Staufenbeil

By Josh Lepine, Certified Golf Course Superintendent, Maple Bluff Country Club

NOTE: As a WGCSA Board member, I want to thank everyone who participated in the Membership survey this past fall. The information and feedback obtained was invaluable. The requests for more member spotlight stories inspired me to start this column. I hope to randomly highlight a few members each edition from all geographic areas, facility types and membership classifications. It may take me 20 years to get to everyone in the directory but please be ready for that phone to ring and be prepared to share stories, photos and information about YOU!

Name: Patrick Reuteman

Company Position: Golf Course Superintendent, West-

moor Country Club, Brookfield, WI

Years as WGCSA Member: 5 Membership Classification: **B**

18 holes with Patrick Reuteman

1. How did you get started in the turfgrass industry? Growing up I mowed my neighbor's lawns and enjoyed working outdoors. While in high school I came across a job posting to work on the grounds crew at Westmoor Country Club. During my 2nd summer, an intern from UW Madison directed me towards pursuing a degree in Turfgrass Management.

Unfortunately, I was registered to attend the University of Wisconsin-Lacrosse the following fall. After a year at La Crosse I transferred to The University of Wisconsin-Madison and did an internship for the Milwaukee Brewers and Ridgewood Country Club in New Jersey. Upon graduating I became the Assistant Superintendent at Westmoor for 4 years.

- 2. What is the most rewarding part of your career? The most rewarding part of my career is seeing employees work together as a team and take ownership and pride in their work.
- 3. What would you consider to be your greatest career chal**lenge?** My greatest career challenge is being able to leave work at work.
- 4. Which three adjectives describes you the best? Practical, positive, patient (I like alliterations)
- 5. Tell us about your family. I grew up with a loving and supportive mother and father, Tom and Sheila and 2 younger brothers TJ and Luke. I've had a long term girlfriend, Trina, for the past 5 years.
- 6. Any pets? Currently I have no pets but getting a dog for the course is definitely on my radar.
- 7. What drives/motivates you every day? Everyday I'm motivated to 1. make myself better, 2. make the golf course better and 3. make the people around me better.
- 8. Who Would You Admire? My Grandfather. He's taught me that hard work and being nice to people will get you far in life.
- 9. Who is the person in history you'd most like to meet? Arnold Palmer



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- **10.** What's a fun fact that people don't know about you? In high school I long snapped for former Badger and current punter of the Jacksonville Jaguars, Brad Nortman.
- 11. What do you do in your spare time, favorite hobbies? I like trying out all of the new breweries opening in the Milwaukee area. I also enjoy coming back to the course at night with my girlfriend or brothers and fish in one of our ponds.
- 12. If you could go anywhere in the world on vacation, where would you go? I would like to take a trip to Ireland visiting as many golf courses and pubs as possible. I still have some distant relatives that live there and would love to meet them as well.
- **13.** What is the one thing you would like to learn/accomplish someday? Become a Certified Golf Course Superintendent
- 14. What is your favorite turf management related tool or technique? Chainsaw

15. Favorites:

TV Show: Breaking Bad. Movie: Dumb and Dumber.

Food: Ribs and Cookies and Cream Custard. **Sports Teams**: Badgers, Packers, Brewers.

- **16.** Do you golf? Handicap? Best shot or golf story? I like to get out as much as possible but don't currently carry a handicap. My best golf shot was hitting the pin on the 6th hole par 4 at Bluemound Country Club. I'm a terrible putter and missed the ensuing 4-footer for eagle.
- **17. Top Bucket List Item?** Be in attendance for a Packer's Super Bowl win.
- **18.** If you could provide one piece of professional advice, what would it be? "It's better to be prepared for an opportunity and not have one than to have one and not be prepared."





Above: Enjoying a concert at Summerfest with my girl-friend Trina and brothers Luke and TJ.



Above: Me during a news piece about operation dream with Bryan Bergner, Jeremiah Bragg, Carol Meekins from TMJ4 and our COO, Joe Coan

Name: Jaime Staufenbeil

Company Position: Agronomist, Milorganite Fetiliz-

er, Milwaukee, WI

Years as WGCSA Member: 12 Membership Classification: E

18 holes with Jaime Staufenbeil

1. How did you get started in the turfgrass industry? I started my career working on the grounds crew at Brown Deer Golf Course. Gained a love for the industry partaking in maintenance preparations for the Greater Milwaukee Open (GMO). The passion grew, and years later I became the assistant superintendent at Tuckaway Country Club and eventually made my way to Milorganite.

2. What is the most rewarding part of your career? The most rewarding part of my career is all of the relationships I have been able to make with superintendents, distributors, and homeowners who use Milorganite across the country. I love talking turf and solving problems.

3. What would you consider to be your greatest career challenge? Building relationships over the phone. Working for a government agency (Milwaukee Metropolitan Sewerage District), travel isn't often in the budget.

4. Which three adjectives describes you the best? Confident, Friendly, and Outgoing.

5. Tell us about your family. My husband Matt and I knew one another in high school, but did not start dating until we worked together at Tuckaway Country Club after college. Matt works in investments at Northwestern Mutual and spends a lot of time coaching our kid's sports teams. We have 3 very active young boys, Logan (9), Caden (7) and Gannon (5) who keep us extremely busy. All 3 boys play hockey, so from September through March, you will find us at the hockey rink 7 days a week, then come spring, we switch into baseball mode.

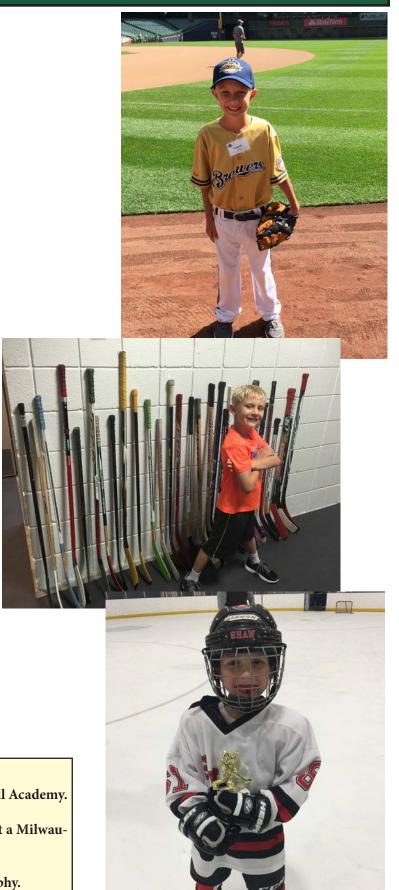
6. Any pets? 2 Goldendoodles; Corduroy and Clementine, 2 hermit crabs, and 2 gold fish that the boys won at a 4th of July festival 4 years ago, and those smelly fish just will not die!

7. What drives/motivates you every day? Helping others solve their turf related problems. I love talking turf.

Top: Logan partcipating in the Brewers Baseball Academy.

Middle: Caden after playing between periods at a Milwaukee Admirals hockey game.

Bottom: Gannon's first hockey tournament trophy.



8. Who Would You Admire? My parents. They have always supported and encouraged me, even when I told them that I HAD to go to The Ohio State University to be a part of their turf program and pay a lot of money in out of state tuition. Still paying off that tuition...my dad warned me!

9. Who is the person in history you'd most like to meet? O.J. Noer, the founder of Milorganite. He was one of the first agronomists and was known as the most traveled man in golf, he traveled the country solving turf problems. My mind is racing with all the questions I would have for him.

10. What's a fun fact that people don't know about you? I interned at a golf course in Australia when I was in college and learned how to surf, and was bit by a poisonous spider and had to receive anti-venom. If you've ever traveled with me, you would know that there is ALWAYS some sort of epic disaster that follows.

11. What do you do in your spare time, favorite hobbies? I wish I had spare time! I spend every minute I'm not at work at the hockey rink or baseball diamond. I love biking, one day I hope to go on some exciting biking adventures.

12. If you could go anywhere in the world on vacation, where would you go? Back to Australia, I absolutely loved my time there. I would like to take my husband along to experience how truly amazing Australia is.

13. What is the one thing you would like to learn/accomplish someday? I would like to learn to play the piano. One of my boys is taking lessons now and I'm trying to teach myself as he gets his instruction.

14. What is your favorite turf management related tool or technique? One of my favorite pieces of equipment from my years on the golf course was a good, sharp cup cutter. Oh wait, I should say Milorganite here! Did you know that Milorganite mixed with topdressing sand will speed up recovery after aeration?! Give it a try!

15. Favorites:

TV Show: HGTV Fixer Upper.

Movie: (DON'T LAUGH) Dirty Dancing.

Food: Sushi and cheese pizza.

Sports Teams: Every team that my kids are on! Brewers, Packers, Badgers.

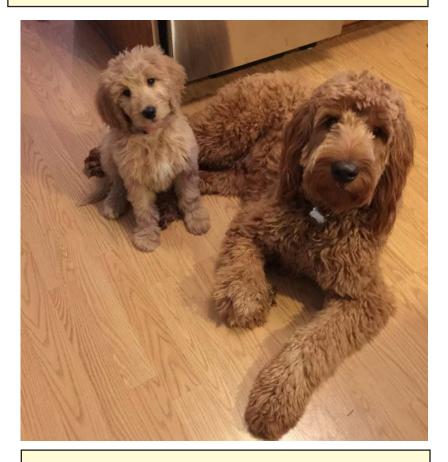
16. Do you golf? Handicap? Best shot or golf story? I got to play a few holes with Greg Norman when I was working in Australia. That was pretty cool.

17. Top Bucket List Item? Me time! I wouldn't trade my boys for anything in this world, but a spa visit every once in a while would be nice!.

18. If you could provide one piece of professional advice, what would it be? My best professional advice to anyone would be to be a good listener and a problem solver, not a finger pointer!



Above: The only family photo that I have where the boys aren't beating one another



Above: My big guy Corduroy and his baby sister Clementine

WISCONSIN ENTOMOLOGY REPORT

Considerations When Using Post-Patent (Generic) Products

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

Green industry professionals including turfgrass and ornamental managers use a wide variety or range of control agents (pesticides) including fungicides, herbicides, insecticides, plant growth regulators, etc. in their management programs. To this end, economics (costs) is frequently a highly important drivingforce or factor in the selection of these products.

As a result, many Green Industry professionals often consider and select lower-cost, commercially available products. Some, but not all less expensive products are post-patent (generic) products that contain identical active ingredients found in brand-name products.

Logically, and from an entirely economic perspective, this appears to make good and sound sense? However, not always are similar products developed or formulated the same, nor do they perform equally! So

then, is it a good or bad decision to use post-patent (generic) products? The answer to this question can be difficult as unfortunately there is no simple or clearcut answer to this question!

What is certain is that some commercially available formulations of post-patent products contain the same active ingredient as brand-name (non-generic) products. However, the formulation technology (i.e., inert ingredients including adjuvants, carriers, surfactant, etc.) is not always equivalent or alike.

This is where the uncertainty or concern regarding product performance arises, the performance (efficacy) and other characteristics of respective products (i.e., fungicides, herbicides, insecticides, plant growth regulators, etc.) can be directly impacted or influenced by the formulation technology associated with the product!

This does not imply or suggest that postpatent (generic) products are of lesser quality or are not effective, however it is important to understand that differences between brand-name and post-patent products may exist. For this reason, endusers need to be informed and well versed when making product selections to ensure the most effective product is used.

Agricultural chemical companies invest hundreds of thousands of dollars into the research and development of a single, commercially available turf and ornamental product. It is estimated that it requires about 8-10 years and approximately \$284 million to bring a single product to the marketplace.

During this developmental process, experimental products are typically assessed and evaluated by university scientists for a couple of years before the registration of a product.



WISCONSIN ENTOMOLOGY REPORT

This important involvement and collaboration allows university researchers to learn or gain knowledge regarding the pro's and con's of respective turf and ornamental products. As a result, accurate product recommendations including application timing, application rate(s), performance (efficacy) on a pest or pest complex, required spray volume or other important product aspects can accurately be identified.

Likely, equally as important as the active ingredient, the formulation of a product plays a critical role and can have a profound impact on its performance (efficacy)! Similarly to the discovery and development of the active ingredient, formulation technology also requires extensive research and development that often adds to the cost of a product.

Unfortunately, not all manufacturers or formulators of post-patent products collaborate or work with university researchers to evaluate and assess formulated products. Some, but not all, manufacturers often merely rely on information and

research data generated and provided by the manufacturer of the respective active ingredient. This approach only provides information on the active ingredient, and not valuable information on how the formulated product will perform.

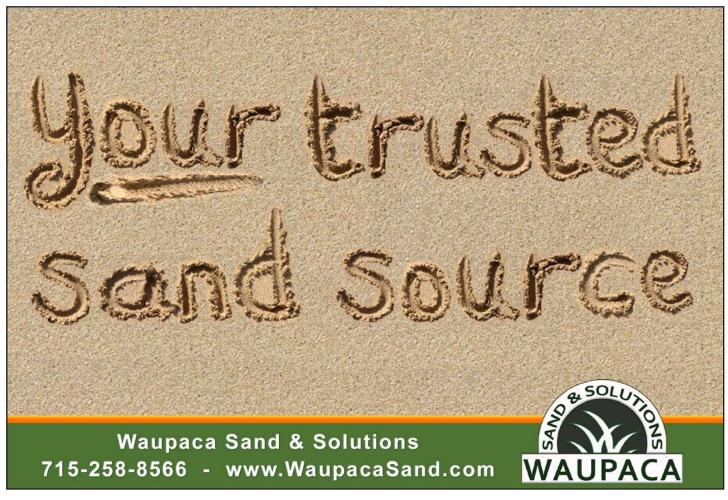
Logically, and from an entirely economic perspective, this appears to make good and sound sense? However, not always are similar products developed or formulated the same, nor do they perform equally!

One relatively easy or simple way to alleviate any concerns regarding potential relevant issues (e.g., product performance, application features and qualities, phytotoxicity, etc.) of formulated, postpatent (generic) products is to request performance (efficacy) information from the manufacturer. In some instances,

information regarding head-to-head comparisons between post-patent and branded products may exist. Thus, an accurate and informed decision can be readily made.

However, other times such data or information may not be available. In this case, unless you have previous experience with a specific formulated (post-patent) product or you are aware of information from other reliable sources, it is in your best interest to carefully evaluate and assess the product on a relatively small scale (e.g., less square footage and a non-high profile area) to better gain the necessary knowledge of the product to minimize potential issues or concerns.

Lastly, when considering the purchase and use of any pesticide, always carefully read and follow the pesticide label! Also, make certain to take all the necessary precautionary measures to minimize any potential risk of exposure of pesticides to humans, animals, the environment and other non-target species including pollinators, practice Product Stewardship!



Managing More Than Turf

By: Kathryn Lifke, Assistant Golf Course Superintendent, Trappers Turn Golf Club

Tet again, another Assistant Superintendent Seminar is of-I ficially in the books. The 9th Annual Assistant Superintendent Seminar was held on February 20th 2017 and fifty-eight Superintendents, Assistant Superintendents and industry vendors came together for an afternoon of education and networking. Once again, Whispering Spring Golf Club in Fond du Lac, Wisconsin hosted the all-day event. This year's topic was "Managing More Than Turf". The committee felt as Assistant Superintendents, we need to be skilled in managing beyond "the turf" to be successful in our careers. Even though we all have a great understanding of managing turf, do we have the same understanding when it comes to managing and engaging employees? Do we know what it takes to live a healthy and balanced "work life" so that we don't burn ourselves out? We utilize our industry's technology daily but do we know how to use it to our advantage? These were just a few questions we had as a committee and felt they were important topics for this seminar.

The first speaker for the day was Dr. Bill Kreuser; Assistant Professor & Extension Turfgrass Specialist at the University of Nebraska. Dr. Kreuser shared his knowledge on how to make technology work in the field. He identified technology systems being used today that can greatly benefit managers in the turf industry such as personal weather stations that create forecast for your exact location, TDR soil moisture probes that accurately measure soil moisture across a wide range of soil types and thermal cameras that can measure surface temperatures and help managers detect increasing turfgrass temperatures before wilt sets in. Dr. Kreuser believes this form of technology will be the next TDR when it comes to water management. Not only do these thermal cameras help detect hot spots in turf, but they can also help identify areas with root disease and potential sources of insect feeding. He stressed the importance of using this data in our practices. Utilizing software programs such as Excel, allows managers to record and organize data effectively. Dr. Kreuser also introduced attendees to the "greenkeeperapp. com" app developed by the Turf Program at the University of Nebraska - Lincoln. This app is a great tool to assist turfgrass professionals in logging chemical applications, product tracking, monitoring pest control, receiving pest reports as well as monitoring weather. It provides the user with a better understanding of how well the product application is working and when it's time to reapply. This app is an amazing tool and it is free to the user.

The next speaker was Dr. Jim Kerns; Extension Turfgrass of Pathology Specialist at North Carolina State University. Dr. Kerns presentation directed our focus back to the basics of turfgrass management. Dr. Kern reiterated the importance of understanding the concept of disease, light requirement, fertility and the correlation between height of cut and photosynthesis potential of a plant. He also discussed cultural practices such as aerifying and top dressing as well as how often it should be done and the benefits behind it.



Above: Dr. Jim Kerns presented "Managing Turf - Back to Basics".

Below: Dustin Peterson presenting "Employee Engagement"



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YFollowing Dr. Kerns; husband and wife duo, Garret & Ann Luck discussed "Working the Work/life imbalance". Garret is the Superintendent at Hidden Glen at Bentdale Farms and Ann is the General Manager at Milwaukee Country Club. Garret and Ann stressed the importance of delegating and choosing key people on your staff to take charge to ensure that everything will be performed correctly while you step away. You should also be open to subordinates addressing situations in a different manner if the job gets done correctly. When it comes to life after work, they both agreed that different schedules help create an appreciation for each other. Garret and Ann advised the group to focus on 4-5 important things each day. This will allow you to have a healthy and functional life at and outside of work.

After lunch, the group reassembled to hear Bryan Stromme, District Sale Manager and Dustin Peterson, Sales Specialist from Rain Bird Golf Division give their presentation on "Employee Engagement". Bryan and Dustin explained that engaged employees are not the ones who come to work for a paycheck, but are the employees who come to work motivated and committed to the organization's success. As managers, we need the skill to motivate employees and share with them, the company's strategy and goals. We need to help them understand the correlation between the success of the organization and their success. Bryan provided a few examples of what drives employee engagement. These drivers included making employee feel valued and recognized for their

achievements. Treating them fairly and providing feedback and direction is also important. Lastly, respect and empowerment were also keys to engaging employees.

Dr. Bill Kreuser wrapped up the day with his presentation on "Managing the Aftermath". Dr. Kreuser discussed what could be done to bounce back from the "4 flavors of winterkill" and what we can do to lessen the blow in the years to come. Kreuser explained that using a pro-core or other means to break up the ice encasement on a turf surface can do more harm than good. He recommended reseeding as the best approach to rebounding from winterkill. In addition, he underlined the importance behind seed timing, troublesome weed removal and an effective method of reseeding to be successful. Dr. Kreuser highlighted a few practices to implement in the future to mitigate damage. These practices include: fix drainage, remove thatch, apply a late fall topdressing, apply colorants and reduce crown moisture going into winter.

The Assistant Superintendent Committee would like to thank all who attended the event. It was nice seeing everyone once again and not just using the day for education but to catch up and network with young professionals in the industry. A special thank you goes out to the amazing speakers and our hosts, Whispering Springs. Most importantly, we would like to show gratitude to recognize the WGCSA board for their continued support and dedication for the Assistant Superintendent Committee.



Above: Garret & Ann Luck discussing "Working the Work/life imbalance".

Right: Dr. Bill Krueser presented "Technology for the Everyday Person" and "Managing the Aftermath" how to recover from winterkill.



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TURFGRASS DIAGNOSTIC LAB

Plant Disease Diagnostics: Art or Science?

By Kurt Hockemeyer, Turfgrass Diagnostic Lab Manager, O.J. Noer Turfgrass Research and Education Facility

One of the most interesting things about turf management to me is the balance between being an art or being a science. During my graduate studies at Purdue, I worked with the Purdue Plant and Pest Diagnostic Lab to diagnose all of the turf samples that came into the diagnostic lab. This work taught me basic diagnostic skills.

Then during my stint at the University of Minnesota, part of my responsibilities were to diagnose all of the turf samples that came into Minnesota's Plant Diagnostic Lab. Plant disease diagnostic labs can be found all over the country, but there are very few diagnostic labs dedicated to turfgrass. The two labs that I worked with could absolutely determine what disease if any was affecting the turf (the science side), but when it came to recommendations for control or recovery (the art side) is where their experience was lacking. This is why in my opinion they deferred the diagnoses to the turf scientists. Being a turf scientist I mostly deal with and think about the science part of turf management.

The science side is systematic, ordered, and usually precise. These adjectives fit my personality well, which is why I decided to go into turf research. Determining how the natural world works fascinates me and I feel blessed that I am able to work for such a great university that supports their researchers. According to the National Science Foundation, UW-Madison ranks as the 6th highest university in the nation in terms of volume of research it conducts. I am also blessed to be able to work with such a great team of turf researchers at the OJ Noer Research Facility.

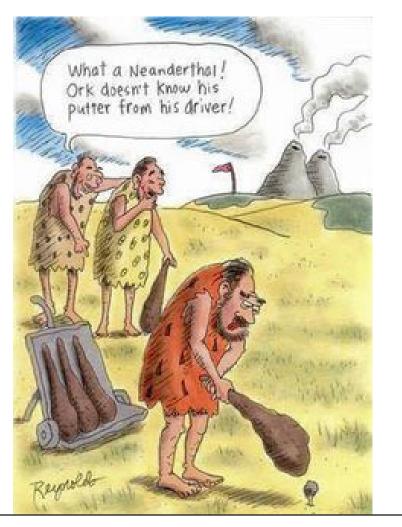
Many times there are certain questions that science can't answer. This is where I believe that knowing the art helps turf managers succeed. The art side is imaginative, creative, and innovative. Oftentimes the art side is based on past experiences, talking with your peers, and even a gut feeling. Knowing the ins and outs of your turf and how it reacts to certain stimuli goes a long way towards successful turf management.

Many times there are certain questions that science can't answer. This is where I believe that knowing the art helps turf managers succeed. The art side is imaginative, creative, and innovative.

Just as turf management is a balance of art and science, so is plant disease diagnostics. There is a very specific science side to it. What is the morphology of the spores I found in this sample? Do the fungal hyphae I found have clamp connections or is it coenocytic? This part is pretty straightforward. Then the art side comes into play. Even though I found some spores, are these spores the cause of the injured turf? Are the

fungal hyphae I found a plant pathogen? Or are they saprophytic and only growing on decaying and dead organic material? These questions are usually answered based on experience as a diagnostician. They can also be answered by gathering information from the sample submitter. Great photos of the field patterns (wide angle) and close up damage are extremely helpful as well.

In conclusion, I believe that a balance of both art and science is what makes a great turf manager and also a great diagnostician. The TDL has had some great people running it in years past. I hope that I can live up to and maintain the quality of work that has been given from the TDL. I have some great resources, people, and experiences to draw from. I look forward to serving the Wisconsin turf industry as the new TDL Manager.



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NORTHERN GREAT LAKES ASSOCIATION

Spring Educational Conference Review

By Dean Musbach, Territory Manager, Reinders, Inc.

The 29th annual Northern Great Lakes Educational Conference was held in Minocqua, WI on March 1st. The mission of the event is to provide world class education at a reasonable cost, and it also serves as the primary fundraiser for scholarship and research for the organization. A special thank you goes out to the manufacturers, distributors, and member courses for their generous donations. Over the years, the association has supported research conducted by the USGA Green Section, OJ Noer Foundation, Wisconsin Turfgrass Association, University of Wisconsin, Michigan State University, Michigan Turfgrass Foundation, GCSAA Foundation and the Wee One Foundation.

Kevin Hendrickson, the past president of the Northern Great Lakes GCSA kicked off the conference with opening comments and remarks to 58 attendees. He introduced Shane Conroy the GCSAA Midwest Representative who briefly discussed the Best Management Practices (BMP) initiative that the GCSAA has embarked upon. The Northern Great Lakes GCSA will be collaborating with the Wisconsin GCSA on developing the BMP for the State of Wisconsin.

Dr. Rick Latin, from Purdue University led off the conference with "Scheduling Fungicides for Turf Disease Control". This presentation focused on 3 approaches for developing and scheduling fungicide programs. Damage based, weather based, and calendar based control methods were explored for the important diseases in Northern Wisconsin.



Above: Dr. Chris Williamson presented "Innovative Management Techniques for Earthworm and Nuisance Ant Control".



Above: Past NGLGCSA President Kevin Hendrickson kicked off the conference with opening comments and a welcome to the attendees.



NORTHERN GREAT LAKES



Above: Bob Vavrek, Agronomist, USGA Green Section gave his Year In Review for 2016.



Above: Dave Loutit, The Andersons spoke on "Understanding Modern Control Release Nitrogen Technologies."



Above: Dr. Rick Latin, Purdue University, presented "Fungicides for Turfgrass Disease Control."

Dr. Chris Williamson from UW-Madison was the second presenter with "Innovative Management Techniques for Earthworm and Nuisance Ant Control". First, Chris reviewed current research and product options to control earthworms. Early Bird an OMRI certified product (organic fertilizer) has performed well when applied specifically as directed; otherwise the results are inconsistent. Although not registered (no pesticides can be legally applied to manage earthworms), Thiophanate Methyl and Carbaryl have been shown effectively reduce earthworm populations. Switching gears to the 2nd part of the talk, mound building nuisance ants continue to be a problem on fine turf. Optimal control can be achieved when combinations of Clothianidin or Thiamethoxam are combined with a synthetic pyrethroid and applied at the first sign of activity. Chris noted that a synthetic pyrethroid should never be applied by itself to control mound building ants because it has little to no effect on reducing the overall populations, and multiple, repeat applications will be necessary.

Dr. Rick Latin was next on the program with "Fungicides for Turfgrass Disease Control". He discussed various features of fungicides that influence a superintendent's decision. Mobility, Mode of Action, and Fungicide Classes were reviewed, as well as the history and timeline of when various fungicides came to the marketplace. Deposition factors, depletion factors, disease pressure and fungicide resistance management strategies were also discussed.

Dave Louttit with The Andersons, spoke in the most difficult slot after lunch with the topic "Understanding Modern Control Release Nitrogen Technologies". He reviewed the importance of soil and tissue analysis when building a fertility plan, as well as the importance of proper calibration of application equipment. With the ever expanding list of enhanced fertilizer technologies, Dave discussed the available products in the marketplace, how they work and where they best fit into fertility programs.

The final speaker of the day was Bob Vavrek with the USGA Green Section presenting "The Year in Review 2016". He opened his presentation discussing the increasing use of tall fescues in northern turf that traditionally has been dominated by Kentucky bluegrass. In his usual relaxed and somewhat humorous manner, Bob discussed many of the turf issues that he encounters during his USGA visits in the Midwest region. Many times, environmental factors contribute to turf problems, and other times the problems are self-inflicted. Ultimately, strong agronomic & cultural practices mitigate many of the turf issues that superintendents encounter.

Directly after the final presentation, the raffle was conducted and the silent auction wrapped up. Again, a special thank you goes out to the sponsors of the event, and for their generous donations that earned the Northern Great Lakes GCSA \$8500 for scholarships and research. The 30th annual educational conference will be held on March 7th, 2018 in Minocqua. Mark your calendars.....

NOTES FROM THE NOER

Officially, Spring Is Here

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

Officially, Spring is here. With each spring, come a new set of challenges, plans and goals for the growing season. As I continue to plan for 2017 growing season, I am now in sheer panic. Where did the winter go! As you know, the opportunity to have a different position at the O.J. Noer Research Facility came about last fall. I made the choice to leave the TDL to assume the role as Station Superintendent.

Replacing Tom Schwab is impossible and it is not my goal to be Tom Schwab 2.0, but a younger, better looking version. With any management change the number one goal is to preserve the best of the past while looking for ways to move forward. I have an advantage in this position because I worked very closely with Tom over the past four years.

After 2 plus months, I can tell you that assuming this role is much like when an assistant golf course superintendent is hired for their first superintendent position. As they dream and interview for that coveted superintendent position, they are positive they know the task at hand, from watching and learning from their past boss.

What they soon realize is that the super-

intendent was doing much more when they appeared to be just driving around the course and making visits to the air conditioned clubhouse while they supervised the crew in the summer heat. How hard could this be they think but then real life, all the politics, various deadlines, blog posts, and a plethora of other decisions need to be made. Sure they are ready but they are caught a little off guard. Well let's just say I am re-living that experience this year.

The normal day to day at the Noer is what I expected. It is a bit more hectic as I spend many hours traveling to do presentations for numerous turf related organizations that I agreed to as a previous member of the Koch team. Not knowing for sure how Dr. Koch was going to fill the TDL manager position, we agreed I would fulfill the obligation to these groups.

Soon after the first of the year, word got out on campus that a "new" guy was at the O.J. Noer Research Facility and it seemed everyone from campus needed to make a visit. University Police are checking on my Active Shooter Training and the Emergency Action Plan (thankfully Tom had writ-

ten that one). UW Risk Management has all kinds of safety training and inspections and finally the building inspectors, some of these had forgotten the O.J. Noer existed. Of course with each visit came follow-up issues and changes to our little world. For the first time since I arrived the University Police Unit has requested a day to present their 1 ½ hour training to the entire O.J. Noer work group on Active Shooter Training and Emergency Action Plans. At this point I want to thank all three of the professors for understanding the situation and being very agreeable and helpful in keeping everyone content.

All these inspectors have relaxed a bit so now I can get down to my winter work. Then the snow melts and surveyors are all around the property putting in stakes, painting lines, drilling holes and digging up something, what's up!!! County Highway M is going to be upgraded to a four lane road with sidewalk and bike path over the next two-year period. After all this was done, I walked the property and noticed some blue line painted through four of Dr. Soldat's research plots. What's up here.

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NOTES FROM THE NOER

After a few phone calls and ample erroneous information, I was enlightened that these lines mark an easement for the overhead high tension lines. Walking through with the engineer, it became apparent there will be minimal turf disruption and I only need to move a few quick couplers.

While I am talking about the road construction, I have been assured access to the O.J. Noer will not be in issue and they guaranteed me that access for the American Family Championship at the University Ridge Golf Course and the WTA Summer Field Day (July 25th) will not be an issue.

Next up, someone (me) went looking for funding for a cold storage building. A new building has been needed for many years which will allow for storage of recent and existing specialized research equipment. The O.J. Noer has run out of space and is storing things like our topdresser outside. As the new guy and part of the Agricultural Research Station (ARS) group, I put together a needs request and went in search

Replacing Tom Schwab is impossible and it is not my goal to be Tom Schwab 2.0, but a younger, better looking version. With any management change the number one goal is to preserve the best of the past while looking for ways to move forward.

of funding. The last time I got shot down that fast, I was as a high school sophomore asking a varsity cheerleader for a date. The need was recognized but in the past few bi-annual state budgets, the UW has taken some hefty cuts and in this present budget the ARS operating budget was cut over 15%. New buildings are way way down on the priority list as some of the older buildings just need maintenance, like a new roof. If you have not heard the WGCSA stepped up to the plate and has agreed to fund a new building 30 ft. x 40 ft. with a cement floor built by Cleary Building. I can never thank the WGCSA enough.

During the phase of convincing the UW to allow this gift, the powers that be at the

University made it clear they would not allow the building to be constructed without electricity for lights, sky lights would not be sufficient (of course they are correct). As this new issue (expense) came to light, the Wisconsin Turfgrass Association agreed to pay for the electrical installation.

The next hurdle is to actually get all i's dotted and t's crossed within the UW System. We are working through the process and our goal is to have the building finished by WTA Summer Field Day. The turf group at the UW will never be able to thank all of you enough for this donation.

So just like a golf course superintendent, the question is, "what do you do in the winter, play cards?" The more things change the more they stay the same, I was answering those same questions oh so many years ago.

The one thing that keeps running around in my mind is a comment made to be by a good friend of mine, "Oh I understand why Tom retired when he did!" I keep wondering did my buddy Tom set me up? Oh I am sure he didn't.

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Major League - Spring Business and Educational Meeting

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

The 2017 spring meeting provided an inside look at the world of tournament golf with presentations from Zach Reineking and Alex Beson-Crone soon to be hosts of the USGA U.S. Open at Erin Hills and Christopher Zugel who has hosted the PGA Championship at Whistling Straits.

The committee picked a great date for the event considering one week earlier it was 65 degrees and golfers were golfing and two days after the area had a major snow storm. Thank you to South Hills Country Club for hosting our group.

Zach Reineking, Golf Course Superintendent at Erin Hills Golf Course started us off with a talk titled "What You Didn't Know" to discuss preparing and hosting the nation's most prestigious golf tournament. He gave a history of the property and the journey over the past 7 years since the open was announced. In 2011 Erin Hills hosted the U.S. Amateur as a test or trial run for the U.S. Open.

A few changes were made after the Amateur including new tees, a new short game area and a larger putting green. But the real changes were to the infrastructure to allow for the increased amount of spectators and the media that will come with the US Open. Wells and potable water lines along with bridges, roads and areas for grandstand to seat 17,000 and concessions or merchandising had to be developed. The third green and approach were rebuilt and 16 miles of fence were put in for security around the 652 acre property.

For the maintenance staff the focus was on agronomics first and putting surface quality was a priority of the staff and USGA. A pure bentgrass stand is the goal and poa annua has been kept at bay with the use of trimmit, a trial with poa cure along with a lot of plugging out poa spots. Better players prefer green firmness so good shots are rewarded and poor shots are not. Zach and his staff have used topdressing and injecting sand into the green via contracted dry-ject machines to firm up the surfaces.

Generally Erin Hills prefers to core aerify in spring to allow for uninterrupted guest play in the fall. Moisture manage-

ment is important to surface firmness but sand is the key. Each dry-ject application put 50 to 60 tons of sand in the 4 acres of greens.

Fairways also received topdressing to build up a 3" sand layer to cover the native soil that varied from clay to glacial till to provide consistency. In 3 years the 45 acres of fairways received 15,600 tons of sand in light applications of 1/32". To save you the math in your head, that is 650 quad axle dump trucks full of sand. The sand was a huge benefit to the fairways but did add maintenance work as sprinkler heads and drains had to be raised to match the new level.

Reineking pointed out the fescue in the fairways can be drought tolerant when grown on sand or well-draining glacial till however in the clay areas it does not develop the root system to tolerate drought so spot watering is a must. The staff has used planet air aerifiers on the fairways to keep poa encroachment at a minimum on the fairways.

The fescue is a great playing surface but slow to expand into divots or wear areas so new seed is introduced regularly and especially in fall.

Erin Hills was built with what Zach called organically shaped bunkers in an erosionesque style to fit in to the design. They look great but can be a challenge to maintain and keep consistent. Time was spent to walk each bunker face and reseed or plug small divots or inconsistencies in the banks of all 138 bunkers.

60 bunkers were re-constructed by removing the sand and fabric, checking and if needed replacing the drainage. Then the fabric and sand were replaced. With the unique design of the bunkers most of the 625 tons of sand was shoveled by hand by a crew of 6 staff members.

2 miles of walking paths were put in with in-house labor to accommodate traffic to and from tees and greens. 3" of traffic bond was covered by 2" of crushed granite and on grades greater than 20% a wax polymer was included with the granite. Kafka Granite from Mosinee was able to provide the granite products and recently displayed at the golf industry show.



Zach Reineking, Superintendent, Erin Hills (Above) and Alex Beson-Crone, Assistant Superintendent, Erin Hills (Below) presented information on the property and how to attract, transport, feed and entertain 120 volunteers for the U.S. Open.



THE GRASS ROOTS March / April 2017

For this winter all 22 greens and 5 acres of approaches and landing areas in fairways were covered with permeable turf covers to help protect the areas from winter desiccation and increase spring green up if we have a cool spring.

Zach said the relationship with the USGA has been great, they have not ordered them to do anything but use the words, "it would be nice" or "it would be helpful" when asking for improvements or changes. He expressed he feels humbled by the attention and fortunate to have a great staff and golf course to show off to the world.

He then turned the podium over to Assistant Superintendent Alex Beson-Cone and his talk "We Need You", finding out how to bring 120 volunteers to Erin, WI and create a memorable experience for the week. Erin Hills typically has a staff of 34 will have 50 as they prepare for the Open.

Alex and Zach have used what they learned visiting other major tournament sites to provide food, transportation and housing for the volunteers to help them host the world's best players. Recruiting skilled workers who can give up an entire week away from family and their jobs is not an easy task and has taken a little longer than planned.

Things to think about besides equipment and tools for 120 volunteers was rain gear, uniforms and gifts along with what do the volunteers do between the morning and evening shifts. A game and activity area will keep the group occupied when they are not on the course and food catered by Saz's will keep them nourished.

Rooms for those living outside the area will be at Carroll University in a newer dorm facility with busing to and from the course. Buses will also make a daytime run back to the college if volunteers do not want to stay at the course between shifts.

After Alex wowed us with how awesome volunteering for the Open will be and their efforts to make it a memorable experience for the group Zach returned to discuss how the staff at Erin Hills maintains 150 acres of fine fescue native areas.

Erin Hills has soils that vary from glacial till to clay with some sandy loam. The original native areas were a mix of pasture grasses that were basically untouched during construction.

In order to get the look of waves of tan seed heads the areas were treated with 2



Christopher Zugel, Golf Course Superintendent, Whistling Straits discussed how the PGA Championship and U.S. Open are similar but different in preperation.

applications of glyphosate 14 days apart followed by mowing and burning the material off before seeding with an AERAvator seeder. They goal was to not disturb the soil and the bank of weed seeds that could wake up if brought to the surface.





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That sounds easy enough, however that was just the beginning of the work to keep playable but aesthetic native areas. Zach explained it usually takes three years after seeding for the areas to look good but it takes a lot of work to keep weeds at bay. Regular applications with fusilade, barricade and other herbicides helps but it also requires hand picking of problem weeds especially milkweed. Tips that Zach offered included:

- Chewings fescue is too aggressive for native rough areas.
- Native areas do not like any supplemental water.
- Boomless nozzles can help reduce tracks in the native areas if sprayed late in the spring.
- Hand pulling weeds in necessary and some days each employee is required to bring x number of weeds in their cart before they leave for the day. The staff also has contests to see how many weeds can be brought in.
- Burning may damage the fescue and encourage weeds. If you need to burn, burn with the wind for a quick burn to reduce crown damage.
- Mowing with regular mowers or flail mowers can leave plant material on the surface that could suffocate the next year's crop of fescue.
- Erin Hills has had the best luck mowing native areas with a mower conditioner and removing the material by bailing it. The club invested in an old mower conditioner, hay rake and bailer. They shoot for an early October harvest and last year had 5,000 bales of hay.

Zach and Alex were as educational as they were entertaining as they gave insight into the work and organization needed to host the U.S. Open.

Lunch was next with the spring business meeting during the second half of lunch which was a great idea and allowed us to have a record number of attendees to discuss the associations meetings.

Chapter Manager Grams highlighted his work on membership and sponsor renewals along with the Par 4 Research program. Membership numbers are in line with other years and the Par 4 Research had 22 donations to date.

President Canavan announced Brian Bonlender was selected to replace Andrew Noll on the board due to Andrew leaving the golf industry to persue other interests. The annual audit of the books and invoices was condudcted by Tim Schmidt, Jonathan Dippel and Chad Grimm. The books were found to be in good order.

Brett Grams presented the financial statements showing a reduction in revenue with a reduction in expenses and year to date income of \$8,626.

Vice President LePine discussed the Best Managment Practices (BMP) program sponsored by the USGA and GC-SAA. He will be looking for volunteers to sit on a committee to form our state program based on a template from GCSAA and tested by other states.

After lunch Chris Zugel joined Zach to discuss the difference and similarities between hosting the PGA Championship and the US Open. Both events used to be hosted in October before moving to the summer schedules with the Open held Father's Day weekend and the PGA in August. One big similarity is major

events need contingencies for crowd control during rain or storms.

Although both events challenge the world's best players the PGA had had lower scores due to course setup as the USGA tries to protect par during the open by adding length to the course and having deeper rough.

Both superintendents said they use the tournament date to do mock runs to see how the course responds to increased maintenance or new methods. For the PGA the officials will mark 4 pins and some decoys and allow the staff to change them while the USGA has Mike Davis go out and pick the spot each day of the event from a predetermined areas.

Overall it was a very educational and entertaining day discussing tournament golf with a little association business in the middle. Congratulations to the board for a good meeting and for the reports from a successful 2016.



Jeff Barlow, WGCSA Treasurer and Golf Course Superintendent at Waupaca CC presents Benjamin Henke with the Monroe Miller Literary Scholarship. The scholarship is given for the best student written article in *The Grass Roots* each year in honor of longtime editor Monroe S. Miller. Ben submitted a article titled "Creating Growing Degree Models For Commonly Used Plant Growth Regualators." The article is in the November / December 2016 issue.

25 Year Members For 2017

By Ben Lebarre, Golf Course Superintendent, Ledgends at Bristlcone Pines.

The impact an association has is a product of the commitment of individuals who stand together to grow a profession. The Wisconsin Golf Course Superintendents Association is proud to recognize three such individuals for 25 years of commitment. Thank you Tom Emmerich, Brett Grams, and Kevin Norby for your contributions and continued support of the WGCSA!

Tom Emmerich, owner of T.J. Emmerich Associates, Inc., has 45 years' experience in the irrigation industry. Tom began his career in 1971 while working a summer job installing residential and commercial irrigation systems for Acme Lawn Sprinkler Company. Tom earned a degree in Business Administration from UW-La Crosse and gained valuable career experience working for R & S Parts of Wisconson and interning at Tri-State Toro of Davenport Iowa.

In 1977, Tom installed his first golf course irrigation system at Westmoor Country Club while working as a crew foreman/serviceman for Milwaukee Lawn and Sprinkler. Tom was employed by Reinders Inc. from 1985-1991 serving in many capacities including outside sales, territory manager, design and division sales manager.

In 1992, Tom founded T.J. Emmerich Associates, an independent irrigation consulting firm. For the past 25 years, T.J. Emmerich Associatiates has provided design and consultation services for over 120 golf courses, 30 athletic complexes and numerous commercial projects. Tom and his wife Barbara reside in Merton, Wisconsin and have three grown sons. Outside of work, Tom enjoys officiating track and field and cross country meets. He recently earned the opportunity to officiate the Wisconsin State Cross Country Championships.

Brett Grams started in the industry in 1988 working summers on the maintenance crew at Rock River Country Club while attending UW-Stevens Point. In 1990 Brett followed his boss and mentor Kris Pinkerton to Waupaca Country Club where he worked on the maintenance staff and attended Penn State. Quickly after joining Waupaca Country Club, Brett became superintendent (it was also during



25 Year Membership Plaques were presented to Brett Grams (Left) and Tom Emerich (Right) by Membership Chairman Ben Lebarre at the 2017 Spring Business and Educational Meeting.

this time that Brett met his wife Nancy who worked in the clubhouse at Waupaca CC). Brett was superintendent at Waupaca CC for five years.

In 1998 Brett began a new career path working for Faulks Brothers Construction and Jim Trizinski. Brett helped lay the groundwork for a new division of Faulks Brothers called Waupaca Sand & Solutions, which was developed to meet the demands of the golf course industry specialty sand needs. Brett's salesmanship and vision helped Waupaca Sand & Solutions create new products for customers and expand sales into the sports turf market.

In 2009, Brett started his own company called Paydirt Services which offers chapter management to the WGCSA membership and board of directors. As a WGCSA member, Brett has held many classifications over the last 25-years and is very passionate in assisting members with their careers. In addition to his chapter management role with the WGCSA, Brett and his wife Nancy co-own an apartment business in the Waupaca area. Brett and Nancy have been married twenty years and have two sons in high school.

Kevin Norby is a member of the American Society of Golf Course Architects and a registered landscape architect in three states. Kevin began his career in 1976 with an eye towards becoming a land planner

and landscape architect. He attended the University of Idaho at Moscow and South Dakota State University at Brookings where he received a Bachelor of Science degree in Landscape Architecture.

In 1989, Kevin met golf course architect Don Herfort, a member of the ASGCA and a Wisconsin native. Kevin worked with Don Herfort for 10 years before forming Herfort /Norby Golf Course Architects. Today, Kevin is the Owner and senior designer of Herfort /Norby Golf Course Architects based in Chaska, Minnesota. Since 1990, Kevin has been involved with the design of over 100 golf course projects throughout the United States and Canada however.

Kevin specializes exclusively in the longrange master planning and the design and renovation of golf courses and golf practice facilities. Kevin's most highly acclaimed courses include Coal Creek Golf Course, The Preserve on Lake Rathbun, Pleasant View Golf Course and Greystone Golf Club. In 2010 and 2011,

Kevin was responsible for overseeing the reconstruction of the greens and the regrassing of the fairways at Hazeltine National in preparation for the 2016 Ryder Cup. Other recent projects include renovations at Elmwood Golf Course in Sioux Falls, South Dakota and The Minikahda Club in Minneapolis, Minnesota.

CHAPTER MANAGER'S REPORT

Spring Chapter Updates

By Brett Grams, Chapter Manager, WGCSA

Spring greetings to all WGCSA members and staff. I hope that the start of the year has been a productive one. The WGCSA leaders have been busy in the off season and we all should be appreciative of the efforts of the Board of Directors.

The WGCSA had a productive meeting in January that allowed them the time to work through a lengthy list of agenda of items. President Jon Canavan has started his tenure with some impressive projects that will help the WGCSA membership in a positive way. I want to share with you two of these projects and the efforts to date.

- . The WGCSA recognizes that we can promote our profession, industry, and showcase we are environmental stewards when the world of golf comes to Wisconsin in June for the US Open. A committee has been formed and they have secured an Electronic Billboard Promotion Campaign. For 14 days ending on Championship Sunday of the US Open a series of messages that promote the WGCSA, WI Golf, and WI Turf Industry. These messages will rotate on five various bill boards in the greater Milwaukee area. To offset the costs of this promotional campaign we have secured cost sharing partnerships with the WI Section of the PGA, and are finalizing plans with the WTA, and applied for a Chapter Outreach Grant thru the EIFG of the GCSAA. We will be sharing more details of this project in the coming weeks as things are finalized. Please stay tuned.
- 2. The GCSAA has taken a proactive role for advocacy and communicating environmental stewardship of our industry.

For several years they have been refining a large and expensive effort to help all chapters create and enact state level Best Management Practice plans. The Golf Industry Show in February was the formal launch of the nationwide effort and I am happy to report that the WGCSA board has created a special committee to begin our efforts at creating a WI BMP. To ensure we have an effective final product key people from outside our chapter are being invited to help us. We will have two leaders from the Northern Great Lakes Chapter and have asked the leaders of the WTA for assistance as well. Key to our success will be the UW Turf team, and the expertise that we must utilize so that the final product is accurate, fair, and effective. You will hear much more about this project in the coming months.

In addition to the projects above the WGCSA leaders have finalized a great calendar of events for the year. Please join us as your schedule allows. We will be promoting these meetings, and also our Couples Event in November and our WI Turf Symposium.

I challenge all members to take advantage of our events. Networking, education, camaraderie, and a day away are key to making your facility the best it can be.

In closing, thanks to all members that have renewed your dues, and taken advantage of the Class C meeting, the Spring Business Meeting, and WI Room at the GIS. I am happy to report that our attendance at our 2017 events so far has been strong. If any member needs assistance on anything WGCSA related please contact me. I am glad to help as I can. I wish everyone a great 2017 season.

Event Schedule!

April 26 (Wednesday) - Super Pro Outing with PGA of Wisconsin, The Oaks Golf Club, Cottage Grove

May 15 (Monday) - May Golf Meeting, West Bend Country Club, West Bend

June 20 - (Tuesday) June Golf Meeting, Grand Geneva, Lake Geneva

July 25 (Tuesday) WTA Summer Field Day, OJ Noer Facility, Verona

Aug 21 - (Monday) Joint WGCSA - NGLGCSA Meeting, Green Bay Country Club, Green Bay

September 18 (Monday) - Wee One, Pine Hills Country Club, Sheboygan

October 2 - WTA Golf Fundraiser - Chenequa Country Club, Hartland

November 4 (Saturday) Couples Dinner - Harley Davidson Museum, Milwaukee

November 29 & 30 (Wednesday / Thursday) Golf Turf Symposium, American Club, Kohler

Visit our website at www.WGCSA.com for the most up to date calendar and registration forms.

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WISCONSIN SOILS REPORT

Update: Creeping Bentgrass Potassium Requirements Study

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

The potassium soil test calibration study at the O.J. Noer Turfgrass Research Facility is entering its seventh year. With few exceptions, all the excitement in this trial happens in early spring. The extreme warm spell this February afforded us a chance to get an early look at the snow mold damage and evaluate the plots in short sleeves!



Figure 1. Soil Science Master's candidate Pete Bier marks out the potassium study plots on February 20, 2017 in sixty degree weather.

As we have seen for the past several years, the plots treated with potassium (regardless of rate) had more snow mold than the plots that received no potassium. This year the snow mold pressure was much higher than in years past. The potassium treated plots averaged 33% damage, with some reaching 80% damage. The plots not treated with potassium averaged less than 10% and never exceeded 33%.

Figure 2 shows a side by side comparison of two plots. The one on the left has not received potassium for the study duration. The plot on the right has received 0.2 lbs K2O/1000 square feet every other week during the growing season for the last six years. We apply either 0.1, 0.2, or 0.6 lbs lbs K2O/1000 square feet to the potassium treated plots, and surprisingly we don't find that higher rates of potassium lead to more snow mold than the lower rates. We are seeing that any potassium at all increases the snow mold damage.





Figure 2. The plot on the left has not received potassium for the past six years. The plot on the right has received 0.2 lbs K2O/1000 square feet every other week during that period. The grass type is 'A4' creeping bentgrass maintained as a putting green on a sand-based root zone.



WISCONSIN SOILS REPORT

We tried something new with this trial this fall. We took the control plot and split it in half. One half remained a potassium free area, and to the other side we put down our high rate of potassium every other week starting in August 2016. We then took the original high potassium treatment and split it in half. We continued applying potassium to one half (as always), but stopped applying potassium to the other half in August 2016. We wondered if or how the snow mold damage would be affected by our changes to these plots.

The results can be seen in **Figure 3**. It seems that stopping applying potassium after several years of potassium additions had only a minor effect on snow mold damage. In contrast, it appears that starting potassium treatments after six years of no potassium more than doubled the amount of snow mold. It is likely that the high potassium treatments had soil levels high enough to drive potassium into the leaf, which would explain the minor changes in snow mold damage even after potassium applications ceased.

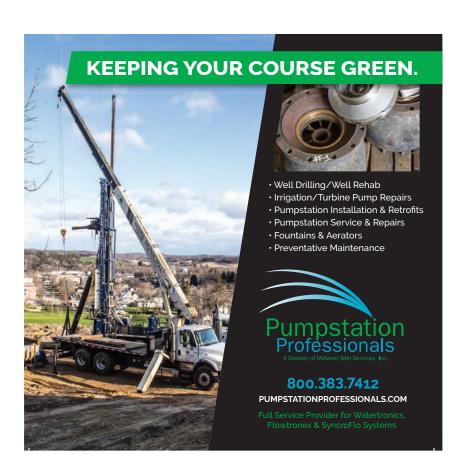
Finally, we have been making some interesting observations in the laboratory as we try to find out where the potassium in the grass that is not receiving potassium is coming from. We are removing far more potassium in our clippings than is detected in the soil from the Mehlich-3 soil extraction. We believe that the bentgrass is extracting most of the potassium from what we call "non-exchangeable" potassium. This is the potassium that is in the minerals of the grains of sand. If this is true, the soil should run out of potassium in the next 5 to 10 years as the minerals are depleted. However, we also topdress the green with sand every year with sand that has "fresh" minerals.

We are still crunching the numbers and running tests, but it is likely that the topdressing sand can provide more than enough potassium to meet the needs of the bentgrass indefinitely. It is pretty crazy to think that a topdressing application may one day be viewed as a fertilization event!

It is always important to remember that these results are likely only applicable to bentgrass. Researchers at Rutgers has demonstrated that annual bluegrass is more susceptible to basal rot anthracnose and winter kill at low potassium levels. However, if your greens are primarily bentgrass this research suggests that potassium requirements are much lower than previously thought. You should be able to help keep annual bluegrass out by keeping your potassium applications to a bare minimum (or consider your topdressing a fertilizer application!).



Figure 3. In 2016, we modified the study to see what would happen if we stopped applying K to plots that had received high levels of K for six years, and started applying K to plots that had never received it before.



GIS 2017 - Make The Turn

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

After not attending in 2016 I was eager to get back to the Golf Industry Show to catch up on new products, the latest in research and share ideas with the superintendents from around the country.

Orlando is a great spot for a winter conference with mild temperatures, plenty of family activities and great hotels and restaurants. The Orange County Convention Center is a incredible facility but it can be a little intimidating every 3 years until you learn your way around and remember how far it is from parking to your room.

I tried something "cool" and new for me and obtained a room from Airbnb since I was by myself and really only sleep in the room. I found a room for \$30 a night a few miles from the convention center with a local couple. Their reviews were good and I had my own bathroom. The only uncomfortable part was knowing I would arrive when the place was empty. I had instructions to find a key hidden in a fake rock half covered with bark at the end of fence near a flower pot.

I found the key and it worked but it was very weird to walk into a strangers house on my own. I found my "wing" and unpacked. I only saw them a couple minutes for the whole week as I left early and either myself or they arrived back later at night.

Highlights from my show included the Turfgrass Talk Show hosted by Dr. Nilolai and included a panel of superintendent discussing some unique things that have happened to them. Gordon Irvine MG from Glasgow, Scotland presented how he found and restored an abandoned Tom Morris golf course for local residents.

I then joined the Municipal Golf Operations forum which came up with some great mutual problems faced by municipal golf courses but unfortunately ran out of time to focus on any solutions. Hopefully the discussion will continue next year.

Dr. Soldat led a panel of superintendents including Chris Tritabaugh, Golf Course Superintendent at Hazeltine National in MN on Successful Low Input Turf Management and the success they have had reducing inputs and budgets while still providing great conditions. It was a hot topic and the presentation was delayed as staff brought in more chairs.

The Lightning Round Learning was also in the packed auditorium and featured 11 speakers who had 5 minutes each to give their presentation.

Some of the presentation materials from different speakers can be found on the GCSAA Golf Industry Show site to review and share with staff.

Overall I thought it was a good show with great education and plenty of opportunities on the trade show floor to see the latest in technology.

My only disappointment is that the Pellucid State of The Industry session is hidden in the basement and not on the normal agendas. I think it is a must attend event for everyone in the golf industry.

Next year the show moves back to San Antonio and although my Airbnb experience was positive I think I will be back in a show hotel for convenience more than anything. Start planning your trip to the education and networking opportunity that can not be beat.

The 15,000 SqFt fairway and green was built as a test drive area for equipment and to show multiple types of bunker construction.













Above: Toro had their original tractor next to their newest tool designed to be the perfect tractor/utility vehicle to pull aerifyers and perform other tasks. The yet to be named item is still in the final development stage but was a popular item at the show as it featured a virtual reality experience for show attendees.

Right: This huge ferris wheel just off of International Drive served as a landmark in the night sky for travelers to find their way.



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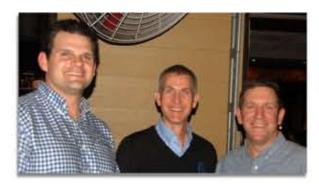


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ATTENTION GOLFERS!!!

PLEASE DO NOT RINSE
CLUBS IN SINK!!

PLEASE USE WATER
FAUCET UNDER
STAIRWELL
THANK YOU!!!

Above: The oddest sign I saw on my trip was in a bathroom at a golf club west of Orlando. This must be a issue if they had to make a sign.

Above: The day before the show, vendors have a lot of things in crates yet.

Right: Opening day all the booths are setup.

Below: The veterinary show in the other half of our concourse had a crowd to watch puppies play soccer in the Pup-cup!







Above: Smithco's 50th anniversary Red Rider utility truck was Ted Smith's first product.









Top Left: Juan Sotelo and Keith Johnson representing Kondex of Lomira WI. Kondex produces bedknives and products for a number of equipment manufactures.

Top Right: Peter Meyer from advertiser National Golf Graphics.

Left: Tisa Overman, Sales Manager and Jaime Staufenbeil, Agronomist from advertiser Milorganite work the show. This was Tisa's last show before she retires.

Bottom Left: Closing Session comedian Brad Sherwood from Whose Line Is It Anyway have some fun with incoming GCSAA President Bill (Sweet Cheeks) Maynard.

Bottom Right: Dr. Doug Soldat, UW-Madison served as moderator of a session on Low-Input Turf Managment.



COVER STORY

Kurt Hockemeyer Takes Over Turfgrass Diagnostic Lab

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

Kurt Hockemeyer made his way to the golf course the family way, with some urging from his older brother who enjoyed the game. That experience led to playing on the golf team in high school in New Haven, Indiana and perhaps planted the seed that would lead to a career in turf.

In high school Kurt was active in band playing the saxophone and his summer job was working at a local property planting trees and doing other activities to help the owner develop an arboretum.

Kurt entered Indiana University – Purdue University Fort Wayne (IPFW) to study electrical engineering but wasn't sure that was the right fit as he enjoyed outside activities so he switched to a general agriculture program his second year.

Luckily for Kurt and our industry Dr. Cale Bigelow, Professor of Agronomy from Purdue University came to the IPFW campus to discuss career options and Kurt was convinced to transfer to Purdue and study turf management.

While working on his undergrad degree Kurt had the opportunity to work at Orchard Ridge Country Club and interned at the Chevy Chase Club in Maryland and The Ford Plantation Golf Club in Georgia. After graduation he started working towards his masters degree in Turfgrass Pathology at Purdue. While at Purdue Kurt was part of the "All American Marching Band" and turf club.

During his M.S. work Hockemeyer spent a summer as an assistant with Syngenta Crop Production and was a research assistant at Purdue University. After graduation Kurt moved to the University of Minnesota as a Research Fellow for a year before joining the staff of Dr. Paul Koch as the Turfgrass Outreach Specialist. At Minnesota Kurt worked with not only turfgrass but tomatoes, potatoes and the all-important beer producing hop crop.

In fall of 2016 with Tom Schwab retiring as Noer Facility Manager, Bruce Schweiger moved replaced Tom leaving open the position of the Turfgrass Diagnostic Lab Manager. This was a perfect fit for Kurt and he is looking forward to the upcoming growing season.

Right now he is getting ready for the snow mold trial field days and helping Dr. Koch and Bruce provide Pesticide Applicator Training. Summer research will include how dew effects fungicide applications and is precision disease management feasible for golf courses with varied environmental zones. This research work will be done along with the testing and diagnosing of hundreds of turf samples sent in from customers around the Midwest.

Kurt and his wife Jennifer went to high school together but did not start dating until after graduation. They were married while



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students at Purdue University and live in Madison with their two dogs. The couple had a challenge to find a house in Madison while living in Minnesota. Fortunately it only took 2 weekends of 4 hour drives to look at houses in Madison to find one they liked enough to put an offer on and have it accepted.

Jennifer works as an Associate Exercise Specialist at UW Health in Madison. When he is not working Kurt enjoys fishing, basketball and other outside activities. He hopes to find time to golf a little more and is looking forward to a late summer vacation up north with his family spending time on a lake relaxing.

Welcome to the turf team at The University of Wisconsin Madison Kurt and the WGCSA looks forward to working with you for years to come.



MADTOWN MUZINGS

Waterworld

By Jake Schneider, LMD Production Manager, The Bruce Company

Based on the title, I know what you're thinking: finally, an entire article about Kevin Costner's 1995 post-apocalyptic, barely-profitable thriller. Sorry to disappoint, but after seeing Dances with Wolves at the ripe old age of seven, I vowed to never watch another Costner flick because it was obvious that the pinnacle had been reached. Ok, the truth is being stretched and the topic avoided. Let's get this back on track.

During a GCSAA scholarship banquet some 12 years ago, Dana Lonn, who is a mad scientist at Toro, asked a group of us young, naïve students what we thought the biggest challenge in golf course management was going to be. Although the answer is subjective, we all answered incorrectly. I'm sure that we threw out

some stock answers at the time—unreasonable golfer expectations, decreasing chemical availability, etc—water was the winning answer. More than 10 years later, many would argue that is still the case.

Living in the upper Midwest in a state literally dotted by thousands of lakes, we don't often think about water as being a scarce natural resource, but it most definitely is. In a case of 'you don't miss it until it's gone', the summer of 2012 sure made me appreciate rain a whole lot more, and my nightmares still occasionally consist of dragging roller bases to all corners of Blackhawk CC to keep the rough green-ish. That was therapeutic sidetrack... Fresh water makes up approximately 2.5% of the Earth's H2O. Of this, the USGS tells me that 69% is locked up in our disappearing (author's discretion based on science) glaciers and icecaps, 30% belowground, and 1% as surface water. Using some quick math, 0.025% of this planet's water is readily-available, exposed water that we need to stay alive. Sure doesn't seem like a lot to me, and I like living. You can probably see where this is going.

In spite of employing water conservation applications such as using wetting agents, using soil moisture to guide irrigation, and maintaining drier conditions, golf courses are, right or wrong, often associated with water mismanagement and overuse. While the aforementioned practices are certainly improvements, I have to imagine (couldn't find good, hard data) that golf courses today use significantly more water than used to simply due to the number of courses and the more widespread implementation of irrigation systems. And because they are only utilized by rich people (right...), they unfortunately make easy targets despite the fact that they are managed by people who are both professionally trained and cognizant of the negative perception. In my opinion, home lawns and commercial landscapes (hey, that's what I do now) should the bear the brunt of the criticism, but they seem to fly under the radar.

There are many times throughout the growing season that I will see residential or commercial irrigation running either right after, during, or immediately before a rain event; as a left-leaning Madisonian (as if you didn't know), this slightly

rouses my anger. Unless my Google machine is broken, there doesn't seem to be any data that compares nationwide irrigation use between golf courses and lawns, but based on pure acreage, my speculation is that far more water is put down on lawns. But, we're mostly worried about golf courses here.

While I may never fully support golf courses in arid environments, it's refreshing to hear that the WGCSA is proactively working with the GCSAA to establish best management practices so that golf course owners and superintendents will be able to demonstrate their environmental stewardship if/when regulations increase. After all, it is often still possible to create a *Field of Dreams* with a little less of the wet stuff. Boy, that's a stretch.



Enjoy Each Day You Have

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



Sadly Sara Quirt Sann, wife of member **Scott Sann**, Greenwood Hills CC, Wausau was killed in a shooting at her work on Wednesday March 22. Sara was an attorney and was killed by a troubled spouse of one of her clients.

In a letter to the public Scott asks for our prayers and to remember Sara. He asked that we read Ephesians 6, versus 10-20 as he and Sara thought it reflected her position as an attorney fighting for those who need representation in what is often a no win situation for the involved children and families.

Please remember the Sann family and the other families involved in this incident. Remember to enjoy each day with those around us.... we never know when it will be our last opportunity.

Ephesians 6:10-20 The Armor of God

Finally, be strong in the Lord and in his mighty power. Put on the full armor of God, so that you can take your stand against the devil's schemes. For our struggle is not against flesh and blood, but against the rulers, against the authorities, against the powers of this dark world and against the spiritual forces of evil in the heavenly realms. Therefore put on the full armor of God, so that when the day of evil comes, you may be able to stand your ground, and after you have done everything, to stand. Stand firm then, with the belt of truth buckled around your waist, with the breastplate of righteousness in place, and with your feet fitted with the readiness that comes from the gospel of peace. In addition to all this, take up the shield of faith, with which you can extinguish all the flaming arrows of the evil one. Take the helmet of salvation and the sword of the Spirit, which is the word of God.

And pray in the Spirit on all occasions with all kinds of prayers and requests. With this in mind, be alert and always keep on praying for all the Lord's people. Pray also for me, that whenever I speak, words may be given me so that I will fearlessly make known the mystery of the gospel, for which I am an ambassador in chains. Pray that I may declare it fearlessly, as I should.



Ed Devinger at the 1997 Reinders Conference.

Long time industry salesman Ed Devinger passed away on February 22. Recently Ed had worked with Midwest Turf Supply but many of us remember him as the long time face of Reinders.

Like many in turf sales Ed started as a golf course superintendent back in 1965 in Pekin, IL but found sales to be more to his liking.

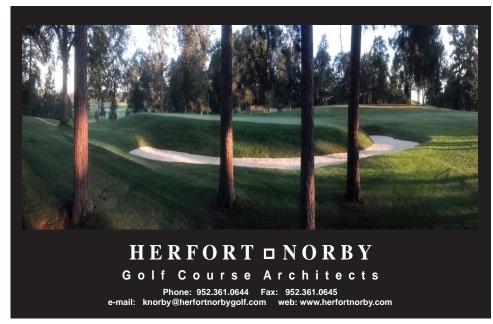
Ed was involved in the Wisconsin Turfgrass Association since its inception in 1980 and involved in fund raising for turf research and the OJ Noer Turfgrass Research and Education Facility.

In job change news **Patrick Reuteman** is the new superintendent at Westmoor CC and **Luke McGee** has been named assistant superintendent.

Mike Becker is the new superintendent at Peninsula Park Golf Course in Door County. Mike had served as the assistant superintendent at Horseshoe Bay Golf Club.

Jim Van Meter is the new superintendent at White lake GC for new owners after long time owner Frank Scharenberg retired.

Aaron Ehlenfeldt is the new superintendent at Old Hickory Golf Club. Originally from Beaver Dam Aaron worked for 5 years under Lee Mahnke and was recently a assistant in training at Philadelphia Country Club.







Left: Dale Marach retired last fall as a sales representative for Reinders. Earlier in his career Dale served as the Golf Course Superintendent at Riverside Golf Club in Clintonville, WI.

Pictured is Dale as a chaperone for a Old Glory Honor Flight in 2012 and at a WTA Field Day.

Right: Jack Soderberg recently retired after 30 years Western Lakes Golf Club. A WGCSA member since 1970 Jack was a industry pioneer and considered the "master of speed" in the 70's as he incorporated greens rolling in his program at Merrill Hills CC.

From the pictures you can see Jack was a GCSAA scholarship winner and then mentored Randy Slavik who also received the same scholarship when he was a student.

The bottom right picture features golf tournament winners Dale Parske, Ed Witkowski and Jack at the 1985 event at Brynwood CC.



From L to R: Jerry Murphy-Director GCSAA, Jack Soderberg, Dennis Thorp and Robert Musbach-WGCSA President.

Two UW students, Jack Soderberg and Dennis Thorp, received scholarships from the National Golf Course Superintendents Association at the April meeting of the WGCSA.

GCSAA scholarships originated 14 years ago when the need for qualified golf superintendents became apparent due to the increase in the number of golf courses, technological advancements, and retirements. Since that time, \$146,000 has been distributed to deserving students.



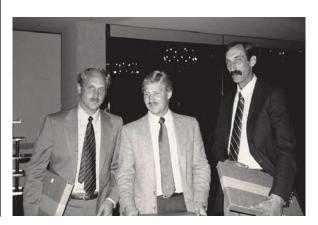
GCSAA

www.wgcsa.com/member_login.php





UW-Madison senior Randy Slavik was one of only 8 GCSAA Scholarship winners. Randy's mentor, Jack Soderberg, was also a GCSAA Scholarship winner when he was a UW turf student.





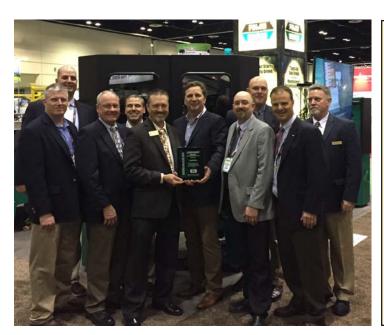




Above: Reinders recently held their 23rd Green Industry Conference at the Waukesha County Expo Center. The popular event featured a great lineup of speakers. Shown are Dr. Joe Vargas who has spoken at all 23 confrences and Dr. Jim Kerns. Some of the other speakers included Dr. Bill Kreuser, Dr. Doug Soldat, Zach Reineking, and Dr. Ed Nangle.

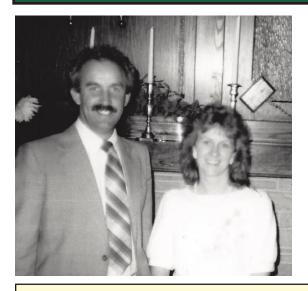
Also shown is some of the growing Reinders team who are barely fitting on the stage as the company grows in product lines and areas served.

Reinders does a great job attracting a wide audience by providing education on golf turf, landscaping, ponds, irrigation and equipment maintenance.



Left: At the recent Golf Industry Show Reniders was named Distributor of the Year by Foley-United. Reinders was also awarded in 2013. Congratulations to them!

Pictured are Mark Robel (Reinders), Brian Placz-kowski (Reinders), Steve Stewart (Reinders), Greg Turner (Foley-United), John Jensen (Reinders), Craig Reinders (Reinders), Grant Rundblade (Reinders), Derek Kastenschmidt (Reinders), Joe Etten (Reinders), Ron Blodgett (Foley-United).





Congratulations to Steven Schmidt on his retirement from Butte des Morts County Club after 34 years as golf course superintendent. Steve started in golf as a 16 year old night waterman at Grand View Golf Club in Hortonville, received his degree from the University of Massachusetts and worked for Irv Johnson at Butte des Morts before taking over as superintendent.

Top Left: Steve and Cheryl as hosts of the 1988 WTA Golf Outing Fundraiser

Top Right: Steve receives his 25 year member plaque from Jack Tripp with Dave Hills in 2003.

Center: As a regular at the annual Dinner Dance Steve & Cheryl along with Greg & Lynn Kallenberg know how to dance as shown at the 2002 event at the Victorian Village Resort in Elkhart Lake.

Bottom: Steve with Mark Hjortness at Northbrook Country Club in 2003.





Thank you to those who sent me the member update information. This issue was mainly the sales teams at our advertisers who did so. I remind our superintendent members to let me know about job changes, births, weddings and projects you are doing so we can highlight them in these pages.

Hopefully the warm days of mid February will return soon and golf courses will be full of energetic golfers.

Good luck as we enter the 2017 season and may all your rains be gentle night rains and may all your equipment dreams come true. Enjoy your returning staffs for the many gifts each one brings your operation.



Mike and Emily Bremmer welcomed their third child Robert Ihomas to the world on February 20th. Congratulations to the growing family!





INTRODUCING NEW EXTERIS STRESSGARD

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