The GRASS ROOTS

AN OFFICIAL PUBLICATION OF THE WISCONSIN GOLF COURSE SUPERINTENDENTS ASSOCIATION

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thing built by man can be destroyed by Mother Nature

By American Soldier Russel L Honore Thaxter, 1947

This quote by Honore who in 2005 served as commander of Joint Task Force Katrina in New Orleans reminds us of the true power of storms and the danger of complacency when dealing with them.

THE GRASS ROOTS

is the bi-monthly publication of the Wisconsin Golf Course Superintendents Association. No part of the THE GRASS ROOTS may be used without the expressed written permission of the editor.

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The New Season

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

A T ith winter starting to wind down my thoughts turn to the upcoming season. I always think that everything is going to be perfect. Seasonal's will all show up on time. We will get 1/2inch of rain every Sunday night. Equipment will never fail and customers will have no complaints. Well that bubble will usually get busted within the first week of April!

As we start the 2018 season, remember that we will probably face new challenges. With those new challenges this will bring opportunities to change. Embrace these opportunities and the problems associated with these challenges. If these challenges were less difficult, someone would else with less ability might have vour job!

I was able to attend the Golf Industry Show and the Wisconsin Hospitality Gathering in San Antonio. I would like to thank all of our vendors who sponsored the Wisconsin Hospitality Gathering event. This event is 100% paid for by our wonderful vendors. Without their support we would not be able to have such a top shelf event. I would also like to thank Brett Grams for all of his hard work in coordinating the event. It is not easy working with a restaurant from over 1,500 miles away!

I personally find that I attend more managing and communication classes than agronomy.

The Golf Industry Show seemed meaner and leaner this year. I really like the way the GCSAA has shortened the event into 4 days. The educational opportunities I thought where exceptional. GC-SAA has really honed in on all different types of practical education. I personally find that I attend more managing and communication classes than agronomy. In the past I was mostly concerned about attending agronomy classes.

It was also nice to see all the newest trends in the golf course market. I still shake my head at how much we spend on bunker maintenance. I actually had an architect tell me that they no longer treat bunkers as a hazard, but a manicured playing surface.

Another thing that you will be seeing from the GCSAA and WGCSA is a Wisconsin state Best Management Practice manual. Josh LePine and I attend a class on how to best approach this task. We currently have set up a committee to create this manual. If you would like more information or be a part of the committee please reach out to myself or Josh LePine. More info on this initiative will be coming out this summer.

The WGCSA is offering a great lineup of events this upcoming season. The events include: April 25th Super/Pro at University Ridge Golf Course, May 14th at Racine Country Club, June 18th at Wild Rock Golf Course, WTA Summer Field Day at the OJ Noer, August 18th at Horseshoe Bay Golf Club, Couples Dinner in Green Bay, and the 53rd Annual Turfgrass Symposium November 28th-29th.

Best of luck to the upcoming season. I hope to see you at one of our many events!

WGCSA MISSION STATEMENT

The Wisconsin Golf Course Superintendents Association is committed to serve each member by promot-ing 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.
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Todd Clendenning and Jonathan Dippel

By Josh Lepine, Certified Golf Course Superintendent, Maple Bluff Country Club & Ben Labarre, Golf Course Superintendent, The Legend at Bristlecone

Author Note: Thank you to everyone who participated in the Membership survey. 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: Todd W. Clendenning

Company Position: Golf Course Superintendent, Tribute Golf Course, Wausau Years as WGCSA Member: **2** Membership Classification: **H**

18 Holes With Todd Clendenning

1. How did you get started in the turfgrass industry? Prior to college I knew I wanted to be in the outdoor field in some capacity and had the choice of working at a local Tree Nursery in Wausau or Greenwood Hills C. C. (GHCC). I was unsure what path to take so I asked my dad and he said, "Greenwood Hills C.C. you'll be able to get me on there to golf." Not having much experience in golf, this option was very intriguing and decided to work at GHCC. I was working there a month and asked a lot of questions about the career of a Golf Course Superintendent, I became hooked and haven't looked back since. I was offered the Assistant Superintendent position from Scott Sann at GHCC after graduating from the University of Stevens Point in 2003. Scott has been my mentor and I consider him to be an integral part of where I am today.

2. What is the most rewarding part of your career? Working with our local community; whether it be Eagle Scout Projects, hosting the Smiley Run (a Cross Country Meet), our junior golf camp, grooming our x-country ski trail, or helping a neighbor out. Daily sunrises, an 80 acre office, and unique encounters of wildlife are very rewarding as well.

3. What would you consider to be your greatest career challenge? Balancing work and home life can be challenging but my wife and daughters do a great job of realigning me.

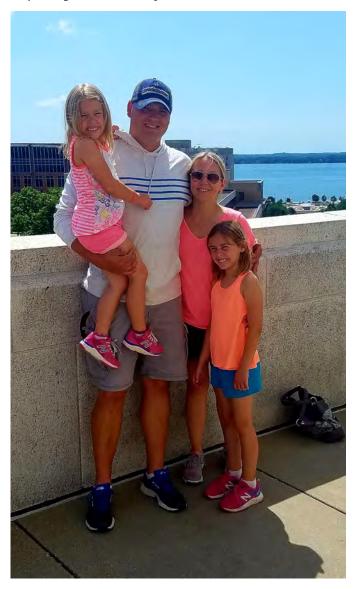
4. Which three adjectives describes you the best? Loyal, honest, and determined

5. Tell us about your family. My wife Lisa and I have been married for 10 years and have two daughters; Ava is 8 years old and Carly is 6.

6. Any pets? Yes, we have a 4 year old English Cream Golden Retriever named Jack. Some of our regular golfers put treats in their golf bags to give him.

7. What drives/motivates you every day? Being the best husband and father I can be every day!

8. Who Would You Admire? Our military veterans9. Who is the person in history you'd most like to meet? Frank Lloyd Wright and Aldo Leopold



Todd, holding daughter Carly, with wife Lisa and daughter Ava at the state capital building.



Jack ready for a ride.

Todd's buck taken with a muzzleloader.



10. What's a fun fact that people don't know about you? I'm a Yellow Belt in Okinawa Goju Ryu

11. What do you do in your spare time, favorite hobbies? I like to golf, fish, hunt turkey and bear, but my true passion is bow hunting whitetails.

12. If you could go anywhere in the world on vacation, where would you go? Alaska

13. What is the one thing you would like to learn/accomplish someday? Audubon Cooperative Sanctuary Certification

14. What is your favorite turf management related tool or technique? Aerifying.

15. Favorites:

TV Show: Forged In Fire

Movie: The Edge

Food: I love a lot of different foods but my utmost favorite is my wife's homemade buttermilk brownies with homemade chocolate frosting.

Sports Teams: The Packers, Badgers

16. Do you golf? Handicap? Best shot or golf story? I love to golf and have an 18 handicap. Best golf story would be when my daughters both asked me to take them golfing for the first time, they loved it and still do!

17. Top Bucket List Item? Family trip to Yellowstone National Park

18. If you could provide one piece of professional advice, what would it be? Don't let fear hold you back. Challenge yourself to do things you've never done before.



Todd and Lisa taking in a Badger Game.





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Name: Jonathan Dippel

Company Position: Golf Course Superintendent, Oshkosh Country Club Years as WGCSA Member: **9** Membership Classification: **B**

18 Holes With Jonathan Dippel

1. How did you get started in the turfgrass industry? I originally started working as a caddy at Pine Hills Country Club in my hometown of Sheboygan, Wisconsin when I was 16. After a few years, I was told by the assistant pro at the time that the grounds department was looking for more help. At that point I figured it was a better choice to actually move up and get more hours and pay than staying as a caddy. Once I got the job as a seasonal grounds staff, I stayed there throughout the rest of high school and until I graduated with a bachelors degree in biology from Lakeland University. In the six or seven years working as a grounds staff member, I learned a lot from Rod Johnson and his talented assistants Todd Marten and Brent Johnson.

I enjoyed working on the golf course grounds, that I knew I wanted to stay in the golf industry so I started to focus on turfgrass as a career choice. I enjoyed my time at Pine Hills CC, but I knew I needed move on to another facility so I could learn more and gain different experiences. I then got my first Assistant Superintendent job at New Berlin Hills Golf Course in New Berlin, Wisconsin under Joel Peterson. While I worked at New Berlin Hills, I went on to get my Turfgrass Certification at Penn State World Campus. After about three years, I knew that I wanted to get back into the country club setting, so I accepted the Assistants position at The Wisconsin Club under Mike Bremmer. For the two and a half years that I was at the club, I really started to grow within the industry by learning and trying new and different ideas and techniques. In addition gaining the opportunity to meet and learn from many respected colleagues from other courses all over the state.

Nonetheless, my goal once I started in this industry was to eventually become a Superintendent. That's when the job opened up at Oshkosh Country Club for the Assistant Superintendent/The Future Superintendent. I worked under Kris Pinkerton for one year as his Assistant while taking on the responsibilities of the Superintendent. When Kris left the club at the end of 2014, I officially took on the role and responsibilities of the Head Superintendent of Oshkosh Country Club.

2. What is the most rewarding part of your career? The satisfaction of having an office window where I can turn a full 360 degrees and enjoy the positive features of a golf course. The visual esthtics of well manicured turf from the tee to the green and the various types of wildlife that call the course their home are all rewarding in their own way. However, I also enjoy the peaceful scenery of the

early morning sunrise on the dew covered turf with a background of birds singing before staff and members arrive for the day. Besides the rewarding benefits of nature, another enjoyment of mine is hearing all the positive feedback and comments from the membership on how nice the course looks and plays, even after some major or minor changes have been made.

3. What would you consider to be your greatest career challenge? I would have to say "Work-Life Balance." I have devoted a great deal of my time to this profession, through my journey as an assistant and now as a superintendent. The overall demands of this career can sometimes take away from various life events. For example, not being around much to watch my son grow up or even missing some of his sporting events. Having a great team with reliable people to help while I'm away from the workplace helps, but its my own fault that I don't take advantage of the assistance as much as I should.

4. Which three adjectives describes you the best? Reliable, Motivated, Compassionate

5. Tell us about your family. I have been with my wife and high school sweetheart Brittany for 16 years, married for 9 of them. We have one son, Logan who is 8 years old.

6. Any pets? 2 dogs; a cocker spaniel named Bailey and a cocker spaniel/scottish terrier mix named Oscar.

7. What drives/motivates you every day? Try to meet and exceed my goals of making OCC the best, fair, and fun golf course to play each and everyday. I strive to provide our membership and guests with exceptional course conditions and consistency on every hole from the tee to the green given some budget limitations.

8. Who Would You Admire? My wife Brittany, she is always understanding on how much comittments and demands this career can have on me during the golf season. She is also my "rock", because she is always there for me when I need her the most may it be issues with my health or job.

9. Who is the person in history you'd most like to meet? Instead of one, I would have to say both my grandpa and grandma on my father's side. They both passed away when I was really young and I don't remember them much at all. I can only imagine the stories and experiences I could have acquired from them.



THE GRASS ROOTS March / April 2018



Top: Brittany, Jon, and Logan at Jon's Cousins Wedding Ceremony at Miller Park

Below: Jon with a nice northern (Little Bay De Noc) Lake Michigan Walleye through the ice. Measured in at 28.5" and 7.52lbs



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10. What's a fun fact that people don't know about you? I enjoy playing various kinds of geeky board and card games. I also enjoy playing video games on my ps4, especially online with friends. Needless to say, I am a "Hardcore Gamer" and proud of it.

11. What do you do in your spare time, favorite hobbies? JI enjoy spending my spare time with family and friends and participating in hobbies that include the great outdoors. I love going to our family cabin, fishing (in all seasons), boating, and golfing.

12. If you could go anywhere in the world on vacation, where would you go? Jamaica. I have already been there 3 times before, but always willing to go back. I honestly just can't get enough of the all-inclusive lifestyle when going outside the country. However, the sight seeing, stunning beaches, market bartering, and the laid back culture are all features that I find unique and fascinating about the island.

13. What is the one thing you would like to learn/accomplish someday? I would like to accomplish the task of becoming a Certified Golf Course Superintendent in the near future.

14. What is your favorite turf management related tool or technique? The Field Scout Soil Moisture Meter. With the recent misson of trying to conserve water useage in our industry, this device is a key tool to own for that purpose. Having the ability to read moisture percentages on greens has allowed me to calculate the precise wilting point threshold at OCC. Knowing that desired range not only helps conserve water, but also aids in the satisfactory and health of the greens for our membership. I also love how much time the moisture meter saves on hand watering. Now I am able to focus more on the desired hot spot locations instead of the entire greens surface.

15. Favorites:

TV Show: That 70's Show.

Movie: Saving Private Ryan.

Food: Gryos, Tacos, Pizza.

Sports Teams: Packers, Brewers, Badgers.

16. Do you golf? Handicap? Best shot or golf story? I do play golf when ever I get the chance. My handicap is around a 14 but I don't play enough to really establish a more precise one. My best golf stories always come out of the Member Guest Event (Twa Day) at Pine Hills Country Club. *"What happens at Twa Day stays at Twa Day,"* enough said.

17. Top Bucket List Item? Visit Dublin, Ireland and take a tour of the Guinness Brewery. However, I couldn't pass up on the opportunity for some sight seeing and golfing while in Ireland too.

18. If you could provide one piece of professional advice, what would it be? "If the general plan does not work, change the plan but never the goal". One thing I have learned in this career about making plans is that there are multiple ways to get to and achieve a common goal. In addition, sometimes unpredictable weather can cause some adjustments in plans, but all will facilitate the desired goal that is trying to be achieved.



Above: Logan with his first decent size largemouth bass. Was not interested in holding it at the time.

Below: Bailey (left) and Oscar ready for fun.



THE GRASS ROOTS March / April 2018



Brittany and Jon take a selfie while attending a Packer Party.



2018 GIS Returns to San Antonio

By David A. Brandenburg, Editor, The Grass Roots

A nother Golf Industry Show (GIS) has come and gone with education that is second to none and the trade show to feature vendors and products for all corners of the golf facility although the primary focus is on greens and grounds.

Total show attendance was 11,700 down from the 13,600 last year in Orlando and down about 700 from the 2015 trip to San Antonio. GCSAA reports there 531 exhibitors covering the 184,400 ft² of exhibit space at the Henry B. Gonzales Convention Center. The good news continues to be the over 5,600 paid seminar seats that were filled along with the thousands others who attended included education through the week.

So why is attendance down? I am not expert but word on the street was San Antonio although nice is not a tourist destination for families especially in February when the weather can be and was on the cool side.

Although the city is the 7th largest in the United States the airport is small (44th busiest) with limited direct flights. This leaves travelers at the mercy of Mother Nature. In 2015 ice in Dallas caused many members to cancel their trip to GIS entirely as rescheduled flights were days not hours away. This year a major snow storm caused Chicago's O'Hare and Midway to shut down on Friday again delaying some members return home by days.

So the bad taste left from travel in 2015 along with cool weather are key along with

travel costs and times from around the country. I think the days of 18,000 attendee at the GIS are over no matter where it is located. In these budget tightening times members look at Orlando and San Diego has better investments of time and money for professional and personal travel.

San Antonio is far from boring, it is a area full of history and nightlife with the River Walk and the new Pearl District set in the shadow of Pearl Brewery.

On one hand it is a trade show and we go for education and visit the vendors of the trade show. On the other had to attract more attendees and their families the location has to offer more than the show.

I saw a picture on social media proclaiming the horror of empty isles on Thursday and it definitely was slower Thursday than years past but one, I found that the best time to actually talk to vendors and gather information and two, it was not as slow as the picture showed.

I think more and more attendees get out of town Thursday or make Thursday a recreation day before heading back home.

I had a good trip, came home full of information and ideas. It has been some time since attended seminar I paid extra for because the free educational offerings are so good.

I arrived to San Antonio late Sunday and once again did not plan enough time Monday morning to trek across the entire conference center looking for the GCSAA registration booth to grab my credentials before trying to find my first room. Once again the line was long but it was quick with the kiosk system to sign in and get the all important name tag and tickets.

I made it to my first session a few minutes late but my week of education and networking was underway. Highlights of some of the sessions I attended were:

- According to Nathan Grace, Golf Course Architect some courses are replacing traditional tee markers with a single stake on or next to a tee surface and allowing golfers to tee off where they want. It may not work at your club but it is a labor saving tool gaining traction for daily play.
- Lisa Barton, Horticulturist at Woodmont Country Club in MD gave a informative talk on landscaping colors and styles. Yellow is the preferred color by members, red is less likely to be noticed by bees so it is good around pools or patios where food is served and white is good for areas used at dusk and dawn. It was clear Woodmont has a large horticulture budget but Lisa had tips for any club to improve their style and design.
- I really enjoyed Dr. John Kaminski's talk on cameras and taking better pictures with a understanding of the exposure triangle made up of aperture, ISO and shutter Speed. Each feature works together to provide quality photos no matter what type of camera is used.







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- I do not expect major flooding to be a issue at our course but the talks by Flood Risk American on flood prevention and how to reduce damage from flooding were interesting. Technology has allowed for water proofing buildings and even garage doors or putting out water filled flood barriers to increase the bank height around ponds and equipment bubbles may not keep a mower from floating away but it will keep it dry.
- I am sure 3 years ago Josh Pope would have said he would not expect major flooding at the Greenbrier Resort in West Virginia but he was showing the damage to the 11,000 acre property from 10" of rain in less than 24 hours in 2016. Deemed a 1,000 year storm by the weather service the club received significant damage but more importantly the area saw 23 deaths and countless homes destroyed. The recovery effort to recover the 1914 "Old White" course was tremendous and it was quite a story.
- Brian Whitlark, USGA Agronomist gave a overview of the revised recommendation for the USGA method of putting green construction. It was interesting to see the science and research that has gone into the recommendations since 1960. Brian was sure to point out the USGA method is not necessarily the best or least expensive method to construct a putting green but it has shown to be successful time and time again.

• The Turgrass Talk Show hosted by Dr. Tom Nikolai and Dr. Brandon Horvath moved to a afternoon time slot and featured 3 educational talks and of course music by the band between speakers.

Don Roth discussed how member surveys and data collection have allowed he and superintendent Mike Morris to provide consistent putting green speeds at Crystal Downs in Michigan. Roth described data collection as: "It was not more work, it was proper work." They had collected greens speed data coupled with a simple survey of members. They survey asked "Todays Green Speed was..." To Slow, Slow/OK, Ok, Fast OK, Too Fast. With 81% of golfers rating 9.5 to 10.5 as OK or Fast OK that speed became the daily goal.

Greg McFarlane of Thornhill Golf & Country Club, Ontario presented how he was able to reduce his chemical and fertilizer inputs with better agronomics. In 10 years his average cost of products has dropped by 2/3rds (\$102,000 to \$33,000).

Craig Haldane, Dubai Golf, Dubai, presented on how golf came to be in Dubai, how to maintain three 18 hole courses one of them lighted for night play in the gulf when summer temperatures average 105 degrees with a heat index of 143 degrees. Craig said walking out of a building in the summer is like opening a oven.



Jens Arneson, (3rd from left) was one of 12 assistant superintendents to be selected to the first GCSAA EXCEL Leadership Program. Jens with Maple Bluff Country Club was selected for the 3 year program though the application process consisting of an application and essay questions.

EXCEL represents the education, cross training, community, encouragement and leadership development the program provides.

For the 3 year program the group will attend annual 2 day training sessions at GCSAA Headquarters and sponsor Nufarm's headquarters in Chicago along with 5 day trips to the Golf Industry Show. The picture above was taken at the recent Golf Industry Show in San Antonio. Congratulations Jen's!

- Tuesdays Lightning Round Learning saw Dr. Frank Wong return as moderator and featured 10 speakers on 10 topics in 90 minutes. This fast paced session featured Carol Rau on Job Searches, Dr. John Kaminski on improving internship programs, Patrick Drinkard on "Getting Out Of The Cave" as the courses "Grease Monkey" and working interactively with the "Grass Janitors" to monitor cutting quality and staff techniques. Marc Weston, Indian Hill Country Club showed how his involvement with the chamber of commerce on a regular basis brought new recognition and events to the club which is a unique private club with tee times available to city residents.
- The National Golf Course Owners Association session had 3 speakers. Architect Greg Martin focused on the cost of renovation and reinvestment versus the cost of doing nothing and letting a property continue with aging features. Often doing nothing is the most expensive because of increased maintenance costs and golfer dissatisfaction in a aging property. Retired Pebble Beach superintendent Ted Horton discussed how to using formulas to show a return on investment for projects to benefit the club. It should be part of "sales" tools a superintendent uses to show his ownership the value of a investment in infrastructure or equipment. Matt Fauerbach

from Billy Casper Golf provided a informative talk on using maintenance standards to develop true zero based budgets and be able to show club leaders the value they are getting from their investment.

Pumping Systems and Features for Golf Course Irrigation Applications had speakers from Watertonics, MCI Flowtronex and Rain Bird and featured the different systems and features available for golf courses and how improvements in control technology and filtration can fit any system.

That was the highlights of my weeks education. Some of the presentations can be found on the Golf Industry Show website found through the GCSAA website.

I also took in the government affairs briefing and a few sessions on the trade show floor Wednesday and Thursday. The Grassroots ambassador training was Wednesday morning which served as a refresher in best methods to reach out to government officials and what is going on behind the scenes in Washington.

It took me a few hours to figure our the trade floor layout as it seemed hard to get a up and down the isle flow going with the different sized booths and the different sized halls and one forming a "L". Once I looked at the overhead layout it made more sense to me but it still seemed difficult to get around without missing vendors.



Salsco has come out with a double barreled core harvestor to quicken the job of cleaning up cores.





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Ventrack has added a new sickle bar mower to it's list of many attachements. This will be great for low pond bank work and high shrub or willow trimming.



I stayed at the historic Menger Hotel with open balconies (left) a beautiful courtyard (below left) and a view of the Alamo from my room.

The hotel opened in 1859 and although it has seen revisions and additions it is full of history on its walls and in display cases.

The Menger has hosted many guests and Presidents but is most commonly known as the place Teddy Roosevelt recruited and met his Rough Riders.

If I return hopefully I can talk my way into the Babe Ruth room!





Progressive has added a fairway roller to it's fleet. Rolling research has shown to reduce dollar spot and provide a overall healthier playing surface.



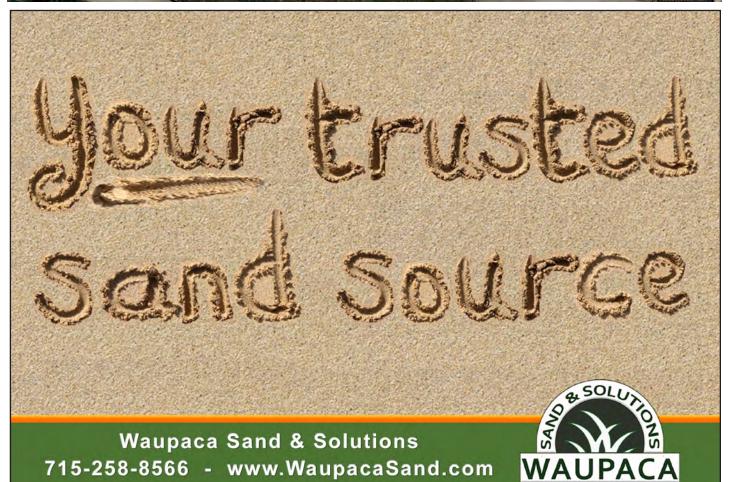
Dr's Nikolai and Horvath did a great job hosting the Turfgrass Talk show in it's new time slot and the band entertained between guests and during the reception.



No trip to San Antonio is complete without visiitng the Alamo and taking time to consider the sacrifices those men made to protect the fort from the Mexican troops led by Sanat Anna.

The "Live Oak Tree" below and shown in the left of the Alamo picture (left) was thought to be 40 years old when planted in 1912. The picture does not do justice to the massive tree planted by Walter Whall who started San Antonios first tree moving company.





THE GRASS ROOTS March / April 2018

The Opening Session featured a number of awards, including 4-time major champion Ernie Els receiving the Old Tom Morris Award. Els spoke of growing up as a golfer in South Africa and the Els for Autism Foundation. It was great to have the "Big Easy" talk about what GCSAA's highest honor means to him.

Minnesota GCSA Executive Director Jack MacKenzie was awarded the Excellence in Government Affairs Award for his work with the MN regulatory agencies to reduce actions against golf courses. Jack loves to tell the "GREAT Story of Golf" and promotes a proactive approach to government relations. "If you are not seated at the table, you are on the menu!"

Race Archibald, son of Steve (Thornberry Creek CC), Alexa Ferrie daughter of Brian (Horseshoe Bay GC) and Jacob Schaller son of Scott (North Shore GC) were recognized for receiving a \$1,500 Legacy Scholarship Awards.

Dustin Schneider Assistant Superintendent at Sentry World GC received a GCSAA Scholars Award for his time at UW-Stevens Point.

Jens Arneson Maple Bluff CC was recognized for being one of 12 to be part of the 3 year Excel Leadership Program. (see more on this on **page 16**)

At the certification luncheon on Wednesday Jack Tripp (La Crosse CC)was recognized for reaching 25 years as a CGCS while Brett Hosler (Ozaukee CC) was recognized for achieving certification.

Thursday morning attendees could participate in the Health In Action 5K or the Prayer Breakfast. It was possible to do both but one, you needed to run fast and two, you came to breakfast in your running clothes. The Prayer Breakfast is low key and featured a light meal, worship music by a local musician, a short scripture reading and the guest speaker Judge Rene Diaz.

The Judge's talk was inspirational in a educational way as he discussed the group WallBuilders, no not the border wall but a group that promotes family and how America's Founders used their religious and moral beliefs to found the country and write The Declaration of Independence along with the Bill or Rights and Constitution.

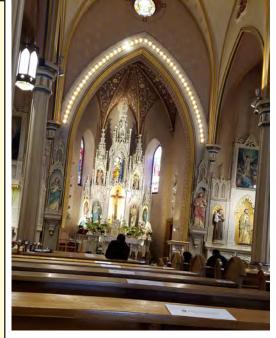
At the closing session 53 teams composed of 194 students from 28 different schools participated in the Turf Bowl won by Auburn University.

The closing session ended with a performance by Darrell Hammond and with that another GIS was over. Mark your calendars to go to the 2019 GIS in sunny San Diego February 2-7th.

Right: St. Josephs Church is uniquly placed with the mall on 3 sides of it and accross the river walk from the conference center. The church was built in 1871 and the current stained glass was installed in 1902.

Below left: Rebecca Gibson from Flyaway Geese was a hit as she gave a few demonstrations on dog training and their dogs. The border collie gave a herding demonstration with 5 ducks.

Below Right: Dr. Frank Rossi was on the GCSA TV stage through most of the show doing different interviews. He is shown here during the birds of prey segment. Dr. Rossi also won the Presidents Award for Environmental Stewardship from the GCSAA.











Left: Left to right, Chad Grimm, Mike Bremmer, Chris Nicholas, Phil Davidson, Tim Schmidt, Kurt Hockemeyer and Brian and Joanna Bonlender enjoy the closing session with Turf Bowl results and comedian Darrell Hammond.



Left: Seth Brogren, Rob Johnson and Mike Bremmer.

Left Middle: Mike Werth, Todd Fregien, Garrett Luck and Chad Grimm.

Left Bottom: Steve (Sean) Houlihan, Brian Bonlender and Tim Schmidt listen intently to the Lightning Round Learning.



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THE GRASS ROOTS March / April 2018

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UNIVERSITY OF WISCONSIN - MADISON

Peters Named Director of UW-Madison Ag Research Station

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

Mike Peters has been named director of the University of Wisconsin-Madison's Agricultural Research Station (ARS) network, the university's system of 11 research stations located throughout the state of Wisconsin.

In his new role, Peters, formerly the assistant director of the Research Animal Resources Center (RARC) at UW-Madison, will be responsible for the overall management and direction of campus' research station network. The network provides facilities and support for the research, extension and educational programs of the UW-Madison College of Agricultural and Life Sciences (CALS).

Peters comes to the position with established connections to the college's researchers and research stations. Before joining the RARC, he served as the dairy herd administrator for the UW-Madison Department of Dairy Science for eight



years. In that role, he managed the dairy herd on the UW-Madison campus and the herd at the Arlington Agricultural Research Station, splitting his time between



the two sites. Before that, he was an ARS employee, serving as assistant dairy herd manager at the USDA Dairy Forage Research Center where he helped manage the herd and coordinate research projects for USDA and UW-Madison dairy scientists.

"We are thrilled to welcome Mike back to CALS. He's a talented and experienced administrator, as well as a natural problem solver, qualities that will serve him well in this position," says Bill Barker, CALS associate dean for research.

Peters majored in dairy science at UW-Madison. As an undergraduate, he was the student manager of the UW-Madison Dairy Cattle Center, residing in the barn's second-floor living quarters for three years.

He graduated with his bachelor's degree in 1995 and worked as a herdsman for a number of years before returning to school to earn a master's degree in reproductive physiology/agriculture management from Michigan State University in 2000.

Peters gained invaluable experience in the regulatory compliance area in his administrative role at RARC, in particular dealing with policies and procedures related to animal care. He also brings a strong background in budgets, personnel and management, all major components of the ARS director position.

Peters replaces Dwight Mueller, who retired in October of 2017. Peters began the position on July 17 and was grateful to have time to learn from the years of experience Mr. Mueller brought to the position.

The first Agricultural Research Station of the ARS network was established in Spooner, Wisconsin in 1909. The network now includes 11 research stations around the state, as well as the Walnut Street Greenhouses on the UW-Madison campus. Combined, the 11 stations have more than 8,000 acres and conduct around 800 research projects each year. Another 250 to 400 projects take place at the Walnut Street Greenhouses. Altogether, the network has around 125 permanent employees and an operating budget of about \$9 million.

Wisconsin Turfgrass Association 2018 Golf Outing Fundraiser



Benefitting the Wisconsin Turfgrass Research Sustainability Fund



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Thursday, October 1st, 2018 500 13th Ave Kenosha, WI 53141 (262) 552-8141 10:30 - 12:15Registration11:00 - 12:15Range11:00 - 12:15Lunch12:304-person Scramble, Shotgun StartAfter golfHors d 'Oeuvres, door prizes & golf awardsCash Bar, NO ATM on Site

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The Smith-Kerns Dollar Spot Prediction Model

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

In Wisconsin, dollar spot is king, at least from a fungicide application standpoint. Sure every course sprays for snow mold, but that is typically one or at most two applications. Dollar spot can be active from May through November depending on your location in the state, and in some cases require 10 fungicide applications over the course of an entire season. Those of you even remotely familiar with our research at Wisconsin know we have been working on a dollar spot prediction model for many years, and I'm excited to announce that the model is live and now available for public use. Before we get to the model itself, however, let's prolong the wait a few more paragraphs and talk about how the model was developed.

How do we currently spray for dollar spot?

Most superintendents in Wisconsin and elsewhere use what I call a 'modified calendar approach' to apply fungicides. That basically means a rough application date is scheduled well in advance, but once the application date nears it may be altered by a few (or more) days based on the weather conditions and the superintendent's education, experience, and instinct. However, advances in the ability to collect data and base decisions off of that data are revolutionizing the golf maintenance industry. The best example is probably the use of soil moisture probes and basing irrigation off of site-specific readings of soil moisture, which has resulted in the win-win scenario of reducing water use and improving turf quality. Is something similar possible in dollar spot management?

A brief history of the model development process

In 2008, Dr. Damon Smith was an assistant professor at Oklahoma State University with responsibility for diseases in turf, pecans, grapes, and a host of specialty crops. Damon had received his Ph.D. from North Carolina State University working on disease predictive models on peanut, and wanted to take this mathematical approach to disease prediction to his new position. At the same time, one of Damon's good friends from grad school, Dr. Jim Kerns, had started as an assistant professor at Wisconsin. Damon knew the importance of dollar spot to the turf industry and wanted to develop a predictive model that would more accurately predict when epidemics would occur than some of the past dollar spot predictive models. Jim came from a turf background and offered his assistance.

Damon and Jim received funding in 2008 from the United States Golf Association, the Wisconsin Turfgrass Association, and the Oklahoma Turfgrass Research Foundation to begin work on a new, logistic-based predictive model for dollar spot. Sites were established in Stillwater, OK and Madison, WI that year and dollar spot development was counted every day from May until September at both sites (**Figure 1**). A range of weather conditions on each site were monitored, including air temperature, soil temperature, relative humidity, dew point, soil moisture, rainfall, etc. At the end of the year, Damon used a program to identify what



Figure 1. Dollar spot model development in Stillwater, OK in 2008. New dollar spots were assessed every day and painted with a different color so they weren't counted again the following day.

weather conditions were most influential in the development of new dollar spots. This entire process was repeated at both locations in 2009 and at the end of the year Damon developed a few different models to test and validate in the field.

Those field tests were done over a wide geographic range to determine how the model adapted to varying environmental conditions. Field tests were established for the 2010 and 2011 seasons in Stillwater, OK, Madison, WI, State College, PA, Knoxville, TN, and Starkville, MS. Overall, the version that would end up becoming the final model performed well across all these environments. However, in 2012 Damon left Oklahoma State to come to Wisconsin as the field crops pathologist and Jim left Wisconsin to head home to North Carolina State University. The model languished for a couple years until I started at UW in 2014 and saw it's potential to contribute to my research goals related to precision disease management. We tested it in various situations between 2014 and 2017 and in each case found it could be a valuable tool for Wisconsin superintendents.

How does the model work?

First, let's introduce the model. The model is a logistic model, meaning that the main purpose is to calculate a 'logit', or probability that some event will happen. In our case the 'logit' is the probability that dollar spot will occur on a given day. Before the logit is generated a 5-day moving average of mean air temperature (MEANAT) in CELSIUS and mean relative humidity (MEANRH) needs to be calculated. Those 5-day averages are then inserted into the following equation:

Logit (μ) = -11.4041 + 0.0894(*MEANRH*) + 0.1932(*MEANAT*)

But we aren't done yet! That logit number then needs to be inserted into the following equation:

Probability of a dollar spot epidemic (%) = elogit $(\mu)/(1 + elogit (\mu)) X 100$

The 'e' in the equation is referred to as 'Euler's number' and is equal to approximately 2.718. The final number you get from this equation will be between 0 and 100, and the larger the number the higher probability that dollar spot will occur. This calculation needs to be repeated every day using the latest temperature and relative humidity calculations for your location. We used 20% as our spray threshold on 'Penncross' creeping bentgrass at the OJ Noer Research Facility in Madison, meaning any time the model was over 20% and the turf was not protected by fungicide a spray was required.

How can I incorporate the model at my course?

The Smith-Kerns model simply provides a number that roughly correlates with how active the dollar spot fungus should be. It does NOT tell you when to spray, which is what past dollar spot models have done and in my opinion is why past models have not been successful. Every single golf course has unique conditions related to air movement, humidity, soil moisture, grass species, cultural practices, etc. and trying to incorporate all those into a single model to tell you when to spray is impossible. Instead the Smith-Kerns model tells you how conducive the weather conditions are for dollar spot to develop, but leaves it up to you to determine your own spray threshold. This is similar to the soil moisture meter example we used before. When Spectrum released the TDR probe they didn't recommend everyone irrigate when volumetric water content was below 20%, because some courses wilt at 23% and others at 14%. This means the first thing you need to do to incorporate this model effectively is to determine what the best spray threshold is for your course. We recommend using 20% as a starting threshold, but then adjusting up or down as needed.

In addition to establishing a spray threshold, you also need to establish a spray reapplication interval for each fungicide applied throughout the season. For example, if the model eclipses 20% for the first time on May 25th and you spray a fungicide that same day, the model will probably still be above 20% on May 26th. Obviously, this doesn't mean you should go out and spray a fungicide again the next day. Set an interval where you will basically ignore the model during that time, considering the plant protected from dollar spot, and once the interval expires begin monitoring the dollar spot model again. See **Figure 2** for a visual example of how this might work.

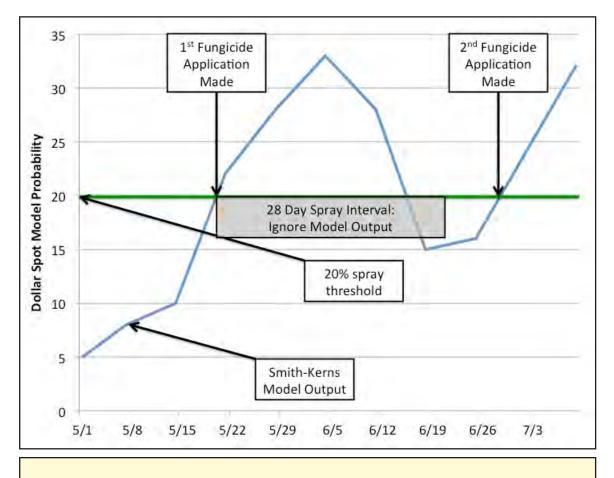


Figure 2. Visual example of how to integrate threshold development and pre-determined reapplication intervals with the Smith-Kerns Dollar Spot Model.

Paul's pointers on the model

1. Experiment on small, out-of-the way areas. Those that will see the greatest benefits of the model are the ones that do the most upfront work to establish effective spray thresholds for their course. Use a relatively obscure fairway area, tee box, driving range tee, target green...something where you can tolerate a little dollar spot and test multiple thresholds to find the best one for you.

2. Check the model on a regular basis. Make a habit of checking the model on a regular (daily?) basis, or delegating the task to an assistant. The more often you check the model the more comfortable you will become with how the numbers relate to dollar spot development on the course, and the more intuitive the numbers will become.

3. Don't expect major savings in fungicide use immediately. The weather is the main driver of dollar spot development, and in most years our weather is pretty favorable for dollar spot development between mid-June and mid-September (Figure 3). In our research the biggest fungicide savings came in the shoulder seasons of spring and fall. In 2015 we experienced a cooler fall that didn't require fungicide and we saved 3 fungicide applications relative to the calendar-based method. In 2016 we had a warmer fall and we only saved 1 fungicide application relative to the calendar-based method (Figure 4). However, using the model improves your confidence that each application being made is required to suppress dollar spot, even if the savings over a traditional calendar-based method is not as great as we had hoped for.

4. Don't become a model robot. This model is a tool to aid superintendents in developing efficient and effective dollar spot con-



trol programs. However, it does not substitute for the education, experience, and instinct of the superintendent, so don't blindly spray every time the model reaches your threshold. Examples where a spray might not be required even though the model crosses the spray threshold include a forecasted cool down in the next couple of days, extremely dry conditions, temperatures that obviously aren't conducive for dollar spot, use of non-fungicide products like PGR's and/or iron sulfate that can inhibit dollar growth, etc.

5. Use the model to determine whether spray intervals need to be shortened. Remember earlier when I said to ignore the model during your pre-determined fungicide reapplication interval? Well that's not entirely true, since the model can provide useful information on the likelihood of fungicide protection making it the full interval. Say you're hoping to get 21 days out of a DMI fungicide application. Well that can be dicey sometimes, especially if conditions are particularly hot and humid near the end of the interval. If the model is suggesting dollar spot pressure is particularly high, above approximately 50%, that might be an indication that a tightening of the interval is required. This is an area we haven't yet researched, and plan to develop some trials testing this concept this summer.

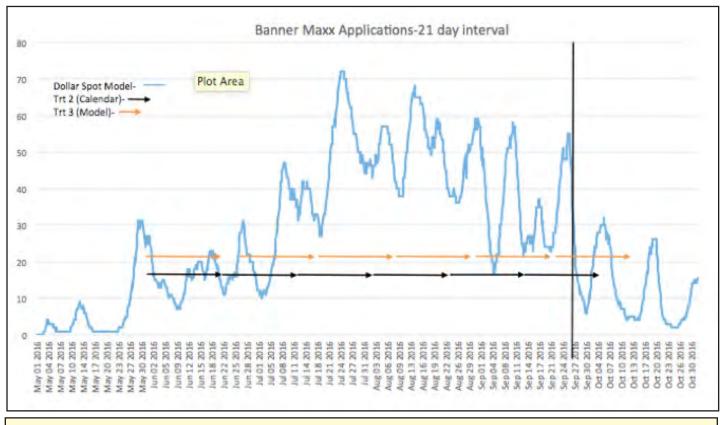


Figure 3. The blue line in this graph from 2016 represents the dollar spot probability as calculated by the Smith-Kerns model, and shows that dollar spot pressure is consistently relatively high from mid June until mid-September.

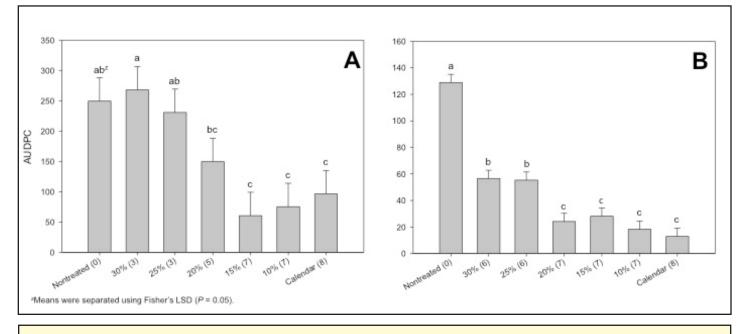


Figure 4. Dollar spot infection centers as assessed by area under the disease progress curve (AUDPC) in 2015 (A) and 2016 (B) in response to various model thresholds at the OJ Noer Research Facility in Madison, WI. All treatments except for the non-treated control consisted of propiconazole applied at the rate of 2.0 fl oz per 1000 ft2 and were assumed to have a 21-day duration of efficacy. Number of applications made per treatment are in parentheses following the treatment name on the x-axis.



Smith-Kerns Dollar Spot Model Resources

1. Smith-Kerns Dollar Spot Model Website: The model's homepage (https://tdl.wisc.edu/dollar-spot-model/) can be found on the Turfgrass Diagnostic Lab website under the 'Disease Resources' tab. The website includes much of the information included in this article but also includes self-calculating excel spreadsheets that you can download to calculate the model using your local air temperature and relative humidity data. Don't feel like inputting all that weather data yourself? Jason Haines, a superintendent from British Columbia, has already developed a system to automatically download weather data into the Smith-Kerns spreadsheet. The website for Jason's page is: http://www.turfhacker.com/p/jasons-productivity-file.html.

2. *The GreenKeeper App:* We have partnered with Bill Kreuser and Doug Soldat to include the Smith-Kerns Dollar Spot Model on the GreenKeeper App (greenkeeperapp.com). Many of you already use GreenKeeper to track pesticide applications, determine PGR reapplication intervals, and track fertility. The dollar spot model can be turned on in GreenKeeper by clicking on the 'Dollar Spot Disease Pressure' under the 'Preferences' tab in the top-left corner of the 'My Course' page.

3. Growing Degree Day Tracker: The Michigan State Univer-

sity webpage **gddtracker.net** hosts a number of weather-related predictors, including crabgrass pre-emergent timing, early-season dollar spot, Japanese beetle, etc. Thanks to the efforts of Dr. Kevin Frank at Michigan State it will also host the Smith-Kerns Dollar Spot Model. Look for it on one of the tabs on the right-hand side of the screen.

We anticipate that more applications using the model will be developed in the coming years, and we will list those applications on the model website as they become available. Of particular interest to my program is research we're conducting to incorporate the model into weather stations that can be scattered around the golf course and identify specific areas of the course that require treatment for dollar spot. If successful, this would allow for true precision disease management for dollar spot to move closer to reality.

I encourage everyone to look over the materials provided in this article and online and incorporate the Smith-Kerns model into your disease management programs. If you have any questions or would like to offer any feedback, good or bad, on how the model is performing for you please don't hesitate to contact me at plkoch@wisc.edu or 608-262-6531.



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My Job Is Just Like Yours

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

This past year I was asked one continual question, "What do you do, especially in the winter?" Many of you are laughing at this point but it gave me pause when I recognized, sometimes life comes full circle. As I drift ever closer to a seasoned citizen, I realize many of you might not know that my first job out of college was golf course superintendent. I have been a member of the WGCSA in some way shape or form since 1981, a well-seasoned citizen. I have six WGCSA superintendent championship plaques to prove it; that was a few years ago.

My present title is superintendent of the O.J. Noer Turfgrass Research and Education Facility. This equates to being a golf course superintendent for a small golf course with bentgrass fairways and plenty of rough.

As the superintendent of the O.J. Noer Facility, I manage the general turfgrass areas, irrigation system, make spray applications, maintain all the buildings, do record keeping, oversee the budget and maintain the equipment. Like all golf course superintendents, my hours are rarely 40 hours per week. I knew I would have long hours and weekend work. This job is not as advertised, 40 hours per



week, no weekends. My seasonal staff does not begin until late April or early May. During the early spring, I have only three employees. I have a staff meeting early every morning and decide the priorities are for the day and I assign jobs to my staff. My staff of three consists of me, myself and I. Sometimes these discussions become heated, because me and I do not always agree. I view the Noer Facility as the face of the UW Madison Turf Program. Thousands of people drive by everyday. We host tours and field days, along with the general public stopping in. I believe in the old saying, "first impression does make a difference."

This is not to brag that I have a great or difficult job. As I pondered all the questions this past year the light bulb went on and I realized I am again one of you. I have always been a member of the WGCSA but one step removed shall we say. I am proud to say I am the superintendent at the O.J. Noer Facility for the University of Wisconsin – Madison.

Like many of you, I have a "general manager." Like many general managers, they may not actually know what I do. My general manager is not all bad. He can be very helpful in accomplishing the O.J. Noer goals. Like many general managers, there are times he does not understand the job of the superintendent. I am lucky since my general manager is one of the good ones and willing to learn about turfgrass management and the O.J. Noer operations.

Agricultural Research Stations has an accountant, who watches the spending. Remember, I live by the rules of the state! He has been very helpful when unexpected needs arise. When the telephone rings or his emails come through, I do get a bit jumpy. In my short tenure, he has been there at every turn and been an invaluable resource.

Experience has taught me that a golf pro can be your best ally or worst enemy.

When they start to think they are your boss things can get interesting. They can be moody and hard to deal with. Thankfully, most golf pros are not that hard to work with. I have known Audra for years and I think that allows her to be my biggest asset and not that bad as my golf pro.

The club president, greens chairman, and a greens committee can make life easy and at times difficult. These people are important part of the course operation. They can bring alternate experiences and expectations. Most of these people have no real world experience maintaining turfgrass. The have some great ideas that are far-fetched or conditions that need to be achieved in an unrealistic time frame. They can also be very helpful when bouncing ideas around. They often forget that you are not just sitting around with nothing to do waiting for their commands. While this may all be true, the key to this group of people is they do not mean any harm and feel their ideas are for the betterment of the property.

I have maintenance staff to oversee. My staff is actually Audra (unless she is on her golf pro rant), one seasonal staff (normally a retired individual) that works 25-30 hours per week. Like you, I depend on my one summer staff member for more of the physical job requirements. My summer help works 20-25 hours per week and can only work for 90 days. My course has alternate workers that are retained by others. There are normally few if any issues. As with any part-time staff they may not always follow all the O.J. Noer rules. Thankfully, our issues are never very serious.

This is not to brag that I have a great or difficult job. As I pondered all the questions this past year the light bulb went on and I realized I am again one of you. I have always been a member of the WGC-SA but one step removed shall we say. I am proud to say I am the superintendent at the O.J. Noer Facility for the University of Wisconsin – Madison. I am delighted to have returned to my roots! I am honored to be once again one of you, a golf course superintendent!



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Wisconsin Turfgrass Association 2018 Summer Field Day, Tuesday, July 24th

O.J. Noer Turfgrass Research and Education Facility in Verona



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are working on. Scheduled talks are listed on





Field Day Schedule

8:00am - 9:00 Attendee Registration/Trade Show open
9:00 - 9:30 Welcome Session and Building dedication
9:30 - 11:00 Lawn Care & General Turf Tours
11:00 - 1:30 Trade Show Only time
12:00 - 1:15 Lunch
1:30 - 3:00 Golf Turf Tours

Lawn Care & General Turf 9:30 - 11:00

- Diseases of over watered lawns
- Z-Spray calibration
- Pre & post crabgrass control
- Rodents in the lawn
- Adjuvants for Control of White Grubs
- Fertilizer and Grass Selection update
- Living with Wildlife

Golf Turf 1:30 - 3:00

- Dollar Spot model implimentaion
- Wetting Agent Strategies
- · Fe apps for dollar spot control
- Clipping collection
- Traffic and bentgrass growth
- Effects of Guttation Water Systemic Pesticides on Pollinators

Registration Includes

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- *Wisconsin style lunch
- *Morning and afternoon turf education

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Contact Audra for details at audra.anderson@wisc.edu or 608-845-6536.

cut here and return registration form with payment

Registration Form

Mail registration form and check payable to WTA by July 17th to O.J. Noer Turfgrass Facility / 2502 Highway M / Verona / WI / 53593, or register online at <u>www.wisconsinturfgrassassociation.org</u>. Prices valid if postmarked by July 17th. Add \$5 after July 17th and for on-site registration. Name of all Registrants

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Mailing address	~ 2)	
ity/State/Zip Codephone		
WTA member	\$40	=
Additional employees from same WTA member organiz	ration\$25 each x # emps	=
Not a WTA member	\$45	=
Additional employees from same Non-WTA member or	ganization 35 each x # emps	-
WTA membership (New member, get one free registrati	on) \$150	=
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O.J. Noer Turfgrass Facility Directions 2502 County Highway M Verona WI 53593 phone 608-845-6536

From Madison Beltline US-12 & 18 Take Mineral Point Road exit Go West on Mineral Point Road 0.7 mile to Pleasant View Road roundabout Exit roundabout going South on Pleasant View Rd Continue 2.5 miles to O.J. Noer Facility



TURFGRASS DIAGNOSTIC LAB

Winter Research Around the TDL

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

Winter research? Is that even a thing? Unfortunately, it is a thing, and it's a thing that we do around here at the Turfgrass Diagnostic Lab. Here is a quick rundown of some of the winter projects done here at the lab.

Winter Degradation of Fungicides

For three winters now, we have conducted this study (Figure 1). Each fall we apply a couple of fungicides and use a couple of different methods to measure how long those fungicide residues last over the winter. Many research studies have been done on the persistence of fungicide residues in turfgrass during the summer. But this is the first study to our knowledge that will measure fungicide residues over the winter. The results from this study should provide us more insight into why a single properly timed fungicide application can control snow mold throughout the entire winter, or why a typically effective snow mold application may have breakthrough in certain years. Work for this trial includes initial set up in late fall, then collecting samples every 2 weeks until we cannot detect any more fungicide residues on the leaves. We detect residues on the leaves using highly sensitive mass spectrometry equipment. We also do a bioassay where the plugs we pull every two weeks are inoculated with the pink snow mold pathogen and we measure how much the pathogen infects the plugs. As the fungicide residues degrade, the pathogen will infect more and more of the plugs.

Snow Mold Efficacy Trials

Every year we conduct some of the largest snow mold efficacy trials in the US. We replicate our trials at three locations: Madison, Wausau, and Marquette, MI. We publish this data every year and try to host a snow mold field every year as well. These trials are designed to give superintendents the most up-to-date information on what products and what combinations of products work the best for the control of snow mold. These trials require a lot of work to initially get set up in late fall. But once they are applied, then we just sit and wait till we get snow melt in the spring. Then we rate the plots and make up our efficacy reports that are published every spring.

As a more focused snow mold trial, we recently started conducted some snow mold trials specifically looking at pink snow mold. This trial is much smaller and we only conduct it here at the OJ Noer research center. We will inoculate these plots with grains infested with the pink snow mold pathogen. In order to facilitate disease development, the plots will need to be covered. By covering, we can simulate the insulating effects of snow cover, without relying on the fickle nature of adequate snow cover. This



Figure 1. Our winter degradation study as shown in February of 2018. Chipping through ice and pulling frozen soil out of the plots are some of the "joys" of winter research.

prevents the turf environment from getting too cold during the winter, which can suppress the amount of disease developing on our research plots.

As with every winter we are thinking about and preparing for the upcoming growing season. This includes bookkeeping, analyzing last year's data, and starting new projects. We have some interesting projects that we will hopefully be launching sometime this spring. Once things get finalized we will make some kind of announcement. In the meantime, I hope everyone had a wonderful winter and that we are all looking forward to some warmer weather in the coming months.



Turfgrass Diagnostic Lab O. J. Noer Turfgrass Research & Education Facility 2502 Highway M, Verona, WI 53593-9537 www.tdl.wisc.edu E-mail:hockemeyer@wisc.edu Phone: 608-845-2535 Fax: 845-8162

Spring Business and Education 2018

By David A. Brandenburg, Editor, The Grass Roots

We enjoyed a good turnout for our spring business and education meeting held at the South Hills Golf and Country Club in Fond du Lac.

Good speakers with a good lunch will put bodies in the seats. The day started with Dr. Paul Koch giving the latest on "**Putting the \$ Spot Model To Use**". You can see a complete write up on the model in Dr. Koch's **WI Pathology Report on page 26** of this issue.

One of the key points I took from Paul's talk was the data from this and other models should be part of our overall decision making, not making the decision for us.

Dr. Doug Soldat was next to explain **"Using Growth Potential and MLSN"** to drive our fertilization practices.

In general agriculture crop yield is used to drive fertilization decisions. How much fertilizer is needed to grow a crop with a yield that is profitable is a exercise farms do annually.

In golf we are looking at turf quality rather than quantity which is harder to measure.

Soldat discussed Liebigs Law of Minimums and used the water barrel with different height staves analogy to describe how in agriculture the nutrient or input in deficiency limits growth.

Doug's research has shown additional phosphorous is rarely needed in mature turf and if it become deficient it is easily seen with the naked eye in purple turf with reduced quality. Phosphorus is rarely a limiting nutrient in mature turf and more does not produce greener turf nor more growth.

Doug's work and Dr. Kussow's before him have shown that nitrogen is the limiting factor for turf growth.

He discussed the PACE Turf guidelines for MLSN (Minimum Level For Sustainable Nutrition} being lower than generally accepted guidelines but still conservative for healthy turf. It is a guide with little risk of turf loss due to nutrient deficiency. Doug and others are working to show we can go even lower than the MLSN recommendations.

Getting back to Nitrogen, more N produces more energy in the plant which produces more growth.

Doug discussed when supplemental N is needed at the highest rates and how in the summer organic matter in the soil can release N faster than we desire especially on putting greens.

Clippings would be measure by liters per 100 meters which is less confusing than it sounds as the spreadsheet converts greens measurement to meters. The program is designed to allow users to skip a day or days and it adapts to the schedule.

This is another tool to use to guide our turf input decisions. More information on the value of clippings collection can be found in Dr. Soldat's **WI Soils Report on page 47** of this issue.

Kevin Norby, ASGCA with Herfort and Norby Golf Course Architects was next to educate us on "Golf Course Design and Construction - A Superintendents Guide".

To start a golf course should have a master plan with a long range vision to avoid costly mistakes, pet projects by short term board members, and to prioritize future work.

To sell a project to a ownership or board we need to remember that golf is a business and "it is all about the money"!

Kevin encouraged us to talk their language and discuss"

• ROI

- Attract New Members
- Increase Revenue
- Reduce Repairs
- Avoid Course Closures
- Phasing/ Capital Planning

Norby presented the different ways projects are developed. Competitive bidding is most common for municipalities and superintendents need to ensure there are minimum qualifications in order to bid to reduce the chances a company with no experience will be low bidder but in the end cost more.

Negotiated bidding is somewhat self explanatory and common with owners who know who they want to do the work and just want to come to a agreement.

Design build allows for a close working relationship with a designer, has less plans but more site visits. Kevin also went through the different kinds of bunker liner materials, their costs and benefits. He had samples of most of the materials so we could hold them and feel their consistency.

Our last speaker was Ms. Gina Rizzi, who was there to teach us how to tell our story and how to market ourselves and create a personal brand.

Gina gave tips on finding our strengths and determining who we are marketing to so we can develop our message towards them.

Rizzi discussed how to keep and enhance our presence on social media with Twitter, Linked-In and by having a personal blog. Just having a social media presence is not enough but we need to use it with actions.



Dr. Paul Koch presented information on how to put the dollar spot model to use.

Event Schedule!

Febraury 20 (Tuesday) Assistants Seminar - Whispering Springs April 25th (Wednesday) Super Pro Outing - University Ridge Golf Course May 14th (Monday) May Golf Meeting - Racine Country Club June 5th (Tuesday) NGLGCSA Rounds 4 Research Outing, Timber Ridge Golf Club June 18th (Monday) June Golf Meeting - Wild Rock Golf Club July 24th (Tuesday) WTA Summer Field Day - O.J. Noer Research Center August 13th (Monday) Joint NGLGCSA/WGCSA Meeting - Horseshoe Bay Golf Club September 17th (Monday) Wee One Fundraiser - Pine Hills Country Club October 1st (Monday) WTA Golf Fundraiser - Kenosha Country Club (REVISED DATE!) TBA (Saturday) Couples Evening - Green Bay Nov 28th - 29th Golf Turf Symposium - American Club

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

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For the second year the business meeting was held as lunch was ending to speed things along and outside of the board members ice cream melting while they worked the new format it well received. As far as I am concerned the board can eat their dessert during the meeting.

Chapter Manager Grams gave an update on membership numbers to date which matched 2017 numbers. His time is spent with renewals, the Par 4 Research program and Industry Support Sponsorships.

President Canavan gave updates on the BMP Program and encouraged members to participate in the Par 4 Research Program.

Scholarships to the Great Lakes School of Turfgrass Science online program were awarded to:

Jorge Chavez, Milwaukee County Parks

Andy Ovanin, Whispering Springs

Brad Young, West Bend CC

Jeremy Dahl, The Club at Strawberry Creek

Kevin Fischer, Milwaukee County Parks

David Mihisimmer, Westmoor CC

Steven Galewski, Milwaukee County Parks

The board had originally planned to award 4 scholarships but without a candidate for the Monroe Miller Literary Scholarship 7 spots were awarded. The 12 week program is a great investment in continuing education for new or experienced staff members.



Kevin Norby gave a talk on a superintendents guide to golf course construction. He was also given his 25 year plaque (in his 26th year) because he did not make last years meeting. He is shown here with President Canavan.



Dr. Soldat spoke on plant nutrition and using growth potential and MLSN as another tool to schedule fertilizer applications, or not apply at all.



Rocky Braden, Assistant Superintendent at North Shore Country Club is shown with Jeff Barlow, WGCSA Treasurer. Rocky received the WGCSA Turf Scholarship for \$1,500. He is from Brillion and attended UW Fox Valley before transfering to Penn State.

25 and 50 Year Members Honored

By Ben LaBarre, Golf Course Superintendent, The Ledgend at Bristlecone Pines

50-Year Members

Dale Marach, AA Lifetime Member

Dale Marach graduated from Penn State University in 1972. Dale's professional journey in turf started in 1973 at the Ridges Inn and Country Club in Wisconsin Rapids as Assistant Superintendent. From there in 1987, Dale transitioned to Superintendent at Clintonville Riverside Country Club in Clintonville.

Dale leaped into sales and never looked back. Dale's first job in sales was for Hanley Implement for until 1989. Next, Dale was employed by Reinders Inc. in sales and retired in 2016.

Throughout his career, Dale has been a very active leader in our industry, serving on the board of the WGCSA and holding memberships with WTA, GCSAA, NGLGCSA and WGCSA.

Dale held national certification's as both a superintendent (CGCS) and sales person.

Dale has been married 45-years to a girl he met at The Ridges. They have a son, Dave Marach- Class A Superintendent at Northbrook Country Club in Luxemburg, Wisconsin.

Thomas Harrison, AA Lifetime Member-Retired Superintendent Maple Bluff Country Club

Tom Harrison grew up in McFarland, Wisconsin and his voyage in golf course maintenance began at Nakoma Country Club on the maintenance staff working under Peter Miller in the 1960s. Tom stayed close to home and enrolled at the University of Wisconsin-Madison. Tom served in Vietnam, enlisting in the Navy while in school at Madison.

Once Tom's enlistment was over, he returned to focus on a career golf course maintenance. Maple Bluff Country Club provided Tom his first career opportunity as Assistant Superintendent.

In 1975, Tom took over as Superintendent at Maple Bluff and retired in 2012.

Tom's service and leadership is revered in our state, his most noticeable contributions include 30-years WTA Board Member service and Presidency from 1983-1986 and playing a key role in planning and construction of the O.J. Noer Turfgrass Research Center. He was award the WGCSA 'Distinguished Service' Award in 2012.

Tom made special note to mention his mentors Peter Miller, Superintendent at Nakoma Country Club in the 60s. Peter was an early editor to The Grass Roots Magazine. Peter left Nakoma to become Superintendent at Firestone CC in Akron, Ohio. Also, Roger Larson who left Maple Bluff to become Superintendent at Pebble Beach. Tom was fortunate to make multiple trips to Firestone and Pebble Beach throughout his career.

Tom is married to his wife Diane.

25 Year Members

Steve Archibald, Class A Superintendent, Thornberry Creek at Oneida

Steve Archibald began his career by receiving an Associates Degree in Horticulture from Illinois Central College and Bachelor's Degree in Plant and Soil Science from Southern Illinois University. Prior to and while attending school Steve served active duty in the



Dale Marach receives his plaque honoring 50 years of membership to WGCSA from President Canavan.

United States Navy and the Navel Reserves. Steve was fortunate to have gained job experience while in school, working on both public and private golf courses.

After graduating, Steve worked at two different resort courses on Hilton Head Island, South Carolina. The experiences in South Carolina provided him valuable construction experience preparing him for his next opportunity at Thornberry Creek in Green Bay in 1993.

Steve has been the superintendent at Thornberry since the first its inception, overseeing the construction, grow-in and now the maintenance of the 27 holes along with assisting in development of 200 home sites surrounding the course. Thornberry Creek has hosted 2 consecutive LPGA events named Thornberry Creek LPGA Classic, attracting some of the best female golfers from around the world.

Eric Eggman, Class A Superintendent, Rhinelander Country Club Eric Eggman started in the turf industry as night waterman at the Rhinelander Country Club in 1981. That evolved into a crew member position while he earned a Bachelor's Degree in Business Administration from the University of Wisconsin-Eau Claire. Following graduation, he continued in the turf industry in various capacities, including as a Spray Technician for Evergreen Lawns in Minneapolis, and as Production Manager for Greenscape of Wisconsin, in Neenah. Eric eventually found his way back to the Rhinelander Country Club being hired as Golf Course Superintendent in 1993.

Eric served several years on the Board of Directors for the Northern Great Lakes GCSAA chapter and has been a volunteer assistant coach for the Rhinelander High School Alpine Ski team for over 20 years.

Eric enjoys downhill skiing, winter camping, a relaxing afternoon on the pontoon, and grouse and deer hunting.

He has been married for 12 years to wife Lisa, and lives in Rhinelander with the couple's two family dogs, Jerome and Elaine.

Dustin Riley, CGCS, Oconomowoc Country Club

Dustin's first experience maintaining golf courses began in 1990 at Camelot Country Club in Lomira, Wisconsin. While working at Camelot, Dustin earned his Bachelor's Degree in Soil Science from The University of Wisconsin-Madison. Shortly upon graduating, Dustin moved from Camelot to South Hills Country Club in Fond du Lac and served on the maintenance staff and as assistant superintendent. In 1996, Dustin became assistant superintendent at North Shore Country Club in Menasha, learning under the tutelage of Scott Schaller. It was at this time, Dusin completed the two-year Turfgrass Management Program from Penn State University.

In 1999, Dustin was given the reigns to lead maintenance operations at Oconomowoc Country Club. In 2004, Dustin earned CGCS status with the GCSAA

Dustin served the WGCSA chapter as Board member from 2002-2010 and President from 2008-2009. His contributions to our industry through service and leadership earned Dustin the WGCSA Chapter's highest 'Distinguished Service' award in 2017.

Duane Lange, Class A Superintendent, Maplecrest Country Club Duane began his career in turf working on the maintenance staff at South Hills Country Club in Franksville, Wisconsin. Duane attended University of Wisconsin-Whitewater and continued to work, assuming the role of Superintendent at Raymond Heights Par 3 golf course in Raymond. In 1993, Duane made the move to Maplecrest Country Club in Kenosha. Maplecrest Country Club hosted many events since, but Duane's most notable was a USGA amateur qualifier.

Duane is married to his wife Kristine. They have 3 children and 6 grandchildren. Duane enjoys time with his grandchildren when he is not at work.

Ed Kirchenwitz, former Co-owner/Class A Superintendent, Sunset Hills Golf Course and Driving Range

Ed was born, raised and has lived in Sheboygan his whole life, growing up near Pine Hills Country Club. Ironically, it was at Pine Hills that Ed began his lifelong career in turf. He worked at Pine Hills during and after graduating high school in 1979. In 1985, Ed took a job with Kohler Company's Landscape Division, managing hospitality properties. It was also during this time that Blackwolf Run was being constructed, granting Ed the opportunity to learn valuable experience in golf course construction.

In 1988, Ed left Kohler Co. and was hired to oversee the construction of Heartland Hills Golf Course in Howards Grove. In 1989, after earning construction experience at Heartland Hills, Ed returned to Blackwolf Run as crew foreman. He worked up the ranks and eventually earned the title as Meadow Valley's Superintendent. Ed moved to the River course three years later, then to the Irish Course at Whistling Straits. In 1997, Ed returned to



Dustin Riley receives his plaque honoring 25 years of membership to WGCSA from President Canavan.

Blackwolf as Construction Superintendent to complete course preparations for the 1998 U.S. Women's Open.

From 1998 to 1999, Ed began chasing his childhood dream of owning a golf course. He located land and a business partner and opened Sunset Hills Par 3 Golf Course and Driving Range in the August of 2001. As co-owner, Ed played key roles in every aspect of the operation; most notably, golf course designer.

Ed is currently enjoying retirement but keeping his eye open for the right opportunity.

Steven Johnson, CGCS, Voyager Village POA

Steven's journey started when his brother talked him into coming to work one sunny summer day to help get the course ready for a tournament at Bull's Eye Country Club in Wisconsin Rapids. That day he knew he had found something that he really enjoyed doing.

While working at Bull's Eye Country Club, Steven finished college at the University of Wisconsin-Stevens Point, earning two degrees in forestry. Next, a life changing opportunity came when the assistant superintendent at Bull's Eye left and Mark Keinert offered Steven the job.

Steven assumed a new role as assistant superintendent at Brown County Golf Course in Green Bay. Two years later, Steven became superintendent at a new course being built in Waupaca called Foxfire Golf Club. He spent ten years at Foxfire, earning CGCS status.

In 2006, Steven moved his family to northwestern Wisconsin and became Superintendent/Director of Facility's at Voyager Village-a property owners' association spread over 5200 acres and is considered a golf and recreational destination for anyone that wants to get away and enjoy the great outdoors.

Steven married the love of his life from Wisconsin Rapids—Jennifer. We had our wedding at Bull's Eye County Club and have raised three wonderful boys.

Steven is grateful to his mentors Tim Johnson and Mark Keinert for guiding him through his journey in golf course maintenance.

Jack Tripp, CGCS, LaCrosse Country Club

Jack Tripp started in golf course maintenance at age 16 at Sylvania Country Club in Sylvania, OH (in 1926, Sylvania Country Club is where the first meeting of the National Greens Keeper's Association of America was held, now called the GCSAA).

Jack's earlier days in the industry were construction grow-in Superintendent positions. In 1986, Jack became the Superintendent at Terradyne Country Club in Andover, Kansas. Two years later, Jack left Terradyne to become Superintendent at North Port Golf Course in Lake of the Ozarks, Missouri.

In 1993, Jack assumed role as Golf Course Superintendent at La-Crosse Country Club in LaCrosse, Wisconsin. Along with Jack's 25-year WGCSA membership, he also has been a GCSAA member for 36 years (30 years CGCS).

In 2002, Jack served as Secretary on the WGCSA Board of Directors and most notable contribution was creating the first digital membership database.

Jack is married to his wife Karyn and have two children that are now on to their own careers. All three of them are very knowledgeable about golf course maintenance.

John Granholt, Class AA Retired Superintendent, Eau Claire Country Club

John Granholt grew up in southern Minnesota. Early on, John began his career in turf working 6 years at a course in Albert Lea, Minnesota.

John fell in love with the business and furthered his education Anoka Technical College specializing in Turf Management. He also served 2 years in the Army.

Once John finished serving in the Army, he planned on spending the remaining days of summer playing golf. That plan was short lived and one week later he reported back to his duties maintaining the golf course.

Along with his dedication to the WGCSA, John served and been a member to the MGCSA for 40 plus years.

John has married his very supportive wife Ann for 38-years. They have 2 children and 4 grandchildren. Life is good.

John retired from Eau Claire Country Club on January 1st, 2017 where he served for 37 years.

Laughter On The Links

Four retired men play golf together once a week for many years. One day on 16th hole that runs along side the highway, a funeral procession drives by. One man says to the others, "Stop and remove your hats, show some respect."

Afterward, one of the other men asked him what got into him. "I have never seen you show anybody any respect."

The first man replied: "I was married to her for 65 years."



New Members

2018 (Through 3/2/18)

Peter Bemis, Chapter Manager, WI Sports Turf Mangers Larry Daily, Superintendent, Irish Waters Golf Club Jake Ertel, Assistant, Ozaukee Country Club Kevin Hartenberger, Assistant, North Shore CC Andy Kersten, 2nd Assistant Oconomowoc Golf Club Jim Lohmann, Project Manager, Golf Creations Shawn Mulhern, Superintendent, Kettle Hills GC Ryan Peters, Assistant, Wanaki GC Emmet Reilly, Superintendent, Quit Qui Oc GC Matt Springer, Account Manager, JW Turf Paul Towler, Assistant, North Hills CC Craig Vigen, CGCS, Outside Sales, Ferguson Waterworks Steve Walter, Assistant, Geneva National Isaac Zimmerman, Student, UW Madison

2017

Mitchell Beckendorf, Assistant, La Crosse Country Club Michael Bekken, Student, UW-Madison Katianna Bernardy, Soft Goods, Reinders Rick Biddle, 2nd Assistant, Green Bay CC Rocky Ray Braden, Student, Penn State and Assistant, North Shore CC Mitchell Buchholz, Assistant, Stoughton CC Todd Clenenning, Superintendent, Tribute GC Dennis Dary, Account Manager, JW Turf Ethan Dempsey, Assistant, Legends at Bergamont Aaron Ehlenfeldt, Superintendent, Old Hickory GC Todd Fregien, Regional Agronomist, Advanced Turf Solutions Tyler Gerritts, Superintendent, Bull's Eye CC Jeremy Grefe, 2nd Assistant, Blue Mound Golf & CC Matt Hamilton, Sales Rep, Crop Production Services Dennis Hamilton, Account Manager, Tyler Enterprises Chad Hauth, Sales Manger, Bayer Kurt Hockemeyer, Lab Manager, Turfgrass Diagnostic Lab Kevin Hommen, Superintendent, Geneva National Golf Club Jacob Kramer, Assistant, GC at Cedar Creek Mike Lehmann, Manager, Ironwood Golf Course Eric Leonard, Superintendent, Cherokee CC Mitchell Linnerud, Student, Rutgers Josh Linsmeyer, Superintendent, Winagamie GC

Ryan Lower, Student, MATC Ron Mara, Grounds Specialist, City of Lancaster David McClure, Assistant, Lawsonia Mike Michalski, Manager, Migratory Bird Management Brett Morris, Superintendent, Browns Lake GC Alexander Panzenhagen, Student, Penn State Michael Porubsky, Superintendent, Silver Spring Shawn Reimer, Superintendent, Wanaki GC Eric Schmitt, Assistant, Oconomowoc GC Jake Silkey, Sales Engineer, Wheeler Aaron Slaby, Assistant, Horseshoe Bay GC Sterling Solberg, Assistant, Minocqua CC Karl Stewart, Director of GCO, Saddle Ridge Golf Course Michael Upthegrove, Sales Rep, DHD Turf and Tree Products Steve Varpagel, Supervisor, Washington County GC Austin Wright, Equipment Manager, Sand Valley GR Nicklaus Yackle, Assistant, Medinah CC Chris Zastrow, Superintendent, Trempealeau Mountain GC

2016

Alex Benson-Crone, Assistant, Erin Hills GC Andy Brownlow, Superintendent, Sand Valley GR Kevin Clunis, CGCS, Superintendent, Luck GC Patrick Connaughty, Superintendent, Lake Wisconsin CC Aaron Hansen, Assistant, Wausau CC Anthony Hudzinski, Director of Grounds, The Oaks GC Tony Kalina, Agronomist, Kalina Turf Consulting Casey Kopf, Assistant, Fox Valley GC Tim McCarthy, President, McCarthy Well Co Todd Mott, Superintendent, Bristol Ridge GC Chris Nicholas, Assistant, Blackhawk CC Anthony Pouliot, Owner, Terrace Bluff GC Daren Rose, Superintendent, The Oaks GC Ken Rost, President, Frost Inc Dustin Schneider, Assistant, Sentry World Mike Shuman, Equipment Manager, Oshkosh CC Michael Stein, Superintendent, Dretzka Park GC Mark Thurow, Operations Manager, Water Well Solutions Scott Verdun, Territory Manager, Burris Equipment Bradley Wagner, Assistant, Legend at Bristlecone Pines



WISCONSIN ENTOMOLOGY REPORT

Welcome Audrey Simard to the Williamson Extension and Research Program

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

t comes with great pleasure to intro-Lduce and welcome Audrey Simard to my extension and research program at the University of Wisconsin-Madison! Audrey was born in Quebec Canada, she lived there until the age of six. She and her family then relocated to Kenosha, WI where she attended elementary school, middle school and high school. Upon graduating high school, she attended the University of Wisconsin-Parkside with the intention of graduation from the University of Wisconsin-Madison; she was enrolled in Connections Program that ensures students the ability to transfer to another University of Wisconsin institution after completing 50 credit hours. While at UW-Parkside, Audrey worked for a professor who just happened to be an entomologist! She gained valuable experience on two vastly different projects: 1) beekeeping and 2) predator/prey interaction. This may have been where her fondness for entomology began? Once she reached the required credit hours, she transferred and moved

to Madison, WI to begin pursuing degree in Genetics at UW-Madison. Audrey is intrigued and passionate about learning about the biological footprint of all living things, this is one of the reasons that she was and is interested in genetics. While at UW-Madison, she worked for one of the top genetic researchers in the U.S., Dr. John Pool where she had an invaluable experience and once again worked with insect (flies). Somehow, she decided to that Entomology 351 (Principles of Economic Entomology), and I happened to be the instructor for this class. Near the end of the semester, I learned that Audrey was interested in pursing her graduate degree and that she had applied to a couple of programs in Wisconsin including UW-Madison. After further discussions with Audrey, I determined that she would be an outstanding person to work in my program. Consequently, I presented the option of joining my program, and fortunately she welcomed the opportunity. As a result, Audrey began working in my program

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Audrey Simard has joined Dr. Chris Williamson's Extension and Research program. Welcome Audrey!

in the summer of 2017. Her research project will focus on investigating the potential sub-lethal and lethal effects of DMI fungicides and plant growth regulators in guttation water on pollinators.

Ultimately, Audrey would like to get her Ph.D. in entomology. She is open to obtaining a career in private industry or academia. Her desire is to work with pollinators and/or the biochemical effects of pesticides on the ecology and physiology of insects. In her free time (for fun), Audrey likes to cook, travel and experience new cultures. She is a Packer fan (like most people from Wisconsin) and because she was born in Canada, she is a huge fan of Team Canada! She also is a soccer fan, she used to referee high school soccer games for nearly 10 years.

Make sure that you introduce yourself to Audrey the next time that you see her at any of the turfgrass field days, meetings or workshops!

Can Measuring Clipping Volume Improve Your Management?

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

A Then I attend scientific presentation of my colleagues here in CALS, they almost always report how their treatments (fertilizer, tillage practices, etc.) affected the yield of their crop (corn, soybean, beets, etc.). Obviously a farmer needs to know how any new product or practice will affect yield in order to justify the cost of the product or practice. But when I attend turfgrass seminars, yield is not often talked about at all. Instead, we focus on things like turfgrass quality, rooting, and color. One of the reasons we ignore yield is because turf managers are not attempting to maximize it. You get no extra money for growing more grass. In fact, you try to suppress it by applying growth regulators and minimizing nitrogen fertilization. But simply because turf managers aren't trying to maximize yield doesn't mean that measuring it is futile. In fact, I think that measuring clipping yield could become as

critical for making management decisions as measuring soil moisture has for irritation scheduling. Don't get me wrong, I know turfgrass managers pay close attention to clipping yield already by checking how much grass is in the buckets or asking the mowing crew how often that had to dump clippings. But I think the time has come for a more accurate system for recording clipping yield on golf courses.

Grass growth is a Goldilocks issue. When the grass growth rate is too low, certain problems will be more prevalent: slow recovery of ball marks, reduced density, algae invasion, etc. Similarly, when growth rate is too high, we might expect another set of problems like excessive organic matter accumulation, softer surfaces, slower green speeds, annual bluegrass invasion, and increased incidence of certain diseases. If Goldilocks isn't your thing, Dr. Bill Kreuser recently used a car analogy to explain the importance of understanding growth rate. There is an ideal driving speed for different situations. You achieve that speed by using the brake and the accelerator. The growth rate is the speed, nitrogen is the accelerator, and growth regulators are the brakes. We could all probably get from point A to point B legally without a speedometer by going with the flow of traffic and using past experience to gauge the appropriate speed, but the speedometer makes it much easier to stay within the law.

Here's the catch, we know there is an optimal rate of growth where the playing surface performance is ideal, but we don't really know what that growth rate looks like yet (the speed limit). Many questions remain to be answered: Does the ideal growth rate change by season? Does the ideal growth rate differ between species (annual bluegrass vs. creeping bentgrass)?



WISCONSIN SOILS REPORT

Is the ideal growth rate specific for each course, or can we find broad similarities? They only way to start working towards answers to those tough questions is to start collecting some data and making observations. You probably didn't know what soil moisture level to shoot for until you took a bunch of readings and watched wilt patterns over a period of a year or two, either.

So for 2018, I encourage you to get a few buckets calibrated to liters. It shouldn't take too much more time since your operators are collecting and dumping clippings anyway. I guarantee there will be some logistical and practical kinks to work out. You might need to rig up a funnel of some sort to get the clippings from the mower baskets into the measuring bucket. Go on Twitter to see how others are doing this. If you are going to commit, it's best to track growth at every mowing. You don't need to collect from every green, but I think eventually you'll find that to be useful. I think problem greens can be identified before the problems manifest by watching for deviations from the average growth rate of the other greens.

I've developed a Microsoft Excel spreadsheet where you can log your clipping volumes to track the differences between greens over the year. It also estimates the amount of N removed in the clippings, which should be a good baseline for how much nitrogen you want to add for the year. You can download the spreadsheet at www.turf. wisc.edu. If you do collect clippings this year, I'd really like to get your data and will ask you to complete a short survey about your course and your management. Don't hesitate to call or email with questions about the spreadsheet, or the process, or anything else. I will be doing research at the O.J. Noer Facility this summer to investigate how things like temperature, soil organic matter, and traffic affect clipping yield on bentgrass greens. We also will work on the conversion from a volume of clippings to a weight of clippings, which is necessary for accurate nitrogen calculations. I hope that my data, coupled with data from golf courses around Wisconsin will help us answer some of the critical questions mentioned above and increase our confidence about using the data and manipulating clipping yield to achieve certain outcomes. Come to Summer Field Day on July 24th for an update!





A simple bucket showing liters of clippings will work for measuring. (Picture courtesy of Joe Gulotti, Golf Course Superintendent, Newark Country Club, Newark, DE)

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EDITOR'S NOTEBOOK

Hello Spring Our Old Friend?

By David A. Brandenburg, Editor, The Grass Roots

Spring is in the air as I write this on March 17th, The longer day length and higher sun can make even the 38 degree afternoons feel warm depending on the wind. Many courses are open and were open a few weeks ago before that last snow. And good for them.

It used to bother me when other courses opened before us but after this many years I know our property is different than others. Good for them and we will open as soon as our property is ready for traffic.

The turf is as brown and dormant as I have seen it in some time due to the open cold spells in December and January. I have not heard of anyone concerned about turf conditions but as our USGA Agronomist Bob Vavrek said in the latest Regional Update; "variable weather patterns during March provide one last chance for significant turfgrass winter injury."

A warm rain or even a snow followed by a warm spell will wake up the turf and we will be mowing soon.

Congratulations to Jeff Barlow, Waupaca Country Club and Randy Witt, Hong Kong Golf Club for renewing their status as Certified Golf Course Superintendents in February.

Not to toot our own horn but issue after issue our UW staff and professors provide some of the best research and articles in the cool season grass industry. We are fortunate to have Schweiger, Hockemeyer, Soldat, Koch and Williamson all working to make our lives easier and much of it professed in the pages of *The Grass Roots*.

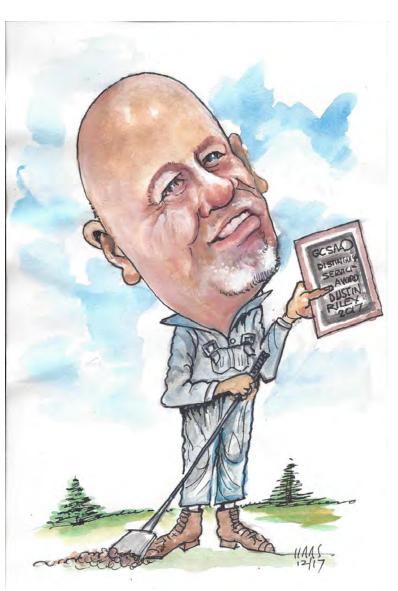
I am often asked by neighboring associations for permission to reprint articles from our professors because they have limited resources in their own states. Thank you writers!

We are pleased to have Todd Clendenning, Tribute Golf Course join our group of GCSAA Grass Roots Ambassadors. Todd is teamed with Congressman Duffy from the 7th District.

Other Ambassadors are Jeff Millies with Congressman and Speaker of The House Ryan, Mike Bremmer, Congresswoman Moore, Patrick Reuteman with Congressman Sensenbrenner, myself with Congressman Grothman, Harrison Beal with Senator Johnson and Jon Canavan with Senator Baldwin.

We have 3 seats open with District 2 - Mark Pocan covering Madison and south, District 3- Ron Kind covering La Crosse, Eau Claire and a odd shaped area including Stevens Point and District 8 - Mike Gallagher covering Green Bay, Door County and down to Appleton.

If you can help with one of these districts please let Chapter Manager Grams know to get more information. It would be helpful if all our posts were filled.



Gene Haas, retired WSGA Director and longtime friend of the WGCSA contributed this drawing of Dustin Riley and his recent reception of the Distinguished Service Award.

EDITOR'S NOTEBOOK

Average Temperature (°F): Departure from Mean December 17, 2017 to March 16, 2018 Accumulated Precipitation (in): Departure from Mean December 17, 2017 to March 16, 2018 8 9) Midwestern Regional Climate Cente Midwestern Regional Climate Cente Mean period is 1981-2010. Mean period is 1981-2010. -6-5 -4 -3 -24 Wisconsin State Climatology Office www..gos.wisc.edu/~sco Wisconsin State Climatology Office www..aos.wisc.edu/~sco University of Wisconsin-Madison stclim@aos.wisc.edu University of Wisconsin-Madison stclim@aos.wisc.edu

The 90 day temperature and precipitation maps from the Wisconsin State Climatology Office show that most of the state was slightly cooler while the south was wetter than normal and the Green Bay area was dryer than normal. It did seem to be a winter of increased rain events.



GOLF TO WATCH IN WISCONSIN

June 12-13: WI PGA - Wisconsin State Women's Open, Janesville Country Club, Janesville

June 22-24: Champions PGA Tour - American Family Insurance Championship, University Ridge Golf Course, Verona

July 3-8: LPGA - Thornberry Creek LPGA Classic, Thornberry Creek Golf Club, Oneida

July 23-26: WSGA - Wisconsin State Amateur Championship, Minocqua Country Club, Minoqua

August 10-12: SYMETRA Tour PHC Classic, Brown Deer Park Golf Course, Milwaukee

August 20-22: WI PGA - Wisconsin State Open, North Shore Golf Club, Menasha

2020: Ryder Cup, Whistling Straits, Kohler

EDITOR'S NOTEBOOK



Josh LePine, Golf Course Superintendent at Maple Bluff Country Club and WGCSA Vice President has taken on the task of helping to lead the association in the creation of Best Management Practices (BMP's) to help guide our membership in providing golf conditions that meet the requirements of not only golfers and ownership but also in compliance with local, state and federal regulations.

In the picture above Josh is leading the first committee meeting including university, regulatory, golf course, and industry volunteers. Josh was quick to point out this is a team effort.

We have been fortunate in Wisconsin to have mild regulations from the state but have seen more restrictive policies in other states. Our goal is to work with regulators and have BMP's in place proactively.

The WGCSA is working off templates provided by GCSAA to meet the nationals goal of having 50 states with BMP's by 2020.

Our university staff of Drs. Williamson, Soldat and Koch will be key contributors to the BMP's and all three have focused on Integrated Pest Management and looking at how course managers can reduce inputs without sacrificing quality. This can be seen in the many of the articles the trio has written in these pages over the past issues. Look for more on the process to create BMP's in future issues.

Good luck to you and your staffs as you head into a hopefully prosperous and productive spring season. Hopefully you can fill your staffs with eager employees willing to learn golf course maintenance. Working with our varied in age, ability and background seasonal staff is one of the most satisfying, frustrating and enjoyable parts of my position. Yes, I said satisfying, frustrating and enjoyable all in the same description.

We have been lucky to see a number of successful young men and women go through our doors and I would like to think we were a part of their education not only at work but in life. I know they have been part of our education.

Also part of my education and life are the large number of retirees who I have been lucky enough to spend from a couple to over 17 years working with. I look up to these men as fathers or even grandfather figures. I enjoy getting to know their life history and their families. At their funerals I hear from family members how much they enjoyed their time at our facility. I can guarantee you that feeling is mutual because we enjoyed them just as much.

We are glad to be part of their lives and to give them something to do besides fish, golf and sit at home. Young or old we miss them when they are gone and we just hope we can develop a replacement when that time comes.

Good luck and happy spring!



NGLGCSA

2018 Educational Conference Highlights

By David A. Brandenburg, Editor, The Grass Roots



Dr. Jim Kerns, University of North Carolina fought off the stomach flu to deliver his talks on "Getting to the Root of Soil Borne Diseases" and "Practical Turfgrass Microbiology". President Todd Clendenning opened the session with thanks to the board and long time chapter administrator Beth Stran who has served 17 years.

He also thanked Reinders for their Daconil Rebate Program which donated \$1,750 in 2017 and over \$23,000 since 2008 for turfgrass research.

He also thanked Phil Spitz and Syngenta for supporting two \$5000 scholarships.

The NGLGCSA Symposium provides a great educational and networking event. The hospitality the night before is casual and filled with great conversations.

To sum up each talk:

Dr. Williamson said grub control is not rocket science it is about proper identification and timing of applications.

Dr. Riecher basically said poa is okay as a grass, and your not going to beat it without total renovation so treat it right and make it your friend.

Dr. Kerns who added some great humor despite being wore out from the flu said by the time we see symptoms from root diseases the damage is done. Also there are millions of millions of bacteria in the soil so invest cautiously in any products that say they will fix your soil.

Those are the "cliff notes" from a great day of education. We hope to see you there next year for this spring educational event.



Dr. Zac Riecher, Bayer Environmental joined us to discuss "Poa Annua Management, Keeping The Crap Alive!"



Dr. Chris Williamson taught two PAT sessions on Tuesday and joined us to discuss "Use Strategies of Insecticides for Managing White Grubs in Turf".



NGLGCSA

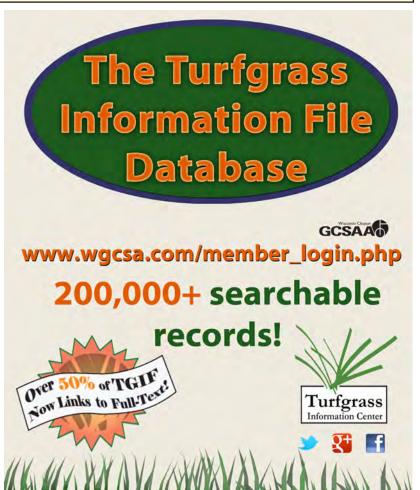


The panel of Chip Bromann, Owner, Pinewood CC, Scott Sann, Former GM & Superintendent, Greenwood Hills Country Club and Aaron Becker, Superintendent, St. Germain GC discussed "Getting More for Less, Managing Budgets in 2018". They provided a good variety of backgrounds and information on making good fiscal decisions.

Thoughts to Inspire Managers Never walk past a problem or you have approved it. All behavior is the result of consequences. You get what you reward. Catch people doing something right. If you see it, say it. Employees are our first market. Never treat a customer better than you do a employee. Your hired by the people you report to and fired by the people who report to vou. Management problems always turn out

- to be people problems.
- Good work that goes unacknowledged will gradually disappear.
- High performers hate to work with lowperformers.
- Favors granted soon become defined as rights.
- The largest praise you can give your employees is to listen to their tiniest ideas.

(From Jim Sullivan, sullivan.com)



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