

THE GRASS ROOTS



VERSATILITY THAT WORKS

Contact your Reinders representative for more information



Ventrac 4520 with Contour Mower



Toro Outcross, 1200 Series Rotary



Toro Groundsmaster 3200 Out-Front Rotary



Harper TV60 RE



Toro Workman UTX



W227 N6225 Sussex Road,
Sussex, WI (800) 782-3300
www.reinders.com

Reinders

Solutions & Supplies for the Green Industry

2022 WGCSA BOARD OF DIRECTORS

PRESIDENT

Jeff Barlow, CGCS - Waupaca Country Club
 1330 Ware Street, Waupaca, WI 54981
 Work: 715-258-5435
 E-mail: jj12barlow@gmail.com

VICE PRESIDENT

Scott Anthes - Brown County Golf Course
 897 Riverdale Drive, Oneida, WI 54155
 Work: 920-497-7819
 E-mail: anthes_sp@co.brown.wi.us

TREASURER

Garrett Luck - Hidden Glen at Bentdale Farms
 778 Sherman Road, Cedarburg, WI 53102
 Work: 262-242-7019
 E-mail: gluck@hiddenglengolfclub.com

SECRETARY

Ben LaBarre - The Legend at Bristlecone Pines
 1325 E. Bristlecone Dr, Hartland, WI 53029
 Work: 262-367-7344
 E-mail: blabarre@thelegendclubs.com

DIRECTORS

Timothy Schmidt - Butte des Morts CC
 3600 Prospect Ave, Appleton, WI 54914
 Work: 920-738-5541
 E-mail: tischmidt31@gmail.com

Brian Bonlender - West Bend CC
 5846 Hwy Z, West Bend, WI 53095
 Work: 262-338-0540
 E-mail: brian@westbendcountryclub.org

Adam Suelflow - The Wisconsin Club
 6200 W. Good Hope Road, Milwaukee, WI 53223
 Work: 414-897-2331
 E-mail: asuelflow@wisconsinclub.com

Tim Wegner - Brown Deer Park GC
 7835 N Green Bay Road, Milwaukee, WI 53189
 Work: 414-352-7502
 E-mail: wegnertim49@gmail.com

PAST PRESIDENT

Josh LePine, CGCS - Maple Bluff CC
 500 Kensington Drive, Madison, WI 53704
 Work: 608-249-3468
 E-mail: josh@mbcc1899.com

VENDOR REPRESENTATIVE

Rob Johnson - Waupaca Sand and Solutions
 E3481 Royalton St., Waupaca, WI 54981
 Work: 715-258-8566
 Email: rjohnson@waupacasand.com

CLASS C REPRESENTATIVE

Jens Arneson - Maple Bluff CC
 500 Kensington Drive, Madison, WI 53704
 Work 920-210-2112
 Email: jensoarneson@gmail.com

CLASS EM REPRESENTATIVE

Austin Wright - Sand Valley
 529 Sand Valley Trail, Nekoosa, WI 54457
 Work: 785-550-6603
 Email: awright@sandvalleygolfresort.com

ABOUT THE COVER The 16th hole at The Legend at Bristlecone--the site of April's Super/Pro Event.

CONTENTS



THE PRESIDENT'S MESSAGE

It's Been Awhile 4

WGCSA

Wanted! Foursome of Golf with Carts for our Annual PAR 4 Research Auction..... 6

CHAPTER EVENTS

Trying Something New 7

GCSAA

Conference and Trade Show Returns 8

MEMBER SPOTLIGHT

Jake Schneider..... 10

WISCONSIN SOILS REPORT

Precision Cultivation and Topdressing 12

WISCONSIN PATHOLOGY REPORT

Dollar Spot, Snow Mold and Soil Health..... 16

TURFGRASS DIAGNOSTIC LAB

The Hockemeyer Snow Mold Prediction Model V 3.0..... 20

WGCSA

"Things That Matter" from the 55th Golf Turf Symposium..... 24

BMP

Caring for Wisconsin Golf Courses and the Environment..... 30

WISCONSIN TURFGRASS ASSOCIATION

WTA Winter Happy Hour "Or Two"..... 34

NOTES FROM THE NOER

The Old Guys BBQ 36

2021 Thank You 38

NOTES FROM THE PRO SHOP

Interdepartmental Relationships Drive Success 40

SCHOLARSHIP ANNOUNCEMENT

..... 43

ADVERTISER INDEX

..... 43

INTERVIEW

Catching up with Colin Seaberg 44



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.

GRASS ROOTS EDITOR

Jake Schneider
 grassroots@wgcsa.com - 608-530-4480
 4174 Cherokee Drive, Madison, WI 53711

WGCSA CHAPTER MANAGER

Brett Grams
 bgrams@wgcsa.com - 920-643-4888
 N2299 Country Lane, Waupaca, WI 54981



It's Been Awhile

By: Jeff Barlow, Certified Golf Course Superintendent, Waupaca Country Club

As I sit here in the middle of a Wisconsin winter and write the President's message, I can only think that I should be in sunny California attending the Golf Industry Show. But, circumstances unfortunately dictate otherwise. My hope is everyone experienced a great show, continued to advance our profession, and enjoyed the networking and socializing which are important aspects of our association.

Beginning in early 2021, your WGCSA Board participated in a strategic planning session led by GCSAA Director of Chapter Outreach, Steve Randall, and Great Lakes Regional Representative, Shane Conroy. This is the second time I have been involved with something like this and find the outcomes to be very important for setting goals as the association moves forward. While many great ideas came forth, a SCOR (Strengths, Challenges, Opportunities, and Risks) analysis was completed, and the most popular suggestions were brought forward. Below is a summary of some of the results.

STRENGTHS:

1. Tight knit community of superintendents who are always willing to help
2. Educational/networking opportunities/symposium
3. Financial support for improving the industry: scholarships/research/continued education/vendor support

CHALLENGES:

1. Geography
2. Meeting attendance/member engagement
3. Lower number of turf students

OPPORTUNITIES:

1. A lot of courses without members/increase membership
2. Best Management Practices (BMP) promotion - story of our industry
3. Better promotion of industry at High School Level

RISKS:

1. Labor
2. Environmental/pesticide bans in very politically charged areas
3. We need to find more flexible ways to give members benefits such as online education
4. Future leaders of association- dwindling pool of assistant superintendent/EM members/students

Following the SCOR analysis, the mission statement was then updated:

The Wisconsin Golf Course Superintendents Association is dedicated to serving its members, advocating on behalf of the golf course management industry, and supporting the future of golf.

Following the mission statement discussion, the vision statement was updated:

Through promoting environmental stewardship and best management practices on behalf of its members, the Wisconsin Golf Course Superintendents

WGCSA MISSION STATEMENT

The Wisconsin Golf Course Superintendents Association is dedicated to serving its members, advocating on behalf of the golf course management industry, and supporting the future of golf.

WGCSA VISION STATEMENT

Through promoting environmental stewardship and best management practices on behalf of its members, the Wisconsin Golf Course Superintendents Association is recognized as the regional leader in golf course management.

Association is recognized as the regional leader in golf course management.

The following goals were set:

- **Goal 1:** Host at least one Facility BMP Adoption Workshop
- **Goal 2:** Expand student outreach
- **Goal 3:** Improve member recruitment/member engagement
- **Goal 4:** Establishing 501(c)(3)

Continuing on, as your Board moved forward after the strategic planning session, many of us were greeted with some early spring warmth and had to sprint into the 2021 golf season. 2021 started out great but became very difficult to predict towards year end as many of us, once again, had to concern ourselves with things that were out of our control. Therefore, I would like to summarize the association's progress moving through 2021 and beginning of 2022. This summary will serve little justice to the time and effort put forth by this amazing group of leaders.

New Grass Roots Editor: WGCSA has a new grassroots editor! I would like to welcome Jake Schneider, who probably doesn't need much introduction as he has been a regular contributor to the magazine. It is also important to thank David Brandenburg for his tireless efforts for his time and dedication as he retires as editor of this great magazine. Thank You, David! We look forward to Jake carrying on the tradition of publishing a great magazine.

Par 4 Research Auction: We thank everyone for their continued support and look forward to 2022. Please consider donating some rounds of golf. This has been and will continue to be a great way to raise dollars that are put towards research.

The 55th Symposium moved to January: Thank you to Jamie, Milorganite, and the rest of the committee for another successful symposium. The new dates were well received with nice attendance. The feedback from the surveys were very positive. The committee continues to meet as we prepare for the 56th symposium in 2023.

Monthly Meetings: Your board continues to explore ideas to improve member engagement and encourage more participation with monthly networking events. Please attend and offer to bring someone from a non-member course. A lot of time and effort is put forth to organize days like these. We are trying something new on May 18th. Check out the calendar on the website for the 2022 dates!

Membership Handbook: For 2022, there will be a digital membership directory. This will be available on the website, and you no longer will be receiving a hard copy.

BMP Update: Wisconsin's Best Management Practices Guide was completed in late 2020. Since then, a website was created to help promote and tell our story. A link can be found on the WGCSA website. Further promotional ideas such as recurring articles in the Grass Roots Magazine and Wisconsin Golfer, small pamphlets that can be easily distributed or handed out to golfers/ club members, and printed hard copies are being discussed and implemented. Printed hard copies are available to order under the Best MGMT Practices Tab on the homepage of the WGCSA website for \$25. Thank you to Josh LePine for taking this BMP to the finish line and continuing to promote the BMP.

In closing, I would like to say thank you to Brett Grams, the entire WGCSA Board, and all the Industry Partners for their continued support of the WGCSA Association as we plow forward into 2022. The effort by all is what keeps the association strong! ✓

Jeff

INNOVATIVE SOLUTIONS
in Spray Technology.



MIXING EQUIPMENT

- Ultimix Pre-Mix Station :
100 & 135 Gallon
- Stationary Pre-Mix Station :
800, 1000, & 1200 Gallon

Frost Inc

www.frostserv.com
☎ 800-621-7910
✉ info@frostserv.com

WANTED!

Foursome of Golf with Carts for our Annual PAR 4 Research Auction!

By: Brett Grams, Chapter Manager, WGCSA



The PAR4 Auction is proudly run by the WI GCSA



As winter begins to loosen its grip and we prepare for spring here in Wisconsin, many golfers start getting restless to get out and play our great game. It is a tradition of many golfers in our northern climate to watch the Masters on television each spring dreaming for the golfing season and all that beautiful green grass that will soon be groomed to near perfection by our membership.

For the past 12 years, we have also created a tradition that coincides with the Masters--our annual Play a

Round for Research online auction, more commonly known as the PAR 4 Auction. The premise of this effort is simple. We ask our members to donate rounds of golf that we then auction off to the highest bidder using an online auction service. The courses and clubs making the donations along with the golfers bidding all win with this event. One hundred percent of what we raise is donated directly to the University of Wisconsin turfgrass team to help offset research costs that the WGCSA sponsors.

Over the years, we have developed a loyal group of golfers eager to bid on the various golf packages in the auction. Some bidders are trying to play EVERY course in Wisconsin

so packages to our more exclusive clubs are always very popular. Rest assured, our lesser known or very popular public facilities are also in high demand. We have numerous "high roller" as well as "budget conscious" bidders that look forward to see what our auction offers every year!

Our request for 2022 is to again collect as many golf packages as we can. Our donation form is easily found on the home page of our website. You can download and print it off and return to WGCSA office via mail or email, or if you prefer, call Brett directly and have him take down the details to make your donation! Over the years, we have identified that Foursome of Golf with Carts is the most desired package. We gladly accept any packages that your facility would like to provide. Twosomes, punch cards, golf without carts are also welcomed! Each facility has certain restrictions for dress, and day and time requirements are always clearly stated on each package to avoid any issues for the club or golfer.

The WGCSA is proud to have donated over \$105,000.00 over the past 12 years to our UW team to help fund the important turf research they conduct on our behalf. We need your help to continue with this effort. Please consider making a donation today! Also, please help spread the word with your members and golfers. Our 13th auction will run April 1st thru April 10th. It is desired that we receive your donation information prior to March 21st so we can add packages to the website and begin our pre-auction promotion. ✓



TRYING SOMETHING NEW

UPCOMING ASSOCIATION EVENTS

By: Brian Bonlender, Golf Course Superintendent, West Bend CC

While spring is around the corner and we are gearing up for another season, it is important to always take time and advantage of the terrific lineup of events happening within our association. This year, we have a great calendar of events to catch-up with friends, learn something from one of our great speakers, and even escape to play a little golf (or watch a ball game).

The first golf event this year is on April 27th. The Super/Pro at The Legend at Bristlecone Pines in Hartland, WI, will be hosted by Golf Course Superintendent, Ben LaBarre, and PGA Member, Paul LoCicero. The Legend at Bristlecone is a 7,005 yard 18-hole championship golf course that opened in 1996 and was acquired by The Legend Clubs in 2009. Designed by Scott Miller, former senior designer for Jack Nicklaus, the challenging layout that features undulated greens and expansive fairways with multiple sand and water hazards should give a great early season challenge.

While the last few years have been challenging in many ways for all, this has also held true for the Golf and Arrangements Committee. In the true meaning of trying something new, our monthly meeting on May 18th will be different than our traditional format - a tailgate and Brewers game at

American Family Field! The Brew Crew will take on the defending World Series Champs, the Atlanta Braves, and if their 2021 playoff series is any indication, it should be a great game.



This idea comes from many different angles: a great way to network, catch-up with friends, and a venue that gives flexibility for all to choose a window on when to show up and how long you stay. The event will kickoff with a traditional tailgate complete with food and drinks. Food will be served from 10 am until the first pitch at 12:10 pm. Then, it will be time to make our way to the game for an afternoon of baseball, networking, comradery, and hopefully, a Brewers win.

These are both great ways to stay involved in the association and catch-up with your peers. Please watch for the sign-ups and information as they are released this year to schedule an afternoon away from the course, recharge yourself, and gain some valuable knowledge. We look forward to seeing everyone this year! ✓

2022 WGCSA Events Calendar as of 2.15.2022

Wed January 12th & Thurs January 13th	55th Wisconsin Golf Turf Symposium	Kohler
<i>Thurs January 20th</i>	<i>WTA-Happy Hour w/Turf Docs 2-4pm</i>	<i>Virtual(register w/WTA)</i>
Tues February 22nd	Equipment Managers Seminar	Bristlecone Pines M.Facil, Hartland
Wed March 2nd	Spring Business/Education Meeting	South Hills CC, Fond du Lac
<i>Wed April 27th</i>	<i>Super/Pro Outing</i>	<i>Legends at Bristlecone, Hartland</i>
Wed May 18th	May Meeting, Brewer Game and Tailgate	American Family Field, Milwaukee
Mon June 20th	June Golf Meeting	Wisconsin Club, Milwaukee
<i>Tues August 2nd</i>	<i>WTA Summer Field Day</i>	<i>OJ Noer Research Facility, Madison</i>
Mon August 22nd	Member Guest Meeting	South Hills CC, Fond du Lac
<i>Monday September 12th</i>	<i>Wee One Fundraiser</i>	<i>Pine Hills CC, Sheboygan, WI</i>
Fall TBD	Equipt. Managers Meeting	Location TBD
<i>October TBD</i>	<i>WTA Golf Classic</i>	<i>Location TBD</i>
Sat December 3rd	Couples/Guest Evening	Appleton
January 11-12, 2023	56th Annual Turfgrass Symposium	Location TBD

Bold are WGCSA organized. *Italicized are WTA/PGA/Wee One events.* **Red = To be determined**

GCSAA CONFERENCE AND TRADE SHOW RETURNS

By: Shane Conroy, Field Staff – Great Lakes Regional Representative, Golf Course Superintendents Association of America



After a virtual event in 2021 due to the pandemic, the GCSAA Conference and Trade Show – known as the Golf Industry Show from 2005 to 2021 – returned to an in-person event in San Diego. A total of 3,700 seminar seats were filled. In addition to education for superintendents, the event also included specialized education for assistant superintendents, equipment managers, students and more. The in-person conference and show was followed by a two-day virtual education event Feb. 23-24. The GCSAA Conference and Trade Show in-person total attendance was 6,500.

“The first tenet of GCSAA’s mission is serving members, and in surveying our members, it was abundantly clear that they desired a return to an in-person event,” GCSAA CEO Rhett Evans said. “We knew, based on data from other conventions this year, that our numbers would not be typical because the world isn’t typical right now. But, as a member service, we were dedicated to doing what we could to move things forward for the industry and provide the best experience possible for those in San Diego and offering a virtual education option for those who couldn’t attend. We are very pleased with the high level of engagement from those who joined us. The GCSAA Conference and Trade Show continues to offer an unmatched experience and the opportunity for attendees to move their careers and facilities forward.”

The trade show covered nearly 114,000 square feet of exhibit space at the San Diego Convention Center and hosted more than 300 exhibitors.

The GCSAA Conference and Trade Show is produced by GCSAA along with its presenting partners the Golf Course Builders Association of America (GCBA) and American Society of Golf Course Architects (ASGCA).



Kevin P. Breen, the certified golf course superintendent (CGCS) at La Rinconada Country Club in Los Gatos, Calif., was elected to a one-year term as president of the Golf Course Superintendents Association of America (GCSAA) at the association’s annual meeting Feb. 10, held in conjunction with the GCSAA Conference and Trade Show. He is the 86th president in the association’s history.

A 31-year member of GCSAA, Breen is also a past president of both the Sierra Nevada GCSA and the California GCSA.

Breen has served as the superintendent at La Rinconada CC since 2011. Prior to that, he served as the director of maintenance at Lahontan Golf Club in Truckee, Calif., and as the superintendent at Los Alamos (N.M.) Golf Course.

“I thank you for the opportunity I have before me this coming year in leading our organization, GCSAA,” Breen said. “I have a full year of endeavors and work ahead of me that I am really looking forward to.”

He has bachelor’s degrees in horticulture/turf from Colorado State University in Fort Collins and in meteorology from the University of Nebraska, Lincoln.

Other elected officers were Kevin P. Sunderman, CGCS, director of grounds at Isla Del Sol Yacht and Country Club in

St. Petersburg, Fla., as vice president, and Jeff L. White, CGCS and superintendent at Indian Hills Country Club in Mission Hills, Kan.; as secretary/treasurer.

Board members Douglas D. Dykstra, CGCS, golf course superintendent at White Mountain Country Club in Pinetop, Ariz., and Marc E. Weston, CGCS and superintendent at Indian Hill Country Club in Newington, Conn., were elected to serve again, while Steven J. Hammon, superintendent at Traverse City (Mich.) Country Club, was newly elected to the board.

T.A. Barker, CGCS and superintendent at Fore Lakes Golf Course in Taylorsville, Utah; and Paul L. Carter, CGCS and superintendent at Bear Trace at Harrison Bay in Harrison, Tenn., continue their service on the board. Mark F. Jordan, CGCS, natural resources leader at Westfield Country Club in Westfield Center, Ohio, will serve as immediate past president, while John R. Fulling Jr., CGCS, grounds and facilities manager at Kalamazoo (Mich.) Country Club, retired from board service.

The 2023 GCSAA Conference and Trade Show will head to Orlando, Fla., Feb. 4-9, at the Orange County Convention Center.

In other news from the GCSAA Conference and Trade Show:

- A team from Purdue won the annual GCSAA Collegiate Turf Bowl Competition, which was presented in partnership with John Deere Golf. Purdue took home the trophy for the second year in a row.
- Bob Farren, CGCS, and director of golf course and grounds management at Pinehurst (N.C.) Resort, received GCSAA's inaugural Col. John Morley Award during the Opening Session, while country music star, philanthropist, and avid golfer Vince Gill accepted GCSAA's Old Tom Morris Award during the Closing Celebration.
- Seth Strickland, GCSAA Class A superintendent at Miami Shores (Fla.) Country Club, is the winner of the 2022 GCSAA National Championship. This is Strickland's fifth title, and the 20-year GCSAA member was the defending champion after prevailing in the 2021 tournament held last October in Palm Springs, Calif.
- GCSAA membership continues to grow and during the GCSAA Conference and Trade Show membership reached 19,122. ✓

DON'T SPRAY BLIND!

Become a Turfgrass Diagnostic Lab member today and know what's affecting your turf...BEFORE you spray.



THE UNIVERSITY
of
WISCONSIN
MADISON

tdl.wisc.edu/contract-membership
608-845-2535

MEET JAKE SCHNEIDER

By: Ben LaBarre and Josh LePine

As WGCSA Board members, we want to thank everyone who participated in the Membership survey. The information and feedback obtained was invaluable. The requests for more member spotlight stories inspired us to start this column. We hope to randomly highlight a few members each edition from all geographic areas, facility types and membership classifications. It may take us 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: Jake Schneider

Company Position: *The Grass Roots editor, seasonal employee at Blackhawk CC, and financial planner in my free time*

Years as WGCSA member: 20

Membership Classification: Honorary

Brief BIO w/ pictures w/ captions: *After being a regular contributor to the magazine for many years, I was asked to follow in the huge footsteps of David Brandenburg as editor, and I gladly accepted. I've been on the payroll of golf course maintenance departments as a summer seasonal, intern, assistant superintendent, and part-time helper for most of the last 23 years. I attended UW-Madison where I received my Bachelor's Degree in Soil Science and Master's Degree in Horticulture For almost five years, I managed the landscape management department at The Bruce Company and had a short stint as the Central Parks Supervisor for the city of Madison prior to deciding to focus on being more present for raising our infant son and pursuing other endeavors such as my role with The Grass Roots.*



Jake, Melissa, Aksel (the baby), and Oskar (the dog) Schneider

How did you get started in the turfgrass industry? I grew up on my family's dairy farm, but due to my vertical limitations, I was (thankfully) too short to milk cows in our pit parlor. However, I knew that I wanted to work outside and answered an ad for a summer seasonal employee the North Shore Golf Club's maintenance staff just before my 16th birthday. Then superintendent, Scott Schaller, took a chance on me, exposed me to a lot of great happenings in the industry, and I fell in love with the work.

What is the most rewarding part of your career? When I was the assistant superintendent at Blackhawk Country Club, I most enjoyed working with interns along with those days when I helped guide the crew from turning the course from a shaggy mess in the morning to a masterpiece in the afternoon.

What would you consider to be your greatest career challenge? Figuring out what I want to be when I grow up! I always thought that I would be a golf course superintendent, but the grind of the summer pushed me to the landscaping world where the grind of snow removal made the decision

to move to Norway for a few years due to my wife's job an easy one. I'm lucky enough now to be able to focus on some of my passions including getting reengaged with the WGCSA and the fantastic camaraderie of the golf course maintenance profession.

Which three adjectives describes you the best? Structured, dependable, and consistent (all according to my wife and accurate)

Tell us about your family. My wife, Melissa, and I have been together for five years. She is a project manager for Epic Systems. We welcomed our Black Mouth Cur/Catahoula Leopard Dog rescue from Louisiana to the family in June, and he is nearly one-year old. In early October, we had our first child, and Aksel has been a great little dude.

What drives/motivates you every day? I want to stay busy in a meaningful way. Whether that's watching Aksel, doing financial advising, editing the magazine, training for a marathon, or planning my next trip with Melissa, I need to be active both physically and mentally.

Who do you admire? My wife and my parents

Who is the person in history you'd most like to meet? Barack Obama. Politics aside, I find his journey to become President truly remarkable.

What's a fun fact or two that people don't know about you? Despite fishing a lot as kid, I don't think I have ever taken a fish off the hook with my bare hands. As the 'now-or-never' baby of the family, my parents apparently coddled me too much, and my older siblings will gladly confirm this as fact.

What do you do in your spare time, favorite hobbies? I'm an avid runner and have completed over a dozen marathons and scores of shorter races. In winter, I really enjoy cross country and downhill skiing and spend a lot of time wishing that Wisconsin had mountains and more reliable snow. Otherwise, traveling, attending concerts and sporting events, golfing, and spending time with family and friends consumes the rest of my free time.

If you could go anywhere in the world on vacation, where would you go? The Maldives. I've always wanted to stay in one of those houses that are suspended above the water.

What is one thing you would like to learn/accomplish someday? Become fluent in Spanish. This has been on my list for many years. We're sending Aksel to a Spanish/English daycare provider so the plan is for him to teach me in a few years.



Jake and Melissa on their wedding day along with Jake's parents, Peggy and Mark.



An exhausted Jake and Melissa at the summit of Mt. Kilimanjaro.

What is your favorite turf management related tool or technique? Remote soil moisture sensors that interface with irrigation software.

Favorites: TV Show: Ozark

Movie: A Time to Kill

Food: Do ice cream and dark beer count?

Sports Teams: Badgers and Packers

Do you golf? Handicap? Best shot or golf story? I golf much more poorly than I used to, but am committed to playing more starting this year. My unofficial handicap right now is ~20 and hitting any iron lower than 7. When the GCSAA show was in San Antonio the first year, Chad Grimm, Aaron Goninen, and I played at TPC-San Antonio. After a frost delay, we were among a handful of people dumb enough to play golf in a cold drizzle. I had to skip the last three holes because my hands were no longer functioning. We didn't have to wait on any other players, though!

Top Bucket List item? Laying down some fresh tracks in deep powder while heli-skiing.

If you could provide one piece of professional advice, what would it be? Don't be afraid to take a chance. As my adjectives in the answer above might indicate, I never expected the last eight years of my life to play out as they did, but I've landed in a terrific spot. ✓

The Turfgrass Information File Database



www.wgcsa.com/member_login.php

200,000+ searchable records!











Hollow Tine Aerification



Precision Cultivation and Topdressing

By: Doug Soldat, Dept. of Soil Science, University of Wisconsin-Madison

According to legend (or at least Dr. Mike Hurdzan in his book *Golf Greens: History, Design, and Construction*), Old Tom Morris discovered the benefits of sand topdressing when he spilled a wheelbarrow of sand on a putting green, cleaned it up, and then later observed healthier turf on the spot where the sand was spilled. Over 100 years later, Dr. James Beard gave a talk at the 1978 Michigan Turfgrass Conference and identified Drs. Piper and Oakley as the first to recommend an annual topdressing amount. Dr. Beard discussed the “modern” topdressing plan developed by Drs. John Madison and William Davis at the University of California at Davis. The irony was that Piper and Oakley had recommended 21 ft³ of sand per 1000 ft², and the new University of California program resulted in about 28 ft³ of sand per 1000 ft². The USGA currently recommends applying 25 to 35 ft³ of sand

per 1000 ft² for golf courses with a similar growing season to Wisconsin (Whitlark and Thompson, 2019). Apparently not much has changed across three centuries of sand topdressing! The research seems to support these recommended ranges. University of Nebraska researchers conducted an exhaustive survey of putting green management practices and reported that golf course superintendents applying about 20 ft³ of sand per 1000 ft² had average soil organic matter levels. Those applying more sand had below average levels, and those applying less sand had greater than average soil organic matter levels (Schmid et al., 2014).

All this is to say that incorporating about 20 to 30 ft³ of sand per 1000 ft² into putting green root zones is a critical practice for controlling organic matter which is required for high quality, sustainable playing surfaces. But, there is more to

this story because incorporating sand can be done in a variety of ways. And 20 to 30 ft² is a fairly wide range. Should you be on the upper end or the lower end? What about location? Do areas in southern Wisconsin require more sand than those in the far north? We know that golfers disdain superintendents' efforts to incorporate sand so we want to make topdressing and aeration decisions that meet the goals for creating a high quality, sustainable playing surface while minimizing the disruption of the golfers' experience. This is easier said than done.

About 20 years ago, USGA Green Section Agronomists Chris Hartwiger and Pat O'Brien laid the foundation for a more science-based approach to aeration and topdressing with a pair of classic articles. The first, *Core Aeration by the Numbers* appeared in the Green Section Record in 2001 and established the concept of establishing targets for the percent surface area that a golf

course superintendent aims to affect when aerifying in contrast to justifying the multidimensional decisions of tine diameter and spacing. For example, a superintendent might explain to a greens committee that the goal for controlling organic matter was to impact about 15 to 20% of the putting green surface each year. That 15 to 20% could be achieved in a variety of ways – for example, by one very intense cultivation event (big holes, tight spacing), or by employing several less intense events, or a combination of intensities to work around events on the golf calendar. Golf course superintendents could work with their greens committees to choose the best plan for their particular situation. In their follow up article, *Aeration and Topdressing for the 21st Century*, O'Brien and Hartwiger took the next logical step and discussed how aeration and topdressing decision should be made with the goal of controlling

soil organic matter. The article was the first to suggest organic matter performance standards. The authors generalize that few problems are found on putting greens with less than 3% organic matter, putting greens with 3 to 5% organic matter were considered borderline (some greens could be fine, but others may struggle in this range), and few greens performed well when soil organic matter exceeded 5%.

For the last 20 years, scientists and agronomists have been unable to significantly improve upon these recommendations. In a 2016 Green Section Record article, UW-Madison grad Adam Moeller and Todd Lowe reiterate that 3-4% soil organic matter appears to be a common threshold, but noted that differences in how soil samples are taken and processed will affect the result. For example, removing the verdure (green grass) of a soil core results in an organic matter level about half of that if the verdure would have

Continued on page 14





Hawks Landing Golf Club
Verona, WI



Before

Meticulous detail Versatile approach Perfect tie-ins Satisfaction guaranteed

A division of: Lohmann Companies ♦ Marengo, IL ♦ 815.923.3400 ♦ www.lohmann.com *ASGCA, GCBA, Better Billy Bunker Certified

been left on the sample. Additionally, grinding and sieving the sample can lower the organic matter compared to measuring organic matter without any sample processing. Soil samples need to be ground up and sieved for nutrient analysis, so some labs measure soil organic matter on the ground sieved samples, while labs that do not measure nutrient levels skip the grinding and sieving step because it is deemed unnecessary. However, the decision to sieve or not to sieve produces a different organic matter result. These methodological issues make interpreting soil organic matter results challenging. For example, I could take two side by side samples from a putting green, and depending on how those samples are analyzed, the result might be 2% or 5% organic matter. According to the thresholds mentioned above, I might think I am in good shape in one case, but think I need to be more aggressive with the other. Which do I trust?

Fortunately, this problem is being addressed. Since 2019, I have been working with other scientists and USGA agronomists to develop a single, uniform, standard method for measuring soil organic matter in putting greens. We hope to have this standard method worked out by the end of this year. I am confident a standard method will improve our ability to interpret soil organic matter results so we can begin to make decisions about how much sand to incorporate and which aeration procedures are justified. Using data to guide decisions is the basis of precision turfgrass management.

Consider irrigation decisions in the year 2000-before soil moisture probes were being widely used. Golf courses were basing irrigation decisions on observations of wilt and soil moisture conditions based on the feel method. When soil moisture probes came on the market, a common response

was that I don't need that expensive gadget because I am having success with my water management right now. Or, I know if the grass needs watering or not based on how the soil feels. Twenty years later, it is hard to find a golf course manager that does not rely on soil moisture measurements to make soil moisture decisions, and I think few would say that the moisture measurements have not changed the way irrigation is applied compared to twenty years ago. I have a feeling we will look back on this time in a similar way regarding soil organic matter management. Many golf courses have settled on an aeration and topdressing strategy that is working and producing good results. Why would they consider sampling the top inch for organic matter on an annual basis? How could those numbers make a difference to their programming? My prediction for 2040 is that many, if not most, golf course superintendents will be making aeration and topdressing decisions based on soil organic matter levels in relation to targets. I expect there will be less topdressing and fewer or less disruptive aeration events than today. As a result, golfers will be happier, playing conditions will be better, golf courses will be more profitable, and we will have scientific advances to thank. It is said that you can't manage what you don't measure. In the field of golf course management, superintendents are often forced to manage things they don't (or can't) measure, but accurate measurements make better management possible.

In 2022, soil organic matter and topdressing will be the focus of my research program at the O.J. Noer Facility. I would encourage you to come to the Wisconsin Turfgrass Field Day on August 2, 2022 to learn more about what we are up to, and discuss the latest recommendations for how to sample your putting greens for soil organic matter. I hope to see you there! 🌱



KEEPING YOUR COURSE GREEN.

- Well Drilling/Well Rehab
- Irrigation/Turbine Pump Repairs
- Pumpstation Installation & Retrofits
- Pumpstation Service & Repairs
- Fountains & Aerators
- Preventative Maintenance

Pumpstation Professionals
A Division of Midwest Well Services, Inc.

800.383.7412
PUMPSTATIONPROFESSIONALS.COM

Full Service Provider for Watertronics,
Flowtronex & SyncroFlo Systems

REFERENCES:

- Beard, James B. 1978. Proceedings of the 48th Annual Michigan Turfgrass Conference. 7:36-39.
- Hartwiger, C., and P. O'Brien. 2000. Core aeration by the numbers. *Carolinas Green*. 36(5):48-49.
- Hurdzan, Michael J. 2004. *Golf Greens: History, Design, and Construction*. xviii, 334 pp. Hoboken, New Jersey: Wiley.
- Moeller, A., and T. Lowe. 2016. Managing organic matter in putting greens. *USGA Green Sec. Rec.* 54(21):1-7.
- O'Brien, P., and C. Hartwiger. 2003. Aeration and topdressing for the 21st century: Two old concepts are linked together to offer up-to-date recommendations. *USGA Green Sec. Rec.* 41(2):1-7.
- Piper, Charles V. 1917. *Turf for Golf Courses*. xvii, 262, [6] pp., 20 plates. New York, New York: The Macmillan Company.
- Schmid, C. J., R. E. Gaussoin, and S. A. Gaussoin. 2014. Organic matter concentration of creeping bentgrass putting greens in the continental U.S. and resident management impact. *Appl. Turfgrass Sci.* 11(1):1-2.
- Whitlark, B., and C. Thompson. 2019. Light and frequent topdressing programs: A combination of field observations and recent research shed new light on the type of sand and quantity of topdressing needed to manage thatch and organic matter accumulation in putting greens. *USGA Green Sec. Rec.* 57(9):1-8.

ADVANCED TURF SOLUTIONS®

We are your one stop shop for
fertilizer, chemical, and seed
solutions for your golf course.

Ask your sales rep about our current offerings!



Todd Fregien

tfregien@advancedturf.com
(414) 949-1089
@ToddFregien_ATS



Jeff Leuzinger

jleuzinger@advancedturf.com
(815) 213-2858
@Tallturfjeff



Rusty Stachlewitz

rstachlewitz@advancedturf.com
(630) 779-0761
@RustyStack



Mike Werth

mwerth@advancedturf.com
(608) 214-7011
@werthashot



Madison, WI Location

2556 Advance Road, Unit C
Madison, WI 53718
(608) 709-1331

advancedturf.com

   @AdvancedTurf



Your golf
course will
never look
better.

DOLLAR SPOT, SNOW MOLD, and SOIL HEALTH: A 2022 STATE OF THE LAB UPDATE



By: Paul Koch, PhD, Department of Plant Pathology

First off, let me start this article by thanking former Grass Roots editor David Brandenburg for his years of work on the magazine. It's a time-consuming and mostly thankless job, and Dave produced one of the best association magazines in the country. As a professor, writing for the Grass Roots provides an excellent opportunity to communicate with the state's superintendents, and I greatly appreciate the time I had working with Dave. Secondly, hearty congratulations to Jake Schneider on taking over the Grass Roots reigns. Jake and I went to school together and have known each other a long time, and I'm really looking forward to working with Jake on the magazine moving forward.

Every year, I provide a 'State of the Lab' report as my first Grass Roots article to update you on the various people and projects going on in the lab. While the pandemic roiled our operations just like it did to everybody, I'm proud of the continued high-quality research and diagnostics that we have been able to provide.

On the personnel front we're in a period of moderate transition, which is common every few years as graduate students and post-doctoral researchers move on to new

Huo started as a PhD student in my lab in January of 2021 and has been doing excellent work on dollar spot and the microbiome. In addition, Dr. Ming-Yi Chou will join our lab as a permanent scientist and bioinformaticist on April 1st. Dr. Chou was previously part of our program as a postdoctoral scientist and will lead our numerous microbiome and disease modeling-related projects.

On a sadder note, we are losing two graduate students to graduation. Lily Gonzalez Vazquez completed her PhD in my program in November of 2021 and started as a postdoctoral researcher for the Wisconsin State Department of Health Services researching PFAS chemicals on January 1st, 2022. Brian Schaefer will complete his M.S. degree this May focusing on dollar spot biology.

Projects led by each of these students and staff are briefly summarized below and can be grouped into one of three categories: dollar spot, snow mold, and the turf microbiome and soil health.

DOLLAR SPOT

Iron sulfate impacts on dollar spot. Iron sulfate heptahydrate was previously researched in Virginia as an alternative method for dollar spot control, but variable control and unacceptable rates of phytotoxicity made it unclear how successful iron sulfate would be for dollar spot control in the Midwest. Our research tested various rates (3, 6, and 12 oz of Extreme Green 20), reapplication intervals (7 vs 14 days), water volumes (0.75, 1.5, and 3.0 gal), and combinations with urea fertilizer and Emerald fungicide in 2018 and 2019 at both the OJ Noer Turfgrass Research Facility in Madison and Minnesota Valley Country Club near Minneapolis, MN. The results across locations were very consistent and found that increasing rates of iron sulfate heptahydrate led to decreasing levels of dollar spot. However, the 12 oz rate led to unacceptably dark black color and levels of phytotoxicity, so we recommend going with the 3 or 6 oz rate. We also found that reapplying at 7 days compared to 14 days led to much better dollar spot control, that there were no impacts of water volume on dollar spot control, and that tank mixing with urea provided no added benefits compared to the iron sulfate alone (Figure 2). This study was partially funded by both the GCSAA and WGCSA and was led by Kurt Hockemeyer. More details on this study will be coming in a future Grass Roots article.



Figure 1. A slightly downsized lab crew celebrating another successful research season out on Lake Mendota.

opportunities (Figure 1). Kurt Hockemeyer remains the stalwart, however, as manager of the Turfgrass Diagnostic Lab and of our field research program. Kurt is one of the most respected turfgrass diagnosticians in the country and does invaluable work leading our field research, and the state's turf industry is fortunate to have him here. Daowen

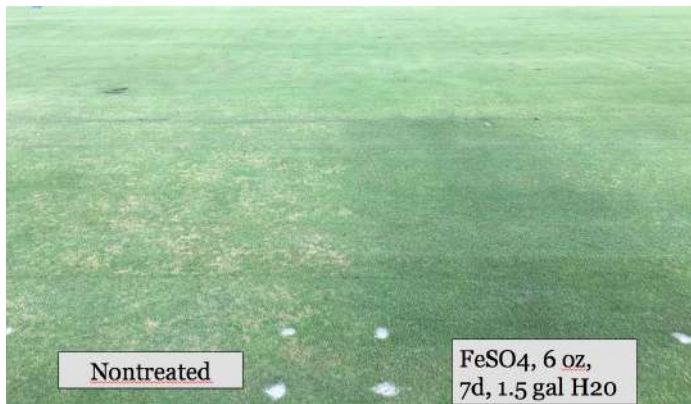


Figure 2. This picture from the OJ Noer in July of 2019 shows that iron sulfate can provide effective suppression of dollar spot in relatively high-pressure disease environments.

Dollar spot biology. Even though more money is spent to control dollar spot than any other turfgrass disease in the world, we know very little about how the fungus performs in the environment. In this research we developed a new assay to quantify the dollar spot fungus present in the turf plant, and then used that assay during the summer of 2019 and 2020 to measure the amount of fungus present over the course of a season and in response to certain fungicides. We're still conducting some of the final analysis of the results, but the preliminary findings show that the fungus changes rapidly in response to environmental changes and certain fungicides. This study was funded by the USGA and is being led by M.S. student Brian Schaefer.

Combined cultural practices for dollar spot control. Past research by numerous scientists has indicated that individual cultural practices like nitrogen fertility, dew removal, rolling, etc. can provide modest reductions in dollar spot severity. However, few projects have investigated the impact of combining multiple cultural practices to see if acceptable dollar spot control could be achieved without the use of fungicides. This project is part of the NC1208 Multistate Research Group (<https://www.nimss.org/projects/view/mrp/outline/18590>) and was conducted at 8 locations across the country. In 2021, we tested combinations of nitrogen fertility (2 lbs N vs 0), daily dew removal, and Aneuw PGR and found that daily dew removal was the most effective of these cultural practices at reducing dollar spot. Nitrogen fertility and the addition of a PGR did not further reduce dollar spot to a commercially acceptable level. This project is being led by Kurt Hockemeyer and will be repeated in 2022.

Role of oxalic acid in dollar spot infection. Oxalic acid is a chemical produced by certain plant pathogens of agricultural crops that is important for infection. There has been some evidence that oxalic acid is also important for dollar spot infection, but the research is limited. We are investigating the role that oxalic acid plays in dollar spot infection by mutating the fungus so that it can't create oxalic acid, and we will test whether the fungus can still infect

bentgrass plants grown in the growth chamber. If oxalic acid is shown to be important for infection it could become a target for new control strategies. This ongoing project is being led by PhD student Daowen Huo and funded by the UW-Madison Hatch program.

Fungicide testing. My program runs one of the most comprehensive fungicide testing programs in the country focused on dollar spot, snow mold, and other important diseases like brown patch, anthracnose, leaf spot, and others. This research is led by Kurt Hockemeyer and is largely funded by the companies that provide entries for testing. Full results of these evaluations every year can be found for free at <https://tdl.wisc.edu/results/>.

SNOW MOLD

Optimal snow mold fungicide timing. One of the most common questions I get is when to apply snow mold fungicides, and wild temperature fluctuations that seem to now occur every fall are making optimal timing of snow mold fungicides even more difficult. For the past 6 years, we have been applying a snow mold fungicide once on 8 dates throughout the fall at Timber Ridge GC in Minocqua, Wausau CC in Wausau, and the OJ Noer in Madison. We have also been tracking air temperature and soil temperature to use in creating a mathematical model to optimize fungicide timing for snow mold based on your location and the weather that fall. The results to date have been very consistent and have shown a sharp cutoff between optimal snow mold control and the product being applied too early (Figure 3). There have been no decreases in control the later



Figure 3. Timing of snow mold fungicides matters. This picture was taken in the spring of 2020 at Timber Ridge GC in Minocqua, WI and shows the same fungicide (Instrata) applied on October 14th (left) vs October 26th (right). The difference in disease control over 12 days is striking.

in the fall you apply (excluding snow cover...obviously). We anticipate having a model ready to test in the field within the next 1-2 years. The first two years of this project were funded by the GCSAA and the WGCSAA and the project is being led by Kurt Hockemeyer.

Continued on page 18

Fungicide resistance within the snow molds. Traditionally, fungicide resistance among the snow mold pathogens has been thought to be relatively minor, with the exception of Microdochium patch (ie Fusarium patch) in locations like the Pacific Northwest where repeated fungicide applications are often made throughout the winter. However, recent evidence on pink snow mold collected by Dr. Tom Hsiang in Canada found that resistance can be present in areas that only spray once or twice a year for snow mold. This project will start in 2022 by conducting resistance assays on a large number of snow mold isolates collected from locations around the U.S., Canada, and northern Europe. Field research may then be developed based on the results from the resistance assays. This project is part of the USDA-funded 'WinterTurf' research project that is a collaboration of 7 U.S. universities and a Norwegian research institute. This project will be led by Dr. Ming-Yi Chou.

Snow mold host resistance. When breeding for disease resistance in new turfgrass cultivars, diseases like dollar spot and gray leaf spot have gotten most of the attention. However, snow mold is one of the most important diseases in northern climates around the world and to date very little information exists on the resistance of new cultivars to snow mold. From 2017 through 2021, we screened potential cultivars of fine fescue for snow mold resistance, both in the growth chamber and in the field. Beginning in 2022, we will be screening potential new bentgrass cultivars for resistance to snow mold, both in the field and the growth chamber. The fine fescue part of this research was funded by USGA-funded 'Low-input Turf' grant focused on developing new fine fescues, and the bentgrass portion of this research is part of the USDA-funded 'WinterTurf' research project that is a collaboration of 7 U.S. universities and a Norwegian research institute. This project will be led by Dr. Ming-Yi Chou.

THE TURF MICROBIOME AND SOIL HEALTH

Soil microbes and 2,4-D degradation. Past research has clearly demonstrated that microbes such as bacteria and fungi are the primary drivers of pesticide degradation. Research has also clearly shown that microbial communities change over the course of the season, so our study attempted to understand whether these changes in microbes during the year has any impacts on pesticide breakdown. This study was conducted at the OJ Noer and at Pleasant View GC in Middleton, WI in 2018 and 2019 and showed that the primary types and activity of microbes in the soil at both locations differed between May and July. How it impacted 2,4-D herbicide degradation is a little less clear, and we're conducting further analysis to help us understand what happened. We anticipate having a manuscript detailing this research submitted for review during the summer of 2022. This project was funded by the UW-Madison Hatch program and was led by PhD student Lily Gonzalez Vazquez.

Pesticide use impacts on dollar spot suppressive soils. A small study that we conducted at our research facility in 2019 found that dollar spot redevelops and gets worse after the effects of certain fungicides wear off, suggesting certain fungicides can disrupt the natural competitors of the dollar spot fungus. This study followed up on the original 2019 study and collected samples from a number of golf courses around the Midwest and the Northeast that had different pesticide-use histories. What we observed is that soils collected from each course had large differences in their ability to naturally suppress dollar spot in the growth chamber and that the more suppressive ones tended to have less history of intensive fungicide use (Figure 4). We are continuing to analyze these results and intend to submit a manuscript for review during the summer of 2022. This

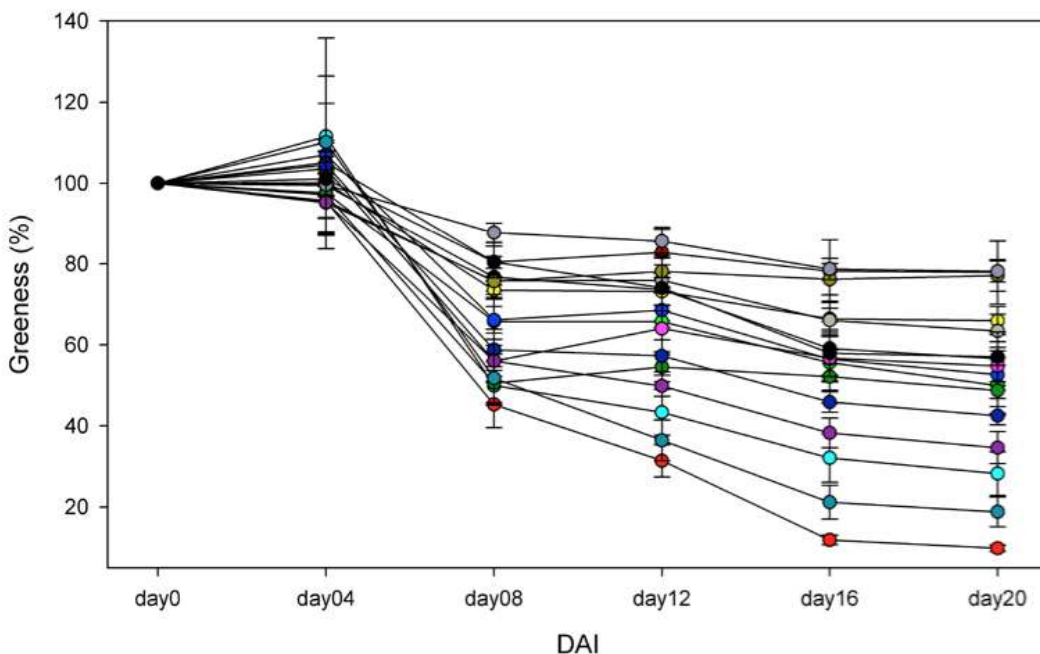



Figure 4. The location names were removed from this graph while we complete the analysis, but large differences in the ability to suppress dollar spot naturally in the growth chamber were observed from these soils with different locations and different fungicide histories.


project was partially funded by the OJ Noer Foundation and the project and analysis were led by Dr. Ming-Yi Chou.

Turfgrass and soil health. Together with Doug Soldat, we have numerous research projects that focus on the impacts of turfgrass on soil microbial diversity and overall soil health. While many of these projects are just getting started, one project is nearing completion. This project sampled home lawn, sports turf, park, agricultural, and prairie/non-managed sites from the Minneapolis, Chicago, and Madison areas during the summer of 2020. We conducted a microbial diversity analysis and also a soil health analysis on each sample to compare the microbial diversity and multiple other soil health parameters from the turf sites to the non-turf sites. The results consistently demonstrated that turfgrass soils had very high microbial diversity and had soil health scores as high as the non-managed/prairie samples and nearly always higher than the agricultural soils. While there is more work to be done, these results show that turfgrass can produce a very healthy and microbial diverse soil. This project was funded by the USDA Agricultural Research Service and was led by Dr. Ming-Yi Chou.

THANK YOU FOR YOUR SUPPORT

Our work wouldn't be possible without the incredible support of our partners. This support consists of direct funding from

the WGCSA, GCSAA, USGA, USDA, and others. It includes the companies that test their products in our evaluation trials. But it also includes supporters like Trygve Ekern, Aaron Hansen, Ben LaBarre, Rod Johnson, Jay Pritzl, and Adam Suelflow for hosting our research trials on their golf courses. It also includes all of you that are members of the WGCSA, that are contract members with the TDL, and that attend field days...all these are different forms of support and help to support future research projects here at UW! 



FRS Design Group

Dan Feick, PLA

P 608-588-7888
C 608-963-2262
frsdesign.com

Irrigation Consultants
Irrigation Designers

167 S. Lexington Street . PO Box 748 . Spring Green, WI 53588

Pendelton Turf Supply

PENDELTON TURF SUPPLY



Amino-Phyte 11-0-0 with Added Amino Acids

- Amino acids help with photosynthesis to ensure quality growth of a plant
- Increases nutrient absorption
- Reduces stress related issues like high temperatures, low humidity and much more!

Redox TURF



- 100% Penetrant with 10% Added Microencapsulated Calcium
- Reduces water surface tension while delivering calcium and water throughout the soil profile



- Par Aide is your one stop shop for all your tee and green needs this season! Contact one of our sales rep for more information.

Durrell Naquin
durrell@pendeltonturf.com
(608) 228-1782

805 Ela Ave.
Waterford, WI 53185
Phone: (262) 534-3334
Email: office@pendeltonturf.com

Kristin Witkowski
kristin@pendeltonturf.com
(414) 640-2241



@TurfExcellence

THE HOCKEMEYER SNOW MOLD PREDICTION MODEL V3.0



Kurt Hockemeyer
608-845-2535
hockemeyer@wisc.edu
tdl.wisc.edu

By: Kurt Hockemeyer, Turfgrass Diagnostic Lab Manager

Well, it's that time of year again for the highly anticipated Hockemeyer Snow Mold prediction model. This will be the 3rd year of me trying to make these predictions (keyword "trying"). I have not been very accurate in the past. This year, I also asked Dr. Koch for his predictions. We look at all the environmental factors such as snow depth,

length of snow cover, and temperature. Once the snow melts and we rate all our plots, I will do a follow-up article grading myself and Dr. Koch on our predictions. At that time, I should have more data that can give some insight into why I may have been right or wrong. So, let's get into it. My prediction scale is as follows:

Prediction Scale	Percent Snow Mold in Nontreated	Description
Snow Mold Utopia	75-100	Just about absolute perfect conditions for snow mold infection for a long time. Early snow cover, deep snow all winter long.
That's a lot of snow mold	50-75	Might have been a short period where snow mold conditions were not ideal resulting in slightly less snow mold infection.
I've had better snow mold	25-50	Decent amount of infection, but Dr. Koch would not tweet a GIF of an excited puppy if he saw a picture of it on Twitter.
"Baby Bear" snow mold	10-25	Just the perfect amount of snow mold. Enough that you feel like your snow mold app was worth it, but not a single sclerotia more.
What's snow mo'u'ld?	0-10	So little snow mold infection you can't even spell it right.

Marquette, MI

Table 1. Monthly weather summary in Marquette, MI according to NOAA

Marquette	Nov 2021	Dec 2021	Jan 2022	Feb 2022 up to 2/3/22
Avg Monthly Temp	32.2	23	9.5	11
Temp Departure from normal	1.4	2.8	-4.8	-2.5
Snow Total for Month	20.9	43.4	49.5	0.2
Snow Departure from normal	-3.3	3.5	7.4	-3.8
Avg Monthly Snow Depth	0	1	8	17
Greencast Soil Temp 2/4/22				30

Kurt's Prediction: Snow Mold Utopia (75-100% disease in nontreated plots)

Snow mold apps went out at the end of October. First snow was just a couple of weeks later in mid-November with 4" of snow depth. Some melting did occur in late November, but snow depth was at 4" by the end of the month. Snow continued to mostly accumulate in December. Cold did not

arrive until January but by then snow depth was significant. Soil temps remain high (30F) so I think we will once again have very high levels of snow mold here.

Paul's Prediction: Snow Mold Utopia (75-100% disease in nontreated plots)

Plenty of early snow to keep the fungi nice and cozy.



An example of snow mold in a lush grass.

Minocqua, WI

Table 2. Monthly weather summary in Minocqua, WI according to NOAA

Minocqua	Nov 2021	Dec 2021	Jan 2022	Feb 2022 up to 2/3/22
Avg Monthly Temp	29.3	18.5	3.7	5.4
Temp Departure from normal	0.1	1.5	-6.8	-5.3
Snow Total for Month	6	28.4	11.9	0
Snow Departure from normal	-6.8	8.7	-8.5	-2.5
Avg Monthly Snow Depth	0.3	4.9	8.8	6
Greencast Soil Temp 2/4/22				13.2

Kurt's Prediction: Snow Mold Utopia (75-100% disease in nontreated plots)

Minocqua got significant snowfall in late November and mostly stuck around through December. January and February (so far) was and has been very cold but plenty of snow was present to insulate the ground. Should be another great year for snow mold infection. The reported soil

temp number seems too low based on snowfall but only time will tell.

Paul's Prediction: Snow Mold Utopia (75-100% disease in nontreated plots)

Plenty of early snow to keep the fungi nice and cozy. Plus we've never not had tons o' snow mold at Minocqua.

Wausau, WI

Table 3. Monthly weather summary in Wausau, WI according to NOAA

Minocqua	Nov 2021	Dec 2021	Jan 2022	Feb 2022 up to 2/3/22
Avg Monthly Temp	35.5	25	11.1	10.7
Temp Departure from normal	2.7	4.3	-3.7	-4.3
Snow Total for Month	3.9	26.9	12.1	0
Snow Departure from normal	-2.6	12.5	-2.7	-1.4
Avg Monthly Snow Depth	0.2	3.8	9.2	9
Greencast Soil Temp 2/4/22				21.2

Kurt's Prediction: That's a lot of snow mold (50-75% disease in the nontreated plots)

Permanent snow did not arrive till early December in Wausau but a warm November probably kept soil temps fairly warm as well. December was very snowy in Wausau, well above average. Below average temps in January and February but lots of snow cover. Should shape up to be a decent snow mold year in Wausau.

Paul's Prediction: That's a lot of snow mold (50-75% disease in the nontreated plots)

This is probably the one that could go either way the most. They had a solid early dollop of snow and no big melts. But not much snow lately... so more snow and avoidance of any major cold snaps will likely lead to a good amount of snow mold development. Continued lack of snow combined with a melt and/or deep freeze will limit development.

Continued on page 22

Madison, WI

Table 4. Monthly weather summary in Madison, WI according to NOAA

Minocqua	Nov 2021	Dec 2021	Jan 2022	Feb 2022 up to 2/3/22
Avg Monthly Temp	36.5	30.7	14.4	17.5
Temp Departure from normal	-0.2	5.4	-5	-2.1
Snow Total for Month	0.6	6.3	9.1	0
Snow Departure from normal	-2.4	-11.7	-4.6	-1.5
Avg Monthly Snow Depth	0	0.4	4.2	4.3
Greencast Soil Temp 2/4/22				20.6

Kurt’s Prediction: That’s a lot of snow mold (50-75% disease in the nontreated COVERED plots)

Despite no snow until just after Christmas, there were very few dips into very cold temperatures. Total snowfall has been well below average in Madison but very few melting days have resulted in several inches sticking around since the first snow. We have 2 studies in Madison: one under insulation frames and covered and a second

Kurt’s Prediction: I’ve had better snow mold (25-50% disease in the nontreated NONCOVERED plots)

that remains uncovered. So, Madison gets two predictions.

Paul’s Prediction: I’ve had better snow mold (25-50% disease in the nontreated COVERED plots)

Not a lot of snow but decent coverage for January. If it melts off in February ,then obviously this would drop. Covers providing adding insulation.

Paul’s Prediction: “Baby bear” snow mold (10-25% disease in the nontreated NONCOVERED plots)

**When it comes to
topdressing,
you’re in good
hands with
Waupaca.**



Waupaca Sand & Solutions

715-258-8566 - www.WaupacaSand.com

Biwabik, MN**Kurt's Prediction: That's a lot of snow mold (50-75% disease in the nontreated plots)**

In addition to our standard snow mold trials in Wisconsin and Michigan, we also have two snow mold study locations in northern Minnesota. I don't have a monthly weather summary for Biwabik

because the data is missing from the NOAA website. But based on what I know about that area I feel safe with this prediction.

Paul's Prediction: Snow Mold Utopia (75-100% disease in nontreated plots)

Early snow cover, no big melts

Brainerd, MN**Table 5.** Monthly weather summary in Brainerd, MN according to NOAA

Minocqua	Nov 2021	Dec 2021	Jan 2022	Feb 2022 up to 2/3/22
Avg Monthly Temp	31.1	17.2	0.4	-2.9
Temp Departure from normal	1.5	1.1	-8.4	-12
Snow Total for Month	6.1	35	8	0.5
Snow Departure from normal	0.4	25	-2	-0.6
Avg Monthly Snow Depth	0.5	5	11.7	10.5
Greencast Soil Temp 2/4/22				10.2

Kurt's Prediction: "Baby bear" snow mold (10-25% disease in the nontreated plots)

Tons of snow in December but for some reason we have just never quite gotten great snow mold development at this location. I hope I'm wrong,

but I'm predicting low disease pressure here.

Paul's Prediction: I've had better snow mold (25-50% disease in the nontreated plots)

Solid snow cover, but I believe the plot was placed on a raised exposed area so more shallow snow depth.

Keep an eye out for my follow up article in the next issue of The Grass Roots magazine where I revisit our predictions and compare them to how much snow mold we actually got at each location. Stay warm. 🌱

Daconil Action™ Fungicide, A New Era in Turfgrass Management

The power of the active ingredient contained in Daconil® fungicide combined with a revolutionary Turf Protein Booster results in longer, more efficient, and broader spectrum turfgrass disease control.

- Boosts turfgrass natural defense proteins (PR proteins)
- Enhances overall plant health
- Increases tolerance to environmental stresses, like drought
- Suppresses activity of fungi, bacteria, viruses, and abiotic diseases

To learn more about Daconil Action, visit DaconilAction.com or contact:

Phil Spitz
Cell: 414-429-2015
phillip.spitz@syngenta.com



Daconil Action™
Fungicide

syngenta.

©2011 Syngenta. Important: Always read and follow label instructions before buying or using these products. The instructions contain important conditions of sale, including limitations of warranty and remedy. Daconil Action is not currently registered for sale or use in all states. Please check with your state or local extension service before buying or using this product. Daconil®, Daconil Action™, the Purpose icon and the Syngenta logo are trademarks of a Syngenta Group Company. Syngenta Customer Center: 1-800-SYNGENT(A) (796-4368).

TM

“THINGS THAT MATTER”

from the 55th Golf Turf Symposium

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

After missing a year due to the Covid-19 pandemic, the Golf Turf Symposium was back as Wisconsin's premier educational event for turfgrass managers. Moving the date from December to January to avoid the holiday rush was a well-received move that many in attendance hope continues into the future.

Covid-19 is still affecting our lives but it was good to meet in person and socialize with attendees and presenters. Speaker travel issues and even speakers with Covid-19 led to some last minute substitutions, but the team of Jaime Staufenbeil from host and sponsor Milorganite and Chapter Manger Brett Grams took it in stride and provided a great event.

The American Club took things seriously with bottled water, masks, and extra sanitizing while attendees had the choice to distance and mask up as the country dealt with the third major variant of Covid-19.



I must mention the support of the WGCSA's silent partner, Milorganite, in providing this event. For all 55 symposiums, Milorganite has been there to allow the association to provide this educational opportunity to our members. They provide their support with no fanfare and barely a mention in the program. A big “thank you” to Jeff Spence, Director of Agency Services at MMSD, and Jaime Staufenbeil, Agronomist for Milorganite, for their financial and organizational support for the Golf Turf Symposium.

Association Vice President Scott Anthes filled in for President Jeff Barlow to provide the opening remarks and welcome. He also introduced Mr. Luke Cella, Executive



Wee One Executive Director Luke Cella looks for bidders in the live auction to raise funds for the Wee One Foundation.

Director for the Midwest Association of Golf Course Superintendents and the Wee One Foundation.

Cella gave a recap of the foundation and its importance in the golf industry. He explained there are plenty of people and families in need. The Wee One Board reviews requests for aid and sends it out with no thanks needed. Individuals can publically announce or thank the foundation, but the Wee One Foundation keeps requests and gifts private.

Luke was present to operate a silent and live auction to benefit the Wee One during the social hour at the end of the first day.

Keynote Speaker, Andy Johnson of the Fried Egg Podcast, discussed his history and gave an update on the current state of the golf industry. Johnson was the first to admit that, when he starting in journalism, he was not a writer, but he has quickly become a leading communicator in the game. Andy covers architecture, course rating, and news while providing photography by drone and land cameras.

Andy stated that, when he visits a golf course, he enjoys talking to the golf course superintendent and often learns more about the club and its history from them than from



Keynote Speaker Andy Johnson presented why your club should be unique.

members and players. He went on to discuss how each club has a chance to create a unique identity and the superintendent is key to promoting and protecting that identity.

Johnson explained that too often clubs try to change their identity to match a neighboring club rather than focusing on promoting their own features and benefits. He discussed key ways clubs have either found or retained their unique identity.

Andy finished with a discussion on green speeds and admitted that some clubs green speeds have gotten too fast for their green contours--changing the course and reducing potential cupping areas. He went on to say for some clubs, the goal should not be the fastest greens, but rather the funnest greens. Follow Andy Johnson at www.thefriedegg.com and on social media.

Dr. Doug Linde joined us from Delaware via zoom due to travel issues to discuss "How to Train Employees". Linde, a Professor of Turf Management at Delaware Valley University, also serves as golf coach, and grew up on Wedgewood Golf Course in Pennsylvania, where his father served as golf course superintendent.

Doug started with interactive breakout groups to discuss why we should try to retain employees, what is an ideal employee, how to retain

employees and how to not retain employees. By understanding those key topics, we as turf managers can model our actions to retain the employees we want to keep.

He presented how great sports teams develop a winning culture and how that can be used in any industry to create a winning team of staff members. We as managers need to use competitive pay and benefits, but also flexible hours, training, communication, staff activities and appreciation to keep our team together.

Scheduled next was a presentation on the First Green Program by Adam Suelflow, Golf Course Superintendent at The Wisconsin Club and Leann Cooper, Senior Manager, Chapter Services GCSAA. However, Leann was not able to join us due to illness. Leann's replacement, GCSAA Field Staff for the Great Lakes Region, Shane Conroy was also ill. This left Adam Suelflow who is familiar with the program but due to Covid has not actually hosted the program yet to give us an introduction.

The First Green is a STEM education outreach program, using our golf courses as environmental learning labs. Superintendents or groups of superintendents, can host field trips to have students test water quality,



Adam Suelflow discusses how the First Green Program will benefit not only students but The Wisconsin Club.

identify plants, collect soil samples, design plantings and even assist in stream bank restoration and other ecology aspects of golf course management.

Adam's first task was to reach out to a teacher contact and introduce them to the program. Suelflow hopes to host a school field trip and also to use the program with junior club members. He can see how an introduction to the golf course at a young age could lead to future employees. We look forward to hearing more from Adam after he hosts the students at The Wisconsin Club.

With Doug Linde not able to travel, Doug Soldat PhD from the University of Wisconsin Madison presented "Optimizing Nitrogen Fertilization".

Soldat started by showing Liebig's law of the minimum and how plant growth is often limited by the element in shortest supply using the slats or staves of a wooden barrel. For instance if the plant has a phosphorous deficiency we can add all the nitrogen we want but the grass will not grow. Once we add the phosphorous, the turf will start to grow again.

Turf managers constantly manage nitrogen in turf as it is usually the limiting factor. Doug presented that we needed to determine our ideal growth rate and achieve it using nitrogen and plant growth regulators.

In areas we remove clippings when mowing we need to determine the amount of nitrogen removed in the clippings and add the equal amount of fertilizer as an input. Growth regulators reduce clippings and in turn reduce nitrogen removal.

Doug gave a convincing argument as to why measuring clipping volume is the best way to track growth rate and how weather, nitrogen and growth regulators work together to control growth. It requires some

Continued on page 26

spreadsheets and commitment but it is the only way to truly understand and control growth.

It can take up to 5 years to match growth and turf quality with N applications. Why? Because it takes 5 years to use up possible previous applications of nitrogen in the soil. Too little N leads to less turf quality and too much N can lead to increased organic matter. Soldat understands experienced managers think they can just look at a green or look at the mower bucket and guess what the turf needs. Even though our work is an art form, data collection is a tool we can use to verify results.

The growth rate discussion lead right into an organic matter discussion. Doug has been working on a task force to measure soil organic matter. Sand greens can provide good playability and less compaction but they do accumulate organic matter.

There are many ways to test organic matter and originally agronomists took 3" samples, which distorted the percentages because the organic matter was only at the top. Doug recommended a 1" sample leaving the turf on. He also recommended no matter how we sample we use the same method and the same lab to get consistent results over time. It is yet to be determined what a good number is for percentage of organic matter. The goal used to be 3% but it perhaps 6%+ may be okay.

Soldat finished with a discussion on sand topdressing to dilute organic matter and stated it is important we as turf manager know how many cubic feet of sand we apply per year. We can use that amount as a guide to determine future applications and if increases or decreases are needed.

Doug reminded us that topdressing builds the soil of the future and suggested applications every 1 to 3 weeks should not cause any layering issues while application of 4 to 6 weeks could cause layering and



Dr. Doug Soldat discussed how to control growth and organic matter with proper nitrogen and growth regulator applications.

less frequent applications will cause layering issues.

Ideally, fine sand should not be put over coarse sand but admittedly, that is usually done to reduce sand pickup by mowers and to incorporate the sand into the turf profile. Soldat suggested core aeration could be done to only the top 2" to reduce labor but still change organic matter percentages. We should stay tuned for results to the 3-year study funded by the USGA.

Day 2 started with a hearty breakfast, and USGA Green Section Agronomist Zachary Nicoludis providing the "USGA Year In Review". Zach complemented Dr. Soldat's talk from yesterday with more organic matter numbers and confirming the desired percentage of organic matter is site specific and varied by testing depth.

Zach reminded us about the many non-agronomic challenges turf managers face including the labor crisis and supply chain challenges, but also the cost of commodities and the compaction and traffic issues with single rider carts.

Nicoludis highlighted some improvement projects in his territory, including courses redoing greens to provide firmer surfaces and using



Zach Nicoludis presented on what he has seen in the past two season in his role as a Green Section Agronomist.

new grasses to reduce maintenance and increase playability. He passed along a few tips as we move forward with projects of our own. Sod provides a quicker playing surface than seed, but sod roots can take years to reach normal depths.

Before starting a bunker project test 2 to 3 sands separated by silt fence to allow members to do the testing. If using bunker liners use soil test to understand the depth of sand needed for capillary action and drainage. Liners are probably not needed if developing flat bottomed bunkers or bunkers that do not take outside water.

New practice tees cannot be too big and low mow bluegrass has shown to be the best in the Midwest for sustainable turf on busy ranges.

Fine fescue in rough areas is growing in popularity to reduce maintenance. This has proven to work on sand soils if water can be controlled. On heavy soils lingering soil nutrients and moisture levels can actually cause increased maintenance to provide that "perfect" fescue playing surface.

Shifting gears Tom Walsh a Labor Market Economist for the Wisconsin Department of Workforce Development presented "Future Workplace Challenges". Tom works part time in the golf business at



Tom Walsh is not only a Labor Market Economist for the state but he also helps maintain Eagle Springs Golf Course.

Eagle Springs Golf Course so he has a understanding of our workplaces and the related challenges.

Tom did not have good news as he presented the current worker shortage will continue due to an aging population. The population will grow by 8% the next 20 years but 44% of our workers will pass age 65 and retire from the workforce. We will see technology automate some tasks, but most jobs are just evolving not disappearing.

Since we are losing workplace knowledge with retirements, Walsh suggested we study our successful workers before they leave and determine their methods for success. We can then teach those methods to our new employees to bring them up to speed faster.

Continued on page 28



Sandy Martin showed how we can attract and keep new employees in a tight labor market.

RICH IN ORGANIC MATTER

Milorganite fertilizer helps to improve drainage in heavy soils and increases the water holding capacity in sandy soils.

Two hands are shown cupping a large amount of dark, rich soil. The hands are slightly dirty with soil, and the background is a lush green lawn.

ORGANIC NITROGEN
Milorganite
FERTILIZER

HORST
DISTRIBUTING, INC.
1-800-279-2341

Reinders

1-800-785-3301

www.milorganite.com 1-800-287-9645



The tale of 2 John Turners! Longtime member JT with Aquatrols can show the ropes to the younger Turner, Superintendent at Kestrel Ridge Golf Course in Columbus.

To fight the labor challenges we will have to hire more people working the same total hours to fit into varied schedules while at the same time invest in automation and course projects to decrease hand labor.

On the same topic Sandy Martin, Business Services Lead Outreach for the Bureau of Job Services discussed "Workplace Solutions for Emerging Businesses."

Sandy said the Job Service of Wisconsin is the one stop center in each county for employers and employees to meet up. They will help recruit qualified workers and our taxes pay for the program so we should use it.

The Job Service website is available 24/7 for employers to post jobs and search resumes for employees to create their resume and search for jobs. Martin discussed different programs we can look to including Veteran Service Departments, Division of Vocational Rehabilitations, Registered Apprenticeship, Youth Apprenticeship, Wisconsin Fast Forward Grants and on the job training programs.

Sandy suggested we use any and all methods to find, attract and keep employees. Sign on bonuses may cause employees to move around but referral bonuses and continued employment bonuses may attract

and keep employees without them moving around.

Although neither Tom nor Sandy had an easy solution, they did have great ideas to find, attract and keep employees during this time.

Gina Rizzi, President of ARCUS Marketing Group and Radius Sports Group presented "Leading the Way with BMP's." Gina discussed how our chapter leaders developed our state BMP's and why using them and showing them off is important.

With over 500 golf courses, we need to show residents, regulators and policy makers how valuable our properties are. Our BMP's can be accessed at www.wisconsinogolfbmp.org and will be a valuable tool for each of us to maintain our properties. The BMP's will be key in communicating with government agencies and elected officials to inform them how we as golf managers use proven methods to maintain our properties with the least amount of inputs possible.

The BMP's will also highlight the benefits of turf and the game of golf as an economic, social and recreational activity.

After a great American Club lunch including the world famous beer cheese soup, we returned to education with Dan Schwartz Project Engineer for Ruckert & Mielke Inc. presenting UAS Mapping for Golf

Course Design, Construction and Maintenance.

Dan discussed how drones can be used to not only survey a property quickly and efficiently but also can be used to create maps and layers to provide as-built maps and show proposed and past changes to properties.

Drones can also use NDVI Index and light reflectance to show stressed turf early to allow us to make changes before dormancy or death. Drone photography has long been used for marketing pictures but can also provide topography and measurements of features. With golf courses concerned about edges of greens, tees and fairways and even bunkers changing over time, drone maps will show those changes and allow the features to be returned to original.

The Golf Turf Symposium finished up with the panel discussion of "Maximizing Your Budget Dollar: Doing More With Less." Lead by Moderator Colin Seaberg, Watermark Country Club, panelists Phil Davidson, University Ridge, Shawn Mulhern, Kettle Hills and Joel Larsen, North Shore Country Club discussed what they have done at their respective clubs.

Joel Larson has seen a big increase in play at North Shore while having a



Panel members Shawn Mulhern, Phil Davidson and Joel Larsen discussed how they have done "more with less" during the pandemic.

40% reduction in labor. To cope they have increased growth regulator use and changed scheduling to get the most out of their staff.

Phil Davidson saw staff reductions due to budget reductions during Covid and had to prioritize jobs and changed expectations despite hosting a PGA Senior Tour Event in 2021. Many of the skipped jobs may be little things only staff notices but are still important. Phil increased his communication with other club leaders and used the phrase "I see it, it's on the list, there is just not enough staff yet."

Shawn Mulhern manages 45 holes and was running lean on labor before Covid 19 started. His staff has had to deal with increased play the past two years further reducing work time. They have coped by bringing in workers in the dark to stay ahead of play, prioritizing greens, and using some new equipment to make up for the lack of staff to do hand work.

The entire panel enjoyed taking ballwashers and rakes off the golf course to save labor, but eventually had to put them back due to club management forcing the issue. The group also has felt the pain of parts and equipment shortages and using every method possible to attract employees.

Few clubs have escaped the challenges of increased play, less employees and rising costs. We will all have to use the education from the Golf Turf Symposium, BMP's and other opportunities to improve our abilities to maintain our properties into the future.

Thank you to all the attendees, speakers, committee members and most of all Milorganite for their sponsorship to provide this educational opportunity. It is good to be back to in person learning! 🌱



Dedicated to the Memory of O.J. Noer

BASF
We create chemistry

TRY EASIER.

Our turf management solutions bring peace of mind to the grind of course management. We make controlling disease a breeze with the #1 DMI in golf that powers **Maxtima**® fungicide and **Navicon**® **Intrinsic**® brand fungicide. Spray on any turf, in any temperature, anywhere on your grounds. It's one less thing to worry about during your high-demand season.

Ready to #TryEasier? Contact your BASF representative **Andy Morris** at andy.morris@basf.com or **309-264-9942**, or visit betterturf.basf.us to learn more.

Maxtima®
Fungicide

Navicon®
Intrinsic® Brand Fungicide

Always read and follow label directions. Intrinsic, Maxtima, and Navicon are registered trademarks of BASF. © 2022 BASF Corporation. All rights reserved.



Scenic native rough with beautiful greens and ponds

Caring for Wisconsin Golf Courses & the Environment

The Importance of Wisconsin Golf Industry Best Management Practices

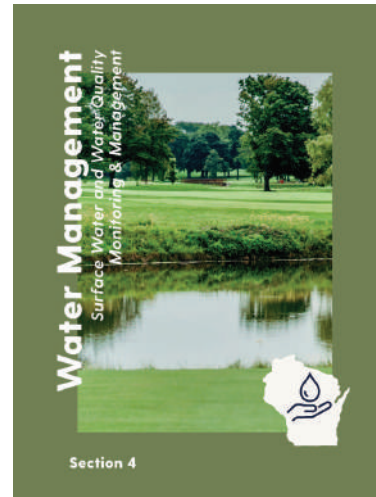
The Wisconsin Golf Course Superintendents Association (WGCSA) and Northern Great Lakes (NGL) chapter of the GCSAA recently published the Wisconsin Golf Industry Best Management Practices (BMP) Guide to serve as operating standards in support of a quality golfing experience and sustainable resource management. Proper BMP utilization helps preserve 50,000 acres of valuable greenspace and supports more than 38,000 jobs throughout our state.

Publishing the Wisconsin Golf Industry BMP Guide contributed to successful attainment of the Golf Course Superintendents Association of America's nationwide goal of all 50 states establishing state specific BMPs by the end of 2020. The initiative is a significant sports industry "first" showing the golf industry's desire to lead environmental efforts through proactive measures.

Sharing knowledge and resources is critical for sustainable operations and environmental stewardship. BMPs benefit everyone in the community that a golf

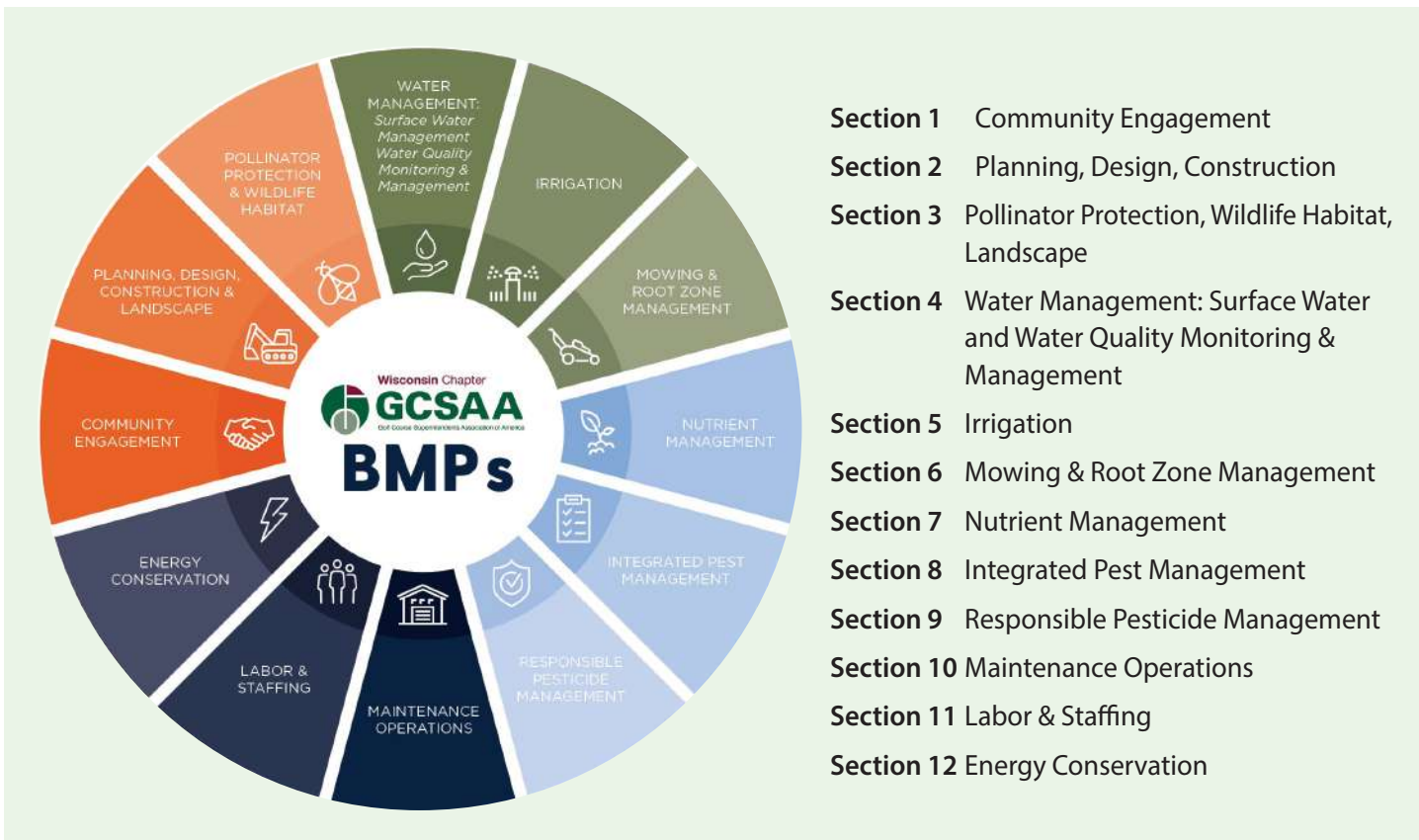


course serves by helping to ensure our golf courses are as healthy as possible – providing long-term benefits like greenspace, quality of life, wildlife habitats, water quality infiltration – and a pleasing recreational facility, for now and generations to come. The Wisconsin Golf Industry BMP Guide conveys the dedication and care that each Wisconsin superintendent has for the environment, our communities, and the game of golf.



The guide provides a tool for communication, education, and advocacy efforts with Wisconsin legislators and regulators, showing proactive water and energy conservation measures being used by golf courses throughout the state. It helps golf course general managers, owners, boards, management companies, and greens committees to understand the efforts that superintendents are taking toward environmental stewardship.

The guide was developed in collaboration with Radius Sports Group, a sustainability consulting firm, and has been reviewed by leaders in golf course management, construction, regulatory, and academic fields. There are twelve core areas containing BMPs and regulatory considerations, plus local resources for additional information. The sections are:



Continued on page 32

Our BMP microsite www.wisconsinbfp.org includes the complete guide in an e-Magazine and downloadable PDF format, plus active links to regulations, regulatory bodies, testing labs, and a thousand resources for things from safety to recruiting to record-keeping forms and research. Understanding and keeping abreast of the DNR's rules is critical for keeping your license to operate – reference the site for regulations from wetlands to floodplains to stormwater pollution prevention plans to endangered species and more.



WHAT'S NEXT? Development of facility-specific BMP guides are the next phase in the WGCSA BMP initiative. The Wisconsin state BMP guide serves as a basis for superintendents to reference, review, and now customize based on each facility's unique location, processes, and applicable BMPs. Having your own facility-specific guide will provide a resource to assist in the education of golf course assistant superintendents and crews, in addition to supporting finance and decision-making, plus local communications and advocacy efforts.

Facilities are encouraged to attend our upcoming facility BMP workshop at the WGCSA Spring Business meeting on Wednesday, March 2, 2022. During this workshop, Shane Conroy, GCSAA Midwest Regional Representative, will review the online GCSAA BMP Planning tool and answer questions related to its use in helping to customize our state guide to reflect the unique needs of each facility. More information on the meeting will be forthcoming.

Professionally designed and printed Wisconsin Golf Industry BMP Guides may be purchased for \$25.00 at <http://www.wgcsa.com/Order-BMP> or accessed online via www.wisconsinbfp.org.



WE'VE GOT YOU COVERED



Only **Aquatrols** offers users **Industry Leading Soil Surfactants** in combination with **nutritionals powered by RedoxTurf**. See the difference in overall turf quality when you implement our products on your greens or fairways this season.

John "JT" Turner
 North Central Territory Manager
jturner@aquatrols.com
 (630) 215 - 6110
www.aquatrols.com



INTRODUCING

EXCLUSIVELY FROM



CLESSENS

IN GROUND WIRELESS SENSOR
MEASURES RECORDS MONITORS

- MOISTURE** **SALINITY**
- TEMPERATURE** **LIGHT**

10 MINUTE INSTALLATION



Sensor	Temperature, Light (FC/Lux), Salinity (EC) and Soil Moisture Sensor
Battery	Average 5 year battery life with standard usage. Free replacement of unit when battery dies.
Connectivity	Cellular 3G/4G - provides hourly data
Min and Max Operating Temperatures	-4 to 170° F soil temperatures
Bury Depth	1 inch to 2 feet (can easily be moved anytime)

Monitor data from your mobile device or desktop in real time via cellular networks.

Scan QR Code with your phone camera for Spiio installation and use video.



WTA WINTER HAPPY HOUR "OR TWO"



By: Dr. Brad DeBels, Director of Operations, Weed Man

For the second year in a row, proudly presented by the Wisconsin Turfgrass Association, the class of the turfgrass industry gathered to share their knowledge at Happy Hour with The Turf Docs. While the atmosphere experienced at this event may be uncommonly found in our lecture halls, it was quickly apparent that this is truly the natural habitat of turfgrass specialists. I never realized there were such polarizing feelings towards Yuengling beer. And for likely the first time in recorded history Wisconsinites were referred to as, 'fancy'. I hope you didn't miss it!

Prior to getting to the event's entertaining question-and-answer format, Dr. Soldat announced the winners of the turfgrass scholarships, and they were:

Charles O. Newlin Award (\$1500 from UW Madison): Travis Miller (Soils undergraduate)

Wisconsin Sod Producers Association UW Turfgrass Scholarship (\$2500 from WSPA): This award was split between two Farm and Industry Short Course (FISC) students: Riley Thompson and Alex Strege (\$1250 each).

WTA James Huggett Memorial Scholarship (\$1000 from WTA): Tristan Wood (FISC student)

WTA UW Turfgrass Scholarship (\$500 each from WTA): Dylan Rogers (FISC student), Daowen Huo (Plant Pathology Graduate Student)

Congratulations to all!

After that presentation, eighty-four attendees from across the globe were graciously joined by expert panelists Dr. Ben McGraw (Penn State University), Dr. Jim Kerns (NC State University), Dr. Bill Kreuser (Greenkeeper), Dr. Doug Soldat (University of Wisconsin-Madison), and Dr. Paul Koch (University of Wisconsin-Madison). Dr. Soldat

graciously hosted the event for two hours, where a plethora of topics were covered. Dr. McGraw shared his experience on many entomology topics, including armyworms, hornets and annual bluegrass weevil. Dr. Koch and Dr. Kerns discussed fungicide effectiveness and general pathology. Dr. Kreuser share his expertise on plant growth regulators. Truly something for everybody! If there was a common theme it is that the turfgrass industry is forever a changing masterpiece where research and education is paramount.

Thank you to all of you that attended the Happy Hour, our members, our sponsors and if you missed the event, we look forward to seeing you in 2023! On behalf of the WTA, I want to sincerely thank the panelists for their commitment to the green industry as a whole and their time to participate in the Happy Hour with the Turf Docs event. 🌱

FROM SMITHCO AND TEEJET® TECHNOLOGIES

STAR COMMAND 2.0 The Next Generation of Sprayers

EXPERIENCE TOTAL CONTROL

- Control droplet size for greater efficacy independent of rate or speed.
- Spray from 2 to 10 mph. Up to twice as fast as other sprayers.
- Get the ongoing support of Smithco and TeeJet®.
- Plus the dependability of the only GPS sprayers tested over 4 years by superintendents.

Start with the 2 finest sprayers Smithco makes. The Spray Star 3180 and 2000. Both factory-fitted with a DynaJet® Nozzle Control System and Aeros Field Computer from TeeJet.

Smithco.com



WAUKEGAN

2216 N. Greenbay Rd.
Waukegan, IL 60087
847.336.120

LAKEMOOR

27919 Concrete Dr.
Ingleside, IL 60041
815.363.4100

JOLIET

2001 Cherry Hill Rd.
Joliet, IL 60433
815.464.6650



PRECISION
LABORATORIES

Results. Expect it:

Liquid and Granular Soil Surfactants,
and Maintenance Chemistries

**Nature
Safe**

Natural and Organic
Fertilizers

Quest
Products Corp.

Finding new ways to improve
the treatment of trees and plants.



More Brands.
Better Performance. Best of All Worlds™

Offering a Full Line of the Finest Fertilizers
and Grass Seeds to Fit Any Budget



The Logical Choice for
Bunker Maintenance

QUALI-PRO

Quality Turf and
Ornamental Products

agrichem

0-0-30 Turf Summer
Stress Phiter

Solu-Cal

Calcium,
The Forgotten Nutrient

BARENBRUG

Great in Grass®

The Industry Standard in
Coated Grass Seed Technology

**Emerald
Isle, Ltd.**

Tru Foliar Nutrient and Iron Products
Fortified with North Atlantic Sea Kelp

DHID
TURF & TREE PRODUCTS

866.343.8733

“Committed to Your Success”

Mike Akin

262-894-9478

Dennis Dary

608-712-4120

Turf and Tree Supplies ♦ Fertilizers ♦ Plant Protectants ♦ Equipment

THE OLD GUYS BBQ



By: Bruce Schweiger, Superintendent, OJ Noer Research Facility



Thirty years ago, the O.J. Noer Facility was under construction. At the Summer Field Day in 1992, the Wisconsin Turfgrass Association (WTA) officially donated the facility to UW-Madison. On September 21st, the O.J. Noer Facility hosted a Founders BBQ. What was the Founders BBQ? It was a small gathering for those who were part of the birth of the O.J. Noer Facility.

Many of you may not know that the WTA was founded to support the turf research being conducted by UW. In the early days, each professor was required to find a site to do their research on a golf course, sports field, park, or landscape. Once the site was found, they would have to sign-up to use a UW truck, load all the equipment they needed, and drive to wherever in the state the research was conducted. One of the first things the WTA funded was a truck and fuel card to eliminate the need for a truck request from the university fleet.

As time moved on, the new University Ridge Golf Course was being designed and constructed. The WTA Board had the foresight to request a meeting with Dean Leo Walsh of the College of Agricultural and Life Sciences to request a turfgrass research facility for the UW turf team. After some

discussion, a parcel of land that had been donated to the golf course project that was not going to be part of the golf course was offered to the WTA. The next hurdle was how to fund the project. The plan was to make a short-term lease for the land to the WTA. This meant that the WTA would need to raise the funds to build the Turfgrass Research Facility. Once funds were raised, the WTA would then build the facility without the State building bid process. The WTA received a matching grant from the UW Foundation and began fundraising. In no time, the industry, with the help of generous donors, began construction of the O.J. Noer. Many of the original people on the WTA board had great connections around the Madison area that they used as the project progressed. There were many people involved in this process that all contributed.

Tom Schwab and I have always discussed that the people who made the O.J. Noer Facility possible are almost all retired or have passed away. Just before Covid-19, we talked about having a BBQ at the O.J. Noer Facility to honor those that made the facility possible. Then, Covid-19 struck, and no BBQ was going to happen. Fast forward to this summer and with vaccines, it was time to give it a try. A master list of

people was generated. Trying to find a date that might work was an issue, but we settled on September 21st.

That day came and the old guys took over the facility. We were not sure if they came to see each other or if old guys just like a free meal. The day was a huge success! Some of the people we had hoped to see just could not make that day work in their schedule but many of them did.

The attendees were:

Monroe Miller (Retired Superintendent Blackhawk Country Club, founding member)

Dr. Doug Maxwell (emeritus)

Dr. Gayle Work (emeritus)

Randy Smith (Retired Nakoma CC Superintendent who built putting greens)

Chuck Frazier (Retired Nakoma CC Assistant Superintendent who volunteered during construction)

Dale Marach (Retired Reinders Equipment and Soft Goods Rep)

Marc Davison (While at Kohler he donated all our toilets)

Tom Schwab (Retired O.J. Noer Superintendent)

Terry Kurth (Weed Man and huge contributor)

Bruce Schweiger (Active in fundraising within the industry)

When this group congregates, the stories are bountiful. Over lunch, the discussion was lively, and I learned a few things. A few of the honored guests stayed around a while to see what has changed and what had not changed before (I assume) heading home for their naps.

The history discussed that day was interesting and insightful. How this entire project happened is a proud testament to the founding Board, volunteers, and our industry! What world-class facility can say it was entirely built and financed by industry end-users?

It is an accomplishment like this that should make you proud to be a WTA member and a reason to recruit other members. I often speak as part of my interactions within the University, and when I tell people I work at the O.J. Noer, many comments are made about how lucky we are to have the support of a group like the WTA. The work of the WTA does not go unnoticed by the University.

There are many projects that need to be done at the O.J. Noer, but with the University funding issues they are very far down on the list of priorities. The WTA still plays a very significant role at the O.J. Noer and with the Turf Program. We need all the support we can receive. ✓



Now's the time to be thinking about long lasting, DEEP HYDRATION with TV Base. It's the best value on the market!



a Turf Ventures company

Dave Radaj (847) 366-5802
Nick Baker (630) 621-5826



Aerial view of OJ Noer Center

2021 THANK YOU



By: Bruce Schweiger, Superintendent, OJ Noer Research Facility

As the year winds down, we are looking at our first measurable snowfall of the season, and Thanksgiving is a few weeks away. I thought it was a good day for me to give thanks.

I would like to thank the Wisconsin Turfgrass Association (WTA) for their continued support of the Noer Facility and the research projects conducted here. In 2022, we mark 30 years since the OJ Noer Facility was dedicated at the Summer Field Day. It seems as if it was only yesterday.

On behalf of the WTA Board, I would like to thank all of the vendors and attendees for their attendance at the Summer Field Day and the Fall Golf Classic. These two events generate much-needed funds for the WTA. The Summer

Field Day was influenced by a few Covid-19 guidelines. Most attendees agreed it was not the event it has been in the past, but still very successful under the circumstances. The Fall Golf Outing was a resounding success. All the attendees and the hard work of the Nakoma Country Club staff was a nice shot in the arm for the WTA.

The Noer continues to have a very great working relationship with Phil Davidson and Lee Mahnke at University Ridge Golf Course. Sure, when they host the Senior PGA American Family Championship, this relationship is much more intertwined, but we have fun with it and make it through. During the year, they are always there to help me with loaning equipment, assist

with irrigation, and many other day-to-day issues that become easier due to their assistance.

Most of you do not know Janet Hedtcke who manages the West Madison Ag Research Station three miles north of the Noer. I do not want to list all the things they do for the Noer. A big "THANK YOU" will have to do.

Every year, Reinders and John Jensen volunteer to lend the Noer equipment. With Covid and the supply issues everyone was having, I was nervous about what they would be willing to do in 2021. They rose to the occasion and again sent us a riding greens mower, HD Workman, and a mid-duty Workman with a cab. In June, when Dr. Soldat needed a walking greens mower that could mow below 0.1", Reinders quickly found a Flex 21 that fit the bill. Unfortunately, I had a few other pieces of equipment breakdown, and Reinders was there to get the repairs done in a very timely fashion. Reinders dedication to the Turf Program at UW-Madison has a long history, and I can't wait to see what we can do together in 2022.

Gabe Lopez of Irrigation Protection Services, Inc. (IPS) was always at my disposal whenever I needed help. Without Gabe this year, the drought might have taken a real toll on the Noer. Thank you, Gabe, for being there when I needed you most.

J.W. Turf (now Revels Turf & Tractor) was also crunched due to inventory, but they delivered a John Deere 9009a for us to use on the general grounds. The 9009a again did a great job and the stripes are amazing. Thank you for your support, and I look forward to working with you in 2022.

Many of you may not realize it but the Wisconsin Sports Turf Managers Association has set-up a fund to support the Noer Facility. They are allowing the Noer to have equipment that it might never be able to purchase. With a very small budget, every dollar is appreciated. This group of dedicated turfgrass professionals have stepped up to the plate for the Noer and the UW Turf Program. Thank you to the Board and its membership.

There is someone that has had my back for over thirty years, and he still is there to make my life better. That would be David Louttit, or The Tallone as I call him, from The Anderson's. Dave and I worked together for years in a past life where we spilt an existing territory, and Dave got the easy side. For all these years, we have made our work and private lives fun. When I came to the Noer, Dave began supplying the Noer with all the granular fertilizer for the bentgrass surfaces and at times more. Dave and The Anderson's have never wavered. Before Covid, the Noer had many visitors, and they always complimented on how great the bentgrass looked. Thank you to Dave and the Anderson's. I look forward to discussing next years need with TALLONE!

The Noer does not live on just granular fertilizers; we do make urea applications and use urea on many of the trials. Tony Grapsas and Jay-Mar have been donation all the liquid urea we need each season. The liquid product is easy to use when you are mixing for 20 square feet or a three-acre spray. The Researchers and the Noer thank Tony and Jay-Mar for their continued support.

Beth Duschack from Corteva was, and is always, there to assist with products for various purposes around the Noer. Her support of the Noer has helped us smooth off many rough edges.

Retiree Kerry Anderson of NuFarm has been the Noer supplier of herbicides for years. This year the entire property needed to be sprayed for weeds, and Kerry arranged for all the products. Thank you, Kerry, and I hope Scott Verdun will continue to show that great NuFarm support.

As you can see the O.J. Noer Turfgrass Research Facility enjoys huge support by industry leaders. Without them many of the things that are accomplished here may not happen. The staff and UW-Madison cannot thank you enough for all the support!

Now to find a good used fairway mower to replace the pre-year 2000 model Toro 5200-D! 🌱



Extraordinary
is Your New Ordinary

For more information on the Bayer portfolio of products, contact your Area Sales Manager, Chad Hauth at chad.hauth@bayer.com (630) 945-2123

 **Stressgard**[®]

ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS
Bayer Environmental Science, a Division of Bayer CropScience LP, 5000 CentreGreen Way, Suite 400, Cary, NC 27513. For additional product information, call toll-free 1-800-331-2867, environmentalscience.bayer.us. Not all products are registered in all states. Bayer, the Bayer Cross and Stressgard are registered trademarks of Bayer. ©2019 Bayer CropScience ES-419-GLF-86-A-R2

INTERDEPARTMENTAL RELATIONSHIPS DRIVE SUCCESS



By: Michael M. O'Reilly, PGA, Director of Golf Ops – Whistling Straits & Blackwolf Run



How many of us have heard this from the Golf Ops team...

"Why can't maintenance just move a little faster?"

"What's the big deal if someone goes out early, they can just play through maintenance"

Conversely, how many times have we heard this from the maintenance team...

"What is wrong with the team at the clubhouse, they know people aren't supposed to tee off prior to 7:00?"

Both teams have great people trying to do good things, but sometimes they are just not on the same page. If it's left unchecked, associates will begin to express their frustrations amongst the group and an unhealthy workplace will take over. I'm sure many Superintendents and Golf Professionals have experienced this—none of us are immune.

At Kohler, we have experienced this and are currently working on developing a stronger relationship between our Golf Operations and Golf Course Maintenance teams. Here are some of the things we will be trying in 2022:

1) Host operational improvement meetings with the Golf Course Maintenance and

Golf Operations teams. Both groups are professionals in the business and have great ideas on how to improve operations. Bringing everyone together will expand the idea funnel and will get the teams working together as a group.

- 2) When the team in the clubhouse engages in an associate recognition program, make sure Golf Course Maintenance is included. Nothing worse than one team member getting recognized for hard work while another, just because of his or her department, gets left out. Make sure the Superintendent and Golf Professional are working together on recognition programs.
- 3) Create job shadow opportunities. This is something our team has done for years and it helps to develop associates into better managers, educate newer associates, and improve working relationships.

These are just a few things we are working on at our facilities. There are many more ways to ensure the teams are working together... That's the most important thing, make sure your teams are working together towards a common goal. Good luck in 2022! ✓

your water supply experts

water well services

- well/pumps emergency maintenance services
- well rehabilitation & maintenance program
- pump sales & maintenance
- well drilling
- water system engineering/construction
- hydrogeological services



Contact Us:
 888.769.9009
 Oconomowoc, WI • Elburn, IL
www.waterwellsolutions.com



Water Well Solutions is now
SUEZ Advanced Solutions



"The fairways are immaculate!"



"It was like playing on carpet."



"The course is in amazing shape."

When you can protect your fairways like your greens, you'll get rave reviews.

Golf's leading fungicide, Secure[®], is now even better. New Secure[®] Action[™] fungicide now includes a boost of *acibenzolar-S-methyl* (ASM), giving turf abiotic benefits such as increased drought tolerance, heat tolerance and quicker recovery. The enhanced formulation also offers improved dollar spot performance, including an increased control interval of 14-21 days.

Visit GreenCastOnline.com/SecureAction to learn more or contact:
Phil Spitz | 414-429-2015 | Phillip.Spitz@Syngenta.com



@SyngentaTurf #Time4SecureAction

©2019 Syngenta. Important: Always read and follow label instructions. Some products may not be registered for sale or use in all states or counties. Please check with your state or local extension service to ensure registration status. Action[™], Greencast[®], the Alliance Frame, the Purpose Icon and the Syngenta logo are trademarks of a Syngenta Group Company. Secure[®] is a trademark of Ishihara Sangyo Kaisha, LTD. All other trademarks used herein are the property of their respective owner. MW 9LGG00526 02/19

LF550/557™, LF570/577™



LIGHT ON TURF, HEAVY ON PRODUCTIVITY

The LF550/570™ and LF557/577™ lightweight large area reel mowers offer industry-leading productivity and functionality. The combination of Jacobsen Classic XP™ Reels and SureTrac™ 4WD System allow you to achieve the precision you demand, even on slopes and hills. With the InCommand™ Control Console, everything you need is at your fingertips, including programmable mowing and transport speeds and full text diagnostics. Designed with ease of maintenance in mind, the series features automatic wet parking brakes, hard tubing, and easily accessible routine service items.

ADAPTI-THROTTLE
AUTOMATIC ENGINE
SPEED CONTROL

37 OR 50 HP
DIESEL ENGINE

UP TO
11 MPH

UP TO
139"
CUTTING WIDTH



444 N. Madison St.
Chilton, WI 53014
(920) 849-2341
www.horstdistributing.com

HORST DISTRIBUTING, INC.

Request more information or schedule a demo today!

SALES PRESIDENT
Grant Mortimer
gmortimer@horstdistributing.com

TERRITORY SALESMEN
Dennis Robinson (920) 901-2124
Greg Kallenberg (920) 858-9276

ATTENTION STUDENTS

INTERESTED IN EARNING \$1,000 FOR COLLEGE?

In 2008, the WGCSA introduced the Monroe S. Miller Literary Scholarship to be awarded annually to the top student written article, graduate or undergraduate.

WGCSA members want to know what you have to say. Help us out by writing an article for an upcoming issue of The Grass Roots and have a chance to join the star-studded list of previous winners.

2009	William Kreuzer	2015	Nicholas Gmeinder
2010	Michael Rzadzki	2016	Ben Henke
2011	William Kreuzer	2018	Mitchell Linerud
2012	Glen Obear	2019	Michael Bekken
2013	Bred Debels	2020	Michael Bekken
2014	Tyler Gerritts		

Submit articles by emailing grassroots@wgcsa.com

See wgcsa.com for more information on all scholarships

SUPPORT OUR ADVERTISERS – THEY SUPPORT US

FULL PAGE AD	Page	HALF PAGE AD	Page	THIRD PAGE AD	Page
Advanced Turf Solutions	15	BASF	29	Norby Golf Course Design	6
Clesens Pro Turf	33	Burriss Equipment	34	QUARTER PAGE AD	Page
DHD Turf & Tree Products	35	Lohman Golf Creations	13	Frost, Inc	5
Horst Distributing, Inc.	42	Midwest Turf Products	37	Milorganite	27
National Golf Graphics	48	Pendelton Turf Supply	19	Pumpstation Professionals	14
Rainbird	47	Redox Aquatrols	32	TGIF	11
Reinders	2, 46	Suez	41	EIGHTH PAGE AD	Page
		Syngenta	23, 41	Bayer	39
		UW-Madison TDL	9	FRS Design Group	19
		Waupaca Sand & Solutions	22	Helena	45
				Leibold Irrigation, Inc.	45

CATCHING UP with Colin Seaberg

By: Garrett Luck, Golf Course Superintendent, Hidden Glen Golf Club



Give a brief background of your history in Wisconsin (are you originally from Wisconsin? If not, how did you end up here?):

I was very fortunate to be able to work in Wisconsin for a significant stint of my career when I earned the golf course superintendent's position at Ozaukee Country Club in January 2007. I was eager to make the move to the Milwaukee area from my position as a golf course superintendent at Congressional Country Club. I spent the next six seasons recruiting and working with an excellent staff lead by then assistant superintendent, Karl Wehausen, bringing out the best of an already well-respected golf course. My landing at Ozaukee was the perfect fit for me as it was my first "head" job, and Karl did a great job of being a calming presence and reeling me in on more than a few occasions. I cannot emphasize enough how instrumental Karl was for me and my success at Ozaukee as he demonstrated countless times his love and respect for the property and his work. Over the next few seasons, Brett Hosler, Mark Bednarek, and Dan Dommer joined the staff, and we were off and running. Almost as importantly though, from the first minute I arrived, I was contacted by a bevy of area superintendents,

offering their insight, advice, and support. I cannot come close to remembering the occurrences of when one of my colleagues offered up some sort of advice, product, or something else when I came up short, which happened way more times that I would like to admit.

Why would you ever leave Wisconsin and what have you been up to since you left?

In the spring of 2013, I left Wisconsin to pursue another superintendent position at Barton Hills Country Club in Ann Arbor, Michigan. Being a native Michigander, it was an opportunity to get closer to home and my family at a well-respected golf facility. Once again, I was very fortunate to be able to form an outstanding team, and we accomplished a great deal at Barton including a full greens renovation and re-grassing project. However, my tenure at Barton Hills ended abruptly after eight seasons, and I spent last season working at Pierce Lake Golf Course in Chelsea, Michigan. It was a massive learning curve for me going from a high-end private equity golf club to a county-run municipal golf course. I was thankful for the opportunity and the personal and professional lessons that accompanied it. I also had the opportunity at this time to enter the sales side of the

profession after signing on with a company whose product I used with great success at Barton Hills. This is something very new to me, which I never planned on, and I have a lot to learn.

What is your favorite thing about your current job?

I recently took a new position as the Director of Grounds at Watermark Country Club in Grand Rapids, Michigan. I have only been here since the first of the year and already I am having the most fun getting to know my current staff. The golf course is set to undergo a major golf course renovation with the well-renowned golf course architect Mike DeVries, and we have been busy in this offseason with an aggressive tree removal program as well as major drainage installation. I am looking forward to implementing the master plan and bringing out the potential of the golf course.

Additionally, I am looking forward to this sales gig opportunity and being involved on that side of things, albeit part time. Hopefully, I can be put in position to help my colleagues in addressing some of their pond management challenges and maintain

the essence of this profession by offering support to those who need it.

What is the thing that you miss the most about Wisconsin?

Certainly, the thing I miss most about Wisconsin is the camaraderie and the tight knit personal relationships of the people within this wonderful profession. I was able to form and foster lasting personal and professional relationships with other superintendents, assistant superintendents, salespeople, university professors, club members, and others while I had the privilege of working at Ozaukee and serving on the WGCSA Board of Directors. I have had the opportunity to work in other areas of the country and none of them are anything like it is in Wisconsin. I can't count how many times all I needed to do was make a phone call and I got the answer or support that I needed from someone who was more than willing to help. Not to mention that some of the best golf courses in the country are there in Wisconsin, and they are being taken care of by the some of the best in the business.

Have you been back to Wisconsin since you left? If so, what is the

one thing that you most forward to doing upon your return?

I have been fortunate to have been back to Wisconsin numerous times since I left, and I certainly enjoy returning to visit with my friends and to play golf. I really look forward to the Wee One golf outing every year as I know that the golf course and company are going to be great.

If a Wisconsinite has to travel to Michigan, what is the one thing they must do or see?

If a Wisconsinite were to visit the great state of Michigan, other than playing a round of golf at thousands of great courses like Arcadia Bluffs, Greywalls, and Forest Dunes or sampling craft beers at the countless micro-breweries across the state, spend some time at the famous Sleeping Bear Dunes National Park, Mackinac Island, or the Henry Ford Museum, and Greenfield Village is always a good time and worthwhile. Hopefully someday, I can add attending a Detroit Lions game to this list, but alas, my team is still in the rebuilding mode and have been since 1957! ✓

Leibold Irrigation, Inc.

Complete System Installation
 Construction & Renovation Projects
 Irrigation System Evaluations
 Sprinkler & Control System Updates
 Drainage Systems

Pump Station Sales, Repair & Upgrades
 Spring Start-up and Winterization
 Central & Satellite Diagnostics
 Weather Station & Sensors
 GPS Mapping & As-built Development



18950 County Hwy 5 West East Dubuque IL 61025 Office (815) 747-6024 www.li-inc.com

	Jim Boyer Sr Operations Mgr (563) 213-0810	Kevin Stieneke Construction Supervisor (563) 564-9333	Mike Skopik Service Mgr (563) 564-6908	Mike Woolcock Pump Station Sales (563) 213-0822
---	--	---	--	---

HELP MOTHER NATURE WAKE YOUR GREENS

Help your plants recover from cold, wet weather by optimizing their own natural health defenses with ENC® and Renova®.

Contact your local Helena representative or visit HelenaProfessional.com for more information.




Always read and follow label directions. Helena, ENC, Ele-Max, Precision Nutrition and People... Products... Knowledge... are registered trademarks of Helena Holding Company. Renova is a registered trademark of Valagro SpA. © 2019 Helena Holding Company. HPG0319P

ALWAYS IN SEASON

Toro Sand Pro 2040Z



COMMERCIAL EQUIPMENT SALES

John Jensen, Sales Manager
(414) 313-5130

Derek Kastenschmidt
(414) 313-5260

Mark Robel
(414) 313-5296

Scott Neary
(608) 220-6593

Bob Giesler
(920) 660-4227

Reinders

Solutions & Supplies for the Green Industry
W227 N6225 Sussex Road,
Sussex, WI (800) 782-3300
www.reinders.com

CONNECT TO

Upcoming technologies

Simplified upgrades

Forward thinking design with the IC System

THE FUTURE



We know there's a lot riding on your turf. Your professional success relies on your ability to maintain healthy grass and top playability. As the only manufacturer committed exclusively to irrigation, Rain Bird designs fully-integrated end-to-end solutions to address the challenges of maintaining healthy grass and top playability on the golf course. From water-saving nozzles to highly efficient pumps to leading-edge Control Technology, Rain Bird products make the most of every drop, delivering superior results with less water. Keeping the world and your golf course beautiful.

That's The Intelligent Use of Water.™



CLESENS

Wisconsin Rain Bird Golf Distributor

Contact Dustin Peterson or Adam Lesmeister for further information and assistance with all of your irrigation needs.

Dustin Peterson

(309) 314-1937 | dpeterson@clesens.com

Adam Lesmeister

(320) 287-1720 | alesmeister@clesens.com

RAIN BIRD®



**GOLF COURSE SIGNS | TEE MARKERS | YARDAGE MARKERS
SPRINKLER HEAD YARDAGE CAPS | FLAGS | ACCESSORIES**

**www.NationalGolfGraphics.com
Call Peter Meyer 877-710-9363**