

The GRASS ROOTS

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ABOUT THE COVER

The 10th and 18th Holes at Hidden Glenn Golf Club as painted by Gary Luck, Father of Garrett, host of our June golf meeting.

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"Christmas is the season for kindling the fire of hospitality in the hall, the genial flame of charity in the heart."

By American writer and historian Washington Irving, 1783-1859

This quote by Irving speaks on the season of Christmas and the opportunity to be with family and friends while also giving of ourselves to others through charity of time, talent or treasure.

THE GRASS ROOTS

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PRESIDENT'S MESSAGE

Employee Recruiting and Retaining

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

I can't speak for everyone but I know that one of my biggest worries is finding and keeping good full time and seasonal employees. Labor is a frequent topic of conversation amongst industry colleagues. I've been part of numerous discussions relating to:

- "What kind of starting wage do I need to offer to compete with the landscaping industry?"
- "Where will I find my next Assistant or Equipment Manager?"
- "Given our Turf student enrollment, where is our next generation of Golf Course Superintendents coming from?"
- "Where do I find good seasonal workers willing to work early mornings, weekends and holidays?"
- "How do I get that employee who I've invested time and energy training to return next season?"

I definitely don't have all the answers. I would benefit greatly from an industry labor summit to brainstorm and share ideas. Sounds like a potential Symposium panel for 2020? I'll get it started by sharing my top techniques

that have paid dividends to our operation here at Maple Bluff Country Club.

Take an annual crew photo.

I've had employees use this photo and re-gift it back to me on a coffee mug. I use it in my club newsletters and board reports. Nothing says "team" like a group photo. Get cute with it. Incorporate tools, flags and a sign with the year. We typically do a serious and a goofy one.

Have a crew cookout.

We attempt to have a few cookouts each season, usually during a large event where most staff is scheduled and the course prep is done. Perfect time for the picture after the cookout! Usually bag toss, croquet on the nursery or some competitive game breaks out. The key to our crew's heart is food!

The best recruiting mechanism is current staff.

A happy, fulfilled staff will be more likely to help recruit others to join the team. Lay out the expectations and demand them be met but supplement that with plenty of training, praise and appreciation. A thank you card to staff at the end of the season including a small gift card goes a long way.

Local High Schools

BOYS/GIRLS GOLF/SPORTS

COACHES:

I have had great success recruiting high school student athletes by creating a one page job opportunity bulletin and contacting all of the high school golf coaches in the area. These students typically like the game of golf, being outdoors and more easily understand course etiquette and how maintenance practices impact playability.

FFA ADVISORS:

Develop a relationship with the advisors of the FFA program at your surrounding schools. Many times these advisors hand pick a student interested in Horticulture/Landscaping and send them your way.

GUIDANCE COUNSELORS/TEACHERS:

Introduce yourself to local high school guidance/career counselors. These individuals can be great recruiters for stellar students and teachers. Getting a job notice posted in the local schools teachers' lounge can bring in mature, dependable and returning summer employees.

WGCSA MISSION STATEMENT

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

WGCSA VISION STATEMENT

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

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

PRESIDENT'S MESSAGE

Local Colleges

Investigate if your local college has an online job center. UW Madison has a free Job Center service where employers can post openings accessible to students.

Consider investing in a current Employee.

Take advantage of the Great Lakes School of Turfgrass Science coupons offered through our Association. Consider sending an employee who expresses interest in Golf Turf Management to the online school. The new Greenskeeper University and UW's Farm and Industry Short course are also potential educational opportunities to explore. Our educators are getting creative to offer opportunities that fit industry need and allow simultaneous employment.

Be flexible and creative with scheduling.

One of the biggest changes I have noticed in the past 20 years is that I used to be able to hire seasonal workers who all wanted 40+ hours/week. Once this core group was cross trained, if they returned each season through high school and college, life was good! This situation doesn't exist for me anymore. Most students who are in a sport have year round commitments, whether in the weight room or summer leagues. My staff has transitioned into many more bodies but most of them are part time and/or morning only. I attempt to be as flexible as possible with one caveat; mornings are a must! Many times, over half of our crew will go home at 10 or 11 am. Continuity can suffer, especially if

working on a project when you have different staff arriving each day. Our management team must also dedicate a more substantial amount of time to training and supervising a larger, part time roster. However, the larger employee pool makes sharing weekend and holiday work more manageable. I've found if you are flexible with employees as far as schedule, they are more than willing to help the course in time of need.

Hire Retirees/Veterans

Over half of our crew are retirees. Retired engineers, business owners, UPS drivers, EMT's, accountants, plumbers, heavy equipment operators and various other state employees. Again, flexibility in schedule is key. We have some employees that only work 1 or 2 days/week. I have found that our retirees take better care of the equipment, operate at slower/safer speeds and take pride in cleaning and greasing their machines after use. Most retirees are available in the shoulder seasons when school is in session and can help with Spring cleanup and course winterization. Post job opportunity bulletins at the local VFW, American Legion and Community Centers.

I have personally found better luck and better candidates with this targeted marketing vs blanket postings on Indeed or Craigslist. All markets are different however and I'm open to new ideas! Let's plan that labor summit and work together to ease the burden of "labor pains". 🌱



The 2019 Maple Bluff Country Club Staff picture. Annual pictures help build a team concept for the employees.

Musings on Snow Mold Application Timing

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

Thanksgiving and the state's first major snow storm are fast approaching as I write this, but we have been dealing with winter-like conditions for weeks. Cold and snowy conditions hit most of the state in October (Figure 1) and continued throughout most of November. These conditions led to considerable debate about when to apply snow mold product. Following are my thoughts based on our research throughout the years and my conversations with many of you.

The case for spraying early

Quite simply, it's better to be a few weeks too early than one day too late. Once the snow sticks there isn't much from a practical standpoint you can do to get your snow mold protection down, and we have all seen the blood-bath that can happen on non-treated turf under a long and deep snow cover (Figure 2). That kind of damage can take weeks or months to recover from in the spring, which can lead to decreased play and revenue in the spring and longer-term problems such as

increased annual bluegrass encroachment.

In addition, the impact of the fungicide application on the snow mold fungal population will persist for weeks or perhaps months, even if the fungicide degrades shortly after the application. Snow mold fungi grow slowly, and knocking them back with a fungicide in October or November may be enough to prevent them from causing disease all winter long depending on the conditions.

Quite simply, it's better to be a few weeks too early than one day too late.

For example, several years back we conducted research looking at early (October 1st) snow mold applications relative to late (November 1st) under various winter covers in Antigo, WI. We found that even though the early

applications didn't provide the same level of protection as the late application, the early application still reduced snow mold from the 80% found in the non-treated control to approximately 20%. Bottom line, as long as the snow mold fungi are actively growing, the fungicide application will have an impact.

However, one commonly named reason to apply snow mold product early is to get systemic product down while the plant is still growing and can still absorb the product. I have never seen evidence that this is necessary. In our research we have applied systemic snow mold products to completely frozen turf and they have provided excellent control assuming they were effective products. I don't have an exact answer as to why this is the case, but it's likely because fungicides don't need to be inside plants to work against fungi...fungicides applied to frozen plants work just as well as growing plants as long as they come into contact with the fungus.



Figure 1. It was a snowy Halloween in Madison, as shown by the pumpkins at the Koch house.

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The case for spraying late

We have been conducting research with Jay Pritzl at Timber Ridge GC in Minocqua for 4 years now and found that snow mold products can definitely be applied too early.

The research is really simple...we just spray Instrata once every 2 weeks starting on September 1st and ending on November 15th. Every year we have found that there is a sharp cutoff in control starting about 3 to 4 weeks prior to permanent snow cover. In the winter of 2017-2018, the drop in disease control from the application on November 1st (**Figure 3**) to October 16th (**Figure 4**) was dramatic. Applications made prior to that resulted in significant levels of disease, likely due to breakdown of the product before snow cover and ample time over the winter for the fungus to recover. This timing has also been at approximately 100 heating degree days (the opposite of growing degrees days) at a base temperature of 50°F. We continue to conduct this research at sites in Minocqua, Wausau, and Madison to see if these same principles apply to other sites in the state.

Snow mold fungicides don't persist the entire winter. We have conducted 7 years of research on this topic and I have written numerous articles summarizing our research.

To summarize 7 years of research in one sentence...snow mold fungicides (iprodione, chlorothalonil, propiconazole) degrade rapidly during a rainfall or snow melt event. If this degradation occurs near the end of the winter it normally isn't a big deal since there won't be enough time for

the fungi to recover and cause disease. However, if it occurs near the beginning of winter, it can lead to disease development if conditions are conducive for disease to develop for a prolonged period.

In the context of this particular fall, winter conditions hit much of the state in mid-October and many superintendents decided to pull the trigger and spray for snow mold. In the central and northern part of the state this would be anywhere between 2 and 4 weeks before 'normal'...not a big difference. For the southern part of the state, this is 4 to 6 weeks prior to normal application timing...which is a bigger deal given the things I outlined above. When conditions are 15 to 20 degrees below normal, even for an extended period of time, it's highly likely that they will return to normal before winter actually arrives.

Conclusion

There is no single right answer as to when you should apply snow mold fungicides. Every fall is different, and this fall was a particularly difficult one to plan for. We hope that our research on optimal timing of snow mold fungicides will be able to provide some assistance, but that is likely at least a few years from being ready to share widely. Until then, remember it's better to be a little early than a little late, but being a lot early isn't a great option either. My general recommendation, based on our research, is to do your best to get your application within 3 to 4 weeks of permanent snow cover, and then hope for the best! ✓



Figure 2. Prolonged snow cover on non-treated turf can lead to lots of snow mold.

WISCONSIN PATHOLOGY REPORT

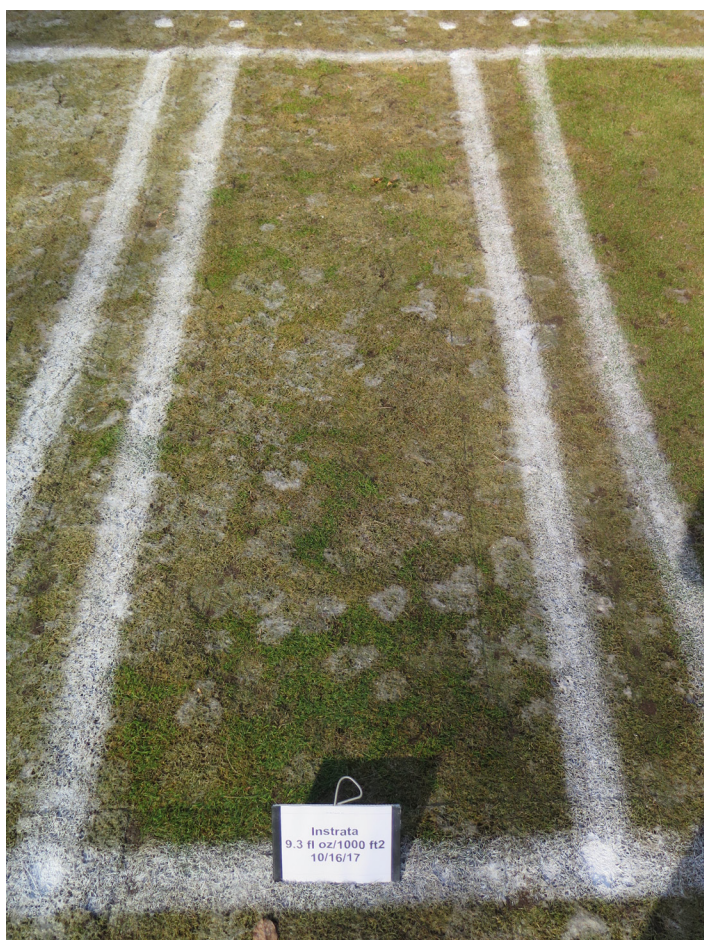


TOP LEFT:

Figure 3. An application of Instrata on November 1st, 2017 provided excellent disease control in the spring of 2018.

BOTTOM LEFT:

Figure 4. An application of Instrata on October 16th, 2017 provided markedly less disease control relative to the November 1st application.



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MEMBER SPOTLIGHT

Seth Brogren

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

Authors Note: 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: **Seth Brogren**

Company Position: **Golf Course Superintendent, Grand Geneva Resort and Spa, Lake Geneva**

Years as WGCSA Member: **22**

Membership Classification: **A**

18 Holes With Seth Brogren

1. How did you get started in the turfgrass industry? I played golf in high school through college (UWSP 90-94). I started on the groundscrew at Forest Hills CC(Rockford,IL) in 1992. I was intrigued and really enjoyed the work. I stayed in Stevens Point for the summers after that, and continued to work on the groundscrew at Wisconsin River Golf Club.

I then decided to pursue turf management as a career and transferred to Michigan State in the fall of 1994. I interned at Grand Geneva in 1995. The last month of my internship coincided with the initial stages of the renovation in which the Briar Patch became The Highlands. I graduated the MSU two-year program in 1996 took the position of superintendent at Wisconsin River GC (Stevens Point) in Oct of 1996. I then worked at Irish Waters in Freedom, WI from 2000-2007, Saddle Ridge in Portage from 2007-2011, and back to Grand Geneva in 2011.

2. What is the most rewarding part of your career? I was always told the best compliment we as superintendents can get, is a busy golf course. I enjoy seeing guests having a good time on our courses, and also being able to take positive feedback from the golfers to pass on to my staff. They don't get to hear it enough in their busy days.

3. What would you consider to be your greatest career challenge? I don't think I am alone in saying staffing. Trying to motivate staff from all walks of life is a challenge. They are all motivated differently and for different reasons. Trying to decipher that is key, but it is extremely difficult.

4. Which three adjectives describes you the best? Humble, dedicated, patient. Probably to a fault with all three.

5. Tell us about your family. I have been married to my wife

Nicole for 18 years. We met in 1995 while we were working at Grand Geneva. I was there as a turf intern, and she worked in the golf shop. We have two boys Josh 15, and Travis 12. Both are active in sports and like the outdoors. We like getting up north to the lake when work and baseball schedules allow.

6. Any pets? Gunner, a one year-old yellow lab.

7. What drives/motivates you every day? Trying to be a good husband and a role model for my kids.

8. Who Do You Admire? My dad and father in law. I couldn't ask for better role models for my kids, and me.

9. Who is the person in history you'd most like to meet? Any one or all of the framers of our Constitution. I would like clarification on a few things..



Seth and Nicole Brogren and their sons Travis and Josh

MEMBER SPOTLIGHT



Top Left and Center: Gunner Brogren: Ready for dinner and ready to play.

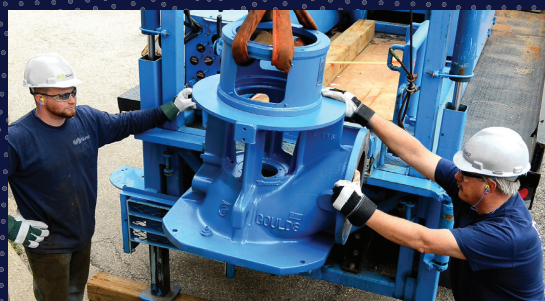
Top Right: Brogren Boys Ready to Snowboard.

Left: Travis with a Large Mouth Bass.

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MEMBER SPOTLIGHT

10. What's a fun fact that people don't know about you?

Originally I went to UWSP to be a game warden, while there tied for third at D2 Nationals Club Volleyball in 1994(UWSP).

11. What do you do in your spare time, favorite hobbies? I coach baseball, golf, hunt and fish. Whatever the season and time allows. I along with our family have lots of interests, so it's not hard to keep busy.

12. If you could go anywhere in the world on vacation, where would you go? New Zealand as I hear that red stag deer hunting is pretty good.

13. What is the one thing you would like to learn/accomplish someday? Outdoor photography. Our occupation provides us with thousands of opportunities for great photos and I would like to take more advantage of those.

14. What is your favorite turf management related tool or technique? TDR Moisture meters are a great tool. We will never be able to control water 100% of the time but the moisture meter allows us to use (or not use) it more judiciously. After three years of using the TDR, it still amazes me how much irrigation water we don't need. Combine TDR with a solid topdressing program and you have a recipe for pretty good playing surfaces.

15. Favorites:

TV Show: Cheers

Movie: Caddyshack

Food: I had an aged bison ribeye once, that was absolutely fantastic.

Sports Teams: Any teams my boys are playing on. And the Brewers or Packers.

16. Do you golf? Handicap? Best shot or golf story? Yes but not as much as I would like. Unfortunately I don't play enough legitimate rounds in a year to officially change my handicap, so I'm still in the single digits. But I routinely get sevens and eights with the best of them!

Best shot: I holed out twice in the first round of the NAIA District 14 Tournament at Cedar Creek in Onalaska. One for eagle and one for par after tee shot went into the lake on the 18th hole. I shot 71 for a four or five-shot lead after the first round. The last two rounds were not so good, but it was fun while it lasted. Ask WGCSA Member Scott Bushman, he was there.

17. Top Bucket List Item? A golf trip to Scotland to play The Old Course (among others).

18. If you could provide one piece of professional advice, what would it be? Take the time to appreciate what you have already accomplished rather than always being focused on what's next on the list. Whether the list is for today, next month, or the entire year, we are all good at creating to do lists. We often forget look back and appreciate how much we have already completed. ✓

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MEMBER SPOTLIGHT



Above: Seth, Josh, Travis and Nicole Brogren at Miller Park

Left: Josh and Travis fishing at the “honey hole”.

Below: Seth and Nicole at “date night”.



2019-2020 Snow Mold Research Underway

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

Salutations from the Turfgrass Diagnostic Lab. As everyone is well aware, it has been a bit of a strange fall. Early snowfall(s) and below average temps have made it feel like there has been no autumn to speak of.

It feels like everyone has been scrambling to blow out irrigation systems, get fall projects done, and then, oh yeah, spray some fungicide for snow mold control. Well we have been scrambling a bit too here at the TDL trying to get winter research started and put to bed until spring. A few of the trials have gone out significantly earlier than normal this year, but hopefully the research is still meaning-

ful. It will be interesting to see if snow mold pressure is high this year in the southern third of the state. We've had early snow for ground insulation, but it has not stuck around long and has not been very deep. So the very cold temps might keep snow mold from developing this year. In my spring article, I will revisit this topic and see if we can elucidate how the early snows and low temps affected snow mold in Madison, if at all.

Our large snow mold study this year has 82 treatments. We conduct this study in Marquette, MI and Wausau, WI. In the past we have also replicated this study in Madison, but for the

past 5 or so years we have had ZERO snow mold disease on our study locations in Madison. So we decided this year to stop putting this study out in the Madison area.

We have speculated that snow cover in the Madison area just has not been nearly enough to insulate the soil temps and keep them from dipping too far below freezing. When soil temps remain right around freezing, that's when snow mold runs rampant. Even Wausau in some years does not have enough snow cover to insulate the soil, and we have only a small amount of snow mold disease in the plots.

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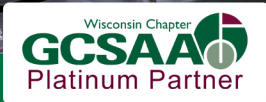
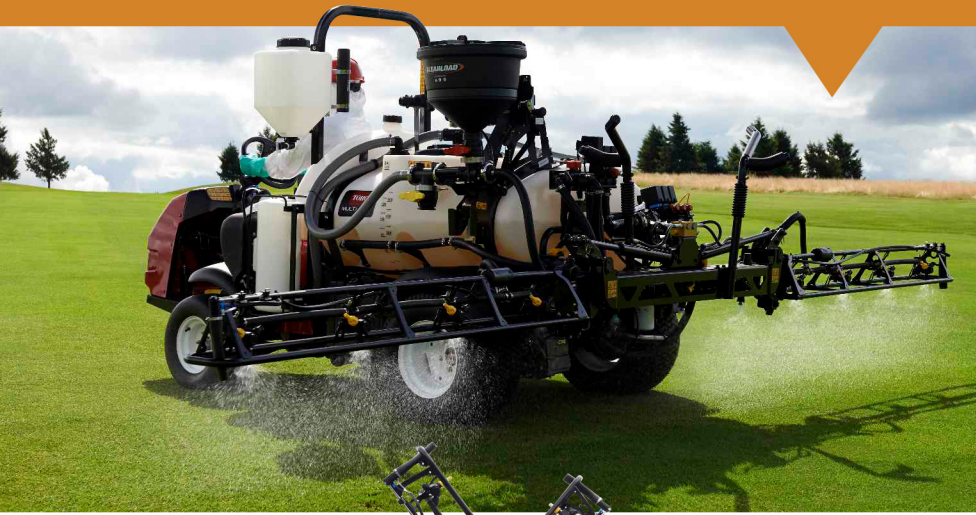


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TURFGRASS DIAGNOSTIC LAB

Marquette, being next to Lake Superior, is pretty reliable in getting significant snow cover, and we can pretty much count on that location giving us great snow mold data year in and year out. (Figure 1)

Our snow mold timing study, which is replicated in Minocqua, Wausau, and Madison, is aiming to come up with a temperature based timing threshold to help folks properly time their snow mold applications. This study has been going on for several years now and hopefully we get some good data again this year and get this study that much closer to publication. When we have more to share on this topic, you'll be hearing from me and Dr. Koch about this.

Over the past few years we have been trying to perfect our technique for getting pink snow mold to develop on research plots here at the Noer. Currently our technique involves applying various fungicides in 3 ft by 4 ft plots and letting that sit for 24 hours. Then we come in with rye grain that has the *Microdochium* fungus growing on the grains and spread that over said plots. We have built some wood frames with some pink insulation board on top.

These frames are placed over the

plots, and a Greenjacket impermeable cover goes on top of the frames. The frames and the Greenjacket help insulate the soil and keep it from getting too cold. This creates the perfect environment for *Microdochium* to grow and infect the turf under the covers. (Figure 2)

For the past couple of years this technique has worked extremely well. This is about the only way we can get snow mold to develop in Madison. We have been testing various fungicides applied at different water volumes, and this year we are adding some of the new SDHI fungicides to evaluate their efficacy against *Microdochium*. For all of these snow mold studies, keep an eye out for our reports next spring on the TDL website (tdl.wisc.edu).

As we approach the end of the year, I will be sending out the TDL Contract Renewals soon. So please be on the lookout for those renewals and please renew your contract if you can. If you are not already a contract member, please consider becoming one and help be part of the foundation that holds up the TDL. These TDL contracts are different than your WTA dues if you were wondering.

Without our contract members, the

TDL would simply not exist. In addition to submitting samples at a reduced price, getting the bi-weekly TDL Updates during the summer, and getting timely diagnoses, I also have copies of Dr. Aaron Patton's 'Weed Control for Professionals' and a TDL winter hat. Dr. Patton's book supplies up-to-date herbicide and plant growth regulator information that turfgrass professionals can use to develop effective herbicide programs for golf courses, athletic fields, lawns, etc.

The winter hat keeps your head warm in style. If you would like me to send you a book and/or a hat, please let me know after you have renewed your contract for 2020. I sent these books and hats to most of our contract members last year, so please let me know if you want some more of either. More information on becoming a TDL contract member can be found on the following webpage, by visiting the TDL's website (<https://tdl.wisc.edu/contract-membership/>). Please contact either myself (hockemeyer@wisc.edu) or Dr. Koch (plkoch@wisc.edu) if you have any interest in becoming a contract member. Or you can phone the lab at 608-845-2535. Thank you for your time and consideration. 🌱

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Figure 1. The Marquette snow mold trial in April 2019. Nontreated areas on the left, and treated areas on the right, with some areas of breakthrough.



Figure 2. The pink snow mold trial at the OJ Noer in March 2019. The insulation frames help create the perfect environment for *Microdochium* to grow and infect even without adequate snow cover.

Editorial



SHOPBLINDNESS

By Monroe S. Miller

During the oil crisis of the early 1970s, a lot of effort went into forging an energy consciousness in this country. Citizens turned thermostats down, automakers started to build something other than gas guzzlers and energy efficient furnaces came into the marketplace. They all worked.

There were a lot of gimmicks, too. Few worked. In an effort to get people to turn lights off when they left a room, I think 90% of the light switches in Wisconsin had a yellow "TURN LIGHTS OFF" sticker on or beneath them.

After a while nobody, and I mean nobody, saw the message. The stickers merely became part of the "landscape".

That principle, I am sad to say, follows into too many of our golf course shops and shop yards.

I call it shopblindness.

Shopblindness is a syndrome that causes the guilty to become blind to messes, clutter and disarray in the shop and shop yard.

The principal rule of shopblindness is that few things are ever put in their rightful place. Trash, broken equipment, parts and hundreds of other things stay where they were last used. Within weeks, they are never noticed again. They become part of the scenery. And the scenery is ugly.

It is always amazing to observe that some of those with the most serious cases are yet able to find almost anything they need, due apparently to a photographic memory. However, sending a rookie into such massive disorganization is committing him to a hopeless search.

What is saddest is that if the superintendent has shopblindness, it doesn't take long before the entire crew catches it. The office is in disarray and so is the lunchroom. Usually the restrooms are gross and the work bays are barely navigable.

The situation commonly spreads outside, creating a miserable sight of unmaintained weeds growing up around

and through old equipment, lumber, brush, wood chips, irrigation pipes and fittings, and course construction materials.

Although it isn't always true, sometimes shopblindness sneaks out onto the golf course. Projects are not quite finished off, tree stumps rot before they are cut, stump holes may be filled but never seeded, and the pothole in the cart path isn't fixed. The shortcomings also become part of the golf course scene.

Shopblindness, I think, infects every golf course superintendent at one time or another. Sometimes, during the heat of the summer battle, shop conditions get ahead of all of us on occasion.

It is also more difficult to keep order when there are twenty employees than when there are less than half that. And as any parent of a teenager will testify, kids that age are almost universally sloppy. We employ a lot of teenagers!

I know that shopblindness had me in its grasp in the early years. We simply invested every spare minute on the golf course itself. That is understandable, even somewhat justifiable.

What's not, however, is year in and year out, inside and outside, the chaos we see too often. Unfortunately, the same thing is seen in farmsteads. Some are neat and clean and fresh looking, some are not. Obviously our business is not the only one with such problems.

There are lots of reasons for working to overcome the seemingly hopeless situations in some of our golf course shops. Well organized operations are inherently more efficient. Daily operations run more smoothly. Employees are certainly more comfortable and probably happier in a neat environment than in the midst of a mess. Good shop habits, in terms of organization and neatness, are also used on the golf course itself.

The most persuasive reason for cleaning up and overcoming shopblindness may be the old principle of "first impression". The value of a favor-

Editors Note: This article penned by Monroe Miller in the March /April 1992 issue is still applicable today. It is a lesson worth a reprint as we all can fall victim to "blindness" to what is around us every day. The offseason provides a good opportunity to look around with fresh eyes and plan for a neater and more organized future.

able impression—first or otherwise—on owners, members, players and everybody else has been well proven.

I also believe that your shop and shop surrounds speak loudly to your personal pride. It takes very little pride to work in, around and through an embarrassing mess.

It's been a long winter; many of us are well along with winter equipment work. This just may be the winter that presents a perfect opportunity to face up to shopblindness and do something about it.

That would go a long way toward making it the freshest start to a season ever.

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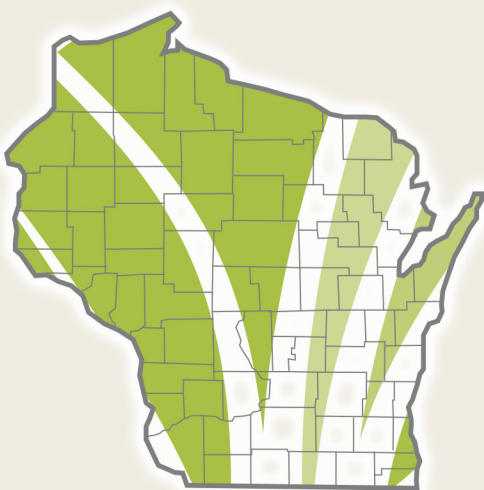
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Hidden Glen Hosts June Meeting

David Brandenburg, Editor

Garrett Luck and the staff at the wonderful Hidden Glen Golf Club in Cedarburg were our host for the June WGCSA meeting.

The 2001 P.B. Dye designed layout provides a challenging yet picturesque game of golf. I was fortunate to play with member Tom Wentz who provided insider information on where to hit. With Tom's consistent swing, and his partner Mike Skenadore's length they did pretty well in the 2 person Scramble while Jake Silkey and I had our moments to score but had fun on the links.

The facility was built for members to enjoy the game of golf and includes a large practice facility and a 3 hole practice course with multiple tees and angles to serve golfers of all skills.

The course is host to the Marquette University Golden Eagles golf team.

Our host Garrett started in golf at Kettle Hills Golf Course in Richfield under Bob Belfield and received his BS degree in Agriculture, Horticulture from Kansas State University. While at school, Garrett served as the Chemical Technician for Hallbrook Country Club in Leawood, Kansas and his first management job was as Assistant Superintendent at Wolf Creek Golf Links in suburban Kansas City.

In 2003 Luck moved closer to home to be the Assistant Golf Course Superintendent at North Shore County Club in Mequon for almost 3 years before becoming the Golf Course Superintendent at the 27 hole facility for nearly 9 years. While at North Shore, Garrett oversaw upgrades to the irrigation system and worked with golf course architect Ron Forse to renovate one of the 9 holes at North Shore. Luck also achieved his Certification as a Golf Course Superintendent by GCSAA.

In August of 2014, Garrett took the Golf Course Superintendents Position at Hidden Glen Golf Club and he also currently serves as Secretary on the WGCSA Board.

The course provided box lunches to enjoy on the course and after golf a delicious spread of hors d'oeuvres to go along with the camaraderie and discussion of golf shots and golf turf.

A big thank you to Golf Course Superintendent Garrett Luck, Assistant Superintendent Bob Hildebrandt, Assistant Superintendent Corey Betz, PGA Professional Kevin Kramp, Food and Beverage Manager Nate Walters and the entire team at Hidden Glen for providing a top notch experience for our event.



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Left and Center Right: The Par 4 Sixteenth Hole plays 260 to 396 yards. With a large bunker left, it is best to play to the right side.

Center Left: Flags for the season are donated by National Golf Graphics and each meeting host receives a framed version of the flag in appreciation for having our group.

Below: The Par 4 Fifteenth Hole requires a well placed tee shot for the best angle to this blind and well protected green site.





Left: The par 5 eighteenth hole from the thirteenth fairway shows the clubhouse perched above the course and some of the landforms that highlight the property. The hole plays 422 to 559 yards and is well protected by pot bunkers and mounding.

Right: Our hosts Bob Hildebrandt, Garrett Luck and Corey Betz with the framed flag given to the club in appreciation of hosting our group.



2 Person Scramble Results

Gross -

1st Place: 62 (60.1 Net) - Peter Meyer and Alex Benson-Crone
 2nd Place: 67 (62.4 Net) Mike Bremmer and Jim Friess
 3rd Place 70 (66.1 Net) Aaron Goninen and Chad Grimm

Net -

1st Place: 61.8 (64 gross) Matt Witkowski and Emmet Riley
 2nd Place 64.2 (67 gross) Tom Wentz and Mike Skendadore
 3rd Place 64.1 (68 gross) Scott Mowat and Andy Brownlow

Flag Event Winners

Long Drive - Drew Monogue, Matt Wittkowski

Closest to Pin - Seth Brogren, Mike Bremmer (twice) and the team of Rob Johnson and Jim Gaugert

Long Putt - Alex Benson-Crone, Rick Weiterman



Top Left: The par 4 tenth hole plays 271 to 363 yards. Keep the ball left for the best path to the pin.

Middle Left: WGCSA and Hidden Glen member Tom Wentz with the quality high finish on the sixth hole.

Top Right: Gary Luck (Garrett's father) works on the cover for this issue.

Bottom Left: The Par 3 seventeenth hole plays 104 to 189 yards to a green with little bail out area.

Bottom Right: Jim Gaugert and Yamaha sponsored the par 3 sixth hole with the closest to the pin prize.



Melrose Family Donation Benefits GCSAA Members

By Shane Conroy, GCSAA Field Staff - Great Lakes Regional Representative

As First Green field trips continue to be hosted by superintendent across the country, it's no surprise this program continues to gain steam. Hot on the heels of many successful field trips this spring and summer, the First Green is making headlines again thanks to Ken Melrose, former CEO and chairman of the Toro Company.

The Kendrick B. Melrose Family Foundation has donated \$500,000 to the Environmental Institute for Golf (EIFG), the philanthropic organization of the Golf Course Superintendents Association of America (GCSAA). The endowment will support First Green, which provides hands-on STEM (science, technology, engineering and math) education at golf courses.

The Melrose Family Foundation is supported by Ken Melrose, who retired from the Toro Co. as CEO in 2005 and from the chairman position in 2006. That same year he formed Leading by Serving, LLC, a company whose mission is to advance the principles of servant leadership in business




GCSAA
Golf Course Superintendents Association of America

organizations.

The First Green was founded in 1997 in the Pacific Northwest and officially became part of the EIFG in 2018. First Green is the only STEM education and environmental outreach program that uses golf courses as learning labs. Field trips average 75 students who not only learn about science and the environment but are also exposed to the game of golf as well. For most students, this is their first-time stepping foot on a golf course. In the year since GCSAA took over leadership of First Green, more than 2,000 students across the country have partaken in First Green field trips.

"As the child of an educator, I am pleased to have the opportunity to support a program that provides hands-on education while introducing students to the many benefits of a golf course," Melrose said. "Under GCSAA's direction, First Green has expanded nationally and is reaching more students than ever before. STEM education is vital in preparing students for the future, and I am proud to be a part of that." Melrose's mother, Dorothy Lumley Melrose, taught math, English and public speaking at Memorial Junior High School in Orlando, Fla., in the 1940s and 1950s. In 2014, Melrose honored his mother's memory with the creation of the Dorothy Lumley Melrose Center for Technology, Innovation and Creativity at the Orlando Public Library.

This is the third large gift to GCSAA and the EIFG from the Melrose Family Foundation. In 2012, the foundation gave \$1 million to endow the Melrose Leadership Academy, which focuses on professional development for golf course superintendents through opportunities to attend the annual Golf Industry Show. Since it began, 113 superintendents have experienced the Melrose Leadership Academy. In February, a second \$1-million gift was announced to create the Melrose Equipment Management Endowment. The endowment will have four focus areas: continuing education, a certificate program, growing membership in GCSAA and the Melrose Equipment Management Experience, which will bring GCSAA-member equipment managers to the GIS for leadership and education sessions.

"GCSAA is truly blessed to have Ken Melrose as a good friend." GCSAA Chief Executive Officer Rhett Evans said. "His generous gifts have made a difference in the professional lives of superintendents and equipment managers and have helped us fulfill our mission of serving our members and advancing the profession. Now, he is helping us achieve the third part of our mission, which is enhancing the enjoyment, growth and vitality of the game of golf. Countless school children around the country will be the beneficiaries of Ken's latest philanthropic act of kindness." 

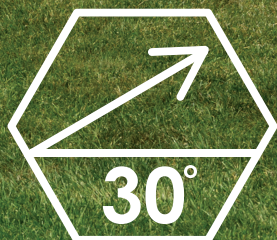
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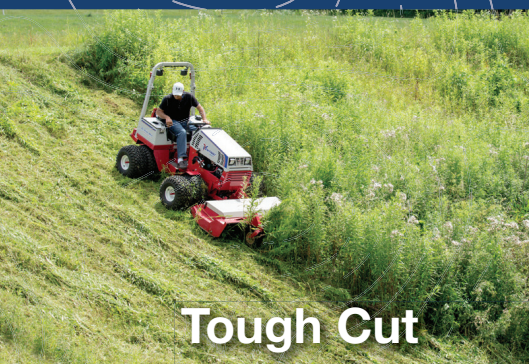
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For The Second Time

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

The 2019 WTA Fall Golf Outing was to be held at Tuckaway Country Club on September 30th in Franklin, WI. As the day drew near, the attendance was not what I thought it should be and I feared the worst. The week before the event, industry rallied once again to make a drive to get player numbers close to 90. Some of you may remember, although many of you are not old enough to remember, the Greater Milwaukee Open (GMO) was held at Tuckaway Country Club from 1972 until 1993 before it moved to Brown Deer Park Golf Course. At the time, it was said that *"Tuckaway is known as one of the best Country Clubs in the state. With large undulating greens, tree-lined fairways and strategically placed bunkers, Tuckaway can be a tough golf course from the back tees but can also be very friendly from the other tees."* I know, Jim Poitz and his staff had the course in GMO shape and were planning on everyone having a fantastic time.

All was going as planned as Audra and I were getting into the truck. Then that dreaded early morning telephone call came from Superintendent, Jim Poitz. Due to all the

rain and 100% humidity over the weekend the course was soaked. There was a decision that had to be made.

There was an offer to allow us to play but no carts and some areas might be so waterlogged they might not be playable. It was not an easy decision to make but after Tuckaway Country Club had worked so hard and the members and board had worked hard to make this happen, I could not go through with the event. No carts, I had this vision of some sort of mud event with people helping others out of bunkers by using their golf clubs and falling. Now that is a sight I did not want to see. As many of you know, I cancelled the WTA Fall Golf Outing. The event has been cancelled only one other time in its long history. Some of you may remember it, because it was last year! If anyone knows of a golf course under a dome, please let me know.

The WTA Fall Golf Outing is the largest fundraiser for the WTA. A canceled event can create a huge revenue loss. Again, this year I was reminded what a great industry I have worked in and with for my entire career.

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NOTES FROM THE NOER

The vast majority of the players and sponsors made comments like this, "The golf is fun but really the day is about supporting research at the UW, so please keep my money as a donation". Below are the many who made that extra donation to the WTA this fall:

David Brandenburg, Rolling Meadows GC, \$150.00
Dominic Frese, Meadowbrook Country Club, \$150.00
Scott Verdun, Personal Donation, \$150.00
Danny Quast & Joe Jehnsen, DHD Turf and Tree, \$725.00
Peter Meyer, National Golf Graphic, \$600.00
Shane Griffith, Weedman, \$725.00
Beth Duschack, Corteva, \$150.00
Wayne Horman, Landmark Turf & Seed, \$600.00
John Turner, Aquatrols, \$275.00
John Jensen, Reinders, Inc, \$725.00
Brian Bonlander, West Bend CC, \$300.00
Matt Kregel, The Club at Strawberry Creek, \$300.00
Phil Spitz, Syngenta, \$725.00
Jon Hegge, Evansville Country Club, \$300.00
Mike Krupke, WSTMA, \$725.00
Rob Johnson, Waupaca Sand & Solutions, \$150.00
Tom Wentz, Life of Leisure, \$150.00
Chad Grimm, Blackhawk CC, \$150.00
Garrett Luck, Hidden Glen, \$150.00
Kristin Witkowski, Pendelton Turf, \$275.00
Todd Fregien, Advanced Turf, \$275.00

Steve Houlihan, Oconomowoc CC, \$300.00
Patrick Reuteman, Westmoor CC, \$300.00
Todd Marten, Pine Hills CC, \$275.00
Aaron Goninen, Reinders Irrigation, \$150.00
Dave Radaj, Midwest Turf, \$275.00
Josh LaPine, Maple Bluff CC, \$300.00
Harrison Beal, Kenosha CC, \$150.00
Mike Bremmer, JW Turf, \$425.00

Please thank them when you see them. Without people like these organizations like the WTA might not exist. If I forgot someone, please let me know and I will include your name in the next newsletter.

Plans are already in the works for next year. I am looking for a volunteer to assist me as the weather coordinator. All people interested, please contact me as soon as possible; I might need your influence for Summer Field Day also! 🌱



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Norsk Golf

By Jake Schneider, Seasonal Worker, Trondheim Golfklubb, Norway

Not sure if the news made it across the big pond, but after many trials and tribulations, I finally landed myself a job in mid-summer, and it wasn't a whole lot different than my first official employment in the US circa 1999. Yup, I was back to summer seasonal work as the low man on the totem pole at a private golf club and was happy as a clam to be doing so, even though the pay wasn't comparatively much different in spite of a much higher cost of living and developing a few more functioning brain cells over the course of the past 20 years. Although the short summers here only kept me busy from July through September, it was a whole lot better than nothing at all. And, as an added bonus (with the exception of the first and last week) it was an outstanding time to be outside with reasonably dry weather,

temperatures consistently between 50-70 degrees, and no humidity. Safe to say that returning to the muggy Midwestern weather is going to be a shock to the system.

Given how much Norwegians love being outside and taking hikes (that are basically required on Sundays), it is surprising to me that more don't play golf, but in a city of nearly 200,000 people, there are only 27 holes maintained by paid staff. There are a couple of courses that are cared for by volunteer members, but otherwise, it's just my employer, Trondheim GK, and our not-to-be named competition to the southwest. If young Viktor Hovland continues to have success on the PGA Tour, I could certainly see there being a bump in interest, but that remains to be seen.

In a country where almost every-

thing is very expensive, I was surprised to learn that a full membership at Trondheim GK costs less than \$700 per year which is about what it costs Melissa and me to buy groceries here for a month. And, while it's not an 18-hole championship course, I would stack the conditions of the greens, tees, and approaches with most mid-level clubs in Wisconsin. In other words, it's a helluva deal. Aside from the price differences between here and the US, there are a few other major distinctions that I noted in my admittedly small sample size.

Most importantly for Wisconsinites, there isn't much beer consumed while playing. Over the course of my three months, I probably saw less than a dozen empty cans in the garbage, and they don't even sell beer in the Trondheim GK clubhouse.

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To be fair, they did offer some mediocre \$10 barley pops at the one other course that I played (loosely-used term given the state of my golf game) at this summer, but it was odd not seeing the bins overflowing with Miller Lite on Monday mornings.

For exhibit B as to why two times more Americans are obese than Norwegians, golf carts are also restricted to those with actual health and/or age-related issues. In other words, able-bodied people with an exercise allergy have to get their heart rate up a bit.

Trondheim GK is set within a large, hilly park, and the elevation changes are similar to those that I worked with for many years at Blackhawk CC, and despite that, I can only think of two regular golfers who used carts here. It's truly amazing that anyone is able to enjoy a round without beer and powered transportation.

Getting away from my rant on the laziness of Americans, there are also significant course-input discrepancies as I'm sure most turfies would guess. Namely, there are only a handful of pesticides that superintendents are allowed to use and that number isn't getting any bigger.

On the other hand, there aren't any NR-151esque fertilizer restrictions just yet. While it's absolutely true that the disease pressure here is almost non-existent throughout most of the summer months, snow mold, leaf spot, and winter injury are significant issues, and in fact, I saw a bit of pink snow mold in July. Regardless, it is refreshing to see a program based around cultural practices and a clientele who doesn't expect perfect, dark green conditions each and every day.

That doesn't mean that the Norwegian golfers are perfect as I quickly realized that not properly raking bunkers, replacing divots, or fixing pitch marks is an affliction that crosses both oceans and cultures.

They also spend an inordinate amount of time searching for lost balls and play in weather conditions more suitable for curling up on the couch with a hot chocolate. Worst of all though, are the wildlife as I learned that free-range sheep produce a tremendous amount of organic fertilizer and that moose are absolutely terrible at staying off of the greens and even lousier fixers of their hoof marks. Guess that moose and golfers of all ancestries aren't so different after all. ✓



The view from the first tee at Trondheim Golfklubb.



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What's New in Turfgrass Science?

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

The annual Tri-Societies Meetings (Crop, Soil Science, and Agronomy Societies of America) is to turfgrass scientists what GIS is to golf course superintendents – a can't miss event where the latest and greatest are on display. This enormous conference is attended by approximately 10,000 crop, soil, and environmental scientists from all over the globe. To make the conference digestible, the scientists are separated into smaller divisions. Turfgrass science is one of several sub-divisions within the Crop Science Society of America which has about 300 members. During the week, we get together from 8 am to 6 pm each day to share our latest findings, often by way of 15-minute talks and 2-hour long poster sessions. The data is hot off the presses, and sometimes only preliminary in nature. The researchers critique each other's work, and then return home to improve it and get it ready to present the next year.

This year, the conference was held in San Antonio, Texas – a city that has frequently hosted GIS of late. Picture that immense trade show floor in San Antonio, but instead of the endless isles of booths you would see endless isles filled with scientific posters. It really is quite a sight to behold. Prior to the conference, authors submit a short abstract that summarizes their project and the results. These abstracts are written in the scientific style which is not the easiest style to read (thank goodness they are short!). The units are literally foreign, but all you need to know is that 50 kg ha⁻¹ is approximately equal to 1 pound per thousand square feet (grab a calculator and divide the kg ha⁻¹ number by 50 to reveal the pounds per thousand) and 3 mm is putting green height. Below are just a few of the abstracts that caught my eye and are relevant to the research that I've been doing, and are

most relevant to the readers of *The Grass Roots*. I did not alter or edit the abstracts below in any way, but I put the most important tidbits in bold.

During the week, we get together from 8 am to 6 pm each day to share our latest findings, often by way of 15-minute talks and 2-hour long poster sessions. The data is hot off the presses, and sometimes only preliminary in nature.

Removal of Coarse Sand from Topdressing on Putting Green Turf

Hui Chen, James Hempfling, Kyle M. Genova, Chas Schmid, James A Murphy, Rutgers University

Topdressing sand typically is applied at very low rates (dusting) to avoid interference with play and dulling of cutting edges. The objective of this study was to determine the effects of (1) eliminating coarse particles from topdressing sand (subsequently increasing proportions of medium, fine and very fine particles) and (2) core cultivation on the physical properties of the mat layer of a creeping bentgrass (*Agrostis stolonifera*) turf. This trial used a 3 x 2 x 2 factorially arranged randomized complete block design with four replications. Treatments were initiated in May 2016 on a 20-month-old 'Shark' creeping bentgrass turf mowed at 2.8-mm. The factors included sand size (medium-coarse, medium-fine, fine-medium), rate of topdressing during mid-season (2,441 or 4,882 kg ha⁻¹ every 2 weeks), and cultivation (cored plus backfilled with medium-coarse sand or non-cored). Non-topdressed controls at both levels of cultivation were included for orthogonal contrasts. Volumetric water content (VWC) of

the surface 0- to 76-mm depth zone was routinely measured during growing season. Infiltration rate using double-ring infiltration was measured in August of 2018 and 2019. Undisturbed, 76-mm diam. core samples were collected in May 2019 to characterize mat-layer depth, organic matter (OM) concentration, pore size distribution and sand size distribution. **Core cultivated plots had substantially greater infiltration rates and reduced VWC compared to non-core plots. Mid-season topdressing at 4,882 kg ha⁻¹ produced a drier surface than topdressing at 2,441 kg ha⁻¹ but did not affect infiltration rate. Topdressing with medium-coarse and medium-fine sand were both effective at drying the surface; whereas, topdressing with the fine-medium sand resulted in a much wetter surface with a lower infiltration rate. Core cultivation and backfilling with medium-coarse sand offset these negative effects caused by topdressing with fine-medium sand.** Results of the undisturbed core samples will be discussed.

Effect of Alternative Aerification Practice to Maintain Soil Physical Properties of Putting Green

Naba Amgain and Charles Henry Fontanier, Oklahoma State University

Managing soil organic matter and rootzone moisture patterns of sand-based putting greens is critical to long-term health of turfgrasses. Soil compaction and accumulation of organic layers near the root zone surface reduce infiltration rates, influence surface firmness, inhibit deep rooting, and negatively affect playability. Cultivation practices such as hollow-tine core aerification have traditionally been used to maintain desirable rootzone physical properties and reduce organic matter build up.

WISCONSIN SOILS REPORT

Traditional aerification practice can be overly disruptive to the playing surface resulting in fewer rounds of golf being played. Alternative aerification methods such as air or sand injection have recently been introduced which are less disruptive to the playing surface compared to traditional aerification practices. The objective of this study was to determine if alternative cultivation practice will have a similar impact on soil physical properties while minimizing surface disruption compared to traditional cultivation practices. The experiment was conducted in an existing 'Penncross' creeping bentgrass [*Agrostis stolonifera* L.] green at the Oklahoma State University Turfgrass Research Station. Treatments were arranged as a two way factorial. The first factor was alternative cultivation practice with levels being air injection (Air2G2), sand injection (DryJect), and a non-treated control. The second factor was with or

without hollow-tine aerification. The treatments were arranged in a randomized complete block design with four replications of each treatment. Parameters evaluated were soil volumetric water content, surface firmness, infiltration rate, ball roll distance, rooting dry mass, and soil organic matter content. **The study suggests that these alternative cultivation practices can be effective tools for golf course superintendents seeking lower disruption to the playing surface, but conventional hollow-tine core aerification still has the largest effect on rootzone properties.**

Evaluation of Creeping Bentgrass Responses to Fertilization with the Branched-Chain Amino Acids

Isaac Mertz, Nick E. Christians, Adam Thoms, Benjamin Pease, Alex Lindsey, Iowa State University

The branched-chain amino acids (BCAA) leucine (L), isoleucine (IL),

and valine (V) are synthesized in plants and are essential to growth of most organisms. In humans, BCAA have been demonstrated to increase muscle protein synthesis, and that increase is related to the intake ratio of L to IL and V. Preliminary research on creeping bentgrass (*Agrostis stolonifera* L.) under controlled environment conditions indicated that when BCAA were applied in a 4:1:1 ratio (L:IL:V) (3.4 kg-nitrogen [N] ha⁻¹), shoot density of creeping bentgrass can be increased 30-40% compared to equal urea N. The objective of this study was to determine if increases in shoot density of creeping bentgrass previously observed under controlled environment conditions could translate to a field setting. To investigate this, a study was conducted on a mature creeping bentgrass putting green established on a United States Golf Association specified sand-based rootzone and subjected to application of BCAA, urea, and GreenNCrease.

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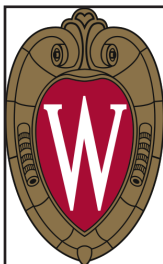
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All treatments other than the untreated control received a total of 3.4 kg-N ha⁻¹ application-1. The BCAA ratios evaluated were 4:1:1, 8:1:1 and 12:1:1, using a BCAA full-rate (3.4 kg-N ha⁻¹). These BCAA ratios were also applied as 4:1:1+N, 8:1:1+N, and 12:1:1+N, which consisted of a BCAA half-rate (1.7 kg-BCAA-N ha⁻¹), in combination with urea (1.7 kg-urea-N ha⁻¹).

At the conclusion of the study, creeping bentgrass receiving applications of 4:1:1+N increased shoot density by 27% and 7% compared to equal N from urea and GreenNCrease, respectively. Additionally, the BCAA 4:1:1+N treatment also increased creeping bentgrass leaf N content by 10% and 14% compared to urea and GreenNCrease. All other combinations of BCAA were equal to urea N. Based on the results of this study, it appears that BCAA are best applied as 4:1:1+N in the field, as a portion of the total applied N in combination with urea.

The Effects of Iron Sulfate Applications at Different Water Carrier Volumes on Microdochium Patch Suppression, Percent Green Cover, and Turfgrass Quality on an Annual Bluegrass Putting Green

Clint Mattox, Alec Kowalewski, Brian W. McDonald, Oregon State University

Microdochium patch, caused by *Microdochium nivale*, occurs in cool-humid regions like the Pacific Northwest. Fungicide applications suppress Microdochium patch although alternatives to fungicides are desired where pesticide restrictions occur. Previous research has shown that 97.7 kg FeSO₄•7H₂O ha⁻¹ applied every two weeks in a 814 L ha⁻¹ water carrier suppressed Microdochium patch, however unacceptable turfgrass thinning was observed.

The objective of this research was to quantify the effects of four different water carrier volumes of 97.7 kg FeSO₄•7H₂O ha⁻¹ applied every two weeks on the suppression of Micro-

dochium patch, percent green cover, and turfgrass quality on an annual bluegrass putting green in Western Oregon.

A seven-month field experiment was conducted on an annual bluegrass putting green in Corvallis, OR from September 2015 through April 2016 and repeated from September 2016 through April 2017. The study was arranged as a randomized complete block design with four replications.

The experimental plots were 1.5 m² and the total experimental area was 30 m². Golfer traffic was replicated by walking over the plots with golf shoes. The treatments consisted of 97.7 kg FeSO₄•7H₂O ha⁻¹ applied every two weeks in four different water carrier volumes (1019, 2037, 3056, and 4075 L ha⁻¹) and a non-treated control. Treatments were applied using a handheld boom with four XR80015 nozzles attached to a CO₂ pressurized backpack sprayer using a boom pressure of 280 kPa. Response variables included turfgrass quality on a 1 to 9 scale, percent disease, area under disease progress curve, and percent green cover.

This research demonstrated that 97.7 kg FeSO₄•7H₂O ha⁻¹ applied every two weeks suppresses Microdochium patch to equivalent levels regardless of carrier volumes ranging from 1019 to 4075 L ha⁻¹. Higher carrier volumes resulted in higher percent green cover compared to lower carrier volumes. No treatment reduced turfgrass thinning to acceptable levels.

Effects of Nitrogen, Phosphorus, and Potassium Rates on Microdochium Patch

Brian W. McDonald, Emily T Braithwaite, Alec Kowalewski, Clint Mattox, Oregon State University

Research on primary nutrient nitrogen (N), phosphorus (P) and potassium (K) ratios have suggested that maintaining the proper balance of the nutrients is critical to disease mitigation. However, research on N, P, and K ratios relevant to annual bluegrass and Microdochium patch is not available. The objective of this research is to evaluate the effects of fall through spring monthly applications of N (9.8 & 4.9 kg N ha⁻¹), P (0 & 1.22 kg P ha⁻¹), and K (0 & 4.9 K ha⁻¹), on Microdochium patch development within an annual bluegrass putting green.

A two year field research trial was initiated in September 2017 with the second year completed in May of 2019. The trial was located on a 100% USGA sand putting green which was constructed in 2009 at the Lewis-Brown Horticulture Farm, Corvallis, OR. Experimental design is a 2 by 2 by 2 factorial randomized complete block design with four replications; factors include nitrogen rate, phosphorus rate, and potassium rate. To reduce the disease pressure, all treatments received monthly applications fall through spring of phosphorous acid (Duraphite 12 applied at 3.7 kg H₃PO₃ ha⁻¹ in year 1 and 7.4 kg H₃PO₃ ha⁻¹ in year 2) and sulfur (Sulfur DF applied at 12 kg S ha⁻¹). Traditional fungicides were not applied to this experiment, except for summer anthracnose control.

In both years, N applied alone resulted in more disease. In year 1, the high rate of N resulted in more disease, but in year 2, the low rate of N had more disease. In year 1, potassium applied at a rate of 4.9 kg N ha⁻¹ reduced percent disease when compared to treatments that did not receive K. In both years, the main effect of P rate and the interactions between N, P and K were not significant.

WISCONSIN SOILS REPORT

Dollar Spot Control As Affected By Fungicide Programming and Bentgrass Susceptibility

Pingyuan Zhang, James A. Murphy, Bruce B. Clarke, Rutgers University

Dollar spot severity caused by *Clarireedia jacksonii* differs among bentgrass (*Agrostis* spp.) cultivars. A 3 × 6 factorial arranged as a randomized complete block design was used to assess the effectiveness of threshold-based fungicide applications to control dollar spot on six cultivars: 'Capri' colonial bentgrass (*A. capillaris*), and 'Declaration', '007', 'Shark', 'Penncross' and 'Independence' creeping bentgrass (*A. stolonifera*). The fungicide factor included a calendar-based program (21-d interval, nine applications) and two threshold programs that applied fungicide at a damage threshold of 314-mm² within either 24-h or the next spray-day (Monday).

Disease severity was measured every 1 to 3 days as the active dollar spot infection area within each plot and summarized as the area under disease progress curve for individual disease outbreaks. Fungicide program was the dominant factor that influenced the severity of dollar spot outbreaks from May to August in both years; outbreaks were more severe for threshold programs compared to calendar program. When differences between threshold programs were apparent (May to August 2019), outbreaks were more severe for the next spray-day program. The cultivar effect was not very pronounced from May to August 2018; whereas, **Independence, Penncross and Shark were among the cultivars with the most disease in three out of four outbreaks during this period in 2019. For the October to early-November outbreak in 2018, the ability of fungicide programs to control dollar spot depended on cultivar.**

Declaration was the only cultivar that maintained a low level of disease across all fungicide programs. Moreover, differences in disease severity among cultivars were only evident under the next spray-day program: Penncross > Shark » Capri > Independence » 007 > Declaration. The number of threshold applications varied with cultivar in 2018: Declaration received two to three; Capri, 007 and Shark four; Penncross four to five; Independence six applications.

Anthracnose Response to Potassium Under Two Nitrogen Levels

Kyle M. Genova, Bruce B. Clarke, James A. Murphy, Rutgers University

Anthracnose (caused by *Colletotrichum cereale* Manns *sensu lato* Crouch, Clarke and Hillman) is a disease of annual bluegrass (ABG) [*Poa annua* L. f. *reptans* (Hausskn) T. Koyama] putting greens in the northeast region of the United States. A 2-yr field study assessed the response of anthracnose to potassium and nitrogen applications on ABG turf maintained at 2.8-mm in North Brunswick, NJ.

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WISCONSIN SOILS REPORT

A randomized complete block design with four replications was used to evaluate four potassium rates (0, 4, 8 and 16 kg K₂O ha⁻¹) applied as a potassium sulfate solution every two weeks under two levels of N. Nitrogen was applied at 4.9 kg ha⁻¹ as a urea solution every 28 days (29 kg N ha⁻¹ yr⁻¹) or seven days (117 kg N ha⁻¹ yr⁻¹) for a total of 24 weeks beginning 28 and 13 April in 2016 and 2017, respectively.

Increasing both potassium and nitrogen fertility (main effects) reduced disease severity measured as area under the disease progress curve in 2016 and 2017. The N x K interaction was significant for three ratings dates in 2016. Two rating dates during disease onset (June) indicated an effect size difference when all K fertilization rates were more effective at reducing disease compared to no K under lower N fertility than greater N.

However, at the end of the disease outbreak (16 August 2016), K fertilization was not effective at reducing anthracnose under lower N,

whereas K fertilization reduced disease under greater N rate. **During 2016 and 2017, plots treated with K (all rates pooled across both N levels) had a 55 to 59% and 49 to 54% reduction in disease severity, respectively, compared to plots that received no potassium. Combining K fertilization with weekly N reduced anthracnose by 74 and 68% compared to no K in 2016 and 2017, respectively.**

Determining Nitrogen Fertilizer Cost Using Turfgrass Response


Travis W. Shaddox, University of Kentucky; J. Bryan Unruh, University of Florida

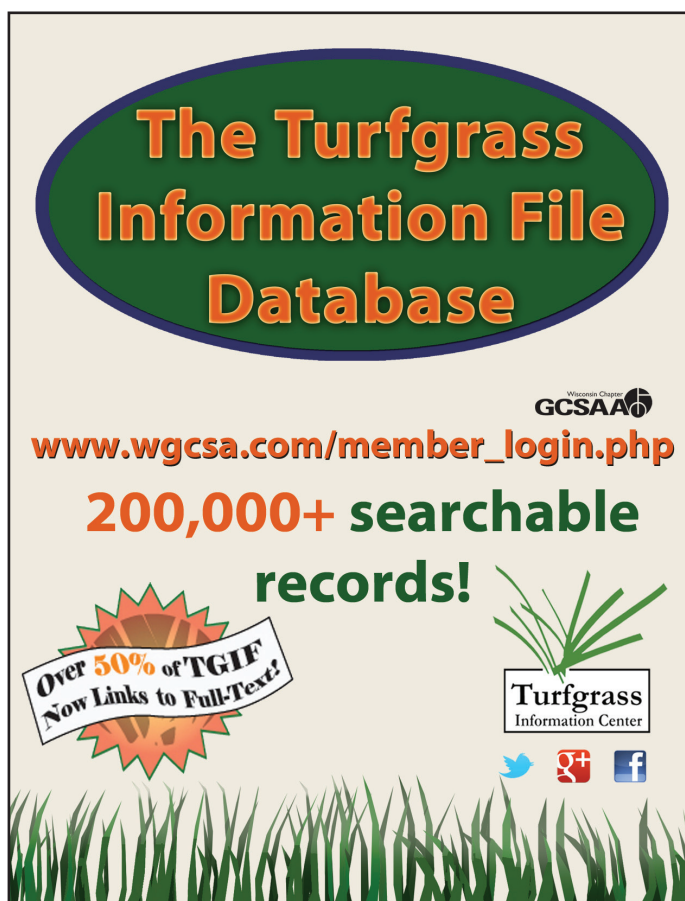
Numerous nitrogen (N) sources are used in turfgrass management and vary from soluble to slow-release. Determining the least expensive N source can be confusing for consumers. Price tonne⁻¹ and price kg⁻¹ N are common price comparison methods. A newer method uses release longevity of the N source to balance the price. Because N sources re-

lease N at differing rates, using a method that includes turfgrass response may be a more effective price comparison method. The objective of this study was to determine the longevity of turfgrass response to N sources and to determine the cost to achieve such responses.

This study was conducted in Ft. Lauderdale and Jay, FL from Jan. 1 through Dec. 31 of 2018. Treatments included untreated turfgrass, urea, ammonium sulfate, UFlexx, methylene urea, ureaformaldehyde, a municipal biosolid, milorganite, sulfur-coated urea, Duration-90, and Polyon-42. Treatments were arranged in a split-plot design with N rate (49 and 98 kg N per hectare per 4 months) as whole plots and N sources as subplots using four replications. Turf quality ratings were recorded weekly and used to determine response longevity (days quality \geq 6.0) and area under the turf response curve (AUTRC). Response longevity was similar among N sources in Jay and Ft. Lauderdale.

Urea resulted in AUTRC \geq other N sources in Jay and Ft. Lauderdale. **Urea resulted in \$ per hectare per day and \$ per hectare per quality-day \leq other N sources during each fertilizer cycle in both locations.** In Jay, urea cost \$2.68 per hectare per day and \$1.35 per hectare per quality-day whereas, in Ft. Lauderdale, urea cost \$1.56 per hectare per day and \$0.86 per hectare per quality-day.

Regression of \$ per kg N with \$ per hectare per day and with \$ per hectare per quality-day resulted in R² of 0.46 (P < 0.001) and 0.63 (P < 0.001), respectively, indicating a moderate relationship between these cost measurement methods. Regression of \$ per kg N with turf response longevity and AUTRC determined these variables were unrelated (P=0.96 and P=0.76, respectively). This study found no evidence that using turfgrass response longevity was a more effective method of determining fertilizer cost than \$ per kg N. 



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Seasons?

David Brandenburg, Editor

After back to back years of no spring or fall golf weather, one has to wonder what is going on. "Global warming" terminology has switched to "climate change" as more research is done..

When you live in the Midwest the thought of a little global warming does not sound like a bad thing. If each day was a little warmer we could get used to that and welcome it. But what we have had for two years is not warmer and certainly not dryer. Is this the new normal or just a short term bad luck trend?

Most years, we really do live in an area of the world with 4 true seasons and most of us enjoy those seasons for the different benefits they bring.

As I write this on December 10th, it seems as though we have had months of cold, dark and dreary days. The courses in Fond du Lac are super-saturated with little hope for any drying before spring, due to our heavy soils.

Farmers are in a worse spot as they have been unable to pick corn or soybeans and even if they can get the crop picked the moisture content in the crops will require so much propane to dry it properly the crop will cost more than it brings in.

My memories of fall include many sunny 50 to 60 degree days in September and October with thoughts of crispy falling leaves and football. Those memories seem like a thing of the past considering this year we had cold and snow before leaves started turning colors or falling.

Overall most golf courses in the badger state suffered through a cold spring with multiple heavy snows. The summer treated most courses pretty good although each area of the state took their turn at surviving heavy flooding rains and storms.

Hopes for a good fall to finish the sea-

son were dashed by more cold, rain and snow. The year was not only tough on cash registers it was frustrating for golfers and golf course maintenance staffs alike.

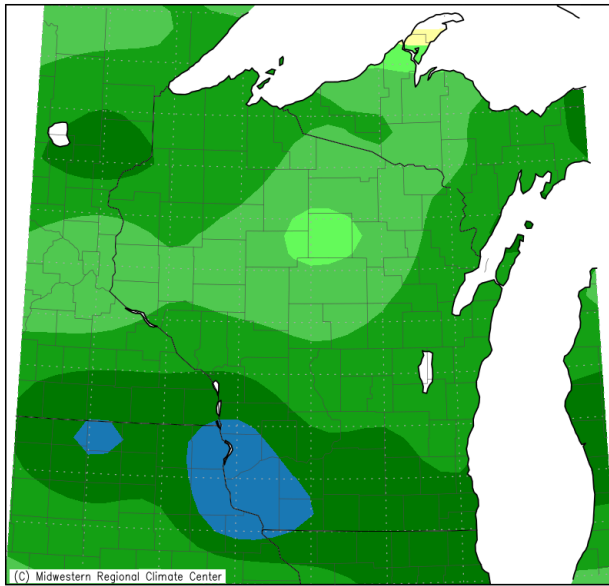
The Creeks at Ivy Acres in Greenville was one of the hardest hit properties with a damage from a tornado that hit July 20th.

This popular Fox Valley layout took damage to not only the clubhouse, maintenance facility and pump house but also to equipment, carts and irrigation controllers.

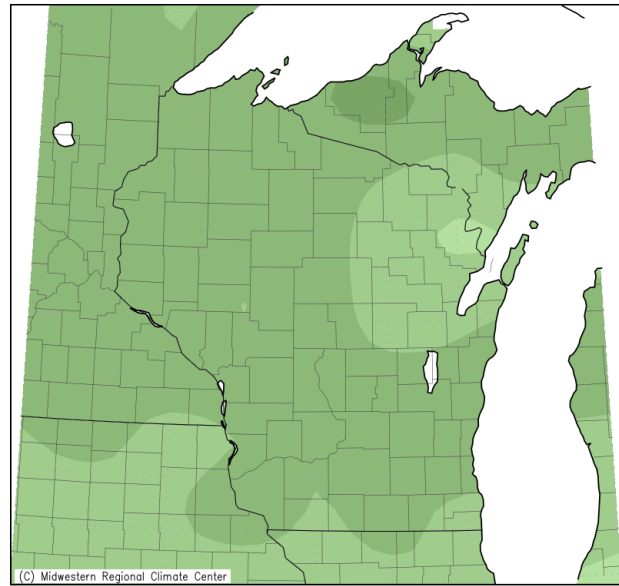
Roofs were ripped off carts, the beverage carts were totaled and the range picker was thrown over 200 yards.

In order to re-open the course has to undergo extensive repairs and of course the wheels of insurance claims turn slow. Best of luck to golf course superintendent Steven Blake and the rest of the staff at The Creeks.

Accumulated Precipitation (in): Departure from Mean
September 12, 2019 to December 10, 2019



Average Maximum Temp. (°F): Departure from Mean
September 12, 2019 to December 10, 2019



The graphs from the Wisconsin State Climatology Office show that the past 90 days have been wetter than normal with lower high temperatures than normal. However the low temperatures have been near average despite the feeling that it has been unusually cold.

2020 Event Schedule!

January 7 - (Tuesday) WTA Turfgrass Research Day - NEW LOCATION American Family Training Center
January 23 - (Thursday) Equipment Mangers - Erin Hills GC (AM) & Westmoor CC (PM)
January 29 - (Wednesday) GIS WI Room - 6:30-9:30 Mago's, International Drive, Orlando, FL
February 18 - (Tuesday) Assistants Seminar - Whispering Springs GC, Fond du Lac
March 4 - (Wednesday) Northern Great Lakes GCSA Educational Conference - The Waters in Minocqua
March 10 (Tuesday) WGCSA Spring Business and Education Meeting, South Hills G&CC, Fond du Lac
April 29 - (Wednesday) WPGA/WGCSA Super Pro - Wild Rock GC, WI Dells
May 4 - (Monday) National Golf Day GCSAA - Washington DC
May TBD - (Monday) May Meeting (Morning Start) - North Shore CC, Mequon
June 9 - (Tuesday) WGCSA June Meeting - Lawsonia, The Links, Green Lake
July TBD - WTA Summer Field Day - O.J. Noer Research Facility, Madison
August 17 - (Monday) Joint NGLGCSA/WGCSA Member Guest - Waupaca CC, Waupaca
September 14 - (Monday) Wee One Fundraiser - Pine Hills CC, Sheboygan
September 25 - (Friday) Equipment Managers Meeting - Location TBD
TBD - WTA Golf Classic -
TBD - Couples and Guest Evening -
November 30-31 - (Wed-Thur) 55th Golf Turf Symposium - American Club, Kohler

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

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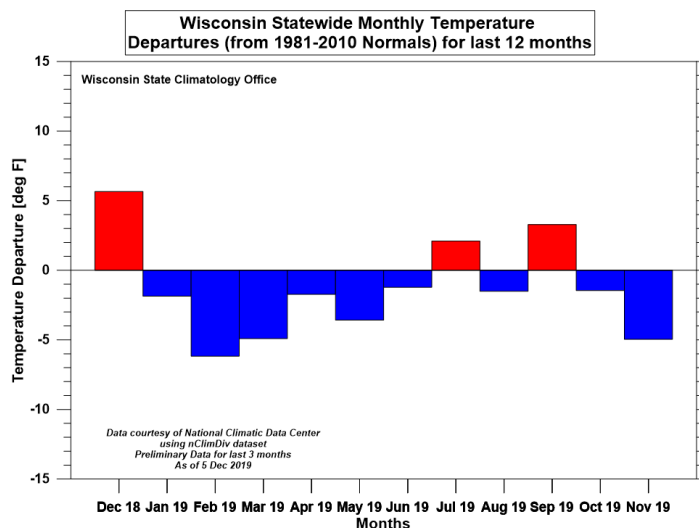
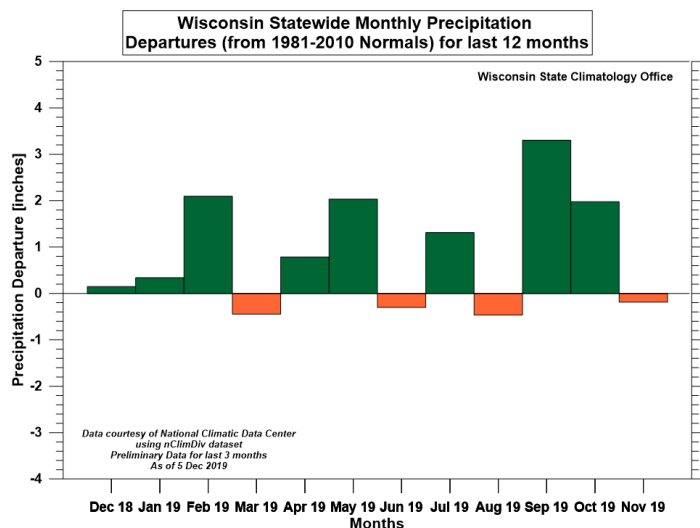
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EDITOR'S NOTEBOOK



The 12 month statewide graph shows we have been cooler and wetter through much of the year. Not to brag, but the Fox Valley graph showed every period but mid July was wetter than normal for the year with incredible amounts of rain in September and October. I show the graphs not so we can cry together, but so turf managers know we are all in this together. The Wisconsin State Climatology Office information can be found at aos.wisc.edu.

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EDITOR'S NOTEBOOK

Along with the rain and snow comes less playable golf days and less rounds of golf.

In Fond du Lac we had 223 days from opening day to closing day and 159 of those were considered playable. A golf playable day had highs above 45 and less than .25" of rain. 71% of the days in our season were considered playable.

The company Pellucid breaks it down to golf playable hours based on hourly reports from our local airport. In 2019 we had 1,569 GPH down 7% from 2018 which was down 8% from normal or 2017.

With our normal being 1,808 golf playable hours we were down 15% in 2019 which is a big loss of potential revenue for golf clubs of all types.

Fortunately some customers play in less than ideal conditions and others adjust their schedule to play extra on the nice days.

As we move forward all we can do is tighten our belts a little and hope for better weather in 2020.

WGCSA members who recertified with GCSAA March through November of this year included Michael J. Lee, Tod M. Blankenship and Dustin Riley. In order to renew as a Certified Golf Course Superintendent members must attain 15 points with a minimum of 9 being education points. Members can choose to take a written examination plus attain 5 points of continuing education.

Secondly CGCS renewals require either taking an IPM exam or showing proof of a local pesticide license.

Congratulations to these members and keep up the good work in continuing education.

If you are attending the Golf Industry Show (GIS) you may notice the disappearance of our former partner the NGCOA (owners), or you may not depending on how observant you are.

The GIS was created in 2005 to try and bring everything golf under one show umbrella with the major partners

being the GCSAA, NGCOA and later CMAA (Club Managers Association of America). It also brought in smaller partners the NGF (National Golf Foundation), Golf Course Builders, Golf Course Architects and the United States Golf Association.

It was a good idea on paper but it never came close to attracting the PGA and their huge show which is mainly geared towards apparel and golf equipment.

The benefit for vendors that sold to managers, owners and superintendents was they only had to exhibit at one show or two if they also sold to the golf professionals. That was still better than 3 or 4 individual shows.

Realistically the CMAA never really fit in at the GIS. Their membership includes clubs of all kinds, not just golf so our exhibitors were not for them. The unique CMAA exhibitors drew little response from golf course superintendents and in a dispute over location the CMAA and it's 3,000 attendees left after the 2010 GIS.



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EDITOR'S NOTEBOOK

The NGCOA is smaller with attendance near 500 compared to the 10-14,000 the GCSAA has. As a NGCOA and GCSAA member I always felt the NGCOA was hidden away, often having their education in a different hall or hotel than the GCSAA.

Starting in 2020 the NGCOA will be aligned with the PGA show which annually draws 40,000 attendees and 1,000 exhibitors. The NGCOA Education will be right before the PGA Show and NGCOA members will receive free attendance to the trade show.

The PGA and NGCOA union should be a better match as some but not all of the owners would rather look at golf shop merchandise than mowers and fertilizers.

Due to it's size and it's quest for good weather the PGA show is always in Orlando. This year the NGCOA, PGA and GCSAA (Golf Industry Show) will be lined up one after another.

What will we lose without the NGCOA at the Golf Industry Show? We will lose a few attendees at the trade show and a few exhibitors on the trade show floor. Most of the losses will be point of sale systems and credit card processors which were often ignored by the majority of golf course superintendents anyway.

If I had a vote I would now drop the Golf Industry Show moniker and just go back to having the GCSAA Conference and Show rather than a GCSAA Conference as part of the Golf Industry Show.

We do still have our presenting partners the GCBAA (builders) and AS-GCA (Architects) with smaller inputs from the USGA and NGF.



The 2020 Golf Industry Show will be held a week earlier than normal with dates of January 25th to 30th. The GIS includes the Golf Championships with serious and casual competitions for teams and individuals, The Education

Conference and The Trade Show.

The Golf Tournament has changed from a championship only to include options for more casual players to take part. Sponsored by Toro there is a golf event for every type of player.

The Education Conference offers free sessions every day along with the for fee 4, 6 and 8 hour sessions that are truly second to none. The opportunity to learn from industry leaders of all types easily covers the cost of attendance. If you are on a budget you can go to the show and fill your mind at the 23 free education sessions before the trade show and on the trade show floor. With a total of over 400 hours of education the world of turf education is at your fingertips for a small investment.

For first time attendees the trade show is like nothing you can imagine. Exhibitors of all kinds are available to answer your every question and provide you the answers you need to perform your job.

Future shows will be held in Las Vegas in 2021, San Diego in 2022, Orlando in 2023 and word is Phoenix in 2024.

The WGCSA Hospitality room will be held Wednesday January 29th from 6:30-9:30 at Mago's on International Drive, Orlando, FL.

I look forward to seeing you in Orlando!

It looks as though new overtime rules are on the way again. On September 24th the U.S. Department of Labor announced a final rule effecting 1.3 million salaried employees.

Under the new rule to go in effect on January 1, 2020 the standard salary level will be raised from \$455 to \$684 a week. Any employee who earns less than \$35,568 per year will now be eligible for overtime. The previous rule was \$23,700.

You may remember the Obama Administration attempted to raise the level to \$47,000 a year effecting a probable four million workers but a federal judge blocked that amount as

too high.

Your club may have to look at your overtime rules and how they determine exempt vs non-exempt employees as you move into 2020.



The O.J. Noer Foundation recently announced they have signed a memorandum of understanding with the GCSAA to have the O.J. Noer Endowment funds under the umbrella of GCSAA's Environmental Institute of Golf.

The Noer Foundation is governed by a volunteer board and I think they were looking for a stable way to continue their goals and objectives. Members of the current board will serve on the GCSAA committee that will determine the research proposals to receive funding from the endowment.

The O.J. Noer Foundation was initiated in 1959 by associates and friends of O.J. Noer to honor his lifetime of work in turfgrass management. O.J. Noer is the only three time winner of the GCSAA's Distinguished Service Award (1952, 1959 and 1960). He has also received the WGCSA Distinguished Service Award the 1963 USGA Green Section Award and was inducted into the Wisconsin Golf Hall of Fame in 1985.

The first research project sponsored was at the University of Wisconsin with Dr. Jim Love.

Currently the endowment is supporting research by Wisconsin's Dr. Koch on the Development of loop-mediated isothermal amplification (LAMP) assays for detection of common root-infecting pathogens of turfgrass.

For over 60 years the O.J. Noer Foundation has supported turf research with grants totaling over \$1.5 million.

The endowment also provides support for the Michigan State University Library which houses the O.J. Noer collection.



WGCSA MEMBERSHIP APPLICATION

N1922 Virginia Dr - Waupaca, WI 54981- E-Mail: bgrams@wgcsa.com – www.wgcsa.com – 920.643.4888

First Name _____	Last Name _____
Title _____	Spouse (first name) _____
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Website _____	
Course/Company/School Name _____	
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Course/Company/School City _____	State _____ Zip _____

Business Phone _____	Fax _____
Mobile Phone _____	Home Phone _____
Circle Membership Class Applying for: (Must pay applicable dues when applying)	
<u>Class A or B or C or D</u> \$150 <u>Class E Company</u> \$250 <u>Class R</u> \$75 <u>Class EM</u> \$50 <u>Class S</u>	
Home Address 1 _____	
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Home City _____	State _____ Zip _____

Circle ONE : I want my Grass Roots Magazine to go to HOME or BUSINESS (Six Issues Annually)	Circle ONE : I want my monthly notices to come via MAIL or EMAIL (Please go GREEN! and use EMAIL)
--	--

Are you a member of the GCSAA? ☐ YES ☐ NO IF Yes, Please Provide Membership Class _____ and GCSAA Membership Number _____

All applicants (Except Class E and S) please provide your last two Positions 1 Position (Title, Course or Club Name) _____ Dates of Employment _____ 2 Position (Title, Course or Club Name) _____ Dates of Employment _____	All applicants (Except Class E) please provide two WGCSA references First Name _____ Last Name _____ Phone # _____ First Name _____ Last Name _____ Phone # _____
--	---

If **Class E** Please list other company employees to be listed in annual directory.

If **Class S** Please have advisor/professor verify that you are full time student enrolled in a turfgrass or similar course of study in Wisconsin (or work for Member Supt.)

Professor/Advisor Name _____	Signature _____	Date _____
Professor/Advisor Title _____	Phone _____	

Important Instructions

1. Classification status will be determined per WGCSA By-Laws.
2. If you are applying for "A" or "B" membership you will need to have membership with the GCSAA in the same classification.

Membership Classifications

- Class AA - Lifetime Retired Member (No cost if approved)
- Class A - Supt. Member (\$150.00)
- Class B - Supt. Member (\$150.00)
- Class C - Assistant Supt. Member (\$150.00)
- Class D - Associate Member (\$150.00)
- Class E - Affiliate Member (\$250.00)
- Class EM - Equipment Manager (\$50.00)
- Class H - Honorary Member (No cost if approved)
- Class I - Inactive Member (No cost if approved)
- Class R - Retired Member (\$75.00)
- Class S - Student Member (No cost if approved)

I hereby submit my application to the Wisconsin Golf Course Superintendents Association. I confirm that this application is filled out accurately and completely to best of my knowledge. I have included the payment of this year's dues. (Applications after Sept 1st, dues applied thru all of following year)

Signature _____ Date _____

Complete and mail with payment to : WGCSA N1922 Virginia Dr. Waupaca, WI 54981	You can also apply and pay dues online at www.wgcsa.com/Join-Us!
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EDITOR'S NOTEBOOK



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To Whom it may concern . . .
I received my 2019 WGCSAA Membership Handbook, which I sincerely appreciate.
When I looked over my membership entry and saw that I was the OLDEST continuing member . . . SINCE 1900, I looked in the mirror and here's what I saw! Nevertheless, I'm proud to be an Honorary Member. Keep up the good work.
Gene Haas

Former WSGA Director Gene Haas sent me this picture of himself as an old man when he noticed the WGCSA directory listed him as joining the group in 1900. Gene is clearly a leading expert on the history of the golf industry in Wisconsin but I didn't realize he had actually lived during the beginning of golf in the badger state.



The WGCSA is sad to forward that Kristyn M. Blazich, wife of Michael Blazich, Golf Course Superintendent at Wild Rock Golf Club passed away on November 1.

Kristyn worked for Ausman Jewelers and TQ Diamonds as a gemologist and jewelry designer. She is survived by Michael, two sons Sam and Will

and many other family members.

Steinhaus-Holly Funeral Home served the family and a memorial was set up for Sam and Will.

We all extend our sympathies and thoughts towards the Blazich family.

Mike Fatke, a native of Fond du Lac and 25 year golf course superintendent at Manistee Golf & Country Club in Michigan passed away January 2nd.


Mike worked at Rolling Meadows Golf Course during school and received his bachelor's degree in political science and government from UW-Whitewater and soon moved to Manistee.

Uniquely, before he joined the country club he and his wife Molly operated M&M Records for 7 years in Manistee.

Lately Mike's hobbies included golfing with hickory shaft clubs and started 'Save a Buddy' a nonprofit group to help offset the costs associated with spaying and neutering dogs.

In his memory the club hosted a Hickory Club Tournament where players donned their knickers and argyle socks.

Manistee Golf & Country Club was founded in 1901 and sits on the shores of Lake Michigan with the original 9 holes designed by Thomas Bendelow.

As we move into the end of December I want to wish everyone a Happy New Year and I hope Christmas was rewarding for you. Many thanks to our writers and advertisers who make these issues possible. 

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