

WISCONSIN turfgrass news

Photo courtesy of Marc Davison, Superintendent Green Bay CC

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SPRING 2008

Green Bay CC to Host WTA Golf Fundraiser

By Tom Schwab, O.J. Noer Turfgrass Research and Education Facility, University of Wisconsin-Madison

Marc Davison, superintendent at Green Bay Country Club, has graciously offered to host the WTA Golf "Fundraiser for the Fellowship" on Monday, October 6, 2008. It's hard to even think about golf, as I look out my window at a completely white landscape with -7° F temperature this March 9th morning. But we all know how quick things change and before you know it we'll be opening the courses and looking to hit some balls. Hopefully you'll have many opportunities for fun rounds of golf this summer, but mark your calendars for a chance to play one of Wisconsin's best golf courses, which will be a definite highlight of the 2008 golf season.

Green Bay Country Club, designed by renowned golf course architect Dick

Nugent, opened in 1995. The course is expertly designed on a wonderful natural landscape, and is maintained to such a high level that will give your golf game a huge treat. The course receives praise from everyone lucky enough to tee it up there. Thanks to Marc and Green Bay CC, you'll now have your chance to play this great course.

Your registration fee helps support the Distinguished Graduate Fellowship in Turfgrass Research program at the University of Wisconsin-Madison. This is a program that continually gives back to you, the turf professionals.

Several studies that have been funded by the turfgrass fellowships include a comparison between turfgrass and rain gardens to manage urban runoff, an

assessment of different inorganic amendments to improve putting green construction mixtures, and a soil test selection and calibration determination for growing turf in Wisconsin. These three studies are the first in a lifetime of learning from a program that started just eight years ago with the Wayne R. Kussow Fellowship. Since then, three more Fellowships have been funded to provide a perpetual source of funding for turfgrass science. Those fellowships are the Terry and Kathleen Kurth, the Robert C. Newman, and the John and Flora Burbee Fellowships.

There is no other turf school in the country that has this many fellowships for turfgrass research. Two more studies begin in 2008 with funding from the fel-

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Look Out Below This Summer

By Paul Koch, Turfgrass Diagnostic Lab, University of Wisconsin-Madison

How do you control something you can't see? It is a question that both medical and plant pathology have been trying to answer for centuries. While tremendous advances have been made in antibiotics and plant protection, in turfgrass management there remains much mystery on how to control diseases that lurk below the soil surface. The below-ground nature of turfgrass root diseases such as take-all patch (*Gaeumannomyces graminis* var *avenae*), necrotic ring spot (*Ophiosphaerella korrae*), and summer patch (*Magnaporthe poae*) are a principal reason they are so difficult to control. Once the symptoms are observed, it's too late to affect the fungus in any meaningful way. So rather than wait for these diseases to occur, take a proactive approach and work to reduce the degree of disease activity before symptoms are observed. Doing so requires at least a basic knowledge of how each fungus interacts with its environment.

The take-all patch fungus actively colonizes and attacks roots of creeping bentgrass when soil temperatures are in the 50° F to 65° F range (Figure 1). Once soil temperatures warm beyond this level, the fungus goes dormant and no further damage is

done, but this dormancy also prevents the fungus from absorbing any fungicides applied to the turfgrass. This explains why applying fungicides to control take-all patch when soil temperatures are outside of 50 - 65° F is useless and a complete waste of



Figure 1: Take-all patch affecting creeping bentgrass, with unharmed weeds filling in the center of the patch. Photo courtesy of Steve Ablar.

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16th hole at Green Bay CC

lowships. One study investigates the optimum time for applying late fall fertilization from both an in-the-field and a growth chamber design. The other study will investigate irrigation conservation issues. You may learn more about these studies if you attend Summer Field Day in July, or the golf fundraiser in October.

The golf outing is not all about funding research though. It is also about spending time with friends to enjoy a round of golf near the end of the season. The traditional door prize table adds to the enjoyment, and almost everyone takes home a prize, some worth more than the cost of registration. The host golf courses for the fundraiser, shown on right, have been top notch which likewise adds to the enjoyment, and is one of the reasons why the event has sold out six of the last seven years.

I hope you are able to join your colleagues for this wonderful event. Green Bay CC is truly an outstanding course and the funds that will be raised strengthen your industry with important research. The registration form will be mailed out later in the season. You may contact Audra at 608-845-6536 or ajander2@wisc.edu if you have questions. Whether it's your first WTA "Fundraiser for the Fellowship" or you've attended them all, we hope you won't miss this one. ■

History of WTA Golf Fundraisers

Year	Course	Host
1982	Sentry World Golf Course	Bill Roberts
1983	Nagawaukee Golf Course	Armin Honeyager
1984	Mid Vallee Golf Course	Pete Van De Hey
1985	Maple Bluff Country Club	Tom Harrison
1986	Pine Hills Country Club	Rod Johnson
1987	Stevens Point Country Club	Jeff Bottensek
1987	Cherokee Country Club	Mike Semler
1988	Butte Des Morts Country Club	Steve Schmidt
1989	West Bend Country Club	Bruce Worzella
1990	Westmoor Country Club	Jerry Kershasky
1991	Blackwolf Run	Marc Davison
1993	Stevens Point Country Club	Jeff Bottensek
1994	Beloit Country Club	Don Ferger
1995	University Ridge	Jeff Parks
1996	Wausau Country Club	Randy Slavik
1997	Bishops Bay Country Club	Mike Semler
1998	Stevens Point Country Club	Jeff Bottensek
1999	Muskego Lakes Country Club	Bob Erdahl
2000	The Bog	Pat Shaw
2000	Whistling Straits Irish Course	Mike Lee
2001	Grand Geneva Resort	Jim Crothers
2002	Blackwolf Run River Valley	Mike Lee
2003	The Bull at Pinehurst Farms	Tony Rzadzki
2004	Brown Deer Park Golf Course	Brian Zimmerman
2005	Whistling Straits Irish Course	Mike Lee
2006	Erin Hills Golf Course	Jeff Rottier
2007	Blackwolf Run River Valley	Mike Lee
2008	Green Bay Country Club	Marc Davison

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Year behind board member name, is the expiration of their current term.

PRESIDENT'S MESSAGE

It's The Turf!

By Dan Biddick, WTA President



I am pleased and honored to serve as President of the Wisconsin Turfgrass Association. Historically, this association has had a tremendous impact on the University of Wisconsin, the turfgrass industry, and the community. Specifically, the association is a non-profit corporation dedicated to the promotion of environmentally-responsible turfgrass management.

We are proud of the O.J Noer facility, the professors and students who conduct science here, and the activities the WTA supports around this facility. Last summer the WTA joined forces with Turfgrass Producers International and the Midwest Sod Council to put on one of the best attended summer field days in the history of the Turfgrass Producers International. What a great show it was as we shared "Turfgrass Wisconsin" with the rest of the turfgrass world.

I am excited about the energy, creativity, and expertise of each WTA board member. Volunteering their time and talents to this association is a tremendous commitment. These people care about the Wisconsin turfgrass industry and you! I encourage each of you to discuss with any board member your concerns, problems, and ideas. The names and contact information of all board members are listed on page 2. We will be listening.

Each board member is committed to the WTA's mission to support turfgrass research and education at the University of Wisconsin-Madison. This includes funding of programs in turfgrass management and allied disciplines that enhance the understanding and general knowledge of the art and science of maintaining turfgrass. Today's calling card of "Go Green" has been at the heart of WTA's purpose and mission since its inception in 1981. And so.....

What is so exciting about that freshly mowed lawn....

IT'S THE TURF!

What is so exciting about that 15th fairway....

IT'S THE TURF!

What is so exciting about that soccer field....

IT'S THE TURF!

What is so exciting about that newly laid sod....

IT'S THE TURF!

What is so exciting about my life....

IT'S THE TURF!

Watch for new opportunities from your
Wisconsin Turfgrass Association. ■

Look Out Below This Summer- continued

resources. If fungicides are to be applied, two applications should be made three to four weeks apart in the spring when soil temperatures are approaching 50°F. This will vary from year to year, but in southern Wisconsin it is often around late April or early May. Fungicide applications can also be made in the fall once soil temperatures fall back into the active range, with a typical first application to be made near the end of September into October.

But fungicide applications to control take-all patch are notoriously fickle and unreliable. A soil pH above 6.5 seems to favor the development of take-all patch, and a study from Rutgers University found that applications of manganese at a rate of 2 lbs/acre significantly reduced take-all patch symptoms. Care should also be taken to make sure cultural practices are optimized to provide for maximum rooting health. Practices such as increasing the mowing height, reducing traffic when possible, and increasing surface and subsurface drainage will all work to reduce stresses on the plants and increase the rooting depth and density. An increased rooting depth and density will be better equipped to endure any loss of roots from take-all infection, and fewer symptoms will be observed later in the season.

The necrotic ring spot fungus is very similar to the take-all patch fungus in its active temperature range, but instead of colonizing roots of creeping bentgrass it is found mostly on the roots of Kentucky bluegrass and perennial ryegrass. The disease is most prevalent on recently sodded bluegrass within 6-

10 years of establishment, with disease severity dropping off dramatically after that point. Any fungicide applications made to control necrotic ring spot should be made at approximately the same times as take-all patch, although fungicide applications are normally not recommended to homeowners. Situations where applications of fungicides to control necrotic ring spot may be warranted due to increased quality expectations are recently sodded athletic fields and recently sodded areas on a golf course such as tee, green, or bunker surrounds.

While in many cases complete control of necrotic ring spot may not be able to be attained on recently installed sod for a variety of reasons (some completely out of the control of the turf manager), proper cultural practices can decrease some stresses on the plants and reduce symptom development. The mowing height should be maintained between 2.5 to 3.5 inches to allow for sufficient photosynthesis, irrigation should be used only when absolutely necessary to prevent saturation of the upper root zone, and aerification should be performed often to promote integration of the sod rootzone with the underlying soil. After the sod matures, aerification should be completed whenever the thatch layer becomes thicker than half an inch and/or the soil is showing obvious signs of compaction. In addition, research here at the University of Wisconsin-Madison shows there are significant differences in Kentucky bluegrass cultivar susceptibility to necrotic ring spot. While the research only looked at about 100 of the several hundred cultivars available on the market today, it is important to note that some cul-

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tivars may be especially susceptible to the disease and should be avoided (Figure 2).

The summer patch fungus is slightly different from the previous two root-rotting fungi in that it begins to become active at soil temperatures of about 65°F, and as soil temperatures continue to warm the fungus becomes more and more active until summer patch symptoms usually appear when temperatures reach approximately 85°F. Like necrotic ring spot, summer patch does not colonize creeping bentgrass and instead is found most often on annual bluegrass, Kentucky bluegrass, fine fescues, and perennial ryegrass (Figure 3). Golf courses with a high percentage of annual bluegrass or very high quality athletic fields that have experienced summer patch in the past should implement a preventative fungicide program once soil temperatures reach approximately 65°F, which is usually around mid-May in a typical southern Wisconsin spring. One or two subsequent applications made at 3-4 week intervals will likely be needed to prevent this disease from developing later in the summer.

In home lawn or athletic field situations, where fungicide applications are less likely to be applied, the healthy rooting practices listed above can be employed to reduce the severity of summer patch in a given year. Since summer patch is more active in the summer than in the spring, adequate drainage and proper irrigation are more important during the summer months than the spring. Also take caution not to fertilize with quick-release nitrogen sources shortly before hot and wet conditions, which can favor summer patch development. A perfect example of this came in 2007, where after months of extremely dry conditions over the entire state the forecast called for substantial rains in early August. Many turf managers decided the rains would be a perfect time to wash in some much needed fertilizer to the turf, and proceeded to put down substantial amounts of quick-release nitrogen in late July and early August. Well the rains did come, in amounts nearing 20 inches over a several week span in many areas. Air temperatures approaching 90°F followed shortly after the rains, and coupled with the saturated and nutrient-rich soils, provided

perfect conditions for summer patch development. Samples flowed to the Turfgrass Diagnostic Lab for diagnosis, and nearly every sample was diagnosed as summer patch for a two week period in early September.

To help differentiate when the different fungi are active and when preventative control strategies should be implemented, I have included a table from an article I wrote for the 2007 March/April issue of *The Grass Roots* (Table 1). Timing is critical when implementing control strategies for root-infecting diseases, meaning soil temperatures should be measured at your site and a specific date for control mea-

sure should NOT be chosen well in advance to obtain the most effective results. Applying fungicides at the correct time and maintaining proper cultural practices will not guarantee you a disease-free year because there are just too many variables that go into root-disease development. But making your turfgrass plants stronger and more able to tolerate moderate disease infection through proper cultural practices, while at the same time reducing the amount of fungal infection present if fungicides are applied, should at the very least result in a dramatic reduction in disease severity. ■



Figure 2: This picture of a recent study at the University of Wisconsin shows that some cultivars of Kentucky bluegrass are much more susceptible to necrotic ring spot than others. Photo courtesy of Steve Ablor.

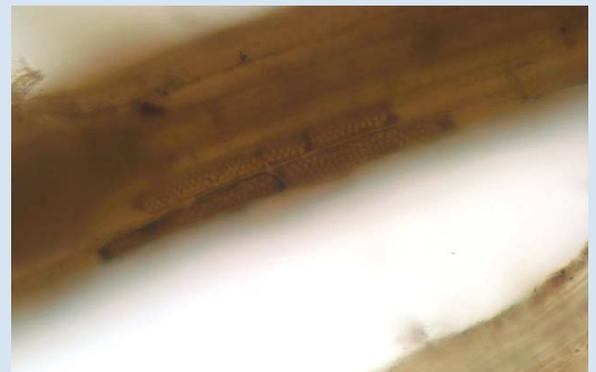


Figure 3: The summer patch fungus, *Magnaporthe poae*, colonizing the surface of a Kentucky bluegrass root in September of 2007.

Disease	Active Infection Period	Active Soil Infection Temperatures	Symptoms Expressed	Fungicide Application Timing in Spring	Fungicide Application Timing in Fall
Take-all Patch	Spring and Fall	50-65°F	Summer	April/May	Sept/Oct
Necrotic Ring Spot	Spring and Fall	50-65°F	Summer	April/May	Sept/Oct
Summer Patch	Summer	65°F and up	Summer to Late Summer	May	None

Table 1: Summary of active infection periods for root-infecting diseases and fungicide application timing. Timing is based on weather data for Madison, WI.

DEDICATED TO BETTER TURF THROUGH RESEARCH AND EDUCATION

THE HISTORY OF THE WTA

By Tom Schwab, O.J. Noer Turfgrass Research and Education Facility, University of Wisconsin-Madison

The Wisconsin Turfgrass Association began in 1981, when nine dedicated turf professionals came together to form the organization. These nine individuals (listed below) realized that to solve local turf problems, research had to be done locally. Their first goal was to fund research at the University of Wisconsin-Madison to study turfgrass problems that challenged Wisconsin golf courses, sod farms, cemeteries, sports field, commercial grounds, and homelawns. The second goal was to disseminate research findings to turfgrass professionals in order to help them grow healthier turfgrass and care for the environment.

With education being the second component in the WTA's mission, the Winter Turfgrass and Greenscape EXPO was started in January 1982. The first EXPO was held at the public events center at Arlington Agricultural Research Station, just north of Madison. Arlington also served as host to the inaugural Summer Field Day in 1983. The annual golf tournament began in the early years too, 1982, as a means to raise funds to conduct the turfgrass research that is presented at Field Day and EXPO.

The Golf Fundraiser, EXPO, and Summer Field Day are WTA's three core annual events to raise funds for research and disseminating education. These three events are estimated to have raised more than \$350,000 since 1981. WTA has also raised funds in other ways besides these core events. They conducted an effort in 1988 to pull together \$250,000 over three years, to build the O.J. Noer Turfgrass Research and Education Facility. When built, they donated the facility to the UW-Madison to become one of their agricultural research stations.

Additionally, four distinguished graduate fellowships have been raised through the WTA from generous donations by the families of Terry and Kathleen Kurth, John and Flora Burbee, and Robert and Diane Newman, along with funds from the Wisconsin Green Industry Federation and over \$210,000 donated by the WTA. These fellowships total nearly \$1 million, of which the interest on the accounts will be used to fund turfgrass research indefinitely. No other turf program in the country has this many fellowships. And the fellowships would not be there without efforts of your WTA board of directors.

What does the WTA do with your contribution? To date the WTA has given over \$380,000 to turfgrass research at the UW-Madison. The WTA has funded research to improve fungicide recommendations, analyze nutrient runoff data to confirm beneficial environmental impacts of turf, discover better ways to grow turf in the shade, investigate new weed management strategies, and so much more.

Additionally the WTA has provided over \$30,000 in turf student scholarships. They donated \$250,000 to build the Noer Facility, as mentioned earlier. But before the Noer Facility was built, the turf researchers, Drs. Newman, Worf, Love, and Koval had to drive all over the state to install and maintain their research. The WTA not only funded many of these investigations but they also bought the researchers a truck to drive to their studies.

The most recent use of WTA funds was to provide first year funding to hire two new turf professors at the UW-Madison. The

UW likely would have hired the professors anyway, but it may have taken five years or more with cutbacks in the University's budget. The WTA board couldn't take that chance thus they gave the university \$200,000 to speed up the hiring of a new soils professor a year ago and a new plant pathology professor who will start in July, 2008. You will benefit from WTA support whenever you learn from the new professors at a turf conference, attend a university workshop, call the professors with turf problems on your property, read their articles in turf publications, or need a future employee who is educated at the university.

In summary, from 1981 to 2007, the WTA has used your contributions to build the Noer Facility (\$250,000), hire two new professors (\$200,000), fund turf studies (\$380,000), give turf student scholarships (\$30,000), contribute to turf fellowships for future research (\$210,000), purchase a turf truck (\$10,000), and so much more. The totals are amazing for an organization consisting of volunteer board members, several UW-Madison faculty and staff, and one administrative secretary. They continue to be dedicated to finding solutions to turfgrass problems and educating the industry on the best way to manage turf. The story of the WTA is still being written today, thanks to the vision of those first dedicated turf professionals. ■

1981 WTA Board of Directors

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Egon Herrmann	Loft Seed
George P. Brandt	Brandt Sod Farms Inc.
George R. Brandt	American Sod
James Huggett.....	Long Island Farms
Marshall Scheibe	Scheibe and Scheibe Landscape Contractors
Monroe Miller	Blackhawk Country Club
Thomas Harrison	Maple Bluff Country Club

Mark your calendar!
for a Fun and Educational Day

WTA Summer Field Day

**O.J. Noer Turfgrass Research and
Educational Facility**

Tuesday July 22, 2008

For information call: 608-845-6536

MEET THE UW-MADISON TURF PROGRAM GRADUATE STUDENT

Environmental Water Quality and Conservation for Turfgrass Irrigation in the Midwest

By Brad DeBels, Graduate Fellow, Department of Soil Science, University of Wisconsin-Madison

I believe that most turf managers would not describe their work as a job, but as their vocation. The situation is no different for me. I never imagined that beginning a job at the age of 13 would become part of my future career goals. My first job at Edgewater Country Club (Bradd Bucks) in Tomahawk, Wisconsin instilled a passion for turf and golf course management that I would never relinquish. I continued to work in Tomahawk for seven summers before enrolling in the University of Wisconsin-Madison turfgrass management program. Throughout my undergraduate work I have been fortunate enough to build upon my academic education by gaining experience in the field at Hawks Landing Golf Club (Neil Radatz), Wausau Country Club (Randy Slavik), and University Ridge Golf Course (Aron Hogden). These internships have proven invaluable in the understanding of turf, employee, and self-management.

I finished my undergraduate studies at UW-Madison in December 2007 graduating with Bachelor of Science degrees in Agronomy and Soil Science-Turf Management. In January 2008 I began my graduate work at UW-Madison and I have been honored with receiving the Terry and Kathleen Kurth Distinguished Fellowship for Turfgrass Research. This award will support my continued education and research under the vision of Dr. Doug Soldat. Attending UW-Madison,



among a multitude of benefits, has taught me to be conscious of the environmental footprint created by our actions as turf managers. I am proud to say that turf managers are very cognizant of their environmental impact and are continuously building upon their education to enhance their knowledge on the subject. My research will evaluate the impact of water quality and conservation on turf quality and the environment.

The two projects that I'm conducting will evaluate turfgrass irrigation from collected/stored rainwater through a drip irrigation system and also irrigation with effluent water. Rainwater will be collected from the O.J. Noer Research Facility rooftop and stored for application via drip irrigation in hopes of not only reducing water/pollutant runoff, but also increasing irrigation efficiency. Beyond the evident benefits from reducing runoff, I will also

examine the effects of dripper lateral spacing and depth through soil moisture uniformity and turf quality. The second study will examine the effect of effluent water irrigation on turfgrass quality and soil structure. Recycled wastewater appears to be a viable option for turf irrigation if and when water becomes more limited. Turfgrass plots will be irrigated with effluent water to maintain necessary water requirements during dry periods. Plots will be evaluated on the effects of natural rainfall and the effect of precipitation on soil solution solutes and turf quality. Evaluation will allow for measurements regarding the detriments and/or benefits of effluent irrigation on turfgrass.

Both topics show promise in providing alternative methods to conventional irrigation in the Midwest and conserving the potable ground water supply. Adequate research will enable turf managers to make sound decisions regarding alternative turfgrass irrigation if water usage restrictions are implemented in the future. ■

Any questions regarding the research can be sent to:

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Noernet Begins 10th Year

By Tom Schwab, O.J. Noer Turfgrass Research and Education Facility, University of Wisconsin-Madison

April 2008 marks the 10th anniversary of Noernet serving the turf industry of Wisconsin. Where have the years gone! For those unfamiliar with Noernet, it is an automated electronic list that serves as an “email discussion group” for turf professionals. Subscribers share information that helps them in their work. Discussions have included landscape construction projects, turfgrass selection, pest alerts, solutions to pest problems, equipment or tool choices, sale of used equipment, educational event announcements, university research results, government regulations, management solutions, and other topics.

The way it works is any subscriber may write a turfgrass management related question, concern, or comment to the Noernet email address. All subscribers will receive that message and may send a reply back if they choose. Everyone will see that reply and again have the option to respond with additional information. Some subscribers are extremely active and respond to many messages. Others never write messages and only read Noernet to keep an eye on what is happening around the region. You may participate as much or as little as you like. There are also many topics discussed across professions. For instance, a sport field manager or sod producer may ask questions to lawn care providers and golf course superintendents, and vice versa. We all belong to one important industry that is being brought closer together by sharing information.

Noernet presently has 170 subscribers from golf courses, sod farms, sports fields, lawn care companies, and turf businesses. Most are from Wisconsin, while others come from Michigan’s Upper Peninsula, eastern Minnesota, and northern Illinois. Several Minnesota superintendents have inquired about expanding Noernet to all of Minnesota. Soon there may be many more turf professionals from which to gather expertise.

Noernet is meant for local use and concerns. There are many national discussion groups but Noernet is intended for turf care professionals in Wisconsin and neighboring states. We are better able to discuss topics unique to our upper Midwest region by keeping it local. Noernet is also a private list. It is not meant for homeowners, media, or any individuals outside of the turf profession.

The University of Wisconsin-Madison sponsors this electronic discussion group. They have set an appropriate use policy which includes:

- You may not use Noernet for uses that are forbidden by the University of Wisconsin campus telephone or paper mail system.
- Noernet is not to be used for personal purposes or gain.
- Do not send abusive, vulgar, harassing, or bigoted messages.
- It is the policy of the University of Wisconsin-Madison Board of Regents that Noernet be used primarily for purposes of fulfilling the University’s mission of teaching, research, and public service.
- Content of all postings are that of the contributing author and not necessarily of the Noernet list owner, moderator, or of the University of Wisconsin-Madison, Division of Information Technology.

If you think that sharing of information is an important tool for turf management, then Noernet is one more tool available to you. Let your peers know about this service if you feel they could benefit. Instructions for subscribing and participating in Noernet are written below.

How to Subscribe to Noernet

1. Log onto the Noernet web address: https://lists.wisc.edu/read/all_forums/subscribe?name=noernet using Netscape, Internet Explorer, or a similar web browser.
2. This takes you to the WiscList page where you type your email address and name in the blanks provided. You may also enter a password but that is optional. You do not need a password, so enter one only if you really want one. If you forget your password, you can find it again through the website.
3. Next hit the subscribe button.
4. It may take a day before I can post your name to the list after you sign up — so be patient.
5. You may email or call me if you have any questions or problems with Noernet at tgschwab@wisc.edu or 608-845-6895.

How to Participate in Noernet

1. The easiest way to participate in Noernet is to send an email to Noernet@lists.wisc.edu, just like you normally send emails. You will receive all Noernet messages at the email address that you used to subscribe.
2. Remember that if you reply back to a message, all subscribers will see your response. If you want to send a personal reply, just to one person, then cut and paste their email address from the Noernet message into a separate email. But active participation of subscribers is what Noernet is all about as long as messages are thoughtful, productive, and follow the rules outlined above.
3. Another nice feature of Noernet is you are able to look at the past 180 days of messages. Follow the instructions in #4 to open the archive page.
4. The other way to participate in Noernet is from the web address <https://lists.wisc.edu/read/login/?go=https://lists.wisc.edu/read/?forum%3Dnoernet> Type this address into your browser. This will take you to the WiscList page where it’ll ask for your email address. Another box will ask for your password, but most of you don’t have passwords, so next click the OK button to open the Noernet page. That page shows 180 days of archived Noernet messages, and also has a ‘Create New Message’ button for sending messages. Always remember to write a topic in the subject area when you send a new message. ■

Ecological Researchers Surprised To Find Lawns Provide Benefits To Urban Environments

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

Last month, I came across an article in the scientific journal *Bioscience* that pleased me and also frustrated me. *Bioscience* is one of the most highly-respected scientific journals in the field of biology and ecology. The article discusses findings of a long-term ecological research study on urban ecology. The authors of the article are researchers who studied the various social and ecological aspects of the environment in and around the city of Baltimore. Their collective research goal is to better understand the dynamics of a human ecosystem.

They list several important findings of the work to date, including:

1. Class, income, and ethnicity do not always determine perception of environmental problems.
2. Environmental inequity is not limited to people of color.
3. The urban biota is diverse.
4. Urban riparian areas are not nitrate sinks.
5. Nitrate pollution is higher in suburbs than in the city.
6. Land-use maps do not represent ecological heterogeneity effectively.
7. Urban soils are not all disturbed.
8. Urban areas can contribute to the carbon balance.
9. Vegetation change lags behind social change.
- 10. Lawns can have beneficial social and biogeochemical functions in urban areas.**
11. Urban ecosystems can retain limiting ecosystem nutrients.
12. Feedbacks through human health and policy connect urban social systems and urban environments.

Let's focus on Finding 10 where the authors talk about the benefits of lawns. Here's the full text:

Finding 10: Lawns can have beneficial social and biogeochemical functions in urban areas

Ecologists and environmentalists often perceive home lawns to be problematic. Residents' perceptions of the value of lawns, on the other hand, vary according to social and economic context. Field observations and interviews demonstrate that in underserved areas of the city, well-maintained lawns may contribute positively to neighborhood cohesiveness as symbols of homeowner investment (Grove et al. 2006a, 2006b), whereas in wealthier areas they are a source of contention concerning their aesthetic value and environmental effects (Osmond and Hardy 2004). The concern over environmental effects is reflected in the lower percentages of lawns fertilized in wealthy areas (56%) than in middle-class areas (68%; Law et al. 2004). In addition, the rate of fertilizer application is lower in the higher-income Baisman Run lawns than in those from the middle-class Glyndon Catchment. Our results are consistent with those presented by Osmond and Hardy (2004).

Second, lawns have complex biophysical features. Lawns are highly managed, often intensively fertilized areas that are a concern as a source of nutrient pollution to ground and surface water (Schueler 1995); however, they also have features that can increase N retention. For example, they have permanent cover and low soil disturbance, and they photo-

synthesize and take up water and nutrients for a much longer portion of the year than do forests or agricultural ecosystems. Data from the Baltimore Ecosystem Study plots show that nitrate leaching and nitrous oxide flux from the soil to the atmosphere are not markedly higher in lawns than in forest. Perhaps even more interesting, variation among the lawns was not related to fertilizer input. Nutrient cycling in lawns is complex, and the effects of lawns on water quality are probably less negative than anticipated.

Golubiewski (2006) found marked stimulation of both carbon and nitrogen cycling in lawns relative to native shortgrass prairie in Colorado. Pouyat and colleagues (2006) showed that turfgrass can accumulate high densities of soil organic carbon, especially relative to arid grassland or scrub. Accumulation by turfgrass is equivalent to mesic grasslands and forests. Admittedly, turfgrasses require high resource inputs to survive in most areas of the United States, and those subsidies stimulate biogeochemical processes in arid environments and droughty periods in mesic climates. Baltimore Ecosystem Study data and other recent studies suggest that lawns have higher biogeochemical and social value than we suspected: they can function as important nitrogen sinks and as an important catalyst for ecological and socioeconomic revitalization of underserved neighborhoods.

While it is undoubtedly pleasing to see the benefits of lawns being touted by researchers in one of the top scientific journals, it is also frustrating to see no reference in this work to the research conducted by numerous turfgrass researchers over the years. For example, the conclusion made by the authors of the *Bioscience* paper could be found in Dr. Marty Petrovic's 1990 article entitled "The fate of nitrogenous fertilizer applied to turfgrass" published in *The Journal of Environmental Quality*. Dr. Petrovic concluded that based on scores of studies, leaching of nitrogen can be minimized or eliminated by following best management practices for fertilization – even on sandy soils.

Dr. Yaling Qian is a turfgrass professor at Colorado State University whose research has demonstrated that turfgrass can accumulate and sequester carbon in the soil. This has obvious benefits in a world where counting carbon is becoming as common as counting calories. Dr. Qian conducted her research on carbon accumulation and published three scientific articles on the topic between 2002 and 2003, well before Golubiewski or Pouyat and colleagues. There are many other turfgrass researchers whose studies resulted in similar conclusions as the authors of the *Bioscience* article; I only chose to point out the work of Dr. Petrovic and Dr. Qian because of time and space restraints, but scientists at the University of Wisconsin-Madison have also been at the forefront of the field of environmental turf-grass research for years.

The question that keeps bugging me is why did these authors deliberately choose to ignore the work of my colleagues? (I assume the work was ignored instead of simply not discovered because these studies are easily accessible in widely read journals, not finding them would indicate scientific incompetence.) Is

it because of the perception that our research is somehow tainted by a close association with turfgrass industry groups, or from a perception that we are unable to provide unbiased information on environmental effects of turfgrass management when we are also conducting trials for commercial fertilizer and chemical companies? Such a perception is very simplistic, and turfgrass scientists are no different from "other" scientists in that we have biases that we make a conscious effort to prevent from contaminating our work. All true scientists adhere to a code of scientific conduct and strive to be as objective and accurate as possible in conducting and reporting research results. The results from years of research conducted by turfgrass scientists should not be marginalized, but appreciated by all scientists. Ignoring these important studies will only set the state of science back a number of years.

As scientists all over the world begin to appreciate the important role that turfgrass plays in our increasingly urbanizing environments, many questions remain to be answered. I hope that in the future, turfgrass researchers can form better relationships with "other" researchers and work together towards a common goal of identifying sustainable management practices that improve environmental quality while also identifying the important social and economic benefits that turfgrass provides to our society.

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Wisconsin Turfgrass Association Treasurers Report

For the Fiscal Year March 1, 2007 to Feb 29, 2008

Beginning Balance March 1, 2007 **\$111,999.62**

INCOME

410 Dues	\$29,375.00
420 Summer Field Day (Net)	14,040.00
430 Golf Outing (Net)	15,310.00
440 Winter Conference (Net)	25,545.00
510 Contributions	103,962.56
520 Interest Income	2,880.13
570 TDL	<u>2,955.00</u>
TOTAL INCOME	\$194,067.69

EXPENSE

620 Summer Field Day	\$6,038.53
630 Golf Outing	5,617.42
640 Winter Conference	33,384.00
710 Program Assistant (2 yrs)	42,056.37
730 Newsletter & Research Report	7,577.89
740 Office Expense	<u>4,018.09</u>
TOTAL EXPENSE	\$98,692.30

GRANTS

790 Projects	\$3,000.00
795 TDL	1,100.00
800 Research Grants	60,220.00
890 Scholarships	<u>2,000.00</u>
TOTAL GRANTS	\$66,320.00

CURRENT YEAR INCOME **\$29,055.39**

Ending Balance February 29, 2008 **\$141,055.01**

Respectfully Submitted by

Mark Kienert, WTA Treasurer

Call 715-423-2204 for questions about WTA finances.

Tenacity™ Arrives as a Pre and Post Emergent Herbicide

By Dr. John Stier, University of Wisconsin-Madison, Department of Horticulture

Tenacity, a new herbicide from Syngenta®, was registered for use on turfgrass in Wisconsin and many other states this winter. It is available as a liquid, water-soluble concentrate with a caution statement on the label. The active ingredient is mesotrione. Safe to use at time of seeding for many cool-season grasses, Tenacity provides both pre- and post-

emergent activity against a number of grassy and broadleaf weeds including crabgrass, barnyardgrass, chickweed, clovers, dandelion, and ground ivy. Tenacity can be mixed with several other herbicides to increase the spectrum and/or length of activity. Its use rate is a low 4 to 8 oz product per acre. A non-ionic surfactant is required when used in

post-emergent applications. Unwanted bentgrass can be controlled with sequential applications. Susceptible weeds turn white beginning several days after application as Tenacity destroys and prevents chlorophyll production. The label currently limits use to sod farms and golf courses (except putting greens). ■



By Tom Schwab
O.J. Noer Turfgrass Research and Education Facility, University of Wisconsin-Madison

Surf and Turf is a new column for the WTA newsletter. The column will surf through the WTA directory, select members at random, and call them to find out new and interesting things that your colleagues have been doing in their professional and home life. If you are called, you may report about a renovation project on your golf course, a new species of turf you're marketing from your sod farm, an athletic event you're hosting on your sports field, or a new marketing practice you incorporate into your lawn care company. The column may also report about interesting vacations you took in the off season, athletic accomplishments of your children, or a new addition to your family.

This column will be just for fun and a way for members to get to know each other. WTA members are doing lots of new and interesting things. So let's tell others what we're doing in Surf and Turf. You may receive a call for an upcoming issue, or you may feel free to contact me if you have an interesting story to share. My contact information is 608-845-6895 or tgswwab@wisc.edu.

The first person Surf and Turf contacted was **Mike Stever** from Stever Turf Farm in Franksville. Mike had just returned from Conexpo in Las Vegas. Conexpo is the largest trade show for construction equipment held anywhere. Mike was looking for better bearings, hydraulic, and electronic components for a new big-roll sod harvester that he designed and is building from scratch. He says that the harvester is presently a large pile of metal in his shop, but he hopes to have it ready for use this summer. His motivation behind building his own machine is to create a better big roll harvester that will perform consistently under adverse conditions, including times when traditional harvesting equipment can't get into the field because of

conditions being too wet. Another motivation is that he wants the machine ready when he supplies sod to one of Wisconsin's largest golf course renovation projects this summer.

Surf and Turf next contacted another Mike who is also planning a big summer. That is **Mike Shaw**, grounds and maintenance manager for the Milwaukee Kickers Uihlein Soccer Park. Mike manages 16 outdoor fields and 3 indoor fields at Uihlein Park which keeps him busy year round. His outdoor season in 2008 includes hosting the WIAA boys and girls state finals. The girls' championship takes place in the late spring and boys' in late fall, each bringing 11 games in a 2 day period to their main stadium field. Another big tournament this spring, the AB Select Tournament, will bring 21 games per field over that 3 day event. You can imagine the amount of repair these tournaments require. Mike started a drill and fill program a couple years ago on the main stadium field. This practice drills deep aeration holes in the field and fills the holes with sand. A new practice he is trying on his west practice fields, that get excessive traffic and inadequate irrigation are problems to switch the species of turf he uses for overseeding. This year he is trying an 85% blend of 3 different elite varieties of tall fescue mixed with 15% elite Kentucky bluegrass.

Kevin Keyes, owner of Keyman Lawncare was the next person contacted. Kevin's phone was ringing like crazy when we called him, with the spring lawncare season just around the corner. He reported that he didn't get much time off this winter with Southern Wisconsin's record snowfalls. But he did manage to run a marathon in Las Vegas in December, 2007. His goal was to run a qualifying time for the Boston Marathon of under three

and a half hours. He made it by 2 minutes and thus qualified for the spring 2009 run, which we wish him the best in. Kevin and his wife also keep very busy with their four children's extensive sports and other activities. On the professional side, Keyman Lawncare is offering a new service for their customers this spring called perimeter pest control. Perimeter pest control lays down a protective barrier around the home using a highly effective perimeter defense system to help keep pests such as box elder bugs, ants, spiders, and Asian beetles out of the house.

Lastly **Mike Handrich**, superintendent from Racine Country Club was contacted. Mike commented that he is anxiously waiting to open his golf course. Their golf season, like many others in Wisconsin, is getting off to a slow start because of the long winter and remaining large accumulations of snow and ice. He says his crew has a serious case of "cabin fever" and is also eager to get back onto the course. Some exciting new equipment they will be using this summer includes their Toro VP irrigation satellites which were installed this past fall. Mike stated, "The system will save lots of valuable time to operate and I'm looking forward to trying out the new hand held radios to run the system." Mike and his crew's main focus for 2008 remains the same as always, which is to provide championship playing surfaces and conditions on a daily basis.

We hope you learned something new and interesting about your peers in the turf industry. Stay close to your phones as you may be the next one we call. Here's wishing everyone a successful and productive summer, including ample opportunities to get outdoors and spend quality time with family and friends. ■



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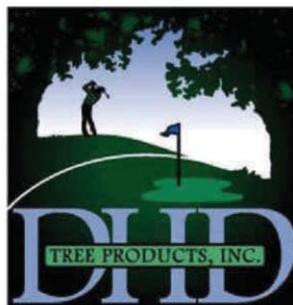
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CALENDAR OF EVENTS

Apr 21	WGCSA Monthly Meeting	Geneva National, Lake Geneva
Apr 23	WLCA Chapter Meeting	TBD
May 12	NGLGCSA Monthly Meeting	Greenwood Hills CC, Wausau
May 17	Home Lawn Field Day	OJ Noer Facility, Verona
May 28	WGCSA Monthly Meeting/ Super-Pro	Northern Bay GR, Arkdale
June 9	WGCSA Monthly Meeting	Evergreen GC, Elkhorn
June 10	NGLGCSA Monthly Meeting.....	Minocqua CC, Minocqua
June 25	WLCA Chapter Meeting	Jerry Nelson's Place, Racine
July 7	WGCSA Monthly Meeting/ Supt. Tourney.....	Watertown CC, Watertown
July 22	WTA Summer Field Day	OJ Noer Facility, Verona
July 28-31	TPI Summer Convention and Field Day	Calgary, Canada
Aug 4	WGCSA Monthly Meeting/ Supt.-Guest	Lake Breeze GC, Winneconne
Aug 12	NGLGCSA Monthly Meeting	Crystal View GC, Crystal Falls, MI
Aug 14	WNA Summer Field Day	Jung Seed Co, Randolph
Sept 22	Wee One Foundation	Pine Hills CC, Sheboygan
Sept 24	WLCA Chapter Meeting.....	Almost Eden Nursery, Somers
Oct 1	NGLGCSA Monthly Meeting/ Crew Outing	Timber Ridge G&TC, Minocqua
Oct 6	WTA Golf Fundraiser	Green Bay CC, Green Bay
Oct 11	WGCSA Dinner Dance	Waupaca CC?, Waupaca
Oct 22	Green Industry Conference	Louisville, Kentucky
Nov 18,19	Wisconsin Golf Turf Symposium	American Club, Kohler

WTA Members — If you have an important date you'd like to share with other members, call 608-845-6895, fax 608-845-8162, or email tgschwab@wisc.edu to include it in the next calendar.

Contact Telephone Numbers

GIC	Green Industry Conference.....	www.landcarenetwork.org
GIS	Golf Industry Show	800-472-7878
HLFD	Home Lawn Field Day	608-845-6536
NGLGCSA	Northern Great Lakes Golf Course Superintendents Assoc.	715-542-2373
Symposium	Wisconsin Golf Turf Symposium	800-287-9645
STMA	Sports Turf Managers Association Conference.....	800-323-3875
TPI	Turf Producers International	800-405-8873
Wee One	Wee One Foundation Golf Outing	920-386-9006
WGCSA	Wisconsin Golf Course Superintendents Association	414-786-4303
WGIF	Wisconsin Green Industry Federation Annual Convention	414-529-4705
WLCA	Wisconsin Landscape Contractors Association	262-859-2121
WNA	Wisconsin Nursery Association	414-529-4705
WSTMA	Wisconsin Sports Turf Manager Association	608-845-6895
WTA	Wisconsin Turfgrass Association	608-845-6536