

WISCONSIN turfgrass news

Photo courtesy of Dan Carmichael

VOLUME XXVII, NO. 2

SUMMER/FALL 2008

EXTREME MAKEOVER: BALL FIELD EDITION - KAMINSKI PARK - LAKE DELTON, WI WSTMA HELPS REBUILD FLOODED BALL DIAMONDS

By Dan Carmichael, Spring Valley and WSTMA President

Sports turf managers from around the state of Wisconsin convened in the Village of Lake Delton on August 26th to help rebuild Kaminski Park. Horrible floods tore the fields apart in mid-June after fifteen inches of rain fell in the area over several days. Lake Delton itself breached the dam and overflowed its banks carving a gully fifty yards wide and thirty feet deep. Trees, homes, and dreams washed away into the Wisconsin River. Nearby Kaminski Park did not escape the damage. Several trenches of soil five to ten feet deep and the entire infield mix were deposited in the outfield, and the dugouts slid thirty feet into a ravine. These were just some of the problems the flooding caused to the park.

Baraboo residents and Wisconsin Sports Turf Managers Association (WSTMA) board member Craig Schlender wondered what could be done. Craig approached the rest of the WSTMA board to ask about an idea for their late summer meeting. He suggested doing an Extreme Makeover: Ball Field Edition like the popular television show Extreme Makeover: Home Edition,

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This breach that emptied Lake Delton was caused by the same rain event that devastated Kaminski Park, site of the Extreme Makeover.



Craig Schlender of Ball Diamonds Fine was the driving force behind the Extreme Makeover.

GREEN BAY CC - YOU WON'T WANT TO MISS THIS ONE WTA GOLF FUNDRAISER - OCTOBER 6

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

Green Bay Country Club, designed by renowned golf course architect Dick Nugent, will play host to the 2008 WTA Golf 'Fundraiser for the Fellowship' this fall. Marc Davison, superintendent at Green Bay Country Club, has graciously offered to host the WTA event on Monday, October 6, 2008. The course is expertly designed on a wonderful natural landscape, and is maintained to such a high level that you won't want to miss this golf-



ing opportunity. The course receives huge praise from everyone lucky enough to tee it up there.

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

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PRESIDENT'S MESSAGE

Science, My Friend

By Dan Biddick, WTA President



I have the best looking lawn in the neighborhood. Two years ago I de-thatched, aerated, and overseeded with the best bred bluegrasses in the world. Wow! Science, my friend.

I love Roundup. I bought this jug with the pull and spray mechanism. "1 pull = 25 trigger sprays." Now, the trigger.....That's what I like. I am the ultimate Matt Dillon with my finger on this trigger.

Science, my friend.

My grandfather was one of the first to produce hybrid seed corn. He played around with corn inbreds to make hybrids. He helped create a far superior product to help feed and power the world. Way to go, Elmer! Science, my friend.

I love my dog, Daisy Mae. I discovered she has dry eye syndrome. She was going blind. My veterinarian found a new experimental eye drop solution. ".....Was blind, but now she sees." Science, my friend.

My doctor said my cholesterol was too high. I now take Lipitor and Zetia. My wife and family are happy and hope I'll be around for a bit longer.....I think..... Science, my friend.

I received an e-mail from a guy railing against GMO's. Really

using some strong, offensive language. I thought to myself, "Does this guy actually want to starve to death?" He must not understand he has been eating and sustained by GMO products since the day he was born. I think it is probably the GM part that gets him excited. Personally I like GMO products. In fact, the more the better. GMO human beings?..... More intelligent human beings??.....man, we could sure use a few more of those. Science, my friend.

We just witnessed people running, swimming, throwing farther and faster than at any time in history. Congratulations to the Chinese for a successful Olympic Games. But please, please, please.....let the real little girl sing.... Science, my friend.

"My gosh, it happened again last night." "What?" she asked. "I got better looking." Science, my friend.

Thanks for coming to the WTA Summer Field Day. Be sure to plan on attending the WTA Golf Outing on October 6th. Also we are changing the format of the Winter Turfgrass and Greenscape EXPO. See the informational flyer in this newsletter. Registration forms will be mailed in October.

Stay genuine. It pays. At least in the world of beer! You are the best! ■

Extreme Makeover - continued

where sports turf managers and different vendors would put a ball field back together after a natural disaster.

The board thought it was a great idea so piece by piece the association put a plan together. Members Raechal Volkening, Don Probst and Paul Anderson constructed a plan so that the association could accomplish this task basically in a day. The village's director

of public works, Larry Fish, did the necessary prep work before and will do the finishing details after.

Through the association, sports turf managers were enlisted from around the state, including Milwaukee Brewers head turf manager, Gary Vandenberg. In total, more than fifty WSTMA members and an additional fifty volunteers from the community pitched in.

"The labor and materials would have

cost between \$60,000 and \$80,000, probably closer \$80,000 to renovate the field, if a contractor did the work of these volunteers and donors," Schlender said. A good portion of the material was donated by Waupaca Sands and Solutions, a WSTMA member. After crews laid down the necessary base layers, the top four inches were added with a mix of clay and infield dirt called Sur-

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

Hop. Waupaca Sands and Solutions donated over 400 tons of Sur-Hop. In addition, Turface and Pro's Choice donated nearly a truckload of infield conditioners to incorporate into the mix.

After the materials were dumped into piles, Central Wisconsin Sod and Landscapes and Midwest Athletic Fields took over. With their state-of-the-art laser graders, the fields were sloped to within 1/16 of an inch of the desired one degree surface slope. Next, crews used a Turfco Topdresser, Smithco Infield Groomer, and Infield ProGroomer to apply and drag the donated infield conditioner mix. Then Wisconsin Turf Equipment used a Turfco Edger



Brett Grams and Dena DiVincenzo from Waupaca Sands and Solutions doing some irrigation work on the new field.



Raechal Volkening of Volkening Consulting uses her expertise to align the baselines.



Gary Vandenberg from the Milwaukee Brewers, second from left, and several volunteers cutting the new infield edge.

to clean up the infield edges, while Reinders Inc. awed the crowd with the performance of the ProCore 864 three point Toro Aerator. Lastly, Spring Valley showed just how quick and accurate fertilizing can be with their bulk spreader truck.

To top off the event, the Wilderness Resort and Great Wolf Lodge donated rooms at bargain rates for volunteers who needed to stay overnight. Monk's Bar & Grill catered an unbelievable lunch at no cost. "That's the best event lunch we ever had," commented volunteer Todd Kagelman. And the Original Wisconsin Ducks provided rides for any volunteers who wanted to see the Lake Delton washout from the Wisconsin River.

"When a community has a disaster like this, the athletic fields are the last place money is going to be channeled. Yet, it's probably one of the first places people recover from," Schlender said. Thanks to all the volunteers for their time and efforts. A special thanks goes to the vendors for all their donations. Without the generosity of the many people and companies who participated in this event, we would not have seen the great progress toward healing from this disaster in Lake Delton. ■

A SPECIAL THANKS GOES TO THESE VOLUNTEERS AND DONATORS:

- Ball Diamond Fine Turf - Craig Schlender
For organizing the event and use of all his tools
- Reinders
Pro Core 864
Kubota Tractor
Workman 3200 & 2110
Speedzone Herbicide
Turface infield mix
Grass Seed
Starter Fertilizer
- Wisconsin Turf
First Product Aeravator
Cushman
Turfco Edger Right
Turfco Topdresser
Smithco Superstar Infield Groomer
- Spring Valley
Bulk Spreader Truck
Pro's Choice Infield Conditioner
- Central Wisconsin Sod
Laser Grader
- Midwest Athletic Fields
Laser Grader
- Waupaca Sands and Solution
400 + tons of Sur-Hop
- Monk's Bar & Grill
For catering lunch
- Original Wisconsin Ducks
For boat tours of the devastation
- Village of Lake Delton, Public Works Department
For preparing the site
- Sports Impression
For free Lake Delton Extreme Makeover T-Shirts

More photos from "Extreme Makeover" on page 4

More photos from "Extreme Makeover"



The damage to the third baseline and bleachers from the rushing waters.



Josh Viet from Midwest Athletic Fields uses his laser grader to level the new infield.



All of our hard working volunteers.

WTA GOLF FUNDRAISER - OCTOBER 6 - continued

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 fellowships. 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.

The golf outing is not all about funding research though. It is 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 golf courses that have

hosted the WTA Fundraiser have been top notch which adds to 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 strengthen your industry with important research. The registration form was mailed out in August and is also included in the newsletter. You may contact Audra Anderson 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. ■



Fundamentals of Fall Fertilization

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

It is often said by practitioners and researchers alike that fall is the most important time to fertilize. In fact, if a homeowner wishes to make only one application per year, UW-Extension recommends that they fertilize in the fall. Fertilization is most effective when matched with growth potential. Therefore, most fertilization occurs in the spring and fall when grass growth potential is high. So why not tout the benefits of spring fertilization? In spring, turf grows rapidly but puts more energy into manufacturing shoots than roots. Applying fertilizer will only shift the balance toward shoot production and may lead to a shallower root system going into the summer stress period. In addition, warming soil temperatures provide an adequate supply of nitrogen from mineralization of organic matter. The turf can use this “natural” fertilizer to meet its requirements. Therefore, applying nitrogen fertilizer in Wisconsin is not often necessary until mid- to late-May. In mid-summer, high soil temperatures and low soil moisture often limit growth, and applying fertilizer can actually worsen the condition of the turf by forcing more shoot growth than the root system can handle.

The fall, however, is an ideal time to fertilize turfgrass. In early fall (September), temperature and soil moisture are often optimum for grass growth throughout the state of Wisconsin. During this time, shoot growth is still very active and fertilization can help greatly to recover from any lingering damage from summer stresses. In late August in Madison this year, I saw plenty of brown lawns from the summer drought. It is likely that these areas will be green in a few weeks, but fertilization is not recommended until the turf is green and growth is active. Many homeowners make the mistake of thinking fertilization will help the grass turn green again, and by doing so actually hurt the situation. However, if the lawns were irrigated and remain green, fertilization will be effective at speeding stress recovery.

As September gives way to October, turf shoot growth slows; mowing becomes less frequent, but the grass retains good color. Fertilization during this time will lead to increased chlorophyll production which translates into greater production of carbohydrates that the plants use for winter hardiness and to produce a deeper root system. The optimum window for fertilizing to achieve these benefits is often said to be when the mean daily air temperature is near 50°F for three or more days in a row.

Dan Lloyd, a soil science Master's candidate, recently surveyed golf course superintendents around the state. He found that the N fertilizer applied to golf greens during September through November accounts for 45% of all the fertilizer applied during the year; demonstrating that golf course superintendents in Wisconsin recognize the importance of fall fertilization. However, with the drastic increases in the cost of fertilizer and the increased scrutiny of turf fertilizer use by the DNR, we felt that now would be a good time to revisit the science of fall fertilization. Beginning last September, Dan has been studying the uptake and utilization of fall applied N by Kentucky bluegrass, creeping bentgrass, and annual bluegrass growing on sand and silt loam soils here in Wisconsin and also up in the Twin Cities. His hypothesis is that different grasses will respond differently to fertilizer applied at different times in the fall and by finding the optimum timing for each grass and soil type, turf managers and producers can maximize the benefits of the fertilization. We hope that the results of his work will lead to more specific and effective fall fertilization recommendations that will save money for turf managers and producers without compromising turf performance or the environment. We will keep you posted as Dan's research progresses. ■

Dr. John Stier Named New Chair of UW-Madison Horticulture

Excerpts taken from the “Green Side Up,” the official newsletter of the Wisconsin Green Industry Federation with permission from Brian Swingle, Executive Director

Dr. John Stier has been named the new Chair of the UW-Madison Horticulture Department as of July 7th, 2008. Dr. Dennis Stimart, who preceded John, made the announcement June 26th at the annual UW Horticulture Department Garden Party, on the grounds of the beautiful Allen Centennial Gardens on campus.

Dr. Stier is the Professor and Extension specialist for Environmental Turfgrass Science in the Department of Horticulture at the UW-Madison. He earned his B.S. at Ohio State University in plant pathology, his M.S. at Ohio State University in turfgrass pathology, and his Ph.D. from Michigan State University in turfgrass physiology and management.

Dr. Stier began his current position at UW-Madison in 1997 with a 70% extension and 30% teaching appointment, and teaches courses in Introductory and Advanced Turf Management. His research program focuses on:

- Cold and shade stress tolerance of turfgrasses
- Pesticide and nutrient runoff from turf
- Weed management and growth regulation
- Environmental issues in turf production and management



Dr. Stier is noted for publishing 38 scientific manuscripts and over 170 extension articles in the past 10 years. Stier has mentored nine graduate students and several dozen undergraduate students. He is a frequent guest on Wisconsin Public Radio's “Garden Talk” with Larry Meiller, and provides an untold number of media interviews related to turfgrass in Wisconsin. Stier helped develop the technical standards for turf nutrient management with the DNR, and conducts pesticide applicator training for the Green Industry. He also has served on various state and local government advisory committees as a technical expert in the area of turfgrass science and nutrient management.

Dr. Stier was awarded the UW-Madison College of Agriculture Extension award in 2002, the Seed Research of Oregon Excellence in Research award in 2002, and the U.S. Environmental Protection Agency's School IPM Certificate of Recognition in 2003.

Dr. Stier has been an active educator for Wisconsin's green industry in addition to providing turfgrass and environmental education throughout the country and internationally. The Wisconsin Green Industry welcomes him to the new position of Chair of the UW-Madison Horticulture Department. ■

What's Wrong with My Poa?

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

As summer turns to fall, one thing has been certain this year...there hasn't been much disease. Here at the OJ Noer Turfgrass Research Facility some of our dollar spot studies were completely disease-free in 2008, a first in my four years here. Some superintendents that traditionally have had to spray their fairways numerous times throughout the season to control dollar spot, brown patch, and anthracnose have only sprayed once or twice. While this might not make the local sales representatives very happy, it has been one of the few costs to be below budget at most facilities this year.

But that doesn't mean courses haven't had any difficulties growing grass this summer. In fact, most of the calls I have fielded and samples I have received in the past month have been eerily similar. That is to say that the annual bluegrass (*Poa annua*) in the sample has turned weak and yellow while the creeping bentgrass (*Agrostis stolonifera*) has remained healthy and green (Figure 1). The issues have not been unique to golf courses either, as sod growers and lawn care operators have also reported problems keeping the annual bluegrass alive, though understandably they aren't sad to see it go.

So what's behind the declining *Poa*? The most common problem of annual bluegrass in the summer months is anthracnose, but this year only a few anthracnose samples have been submitted to the lab and half of those have been on bentgrass. How about summer patch? We have seen a few samples with summer patch, but the vast majority of the root systems have been pathogen-free. Necrotic ring spot? We don't normally see NRS on annual bluegrass, and once again the roots have been fairly clean of fungal activity. Other diseases such as brown patch and Pythium blight don't really cause more damage on annual bluegrass than creeping bentgrass, plus most of the courses that submitted samples had excellent preventative fungicide programs in place.

Well, the diagnosis that most of these courses got back was the dreaded "abiotic." While many superintendents might think this is code for "we don't know," it should be comforting financially since further fungicide applications will often be of no assistance. It is true that determining the exact abiotic cause of the decline is difficult, and what often happens is an in-depth discussion with the superintendent on their cultural practices and environmental conditions to "rule out" certain abiotic issues until something makes sense. To further complicate the matter, in many cases it is multiple abiotic issues that are contributing to the symptoms present.

In the case of the declining *Poa*, while each golf course and turf facility is unique, all those that experienced problems with their *Poa* had one thing in common; extremely shallow rooting (Figure 2). While shallow rooting in the middle of summer is not usually a surprise with *Poa*, when the depth goes below half an inch there is

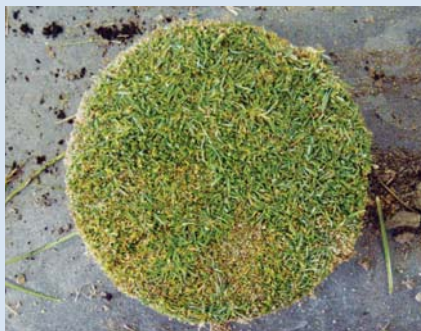


Figure 1: A sample received at the Turfgrass Diagnostic Lab in August with declining annual bluegrass (*Poa annua*) and healthy creeping bentgrass (*Agrostis stolonifera*).



Figure 2: This *Poa annua* plant from the sample in figure 1 had extremely shallow rooting, something exhibited by most of the samples submitted to the TDL this summer.

almost no frequency of irrigation that is going to keep it alive. The causes of the shallow rooting cannot be directly linked to one source since there were no irregular herbicide or growth regulators applied and the temperatures this summer were pretty mild. It is interesting to note, though, that both this year and last summer we saw striking reductions in *Poa* rooting depth following flooding rains.

For those who never look back and have already forgotten the 100 year floods of August 2007, 20 inches of rain fell on many areas of southern Wisconsin in a three week span. In the following weeks we received a crush of samples submitted to the TDL, many with summer patch and some with brown patch. But the majority of the samples with struggling *Poa annua* had very little disease, just a shallow root system they couldn't survive on. We saw the entire process repeated with the 100 year floods of June 2008, when 10-20 inches of rain over a two week period drenched the state. The difference between this year and last was that this year's flooding occurred in the spring and early summer, leaving months of warm and dry conditions to further weaken the *Poa*.

Not every facility with significant amounts of *Poa annua* in their stand struggled to stay green all summer. Those with superior drainage appeared to suffer less damage. Most of the symptomatic *Poa* was in small pockets less than a few inches wide, suggesting that the annual biotypes (*Poa annua* var. *annua*) were the ones showing symptoms. Facilities that had more perennial types of annual bluegrass (*Poa annua* var. *reptans*) appeared to show a little more resistance to the rooting depth reduction and chlorosis. Other typical environmental constrictions like shade and limited air movement also contributed to the *Poa* decline at many places. And as one would expect, if a selective growth regulator such as paclobutrazol was applied, the *Poa* looked even worse.

In hindsight, was there really anything that could have been done to maintain healthy *Poa* with the season we've nearly completed? The short answer is probably not much. With the cold spring, early summer flooding, and dry remainder of the summer it was not an easy year to manage *Poa*. But since not all facilities struggled, maybe there are some things we can focus on in the future to reduce the degree of *Poa* decline. A focus on improving the drainage and air flow of the site instead of constant fungicide and growth regulator applications will likely lead to a *Poa* plant with deeper spring rooting and higher tolerance of swings in moisture, temperature, and disease pressure. Then again, this is *Poa* we're talking about, and we just can't seem to ever quite figure it out. ■

MEET THE UW-MADISON TURF PROGRAM GRADUATE STUDENT Working Towards Environmentally Sustainable Turf Management

By Ben Pease, Department of Horticulture, University of Wisconsin-Madison

It all began with one mower and one neighbor's yard. That simple summer job has evolved into a great career path and world-class educational opportunities. My interest in golf course management began in the suburbs of Minneapolis, Minnesota, with four summers at Elm Creek Golf Course. After that I moved on to Wayzata Country Club (Bob Distel, Superintendent) where I discovered that turfgrass management was my calling. Seeing the management's excitement and dedication to their work greatly inspired this young college student. Upon returning to Madison for the next semester, I quickly found the Soil Science Department. I graduated in 2005 under the realistic guidance of Dr. Wayne Kussow. I then returned to Wayzata for a couple seasons, only to find myself back in Madison at beautiful Bishops Bay Country Club. Now for the fall of 2008, I'm returning to the UW to get my graduate degree in horticulture under Dr. John Stier and will become his Research Specialist, overseeing the day-to-day horticulture research at the O.J. Noer Turfgrass Research and Education Facility.

My graduate school work will focus on improving the management of shaded velvet bentgrass and shaded creeping bentgrass. Shade has long limited superintendents' ability to maintain high quality



putting greens and with the increased pressure to reduce chemical inputs, this challenge will not lessen in the future. By comparing greens-height (.125") velvet and creeping bentgrasses side-by-side under 80% shade, I will be able to provide scientific documentation of velvet bentgrass shade tolerance. In addition to possibly being more shade tolerant than creeping bentgrass, velvet has lower water use compared to creeping (DaCosta and Huang, 2006) and less susceptibility to dollar spot (Koeritz and Stier, 2006). To determine velvet bentgrass's actual shade tolerance, data will be taken during the 2009 and 2010 growing seasons. Three rates of nitrogen fertilization will be evaluated, both with and without Primo growth regulator. The effects of Primo on velvet's quality have not been determined as of yet. A seedling disease that limits the use

of velvet bentgrass in the Midwest will also be identified and seed treatments evaluated in effort to reduce fungicide use during establishment.

My second research project will evaluate the potential water and fungicide savings by using velvet bentgrass and/or fine fescues as low maintenance fairway turf. Velvet bentgrass will be compared to creeping bentgrass, creeping red fescue, and mixtures of the above. Different nitrogen rates will also be evaluated. The plots will be trafficked with a golf cart traffic simulator and split for fungicide versus no fungicide applications. This study will provide superintendents with useful data showing how grass type and nitrogen rates can affect fungicide use.

Both of these projects are part of the University of Wisconsin turf program's long-term goal of developing environmentally sustainable golf course maintenance practices. In the end, these projects, and countless others at O.J. Noer, are focused on providing golf course superintendents with scientific information on how grass selection and new cultural practices can reduce the inputs necessary for desirable golf conditions.

If you have any questions about this research, or other horticulture studies at O.J. Noer, please contact me at bwpease@wisc.edu. Have a great fall and On Wisconsin! ■

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Bridge to the Future

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

The Noer Facility is divided into two halves by an urban drainage ditch which when full after a rainstorm, can stop work on half of the facility. The drainage ditch was not a problem seven to eight years ago. In the last several years, Madison has been expanding incredibly and the accompanied urban runoff can now fill the drainage ditch for up to a week after a large rain event. We knew a bridge was in our future but we were waiting for the city of Madison to deepen and widen the drainage ditch, which their city engineers said would happen soon. They finally admitted that the improvement was unlikely to happen so we decided to build the bridge and improve the waterway ourselves.

There was money designated specifically for a bridge from a sewer project installed through the Noer Facility in 1999. All the rain in August 2007 and the spring of 2008 made us realize we can't wait any longer to build our bridge. Fortunately we found a professor from the UW-Madison Department of Biological Systems Engineering, Dr. Dave Bohnhoff, to design and build the bridge for us.

The project began in June. First we constructed a roadway for construction equipment including ready-mix concrete trucks to access the site. The bridge is completely cast-in-place concrete, and with the wet spring we needed the access road because we couldn't risk burying a ready-mix truck. The trucks first came to place footings for the support piers in holes that were augured six feet deep. Next the piers and deck support beams were formed. What amazed me the most was the amount of reinforcing steel bar that goes inside of a concrete structure. We tied steel rebar completely through one night to get ready for a concrete delivery the next day. Good thing we stayed on schedule with the delivery because the day after pouring the pier and deck support beams, a rainfall filled the waterway up over the concrete forms that would have washed them away had they not been poured.

The concrete was then left to cure for two weeks. Next a wooden frame to hold

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Constructing the access road to the bridge



Forms were constructed for pouring the concrete piers and deck support beams



The crew working through the night to tie reinforcing steel bar before the concrete arrives the next morning



The flood that occurred the day after pouring the piers and deck support beams

in the deck concrete was constructed and more steel was tied. The placement of deck concrete went according to schedule and was left to cure for another two weeks.

While the deck was curing, we proceeded to reconstruct the waterway to help transport water away from the Noer Facility quicker. The increase in urban rainwater runoff that was occurring past the Noer Facility needed the ability to flow in larger volumes. Otherwise it comes up over the banks and deposit silt on valuable research projects. We mowed down 1/3rd acre of reed canarygrass in the old waterway, reshaped the swale and birms, and seeded the waterway. This way we can mow the turf which along with widening the waterway will help the water flow past

the Noer Facility quicker. The maintained turf is a 90/10 mixture of tall fescue and Kentucky bluegrass donated by Seed Solutions.

The seed has just germinated as of mid-August and the crew is busy keeping it watered. Next for the bridge project we will construct the ramps up to the deck and blacktop the service road leading to the ramps. Depending on finances, we may even cover the bridge with a wooden structure this winter, and once again Dr. Bohnhoff said he'd help us design and construct the covered bridge. We're so fortunate to have him help us. The research on the far side of the drainage ditch is no longer out of reach and floodwaters should stay within their banks and move away from the Noer Facility easier, making our bridge to the future fantastic. ■



Building the forms for the concrete deck



The deck is almost ready for concrete



Pouring the concrete deck



Designer and builder, Dr. David Bohnhoff from the UW-Madison Department of Biological Systems Engineering, pictured center



The deck left to cure for two weeks



The new drainage swale will move floodwaters past the Noer Facility more efficiently

Crowds Rain Down on Noer Facility for Summer Field Day 2008

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

The rains and flooding that occurred in southern Wisconsin during the summer of 2008 were devastating, but the crowds that rained down on the O.J. Noer Facility on July 22nd for the 25th annual Wisconsin Turfgrass Association Summer Field Day were amazing. Attendance numbered over 300 with 255 turf managers and 69 sales representatives. The attendance increased over past years' events, as did the number of new studies that were featured.

Amazing was also the word for this year's weather as visitors were greeted with temperatures in the upper 70s, mild breezes, and beautiful blue skies. The

amount of education offered was enough to satisfy everyone who came. One attendee, Charles Granger, said about a putting green management talk, "I learned more from that one presentation than in 10 years of attending other various field days."

The field day started out with the research tour that Charles Granger was so impressed with and was followed by the afternoon commercial trade show and the first ever lawn care training session. The morning research tour had something for everyone in the two separate groups of talks. One group tour was geared for golf turf managers and the

other for sports, sod, lawncare, and commercial turf managers. The titles of the talks included:

- Localized Dry Spot Prevention and Management
- Alternative Methods for the Control of Dollar Spot
- Cutless PGR for Controlling *Poa annua* in Fairways
- Control of Dollar Spot Using Standard and Experimental Fungicides
- Soil Carbon Loss from Recently Established Turf, Pasture and Prairie Grasses
- Kentucky Bluegrass Varieties for Fairways
- Velvet Bentgrass Nitrogen Type and Rate Evaluation
- Does Primo Change Putting Green Fertilization Requirements?
- Quick-Germ Kentucky Bluegrass for Lawns and Sports Turf
- New Products for Crabgrass Control
- Rainwater Harvesting and Drip Irrigation
- Insecticide Options for Managing Emerald Ash Borer (EAB)
- Bentgrass Removal from Lawns with Tenacity
- Winterkill of Perennial Ryegrass in Lawns
- Lawn Responses to Liquid Fertilizers
- Ryegrass Rust and Other Common Diseases of Lawn Grass

Everyone was treated to a wonderful lunch following the research tour where friendship and conversation were shared among attendees. The trade show had 28 companies displaying turf equipment, supplies, and services to improve everyone's turf management. The sales representatives were helpful in discussing all aspects of their products and services. The list of exhibitors is mentioned here. Please be sure to give them your business and thank them for helping to support Field Day.

The lawn care workshop became part of Field Day for the first time in 2008. It was a huge success considering space



Large crowds gather for the turfgrass research tour



Dr. Doug Soldat talks about fertilizer properties and uses during the afternoon lawn care training session

was limited to 65 participants which sold out and had 19 people on the waiting list. The workshop was mainly for lawncare staff training although there were participants from other industries and several managers taking advantage of the refresher course. Subjects covered in the workshop included:

- Fertilizer spreader and sprayer calibration
- Weed/ disease/ insect identification and management
- Turf species choices
- Fertilizer properties and considerations

Field Day 2008 is going into the books as being one of the most successful. The weather, learning opportunities, crowds, and number of new studies were hard to beat. Thanks go to everyone who attended and helped make the day such a success. ■



Kerry Anderson of Valent, pictured on the right, and other trade show vendors informed attendees about their latest products



Dr. Jim Kerns teaches turfgrass disease identification and management to the interested crowds



Collecting rainwater from rooftops to irrigate turf was being explored during the research tour

2008 Wisconsin Turfgrass Association Summer Field Day Exhibitors

Arthur Clesen	Pumpstation Professionals
Bayer	Reinders
Central Sod Farms	Seed Solutions
Cleary Chemical	Sports Turf Specialties
Contree Sprayer	Spring Valley
Deer Creek Seed	Standard Golf
Ero-Tex	Syngenta
Floratine	The Andersons
Frontier FS Coop	UAP Distributing
Horst Distributing	Valent
John Deere Golf	Volkening Consulting
Links Land LLC	Waupaca Sand & Solutions
Midwest Turf Products	WDATCP
Pendelton Turf Supply	Wisconsin Turf Equipment



Registration for Winter EXPO will be mailed to you in October

Name That Mycelium

By Dr. Jim Kerns, Department of Plant Pathology, University of Wisconsin-Madison

The brunt of summer is almost behind us, so we all have a little more time to play a quick game — Name that Mycelium. This summer was not the most conducive for turfgrass diseases which was bad for a plant pathologist, yet wonderful for turfgrass managers. So I am asking everyone to use his or her imagination to play this game. Imagine that air temperatures are above 85°F during the day and above 70°F at night. Relative humidity is high (>90%) and recent rainfalls have the soils pretty moist and you observe a fuzzy, white growth on your turf. What pathogen immediately comes to mind, the notorious *Pythium*! Yet, many other turfgrass pathogens can produce visible mycelium in the canopy. For instance, the brown patch pathogen (*Rhizoctonia solani*), and the dollar spot pathogen (*Sclerotinia homeocarpa*) can also produce mycelia during optimal conditions. So you might be wondering, “What’s the point?” Well, when mycelium is observed, do not assume that *Pythium* is always the culprit.

The rest of the article will focus on the symptoms and signs associated with *Pythium* blight and brown patch and the weather conditions that are conducive for these diseases. *Pythium* blight is a scary disease because of the tales of *Pythium* species destroying acres of turf overnight! This could happen when environmental conditions are perfect for *Pythium* blight and you are growing perennial ryegrass. Based on what I saw at field day this year, I don’t think many people in Wisconsin are growing and maintaining perennial ryegrass.

So what are the conditions that favor *Pythium* blight? First, the soils and turf canopy need to be fairly moist since *Pythium* species need lots of free water to grow and infect turfgrasses. Second, *Pythium* blight is most severe in turf that is overfertilized, especially going into the summer months. Finally, *Pythium* blight is most severe during the summer months during periods of prolonged heat and humidity. However, *Pythium* blight can occur when temperatures are cooler. Symptoms of *Pythium* blight appear as small circular spots that can expand at an alarming rate. On putting greens and

tees, the affected turf is orange or bronze without a smoke ring and can coalesce into large areas (Figure 1). In higher cut turfgrasses, spots appear as irregular shaped patches that are copper-colored or may have a gray, water-soaked appearance (Figure 2). As the disease progresses, infected leaves turn tan to brown and become matted. Of course another clue is cottony mycelium that

appears early in the morning (Figure 3).

Conditions that favor brown patch development are similar to those that favor *Pythium* blight development, namely nighttime temperatures above 68°F, high relative humidity (above 95%), or presence of surface moisture. Large areas of turf can become blighted rapidly during

Continued on page 11



Figure 1. *Pythium* blight of a creeping bentgrass on a putting green. Note the gray ring around the perimeter of the affected area. (Courtesy P.H. Dernoeden).



Figure 2. *Pythium* blight of tall fescue, note the copper color and the irregular pattern.



Figure 3. Cottony mycelium of the *Pythium* blight pathogen in a stand of tall fescue.

hot, rainy, or humid weather. Brown patch initially appears as circular or irregularly shaped patches, particularly in low cut and very wet grasses. The grass in the affected area is initially purplish green and quickly fades to brown, hence the name, brown patch (Figure 4). In warm, humid weather, a dark gray or purple ring appears around the perimeter of the patch, which is referred to as a smoke ring (Figure 5). The smoke ring symptom usually only is evident on tees, fairways, and putting greens. The key for

distinguishing between brown patch and Pythium blight is a leaf lesion. The brown patch pathogen will induce a lesion that is very diagnostic. The lesion center is tan with a reddish brown or dark brown border (Figure 6).

Now I know most of you are thinking that I'm crazy for trying to tell you all the difference between brown patch and Pythium blight. Yet during the early stages of these two diseases, aerial mycelium can be observed and symptoms can be similar. Another important point to remember is brown patch and

Pythium blight rarely develop in sand based putting greens. The drainage in these systems is so good that moisture is seldom high enough for brown patch and Pythium blight to develop. When turfgrasses are grown in native soils, the chance is much greater for these diseases to develop. Both diseases can be controlled curatively if symptoms are in initial stages. Fortunately here in Wisconsin, we typically only have a few weeks to a month of weather that is conducive for brown patch and Pythium blight.

So the next time you are out scouting and you see a cottony growth, remember Kerns' game — Name that Mycelium. All mycelia are not created equal!

Summary of the main points:

- Pythium diseases are not the only diseases that produce aerial mycelium
- Pythium blight and brown patch initial symptoms can be similar
- Pythium blight and brown patch rarely occur in sand-based putting greens
- Both diseases are encouraged by hot, wet conditions
- Both diseases can rapidly blight cool-season grasses
- Diseases can be controlled curatively
- In Wisconsin, we have a small window for Pythium blight and brown patch development ■



Figure 4. Brown patch of tall fescue, note the similarity to figure 2.



Figure 5. Brown patch of creeping bentgrass on a putting green, displaying the characteristic smoke ring symptom.



Figure 6. Leaf lesion caused by the brown patch pathogen on Kentucky bluegrass. (Courtesy B.G. Joyner)

Emerald Ash Borer (EAB) Reveals Itself in Wisconsin

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

Unfortunately, but not unexpectedly, the emerald ash borer (EAB) was officially confirmed in Ozaukee and Washington counties on August 1, 2008. EAB is an exotic, invasive insect (beetle) that was first discovered in the Detroit, Michigan metropolitan area in June 2002. EAB is native to Asia and is thought to have been accidentally introduced into the United States via importation of EAB infested wood packing materials used to transport goods or products. To date, EAB has been found in other states including Indiana, Illinois, Maryland, Missouri, Ohio, Pennsylvania, West Virginia, and Ontario, Canada. Several detection methods including visual surveys, detection/trap trees, and adult traps have been employed in an effort to detect EAB. However, at low population densities or early or initial stages of infestation, EAB is quite difficult to detect regardless of survey strategy. EAB larvae feed (mine) in the cambial area creating S-shaped/serpentine feeding galleries that are typically packed with frass (fecal matter and sawdust). This larval feeding activity disrupts the ability of trees to transport vital nutrients and water, thus resulting in tree decline and eventual death. Tree death can occur in less than two years at high population densities if left untreated, while some trees can survive for more than five years at low population densities. Unlike the bronzed birch borer and the two-lined chestnut borer, two closely related boring insects that mainly attack stressed trees, EAB does not discriminate between healthy (vigorous) or stressed trees. In North America, EAB has been reported to attack ash (*Fraxinus spp.*) trees including green white, blue, black, velvet, pumpkin as well as other horticultural varieties. It is estimated that there are more than 765 million ash trees, about 5 million are horticultural varieties in Wisconsin. For this reason, EAB poses a serious crisis to Wisconsin's ash resources.

So what can you do to protect your ash trees from the eminent threat of EAB? Unfortunately, this question does not have a simple answer! There are numerous factors that can influence your decision making process. First and fore-



Emerald Ash Borer (EAB)

most, until EAB is found within 10-12 miles of your ash tree(s) or you are in an EAB quarantined area, it is not suggested that you begin treating your ash trees with insecticides. Secondly, due to the relatively high cost associated with treating multiple ash trees such as in woodlots or forested areas, high-value or specimen ash trees may be more likely considered for an insecticide treatment. Also, it is important to understand that insecticides are not always successful due to variability or inconsistent control, nor is it fully understood if insecticides are enhancing tree survival or merely prolonging tree death. Since EAB was discovered, numerous research trials have investigated the performance (efficacy) of various insecticide treatments. Currently, there are several insecticides and application technologies that are suggested, they include: 1) imidacloprid (Merit) applied as a soil drench and/or soil injection, or as a trunk injection using specialized application equipment such as the ArborJet Tree IV (IMA-Jet), Maguet (Imicide) and Wedgle (Pointer) application systems; 2) dinotefuran (Safari) + PentraBark applied as a bark spray to basal area of the trunk from the soil level up about 4.5 feet; 3) emamectin benzoate (Tree-age) applied exclusively through the Arborjet Tree I.V. and QUIK-jet application systems; 4) carbaryl (Sevin) applied as a trunk implant using the ACECAP 97 Systemic Insecticide Implants or Bonide Systemic Insecticide Bullets application technologies; and 5) bifenthrin (Onyx), cyfluthrin (Tempo),

permethrin (Astro), or carbaryl (Sevin) applied as a foliar or bark spray application to control EAB adults and hatching larvae.

Certified pesticide applicators are necessary for the application of the specialized application equipment such as the ArborJet Tree I.V. and QUIK-jet, Maguet, and Wedgle. When considering an insecticide treatment option, be sure to assess the overall tree health or vigor, determine if the ash tree has an EAB infestation, and measure the size (diameter at breast height; DBH). All of these factors will influence your decision in terms of whether to treat or not as well as the time of year (i.e., spring or fall) that is optimal. For example, ash trees smaller than 8 inches DBH (about 25 inches circumference) that do not have an EAB infestation and are within 10-12 miles of a confirmed EAB infestation or are in an EAB quarantined area should be treated with either a soil drench, soil injection, or trunk injection beginning in mid-May. An ash tree greater than 8 inches DBH should be treated about one month earlier to allow the insecticide to move within the plant to the target area (cambium) where the EAB larvae feed. Whereas, EAB infested ash trees can be treated with an insecticide from June through early-October to control actively feeding EAB larvae. ALWAYS read and follow label directions when using pesticides. For additional information regarding insecticide management options for EAB, visit www.emeraldashborer.info. ■



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CALENDAR OF EVENTS

2008

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 Ba
Oct 11	WGCSA Dinner Dance	Waupaca CC, Waupaca
Oct 22-25	PLANET's Green Industry Conference	Louisville, Kentucky
Nov 18,19	Wisconsin Golf Turf Symposium.....	American Club, Kohler

2009

Jan 13	WTA Turfgrass and Greenscape EXPO	Boerner Botanical Gardens, Hales Corners
Jan 14-16	Mid Am Horticulture Trade Show	McCormick Place West, Chicago
Jan 15	WGIF Annual Convention.....	Hyatt Regency, Chicago
Feb 2-7	Golf Industry Show	New Orleans, Louisiana
Feb 9-13	TPI Midwinter Conference	Point Clear, Alabama
March 11,12	Reinders Turf and Irrigation Conference	Waukesha Expo Center, Waukesha

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

GIS	Golf Industry Show	800-472-7878
NGLGCSA	Northern Great Lakes Golf Course Superintendents Assoc.	715-542-2373
PLANET	Green Industry Conference	www.landcarenetwork.org
STMA	Sports Turf Managers Association Conference	800-323-3875
Symposium	Wisconsin Golf Turf Symposium	800-287-9645
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