WISCONSIN TURFGRASS NEWS

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A New Display for Field Day

By Benji Brye
Beacon Ballfields

One of the biggest problems with trying to maintain quality sport turf for any sort of athletic activity is that there just doesn't seem to be enough time for all the work that should be done on it. This is especially true for high school and local park and recreation departments where turf maintenance often falls second to other important responsibilities. One such duty that can be extremely time-consuming is repairing baseball/softball pitching mounds and batter's boxes.

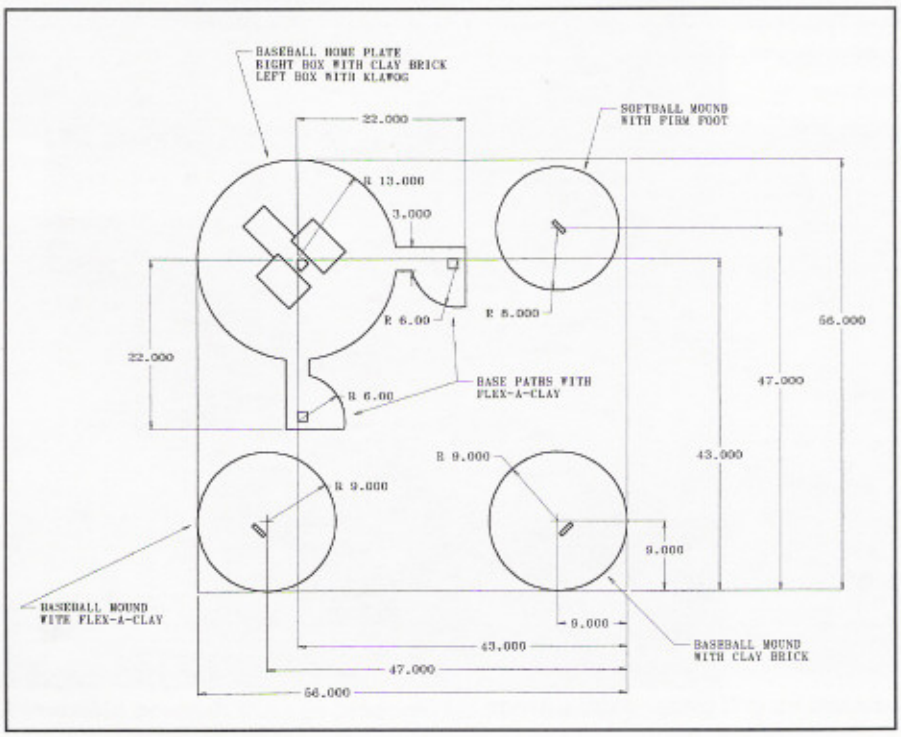
The best way to get around this dilemma and be able to devote adequate time to your turf is simply to reduce the time spent on repairing your ballfields. This is the idea behind a new display that is being constructed at the O.J. Noer Turfgrass Research and Education Facility for this year's Wisconsin Turfgrass Association Field Day on August 10th.

The display is meant to offer a variety of ideas about how to reduce the problem of dig-out in the high wear areas, and make them easier to repair. Several products on the market today that specifically address this problem will be used to demonstrate their effectiveness and show how to save maintenance time.

Two baseball pitcher's mounds, a softball pitcher's mound, and a home plate circle with modified base paths will be included in the display. Each area will have a cutaway section to reveal the products being used and show how they were installed.

Water management also poses a significant burden to a field manager - especially on rainy days. Thus, the display will include the use of calcine clay products, which tend to absorb water quickly and release it slowly back into the soil.

The display is to be left on site for several months to evaluate how well these products hold up over time with regular maintenance.



First step was to excavate 6 inches of soil...

and replace with ag-lime to increase water absorption from surface layers.

Recent Outbreaks of Black Turfgrass Ataenius on Golf Course

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

The black turfgrass ataenius, *Ataenius spretulus* (Haldeman), can be a serious pest on golf courses, especially fairways, greens, and tees, in the midwest and northeastern United States. The small black adult beetles have as many as two generations per year, making it unique from other white grub species, which only have one generation per year. The black turfgrass ataenius (BTA) overwinters as an adult and begins laying its eggs in the spring, typically in early May. Once the eggs hatch, larvae or grubs emerge and begin feeding on the roots of most cool season turfgrasses until they reach maturity sometime in July. At this point the grubs burrow down into the soil to begin the transformation process from grub to adult (a.k.a. pupation). Thereafter, adults will begin to emerge from the turf sometime in late July or early August. This cycle is repeated with grub feeding and potential turf damage typically occurring again in mid to late September, and adult emergence usually by mid October.

The grub stage of this pest is the damaging life stage that can be detrimental to turfgrass. The small white grubs feed on the roots of the grass destroying the vital support component of grass plants. Consequently, when found in abundant numbers, BTA grubs can destroy large areas of turf that can be "rolled-up" similarly to carpet. This phenomenon is accentuated especially when the turf is under stressful conditions such as drought stress that typically occur during BTA grub feeding.

Recently, a couple of Wisconsin golf courses reported severe browning and decline of their putting greens. After inspection of these golf courses, we determined the BTA grubs were the cause of the damage. Both greens and aprons were sampled by pulling or rolling back the turf to discover over 40 BTA grubs per square foot. As a result, where the BTA grubs had fed, the turf was brown and declining rapidly, and could be easily pulled or rolled up. Additional damage was attributed to greens mowers that had removed some of the loose turf as well as damage from skunks and birds foraging on the BTA grubs.

The optimal control measure for the BTA is to treat (spray) the adults in May to prevent egg lay. However, if one misses this window of opportunity or elects not to treat the adults, there are several different options available. One option is to apply a preventative white grub control product (i.e., Mach 2 or Merit) in late May. The second option is to apply a curative control treatment (i.e., Dylox/Proxol, Sevin, or Oftanol) once grub populations have been detected or damage from grub feeding is noticeable.

BTA grubs (larvae) in soil.

BTA damage on golf course putting green.

The Wisconsin Turfgrass News

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O. J. Noer Turfgrass Research and Education Facility

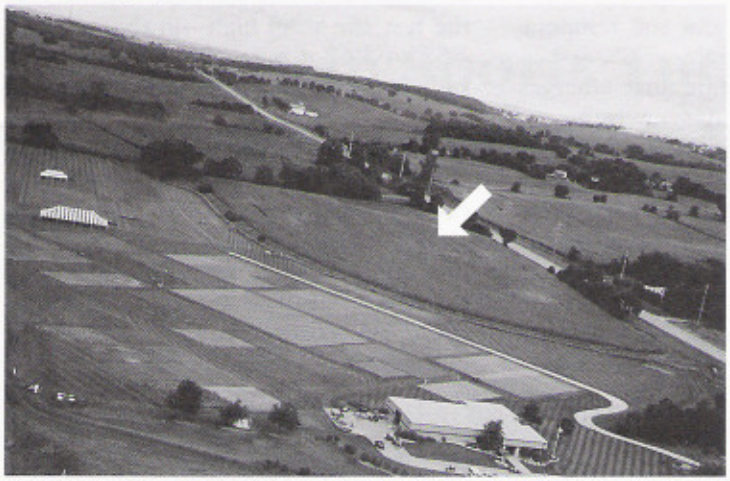
Growing Pains

By Tom Schwab

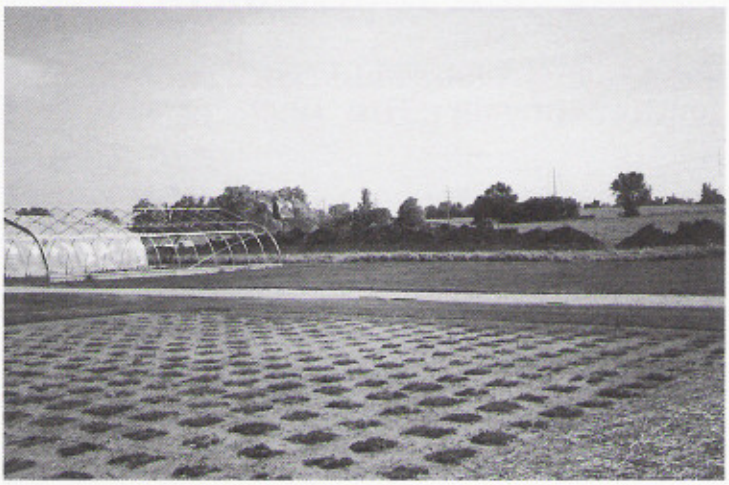
Huge demands are being put on the Noer Facility for space to conduct turfgrass research. The demands will be getting greater as the University of Wisconsin-Madison turfgrass program grows. And it is growing. Over the last year an urban entomology professor with a strong interest in turfgrass was hired, and a professor of agronomy has started a program in turfgrass breeding. Hopefully the search for a turfgrass pathologist will soon be completed which will also increase the demands for space. This new research is in addition to that being conducted by Dr. John Stier, Dr. Wayne Kussow and Jeff Gregos who already feel the need for more land.

The researchers are not the only people putting demands on the facility. The newly formed Wisconsin Sports Turf Managers Association needs questions answered by researchers in addition to the new questions being asked by the golf, sod, and lawn and landscape industries.

Fortunately the Noer Facility is located where there is more land to expand to, and the likelihood of acquiring the land is excellent. Over the past year we have been attending meetings about the growth of the Noer Facility and surrounding land with the UW Foundation, UW Athletic Department, City of Madison, and others. We are optimistic that land for expansion will be available promptly.



Proposed expansion location



Excavation proceeds through proposed land for Noer expansion.

Sewer pipe to serve new subdivision of Madison.

John Stier recently completed a survey of current researchers about their future space needs. In that survey there was a call for over two acres of athletic field research area, four and a half acres for turfgrass breeding, and approximately one acre each for green, fairway, and lawn turf research. Additionally the new faculty person in plant pathology with an emphasis on turf will need research space when he/she is hired. Altogether the future needs total over 10 acres.

The Noer Facility is not the only entity thinking about growth out here. The city of Madison is growing by leaps and bounds. A sewer line is presently being installed through part of our proposed new land to serve Madison's development. A surface water drainage way is also going to be installed across the land to handle the inevitable urban runoff.

Hopefully there will still be enough land to serve our research needs. Those needs are great. But there is also recognition of the importance for expanding turfgrass research at the University of Wisconsin-Madison by many important people within the university who also understand that we have outgrown the present facility. Acquiring more land for expansion is inevitable. We will be reporting the growth of the Noer Facility as plans are finalized.

Time to Register Now!

Summer Field Day

O. J. Noer Turfgrass Research and Education Facility

Tuesday, August 10th, 1999

Verona, Wisconsin

608-845-6536

Soil and Turf Quality

By Dr. Wayne R. Kussow
Department of Soil Science, University of Wisconsin-Madison

Soil is now recognized as a finite global resource that must be managed for sustainable rather than short-term use. In order to determine if a soil is being used in a sustainable manner, there have to exist criteria for judging soil quality. Soil scientists have proposed more than 20 soil criteria, but recognize that in research only a few of these criteria can be studied at any one time. The soil quality criteria fall into 3 categories—soil physical properties, soil chemical properties and soil biological properties.

Similar to soil, there are many different criteria for judging turf quality. These fall into two groups—aesthetic properties and functional properties. Color and uniformity are examples of aesthetic properties. Functional properties vary with the purpose of the turf and include factors such as rigidity, resiliency, wear tolerance and recuperative capacity.

In 1996 a study was begun at the O.J. Noer Turfgrass Research and Educational Facility with two objectives in mind:

1. Determine what types of relationships exist between various measures of soil and turf quality.

2. Determine whether or not fertilizer composition influences soil quality.

The site for the study was a creeping bentgrass fairway established on a heavy silt loam soil. Twelve different fertilizers were applied. These ranged in composition from 100% natural organic to 100% synthetic.

The soil quality parameters measured were infiltration rate, bulk density, soil pH, soil organic matter and available nutrient contents, soil fauna populations, and soil microbial activity as indicated by soil carbon dioxide production and enzyme concentrations. Turf quality was assessed in terms of visual quality ratings, clipping weight, clipping nutrient concentrations, root weight, thatch thickness and weight, and disease incidence and severity.

When all of the data collected over the 3 years was analyzed, it was found that the type of fertilizer applied had no influence on soil infiltration rates, soil bulk density, soil pH, or fauna populations. The fertilizers did create significant differences in soil organic matter content, plant available nutrient supplies, and soil microbial activity. As far as the measures of turf quality were concerned, there were significant differences in the influences of the different fertilizers on visual quality, clipping weights, clipping contents of some of the essential plant nutrients, bentgrass root weights, thatch development and disease incidence.

Putting all of the measures of soil and turf quality into a single data set and conducting various type of statistical analyses led to the revelation that, regardless what combination of soil quality factors was considered, they did not account for a significant amount of the variations seen in the turf quality factors. Thus, I found no significant relationships between the measures of soil quality and turf quality. What this tells us is, at least at this test site, bentgrass quality was determined primarily by factors other than by measures of soil quality. Such factors would be air and soil temperatures and moisture supply.

So the general picture that emerges from this study is that environment exerts the dominant influence on how turfgrass responds to different types of fertilizers. Soil quality factors have less important influences. But the soil quality influences are important as modifiers of turfgrass response to fertilizer. In this research, I was able to identify which soil quality factors were of greatest importance. Turfgrass quality ratings were related more strongly to soil enzyme concentrations than any other measure of soil quality. On the other hand, bentgrass clipping weights seemed to be influenced most by soil pH, and to a lesser extent, by soil organic matter content and soil bulk density. Clipping nitrogen content also reflected some influence of soil pH, which may explain the apparent effect of soil pH on the bentgrass clipping weights.

Thatch development was more strongly influenced by soil bulk density than any other measure of soil quality. The higher the soil bulk density, the more thatch that accumulated. This relationship likely reflects the observation by other researchers that any factor such as high soil bulk density that promotes superficial turfgrass rooting favors thatch accumulation. The soil bulk densities on the test site were high—in the range of 1.52 to 1.62 g per cubic centimeter of soil—and may be fairly typical for many golf course fairways.

Given the tremendous amount of time and effort that went into this study, it is disappointing that the results were not clearer cut. The lesson we do get from the study is that except under soil extreme conditions, no one soil quality factor can be expected to have a controlling influence on turf quality.

Ask the Expert

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

Q: What is speedwell and how is it controlled?

A: Speedwell is the common name for *Veronica* spp. While there are many individual species, the most common ones in Wisconsin are corn speedwell and purslane speedwell which are winter annuals. These species produce seed by late spring and primarily disappear by early summer. Creeping speedwell (*V. filiformis*) is a perennial, but it is generally found in areas east and northeast of Pennsylvania. Speedwells are low-growing during the autumn, then grow erect at maturity. Leaf shape varies, but they are generally small, hairy, and opposite on the stem. Flowers are very small and blue in color. The most distinctive feature is the heart-shaped seedpod which is evident in Wisconsin from late May through June. Most broadleaf herbicides are labeled for the weed, but control is often difficult because by the time they are noticed in the spring they have reached maturity and are too large for effective control. Annual speedwells are more easily controlled on a pre-emergent basis with dithiopyr (Dimension), pendimethalin (Pre-M), and several other pre-emergent herbicides. In the long run, the best control is to promote a thick, healthy turf stand by using appropriate turfgrass selection, fertility, mowing, and irrigation practices.

Q: How can I improve turf quality of my shaded bentgrass greens?

A: Current research indicates the growth regulator trinexapac-ethyl (Primo) can improve turf density of creeping bentgrass ('Penncross') at up to 80% shade. Best results are achieved with between 0.075 and 0.125 oz product per 1000 ft^2 applied at four week intervals with moderate nitrogen fertility (e.g., 2.5 lb per 1000 ft^2 annually). Increasing the nitrogen fertility to 5 lb per 1000 ft^2 annually decreases the turf density, but not as much as when no trinexapac-ethyl is used regardless of nitrogen rate.

Note: If you have shaded bentgrass greens or tees and would be willing to have test plots at your golf course, please contact John Stier at 608-845-6022 or at jstier@facstaff.wisc.edu. *I am also looking for proposed construction sites in the shade to test a new variety of velvet bentgrass for greens.*

Wisconsin Sports Turf Managers Association (WSTMA) Meeting

September 14, 1999

UW-LaCrosse, Alumni Center

UW-LaCrosse is the home to the NFL's New Orleans Saints training camp, in addition to many college sports, high school events and numerous other activities.

Meeting Agenda:

8:45 - 9:15	Registration, coffee, and doughnuts
9:15 - 9:30	Rich Riggs - WSTMA updates
9:30 - 10:30	Dr. John Stier - Update on turf research
10:30 - 11:30	Pete Bemis - Athletic maintenance program at UW-LaCrosse
11:30 - 12:30	Lunch
12:30 - 2:00	Equipment demonstrations and campus tours

Registration materials will be mailed in August.

Please call 608-845-6536 for information about this meeting or WSTMA.

Turf Pathologist Search - Part Two

By Jeff Gregos
Department of Plant Pathology, University of Wisconsin-Madison

As the old saying goes, "Good things come to those who wait." That is the way it appears to be proceeding in the search for the UW-Madison turfgrass pathologist position. Even though it is early in the search process I will provide you with all the details available to date.

The review process has begun and 15 candidates met the deadline of July 1st, 1999. Thus more candidates have applied than during the first search. Shortly after that deadline the search committee composed of Walt Stevenson, chair, John Stier, Chris Williamson, Craig Grau, Bob Goodman, and Doug Maxwell met to discuss the criteria for reviewing the candidates.

The first round of reviews should be done sometime prior to Field Day. This list of tentative candidates will be presented to the faculty of the Plant Pathology department for further review. After this review the finalist list will be developed and those candidates will be interviewed. Tentative date for interviews will probably be sometime in early fall. Once the finalist is selected the new turf pathologist will probably start around the first of the year.

Finally, you are probably most interested in the quality of the candidates. From my sources, as I have not had a chance to review the files on the candidates, it is said to be vastly diverse. Several of the candidates do have a turf background, but even those that do not could be just as competitive. Only time will tell, but let's hope that I do not have to write a part three to this article.

See You August 10th

By Tom Schwab

It's hard to believe that Summer Field Day is almost here. The date is August 10th. A field day brochure accompanies this newsletter and you may still beat the August 4th preregistration deadline if you act quickly. On-site registration is always welcome but will cost $5 additional.

You will be in for one of the best field days ever this year. More work has gone into preparing for this field day than any before. The presentations will surely interest anyone that works in the turfgrass profession. Those presentations include:

* Plant growth regulator's for fairway establishment
* Turfgrasses for snowmold resistance
* Management of new bentgrass cultivars
* Turf disease control (dollar spot, brown patch, etc.)
* Summer stress of bentgrass
* Spray volume effects on disease control
* Microbial activity in the root zones of putting greens
* Sprayer calibration technique
* Green speed evaluation
* Ant control
* Grub control
* Turfgrass cold tolerance
* Sod study
* Pitcher's mound and home plate construction
* Ornamental grasses
* Athletic field logo painting clinic
* Environmental enhancement

These research tours and clinics occur in the morning with a huge trade show occurring after lunch. The trade show is one of the largest in the Midwest with over 60 exhibitors of turf equipment or products participating. Equipment demonstrations and test drives are featured during the show. There is also a popular silent-auction in the afternoon where there is always a bargain to be had. This auction is sponsored by the exhibitors with the goal of supporting turfgrass research in Wisconsin.

One of the more popular parts of field day is the afternoon ask-the-expert session. The researchers remain on the plots all afternoon to answer individual questions from attendees. Their vast array of knowledge will help you find a solution to any of your turf inquiries. You may also find the answer to your inquiries through conversation with peers. Over 350 attendees are expected from the professions of golf, sports fields, sod, landscape, lawn care, and municipal/corporate grounds.

Make plans now to attend this once-a-year event. You will have an educational and fun day spent with researchers, suppliers, and friends. Call Audra at the field day planning desk, 608-845-6536, for more information. See you on the 10th.

CALENDAR OF EVENTS

July 29	WSP Summer Field Day	Lurvey Farms Turf Nursery
Aug 3	NGLGCSA Monthly Meeting	Riverside CC, Menominee, MI
Aug 10	**WTA Summer Field Day**	**Noer Facility, Verona**
Aug 14	UW-Madison Homeowner Turf Day	Noer Facility, Verona
Aug 18	WNA Summer Field Day	MATC North Campus, Mequon
Sept 7	NGLGCSA Monthly Meeting	Trout Lake G&CC, Arbor Vitae
Sept 8	WLCA Annual Golf Classic	TBA, Milwaukee
Sept 13	WGCSA Monthly Meeting	Washington County GC, Hartford
Sept 14	WSTMA Fall Meeting	UW-La Crosse
Sept 18	WLCA Certified Technician Testing	MATC North Campus, Mequon
Sept 27	**WTA Golf Fundraiser**	**Muskego Lakes CC, Muskego**
Sept 28	NGLGCSA Crew Outing	George Young Rec., Iron River, MI
Oct 1,2	WGCSA Couples Weekend	Mascoutin CC, Berlin
Oct 12	WGCSA Monthly Meeting	North Shore CC, Menasha
Nov 2	WLF Board Meeting	TBA
Nov 16,17	Milorganite/ WI Golf Turf Symposium	Brookfield Marriott
Jan 11,12	**Turfgrass and Greenscape EXPO 2000**	**Marriott Madison West**
Jan 12-15	STMA National Convention	Saint Louis
Jan 19-21	Mid-Am Trade Show	Navy Pier, Chicago
Feb 1	Spring Valley Turf Fair	Country Inn, Pewaukee
Feb 16-20	GCSAA International Conference	New Orleans
Feb 27-29	WLF State Convention	Ostoff Resort, Elkhart Lake

WTA Members — If you have an important date you'd like to share with other members, call 608-845-6895 or Fax 608-845-8162 and let us include it in the next calendar.

Abbreviations and Telephone Numbers

GCSAA	Golf Course Superintendents Association of America	800-472-7878
John Deere	John Deere Team Championship	877-746-0614
Mid-Am	Mid-Am Trade Show 1999	847-526-2010
NGLGCSA	Northern Great Lakes Golf Course Superintendents Assoc	715-845-2339
Spring Valley	Spring Valley Turf Fair	800-635-2123
Super/Pro	Golf Superintendent and Professional Golf Outing	414-786-4303
STMA	Sports Turf Manager Association	800-323-3875
TPI	Turf Producer International	800-405-8873
WGCSA	Wisconsin Golf Course Superintendents Association	414-786-4303
WLF	Wisconsin Landscape Federation	414-529-4705
WNA	Wisconsin Nursery Association	414-529-4705
WSP	Wisconsin Sod Producers	920-589-3681
WSTMA	Wisconsin Sports Turf Manager Association	608-845-6536
WTA	Wisconsin Turfgrass Association	608-845-6536

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