

tend to explode when prey (i.e., aphids) are abundant, often eliminating the local aphid population.

The Asian lady beetle is a yellow to orange colored beetle that is quite variable in appearance. Individuals can be any color from a pale yellow-orange to a deep orange-red, and have from zero to more than 20 black spots.

The beetle is very prolific and may live up to three years. Lady beetles have four specific life stages: egg, larva, pupa, and adult. The multicolored Asian lady beetle adult begins laying eggs on host plants in the early spring. Eggs typically hatch in about three to five days, and larvae begin searching for aphids and other soft-bodied insects on which to feed. Adults and larvae usually feed on the same prey. The larvae continue to feed, develop, grow, and eventually enter an immobile pupal (i.e., transformation) stage. After several days, an adult beetle emerges from the pupal case. Development from the egg to the adult stage typically requires about 15-25 days depending on food availability and temperature. Later in the fall, the adult multicolored Asian lady beetles seek shelter to spend the winter.

Although this lady beetle is an important biological control agent, it can become a nuisance pest when they aggregate in large numbers on homes and buildings. Homeowners frequently complain when thousands of beetles cover their homes, they have to walk across "piles" of beetles on their deck, they get into picnic food and drinks, they "swarm" like bees and land on people, and especially when the beetles "invade" their house by crawling through cracks and crevices.

Multicolored Asian lady beetles are attracted to lighter colors such as whites, grays, and yellows. They are also particularly fond of warm and sunny areas. Consequently, light-colored houses, especially on hillsides in wooded areas where the sun is present, are highly preferred sites. Once they gain entry into the walls of buildings, they typically stay in the wall spaces. During warm days of winter and early spring, overwintering beetles in wall spaces may become active. In their search for an exit, they may enter the home's living areas subsequently becoming a nuisance. Not to worry, these lady beetles are not structure-damaging pests! They do not chew or bore holes in walls or eat carpet or furniture, nor do they lay eggs in homes.

Preventing the adult multicolored Asian lady beetles from entering is the "best" control strategy to keeping them from becoming a household nuisance pest. Caulking exterior cracks and crevices, **before** the lady beetles seek overwintering sites, is the most effective way to keep them out. This approach will also keep out other unwanted pests such as wasps, as well as save money on energy costs. Replace or repair damaged screens, and install screens over roof vents. Indoor infestations of adult multicolored Asian lady beetles can effectively be removed with a vacuum cleaner or they can be swept up with a broom and dustpan. With either approach, the beetles

must be destroyed. During the winter months, when temperatures are typically below freezing, the beetles can simply be released outside whereby they will not survive. Use of insecticides, indoors or outdoors, is not typically recommended unless populations are extremely high. When stressed the lady beetles secrete a harmless, but staining, orange substance. This liquid is the blood that is excreted out of the joints of the legs of the lady beetle. This phenomenon occurs when the beetles are handled, squashed, or treated with an insecticide.

The multicolored Asian lady beetle has become a problem in certain regions of the U.S. It is likely that its introduction into new habitats in the U.S. has freed these lady beetles from some natural population checks and balances that occur within its native Asian range. Consequently, it is probable that natural controls will catch up with these lady beetles in due time. Until then, be patient and continue implementing the suggested prevention and control strategies for this nuisance pest.

More information about the multicolored Asian lady beetle is available on a downloadable University of Wisconsin Extension fact sheet at University of Wisconsin-Madison Horticulture website (www.uwex.edu/ces/wihort/). ♣

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Year in Review

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

Annually I like to think back on all the accomplishments and events that occurred at the Noer Facility over the past year. It's a good way to document and reminisce for a historical perspective and to help make plans for next season. There are weather occurrences, pest activities, facility improvements, a variety of events, and support from the industry to reflect on. All things considered, 2000 was a great year, except...

Except for the record rainfall this spring which piled record rainfall upon record rainfall. From May

15th to June 14th the Noer facility received 15.37 inches. Several new studies were washed out, reseeded, then washed out again. The researchers were not very happy, to say the least. Several times the surface drainageway, that runs adjacent to the facility, became a raging river. At its worst it reached 500-feet wide and brought tons of corn stubble from farms and silt from urban sprawl to settle on the facility. Several research plots, demonstrations, and a cart path needed rebuilding after that one. We have stunning pictures of the

orange sunset over this temporary "Lake Noer."

Otherwise the year started out on a pretty good note. We finally got a new pump and well to adequately serve the facility. The pumping capacity and pressure more than doubled what had previously been supplied. The new pumping pressure, as expected, blew out every remaining valve that wasn't previously replaced on the facility. But that was a small price to pay for the better pumping system. At least I think so. I don't know if my crew (who spent



Sunset over 'Lake Noer'.



Drilling the new well.



Some of the equipment that industry donates to the facility annually.

a majority of the summer digging holes, gluing pipe, and replacing valves) would agree. Now all 106 research plots have commercial grade valves and the new pump serving them. The irrigation package was completed when Reinders gave us a deal on irrigation components and tools, Watertronics discounted a variable speed drive and control package, Toro donated their national support network, several golf courses donated PVC pipe, and Liebold Irrigation donated a field satellite. We are thankful for all this industry support.

Other reasons to be thankful in 2000 are for all the continued support of so many others from Wisconsin's turf industry. We wouldn't be here and your turf studies couldn't be maintained without equipment donations from John Deere-Horicon, Wisconsin Turf Equipment, Reinders, Horst, J.W. Turf Equipment, National, Turfco, and Club Car. There are many others that donate items that help us operate. Spring Valley donated all the fertilizer used on the facility this year. Syngenta and United Horticulture Service donated chemicals. Greensmix helped with deals on topdressing. Ray Shane donated a year's use of a Club Car utility vehicle. Dan Williams gave Noer a new table

saw, which got lots of use. And those donations are just the ones I know about. I'm sure there are many others that donated impor-

tant paraphernalia to the researchers so that their research could be carried out.

And lots of research there was!



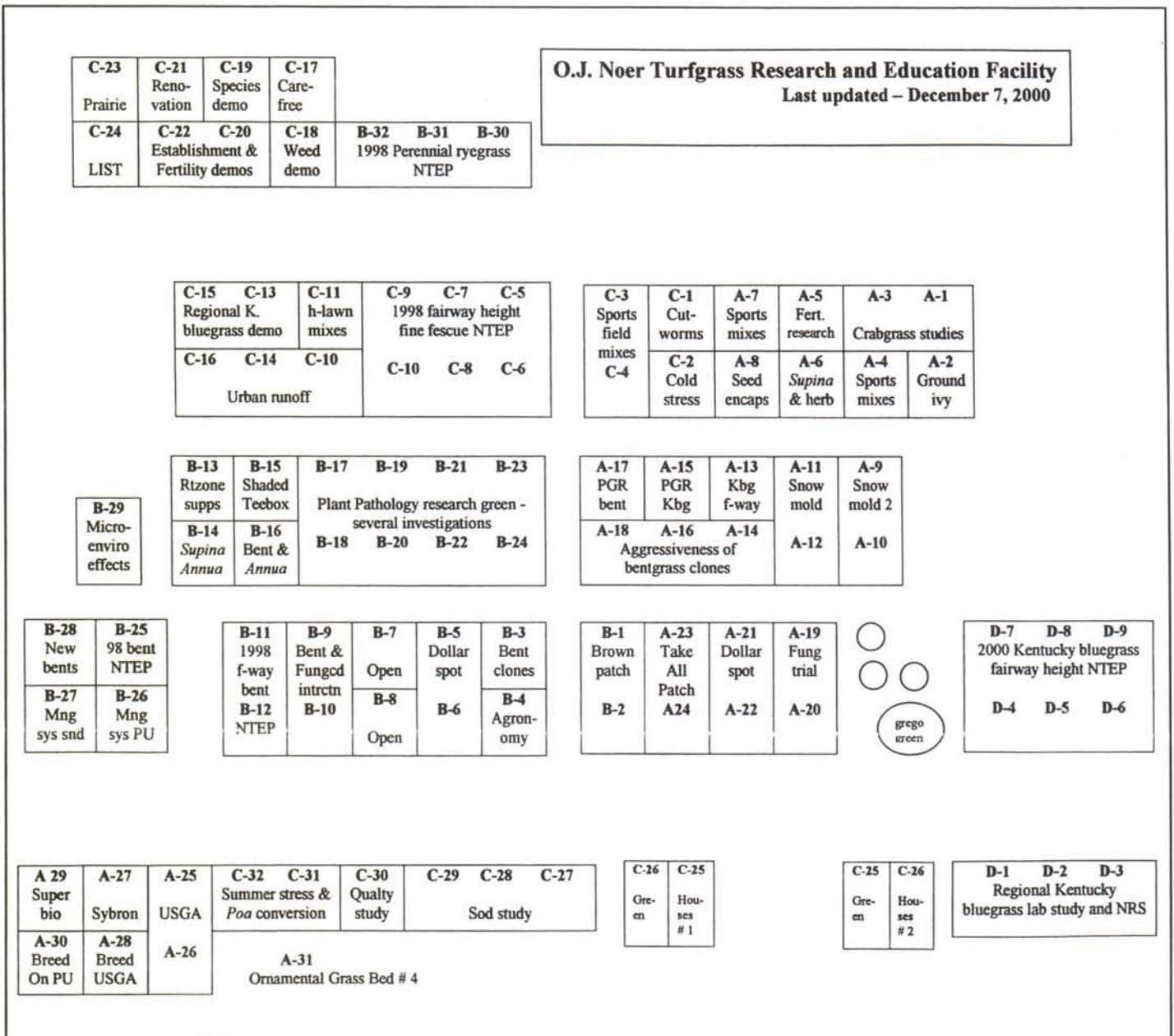
All but two of our plots had research on them this summer. Approximately 65 different investigations were occurring. Activity was frantic at times. Eleven new irrigated plots were constructed to make room for more studies. Twenty-one others were stripped off either because of damage from the flood or to install a new study where one had been completed. This brought the number of irrigated plots to 106. I'm always amazed

with how large a pile of sod and other waste accumulates in our work area in one year! A map of all the research activity that occurs at Noer is pictured here. Remember that this is just part of the turf investigations that the University of Wisconsin-Madison researchers are doing in the state. They have many projects occurring outside of the Noer facility also.

You may have visited much of this research during the annual

summer field day. By all accounts that day was a resounding success due to the energetic efforts of all 20 or so faculty, grad students, and other staff working out of the facility. Another event that was a great success, organized through the facility, was the WTA fundraising tournament at the Irish Course at Whistling Straits this past October. This event raised more than \$15,000 for the Wisconsin Distinguished Fellowship in

Plot map of all the Noer facility research.



Turfgrass Research program. Lots of planning and work showed in those two events. That is why we are already making plans for next year's field day, homeowner turf day, and fundraising tournament.

There were many other changes made in addition to the ones already mentioned. Our shop area became less cramped when we moved all the fertilizers stored there to a storage building that we salvaged from Arlington Ag Research Station. A new Kentucky bluegrass sod nursery and two more display gardens were established. And the cart path was extended to better serve the remote plots and field day trade show area. The interior of the facility also saw some remodeling and reorganizing.

These changes combined to mean big improvements for the Noer facility. But we're not out of the woods yet. We have lots of other changes on the drawing board. Within two years we hope to double our land size. This expansion is needed to provide plot space for the five ambitious professors and other researchers working out of the facility. Three of the professors are new to the University, or at least to turf, in the last couple years. They'll need additional plot space to carry out their programs. The additional land will call for more parking, storage, lab space, and other needs. Also we may need to put up a fence soon to protect us from the extensive urbanization going on around the facility. You won't recognize the Noer facility the next time you see it with all the surrounding homes.

It's not only the surrounding area that's growing. You can see from my notes that the Noer facility and its programs are growing by leaps and bounds also. That all makes looking back at a 'year in review' a memory of a year to be proud of. ♣



Another successful WTA summer field day for 2000.

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Colonial Bentgrass: The Best Choice for Fairways in Wisconsin

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

Over the past couple of years I have been conducting research to see if there is any inherited snow mold resistance in currently available cultivars. But, what I have found from my studies and other observations on our plots at the Noer and elsewhere in the state, is that colonial bentgrass has several advantages over creeping bentgrass or fine fescue as a fairway turf.

Through the snow mold resistance studies, I found that colonial bentgrass does perform better than creeping bentgrass (Figure 1.). But, fine fescues seem to be almost completely resistant to snow mold (Figure 2.). However, even though fine fescue is significantly better than the bentgrasses against *Typhula ishikariensis*, they both received unacceptable levels of damage.

Yet, fine fescues tend to thin out due to the mowing height (1/2" – 3/4") that is commonly used on fairways in Wisconsin. Results also showed that fine fescue is usually

**Figure 1. Damage Rating (%) Means
1999 Seeding Stevens Point (March 2000)**

	M.niv.	T.inc.	T.ish.	Natl.
Creeping Bentgrass Means	12.7	73.7	74.7	12.6
Colonial Bentgrass Means	9.2	12.1	53.3	8.2
p-value	0.282	0.000	0.000	0.015

*Types of inoculation M.niv., *Microdochium nivale*; T.inc., *Typhula incarnata*; T.ish, *Typhula ishikariensis*; Natl., Natural or none.

**Figure 2. Damage Rating (%) Means
1999 Seeding Land O' Lakes (April 2000)**

	M.niv.	T.inc.	T.ish.	Natl.
Bentgrass Means	27.4	71.1	62.2	27.8
Fine Fescue Means	3.6	7.2	37.5	4.2
p-value	0.000	0.000	0.002	0.000

*Types of inoculation M.niv., *Microdochium nivale*; T.inc., *Typhula incarnata*; T.ish, *Typhula ishikariensis*; Natl., Natural or none.

overrun by *Poa annua* after the first growing season. In my research plots, the fine fescue plots contained as much as 50% *Poa annua* after the first year. This was true especially when no soil fumigant was used. Figure 3

(page 17) illustrates the *Poa annua* invasion a little over a year after seeding. Every pathogen resulted in significantly more *Poa annua* invasion in fine fescue in comparison to any of the bentgrasses. This is highly unaccept-



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able, as *Poa annua* is even more susceptible to the snow molds than any of the turfgrass varieties tested.

Another benefit that I think any superintendent will find pleasing is the resistance that colonial bentgrass has to dollar spot. After this past year I think that any one would find this a welcome relief. At the Noer I have Bardot Colonial Bentgrass planted next to Crenshaw Creeping Bentgrass and they were as different as night and day. At field day any one that

heard my talk on dollar spot control got a first hand look at how resistant colonial bentgrass is. The Crenshaw plot probably had around 75% damage, whereas the colonial bentgrass plot had not a single spot.

About the only downfall that I see with colonial bentgrass is its susceptibility to brown patch. But, the last time I looked at the weather, we might only find that we have about a month worth of good brown patch weather in Madison. When you compare that to the ideal weather for dollar spot and

snow mold you are looking at the entire year that you could be battling these diseases.

If you are considering a colonial bentgrass, here are some of the top cultivars that I have evaluated: Bardot, Tiger, and SR 7100. I know that Highland is a colonial bentgrass in most people minds, but actually it is a dryland bentgrass, and hasn't performed all that well in my studies.

Colonial bentgrass is an under-used amenity turfgrass. It has an upright growth habit that would provide for a better lie, but it probably wouldn't help me much with my game. It has proven to meet the challenge of the toughest diseases in Wisconsin, and would greatly reduce your requirement for fungicide application on fairways. So if you are planting a new fairway or thinking about renovations on some, colonial bentgrass in the fairway turf to look into. ♣

**Figure 3. *Poa annua* Invasion Rating (%) Means
1999 Seeding @ Land O' Lakes (Sept. 2000)**

	M.niv.	T.inc.	T.ish.	Natl.
Bentgrass Means	2.8	5.2	17.6	3.6
Fine Fescue Means	31.4	27.5	35.3	27.7
p-value	0.000	0.000	0.000	0.000

*Types of inoculation M.niv., *Microdochium nivale*; T.inc, *Typhula incarnata*; T.ish, *Typhula ishikariensis*; Natl., Natural or none.

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A Relatively Uneventful Season - All Things Considered

USGA

By **Bob Vavrek**, Agronomist, North Central Region, USGA Green Section

"If I couldn't grow grass this summer, maybe I should consider another line of work" was the comment heard from a number of superintendents across the Region last year. Indeed, the weather was mild compared to the hot, stressful growing conditions experienced during the 1995 season. Only a few courses experienced even one day over 90 degrees.

Of course, it never hurts to enter the growing season in good condition. Courses that stumbled out of the starting blocks, due to winterkill to *Poa annua*, were few and far between. The winter weather was unusually mild - a familiar pattern over the past few years. Warm weather during March and April resulted in early green up, which set the stage for a considerable amount of early season play. Heavy play before vigorous turf growth occurs was a concern at many popular courses. The mild winter and the thinning caused by early play on semi-dormant turf were probably contributing factors for the bumper crop of weeds that plagued many courses. Clover, dandelions, and crabgrass were especially troublesome.

Dollar spot control was a challenge for most superintendents. It was definitely the number one problem across the north central tier of states. The weather conditions were ideal for intense disease activity practically all summer. To make matters worse, dollar spot pressure did not subside very much during September and October. Standard fungicide programs fell flat on their face or, at best, provided marginal control unless the interval between applications was modified to compensate for heavy disease pressure. A fair amount of take-all patch was diagnosed on a surprising number of old and new courses this summer as well.

In spite of the hype over bentgrass dead spot, there has yet to be a documented case of this disease in Wisconsin, Minnesota, or Michigan - according to the plant disease diagnostic labs in these states. There are a few suspect greens on a few new courses (very few) that have some symptoms, but the pathogen has not yet been isolated from affected tissue. It's probably only a matter of time before this problem is discovered in the Region. Many superintendents who think they have seen it on their greens this summer were more than likely looking at ball mark damage and/or dollar spot.

With a few exceptions, most of the Region experienced ample rainfall this season. Too much, in fact, for some superintendents who battled 6 to 8-inch rain events that fell within a 12 to 24-hour period more than once this

summer. Devastating streambank erosion and bunker washouts were seen on many Turf Advisory Service visits.

Mowing heights on greens continued to be lowered to placate the golfer's desire and demand for faster and faster green speed. Shaving the greens down and wet weather provided ideal conditions for moss encroachment. The problem intensified at many courses having a history of moss in putting surfaces and some courses experienced this trouble for the first time.

Ant and earthworm activity on fairways and approaches were a concern on many private courses that mow the playing surfaces at or below 1/2-inch. Japanese beetles continued their march westward across the Region. They have become well established in southeast Wisconsin and hot spots of grubs and/or adults were causing damage in Madison, Eau Claire, and in the Minneapolis/St. Paul area.

As a final thought, probably the most universal concern across the Region was finding and retaining dependable labor. An increasing number of courses have had success utilizing immigrant workers to supplement the maintenance staff. As long as the economy remains strong, the labor issue will continue to worsen unless wages for temporary help are significantly increased. Even competitive wages have not been enough to keep some courses adequately staffed in many of the resort areas where competition for labor is especially keen.

When dollar spot and clover are the primary concern, you know it's been a relatively easy season. Let's hope for another in 2001. ♣



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PDI-Some More Discussion

By Al Jansen, Golf Course Superintendent, Baraboo Country Club

So, what **exactly** is this thing called the Professional Development Initiative (PDI)? Is it a means by which one can identify the GCSAA member as an educated professional turfgrass manager? Is it a means by which the GCSAA intends to market their members and their new set of standards? Or is it simply a way to differentiate between association-active members and those who do not involve themselves in the same way as others do?

Let's take a look at the questions: It has been stated that in order to have the necessary attributes to identify the members of the GCSAA, we must first qualify who can be entered into the Class A denomination and then determine what extracurricular activities should be the standard for those qualified in order to maintain that denomination. The question has also been raised whether these qualified members should also prove their competency in pesticide activities on an ongoing basis.

Unfortunately, the only way the GCSAA has come up

with to accomplish their mission to identify the skills and competencies of their membership is to **mandate** participation and set minimum standards. What the GCSAA seems to have a problem with is making these determinations without the aid of the PDI. In other words, the GCSAA cannot make a clear identification of their members without setting parameters and mandating ongoing participation. The GCSAA cannot develop a method which might help them with this task and seems to believe that even if they did, there would not be enough viable information to extend to the industry as to the education, qualifications and competencies of their members which may separate them from non-members and/or other superintendents.

The next question suggests that the GCSAA needs this initiative in order to offer to owners and operators of golf courses, the benefits of having or hiring a GCSAA member. In fact, the GCSAA has used this premise of marketability to sell their members on the

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