TOURNAMENT TIME!

By Kris Pinkerton

Lawsonia Golf Course, located in the beautiful Green Lake Conference Center, played as this year's site for the WGCSA's Annual Tournament on September 12. Host superintendent Mike Berwick and staff welcomed eighty-eight members and guests as they took to the "Links Course" for the challege. Coming out on top were:

1994 Membership Winners (Net)

First Place:	Mike Berwick (Local knowledge)
Second Place:	Joe Bahr
Third Place:	Tom Schwab

1994 Membership Winners (Gross)

First Place:	Bruce Worzella
Secong Place:	Ed Kirchenwitz
Third Place:	Wayne Otto

1994 Vendors Event (Net)

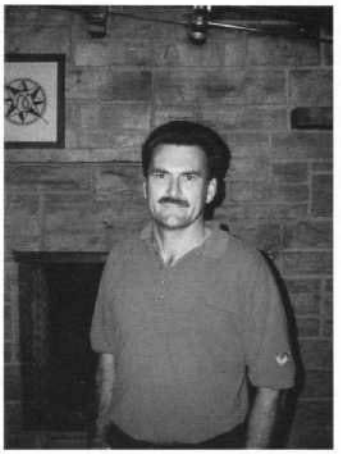
First Place:	Dale Marach
Second Place:	Jim Yost
Third Place:	Candi Deshaney

1994 Vendors Event (Gross)

First Place:	Dave Cameron
Second Place:	Alan Nees
Third Place:	John Skemp

Bob Vavrek, USGA Regional Agronomist, gave a brief after-dinner talk on some of his experiences from around the Great Lakes Region this past year. Wet greens, algae, and poorly constructed greens were the hot topics this year.

Special thanks to Mike and staff for a very enjoyable day!



Mike Berwick, host of Lawsonia meeting.

USGA Agronomist Bob Vaurek discussed 1994 "hot" topics at Green Lake.

(Continued from page 55)

Clearly, we need to have a balanced fertility program throughout the year to lesson the damage from all stresses that may occur. Therefore, if soil tests indicate adequate K levels, the application of additional K is futile.

The use of synthetic covers has gained tremendous popularity for nursing sensitive grasses through low temperatures. Winter covers can help grass plants acclimate to cold by continuing the storage of photosynthates when such processes have slowed appreciatively, but the grass under covers dehardens quickly in the spring due to the buffering of temperature extremes. Dehardening under synthetic covers greatly increases the moisture content of plants making them very susceptible to damage during freeze-thaw cycles. Therefore, you can expect the labor intensive application and removal of covers during the spring or else winter injury will be worse than if no covers were used.

If ice is allowed to remain on annual bluegrass for more than 60 days, turf damage can be expected. Surprisingly, some varieties of creeping bentgrass can remain alive under ice for as long as 90 days, but there are not very many pure stands of creeping bentgrass are there? Consequently, superintendents are usually taking necessary steps to mechanically remove ice from turf as soon as possible and the removal of ice usually lessens winter injury.

In conclusion, I recommend increasing your population of creeping bentgrass or Kentucky bluegrass, maintaining moderate N levels throughout the year, improving soil infiltration rates, raising mowing heights in the fall, removing ice and stopping all traffic in order to minimize winter injury on turf. Since none of these management practices have become an acceptable method for completely preventing winter injury, synthetic turf covers are available to ensure plant survival when turf quality must be maximized the following spring. Otherwise, you must plan on maximizing the turfgrass's recovery potential in the fall so that the stand will rapidly recover in the spring from any injury that occurs.

The value of such management practices are being investigated, and new management practices for insuring winter survival will soon be evaluated.

The Miracle of Good Hope Road

By Rob Schultz

Gene Milota sat at a table inside the Brown Deer Golf Course clubhouse and wore that terrible look of exhaustion that has overcome so many golf course superintendents during a rebuilding year.

His eyes looked weary, his steps were slow. Milota looked like he hadn't had a good night's sleep in months. He hadn't.

Milota's expression changed when he talked about his crew and the outstanding job it had done to prepare, in just a few short months, what many thought was an unpreparable golf course for the Greater Milwaukee Open.

"I can't wait to give them a day off. They deserve it," said Milota as he rubbed his eyes a few days before the start of the GMO and looked out over the expansive course he could claim as his masterpiece.

If there was an award for Superintendent of the Year, Milota deserves it. If there was an award for Comeback Course of the Year, Brown Deer deserves it.

What happened at that gem of a course located on Milwaukee's North Side from the time the snow melted last spring until the moment when the last putt dropped with the final group of the final round Sept. 4 was nothing short of a miracle.

Walk around the state right now and ask somebody who won the GMO this fall? Don't know, do you? Now walk around the state and ask somebody what kind of shape Brown Deer was in for the GMO and if it received positive feedback from the PGA Tour pros. Most everyone will tell you Brown Deer was in wonderful shape and the pros enjoyed playing there.

Who won the GMO? Milota, his crew and Brown Deer. That's who.

Last April, I was told that Brown Deer's chances of making a positive first impression on the GMO field were slim and none. The 9th and 18th greens were dead, the rest of the course hadn't wintered too well and GMO officials admittedly were scrambling to find somebody to work a miracle.

One of the applicants from the job came back from an interview with the Milwaukee County and GMO people and shook his head. ``They don't want a superintendent," he told me. ``They want God."

No, they needed somebody with the knowledge, work ethic and wherewithal to get the job done... quickly. For a golf course in a world of hurt, God and a quality superintendent have similar resumes.

Milota has experience working in the competitive Chicago market as well as preparing a course for LPGA events in Virginia. He has seen it all. He has done it all. He then saw it all and did it all in a few short months in Milwaukee.

Two greens were unplayable when he got there. They were playable a little more than two months later. Not good enough, some felt. Critics said the fragile greens shouldn't be opened to the public. They were... and they held up remarkably well. The other new greens were babied, too. The public was then allowed to trample them and they held up as strong as ever.

Slowly and surely, the entire course began to take shape. Then, sometime in late July or early August, something went poof. The sun rose one beautiful, crisp morning and Brown Deer announced to the world it was ready for all comers.

There were still cries of foul from the playing public. The rough was too long and thick. The greens were too slow. The trees were too tall. There wasn't enough water in the ball washers. Stuff like that. Stupid stuff like that. Stupid stuff that produced a chuckle from Milota. If that's all they're complaining about...

Brown Deer was more beautiful, more majestic than Tuckaway Country Club ever was when it hosted the GMO. Its fairways were every bit as lush and perfect. Its venues for the spectators better.

The 9th and 18th greens weren't perfect, but they were more than adequate considering the time Milota had to prepare them. Also, the inconsistent sand in the bunkers drew many scowls from the Tour players who had the audacity to hit an errant shot into one of them. Those problems are fixable and will be easily taken care of by next August.

The only question left to ponder about the GMO's move to Brown Deer is whether the Tour players will accept the short course that takes their driver out the bag for most of the holes and requires pin-point accuracy to small greens. It's doubtful, for instance, that John Daly will ever play there. Or anybody who makes a living scorching the tops of their tees with the bottom of their metal Berthas.

But when the Tour players who played there last September are asked about the conditions of the course, they'll see a huge thumbs-up. Next summer, expect more big names to show up.

Brown Deer Golf Course borders Good Hope Road. That's perfect. Milota, his crew, as well as Tom Strong and the rest of the GMO hiearchy have provided just that for their tournament and course.

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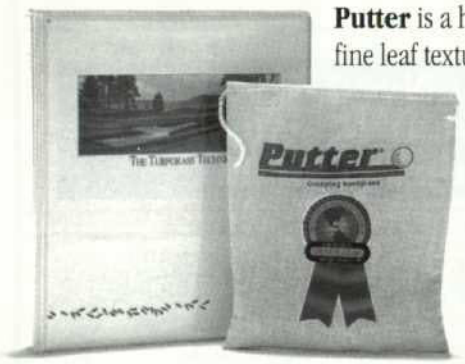

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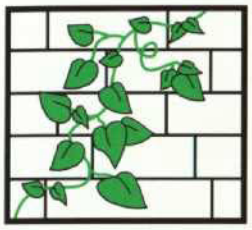

WINTER KILL!
What Are You Going To Do About It?

By Darin W. Lickfeldt
Department of Horticulture
University of Wisconsin-Madison

Introduction

Fall is quickly passing and winter will soon be upon us, but have you prepared your grasses for winter? Now that the stress of the season is past, let me remind you of what may come—winter injury.

There are several forms of winter injury that can occur to cool-season turfgrasses and these include ice encasement, traffic damage, low temperature diseases and freezing injury. Is there anything you can do to prevent or at least lessen the severity of winter injury?

Many of you have heard the term "crown hydration", which is associated with the idea that grass plants hydrate in response to warm temperatures in the spring and then are irreversibly injured by low temperatures. Unfortunately, this phenomena has received only limited attention of researchers to pinpoint the mechanisms of dehardening and what conditions are necessary for it to occur. In one study, researchers found it takes only 4 days of 40° F for perennial ryegrass to deharden, indicating how easily this process occurs.

Another theory is "crown dehydration". This involves grass plants losing so much water that they are severely injured and cannot commence normal metabolic processes in the spring. Scientists have determined that the formation of ice crystals between cells actually draws water out of cells causing dehydration, but how lethal such processes are to turfgrasses has not been determined. We can have ice form between cells and the plants will remain alive in many instances, and fortunately ice almost never forms inside of cells which are full of carbohydrates.

Both of these theories will be evaluated this winter at the University of Wisconsin-Madison with the intent of determining what spring conditions are necessary to cause dehardening in annual bluegrass, creeping bentgrass, and perennial ryegrass. Also, when and how do our turfgrasses decide it is spring? Are there specific mechanisms within the plant we can control? The next step will be convincing the turf not to induce such mechanisms in the early spring since there are still very cold days to endure.

The Science

In order to prevent intercellular ice formation, the plants will concentrate sugars in their cells. This lowers the temperature at which the water in the cells will freeze because whenever we dissolve a solute in water we lower the freezing temperature of the solution. This seems relatively simple; let's just build up the concentrations of sugars and the cells will not freeze, right? Let's examine how this might be accomplished.

Many of us will put on a few pounds in the fall and our friends will jokingly say we are fattening up for the winter. We fatten up by eating excessive quantities of food which are converted into body fat. Well, the fat is a food reserve which may allow us to survive long periods without food. When needed, we can use up these food reserves. Believe it or not, plants behave similarly.

Recall how plants produce their own food. The soil is important for providing nutrients, but all plants actually produce food from photosynthesis. Remember, sunlight, water and carbon dioxide convert to oxygen and sugars. When plants are growing these sugars are quickly utilized for making more plant tissue. When growth slows appreciatively in the fall at cooler temperatures, where do all of the sugars go? To storage reserves! No, plants do not get fat, but the sugars are stored in the roots and crown where they later can be used by the plant to get energy. Rather than fat, plants store potential energy in the form of fructans. Did the sugars build up to lesson ice formation, or was this purely in response to decreased growth rates while photosynthesis was still continuing? This is another question that will be addressed at UW-Madison.

What can we do?

Regardless of why plants build up sugars, we do know that we need to have sugar reserves to improve winter survival. To get more sugars we need more photosynthesis and less growth. Less growth is occurring because we are not fertilizing with water soluble fertilizers in September and October, right? More photosynthesis can only come from increasing leaf surface area (raising mowing heights) and decreasing shading. Plants actually continue photosynthesis throughout the winter, and there is not a lot we can do to increase photosynthetic rates. Therefore, we need to concentrate our efforts in reducing growth rates in the late fall and early spring.

The late fall, dormant, N fertilization that has become so popular is probably not detrimental to winter survival because the plants have stopped growing appreciatively. If nothing else, dormant N fertilization may improve the turf's recovery potential the following spring when injury occurs. My concern is that the late fall N fertilization is encouraging early spring green up which is just too early, but the effect of late fall N fertilization on dehardening has not been evaluated.

What about potassium? This is one area that has been addressed by researchers and nothing conclusive was ever found. In one study, winter injury was lessened; in the next there was no improvement. There was even one study where tissue K concentrations reached 3% of the tissue weight, but winter survival was not improved. Therefore, the application of K in the early fall will not worsen winter injury, but its benefit is still not proven.

(Continued on page 52)