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ABOUT THE COVER

The cover for our final issue of The Grass Roots for 2003 features Dr. Robert Newman. This year will be remembered as the one when the Newman Wisconsin Distinguished Graduate Fellowship was initiated, through the generosity of the Newman Family and the Wisconsin Turfgrass Association. It is a fitting way to honor Dr. Newman's career on the University of Wisconsin-Madison faculty.

"The snow had begun in the gloaming,
An busily all the night
Had been heaping field and highway
With a silence deep and white.
Every pine and fir and hemlock
Wore ermine too dear for an earl,
And the poorest twig on the elm tree
Was ridged in deep with pearl."

- THE FIRST SNOWFALL James Russell Lowell (1819-1891)

불 GRASS ROOTS

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A FOND FAREWELL

By David Brandenburg, Golf Course Superintendent, Rolling Meadows Golf Course

It is hard to believe that it has been two years and 12 president's messages already. It is strange how the days and weeks can go slowly but the months and years fly by. Ten years ago I joined the WGCSA Board of Directors and I have enjoyed the opportunity. I appreciate in the past few years the number of members who have approached me willing to volunteer. If we have not called you yet, don't worry; we will.

With every president I have served, the WGCSA has gotten better. New ideas and better methods have streamlined what we do for the members. It is

unfortunate that as a volunteer group there is always more to do, but that is the nature of association work. I am sure Marc Davison and the current and new board members will continue that improvement.

The two things I have come to appreciate the most as a board member are 1.) The Grass Roots and 2.) the relationship we have with the Wisconsin State Golf Association. Monroe Miller, along with his wife Cheryl, have given of themselves for 20 years to produce one of the best association publications in the country. The Grass Roots provides us with not only information but an education, all the while documenting our association history. Monroe has won awards every year from GCSAA for the best publication by a volunteer (read unpaid) editor. Thanks Monroe, those awards are well deserved.

For those of you who do not know, the WSGA has helped the WGCSA for many years with mailings and deposits. This relationship started with Jim Belfield and Gene Haas and has allowed the association to be more professional while allowing the board to concentrate on other items. Marilyn Gaffney does our mailings and keeps our mailing list up to date. She is also the first contact many persons have with the WGCSA. Diane Haas takes care of our deposits and tracks down billings and payments. Executive Director Tom Schmidt, like Gene before him, is always willing to help us out when possible.

What will I do with my free time? I have come to realize that my family time is running out. Kayla is 12 and Andy is going on 10 so I only have 8 years before both are out of the house and off to college. It is scary to think about how fast life is going by and that means I must be getting old. My goal is to spend as much time



as I can with them, trying to lead by example how to live a good Christian life. As things go I will hope to learn as much from them as they do from me.

I am also involved in my second year as School Board President of the Catholic Grade School the kids attend. That responsibility will take as much time as I allow it, as things are not going that well with a tight economy and declining enrollment. Small town parishes are rapidly feeling the effects of a Priest shortage, coupled with the many parishioners who are "holiday members" who only go to services at Easter and Christmas or for Baptisms,

Weddings and First Communions. Although I wish we did not have the challenge, I welcome the opportunity to help provide a parochial school for future generations.

That's about it. I hope your personal and professional goals were met this year and you will be able to reflect positively as you prepare for next year. If things are not going your way in these tough economic times, do the best you can, pray for better times and keep a positive attitude for your family. Take care and enjoy what you have.



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Covering Up for Winter

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

Last winter's dry, open conditions caused putting green death in many portions of the upper Midwest. Most affected were those putting greens constructed with a sand-based rootzone, in an elevated area, and/or with a significant proportion of annual bluegrass (*Poa annua*). In some cases creeping bentgrass also died.

Why turf dies in the winter

Winterkill is a generic term that describes any type of turf injury which occurs during the winter. In reality, winterkill can be boiled down to these causes: fungi (e.g., snow molds), low temperature kill, toxic gases, and desiccation. Direct low temperature kill is rare and occurs only when the crown temperature of the plant is exposed to some critical temperature: for creeping bentgrass, that is usually less than -18°F. Long-term impermeable ice cover may result in the buildup of toxic gases such as $\rm CO_2$, though this condition also is rare as creeping bentgrass and Kentucky bluegrass may withstand ice cover for 150 days. Annual bluegrass is less tolerant, with damage possible after 60 days (Beard, 2002).

In Wisconsin the most likely cause of winterkill outside of snow molds is desiccation. Desiccation injury is most severe in years when there is insufficient snow to keep the ground covered. It is most likely to occur following a dry autumn (such as in 2002 and 2003) and/or in sand based root zones, which have a low capacity for retaining plant available moisture.

Turfgrasses survive through the winter by entering a state of dormancy similar to a bear or squirrel's hibernation. Metabolism slows but does not stop. Energy for maintaining basic cellular functions comes from carbohydrates stored in the shoots and crown. During exposed winter conditions it is not uncommon for the shoots and leaves to die, effectively shutting off the crown's access to stored carbohydrates from that source. Shoots and leaves can turn brown because sunlight continuously degrades chlorophyll and low winter temperatures prevent production of new chlorophyll molecules. If conditions aren't too severe the crown survives and produces new shoots in the spring. Shoots and leaves may also turn brown due to desiccation, though, which can occur even when the soil is frozen.

Wind moving across a living turf in frozen soil removes water vapor from the leaves. When only the soil surface is frozen the turf roots may continue to absorb moisture from the soil below to replenish moisture lost from the leaves. Overall, moisture lost from leaves when the temperature is below 40°F is significantly less than during warmer temperatures because the plants are not actively growing and use less moisture. Once the soil root zone freezes, though, roots cannot replace the lost plant moisture. In other cases the soil moisture simply drops below the permanent wilting point due to constant evaporative loss. Leaves and shoots die when either of these conditions occur.

While the dead foliage will buffer evaporative losses from the soil and/or plant crowns, extended periods of exposure may desiccate plant crowns. Since the plant crown contains the axillary buds for both new shoots and new root growth, a dead crown results in a dead plant. Too many dead crowns in an area causes a noticeably thin or completely dead putting green. Given similar root zones, elevations, and other condi-



tions, putting greens are more susceptible than tees or fairways due to the relatively small amount of foliage that can buffer evaporative soil moisture loss.

What can be done to prevent winter desiccation? Hope for snow cover! If that fails, or one doesn't want to chance it, use some type of turf cover.

Topdressing can be beneficial

Historically superintendents used a thick layer of topdressing applied at the end of the growing season to insulate the turf. Some superintendents still rely on this method. A thick layer of topdressing which buries the majority of the foliage prevents desiccation by blocking leaf exposure to the air. Since sand is relatively porous and retains little water, it heats up quickly in the spring which in turn initiates new shoot and root production from the crowns. Heavy sand topdressing may also help prevent traffic damage from early season golfers. Potential problems include expense, low turf density in the spring, and lack of ability to control late winter/early spring snow mold pressure on turf crowns.

Synthetic turf covers

Synthetic turf covers offer another option and have become quite popular. Many types exist from several manufacturers. One of the most popular is the EvergreenTM cover. An Iowa State University study this past winter at Veenker Memorial Golf Course showed the EvergreenTM cover significantly enhanced spring turf quality compared to uncovered turf (Table 1). Turf under continuous snow cover had ratings equal to turf covered with an EvergreenTM cover. The EvergreenTM cover is a woven polyethylene product and has all of the desirable features in a cover designed to prevent winter desiccation. Several other types of covers have similar features and may work as well as the EvergreenTM cover. Some other types may include spun polyethylene products and Typar, a polypropylene geotextile.

Desirable attributes in a winter cover include translucence which allow some light to penetrate through to the surface. Transparent plastic covers may allow too much light through which heats the soil and may encourage fungal or even plant growth at undesirable times. The material should be porous to allow a limited amount of air exchange, though in some cases an impermeable cover may also work. For ease of use, the material should be lightweight and able to dry quickly. Reusability is important as the upfront cost to purchase a new cover can be significant. Covers can last for years if treated by the manu-

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Table 1. Effect of synthetic and ice turf covers on quality of putting green turf. Turf was rated on a 1 to 9 scale with 9 equal to ideal turf and 6 equal to acceptable quality (adapted from Minner et al., 2003).

| Simulated winter conditions | Creeping bentgrass | | Annual bluegrass | |
|-------------------------------|--------------------|----------|------------------|----------|
| | 26 March | 30 April | March 26 | 30 April |
| Dry/open | 2.7 | 5.0 | 3.3 | 6.0 |
| Wet | 4.0 | 6.0 | 4.0 | 6.3 |
| Continuous ice | 2.7 | 4.7 | 2.3 | 5.7 |
| Continuous snow | 5.0 | 6.7 | 5.0 | 6.7 |
| Evergreen TM cover | 4.0 | 6.7 | 4.0 | 6.3 |
| LSD (0.05) | 0.76 | 0.70 | 0.84 | NS |

NS = not statistically significant at probability < 0.05.

facturer to resist UV light and mildew deterioration and properly stored. In certain situations these covers may also be used to enhance germination during establishment or to stimulate early spring greenup.

Using a cover

Turf covers should be placed on the turf after growth has stopped for the year. Apply a snow mold protective fungicide a day or two before covering the turf. If possible, wait until the ground is frozen as this will reduce the chance for a temporary soil temperature increase which may promote fungal and/or turf growth. Do not attempt to place a cover during high winds (above 10 mph) because the force of the wind will make the cover act as a sail: I've seen large covers being blown by the wind drag people across the turf. Secure the cover using turf staples available from the manufacturer or distributor. It is best to turn the edges under for 1 to 2 inches then staple through this double layer. Place staples 3 to 5 feet apart. Turning the edges under and properly securing the cover with staples will prevent strong winds from getting underneath the cover and blowing it off the turf. Try to avoid overlapping covers in high profile areas such as the middle of a putting green as this can affect spring greenup. Covers are available in different shapes and sizes and can be customized to fit individual greens.

Remove covers in late winter before greenup occurs. This will prevent succulent growth which will be especially prone to low temperature kill if temperatures decrease sharply even for a short period. In certain situations it may be desirable to leave the covers on to promote early spring greenup, but risks include low temperature injury and fungal diseases. It is not unheard of for Pythium blight, normally a mid-summer foliar disease, to kill turf in early spring when it is covered with a synthetic blanket. If covers are used to enhance early spring germination or spring greenup, be prepared with sufficient crew members to remove covers during the day when sunny or high temperature conditions are likely. Replace the covers at night when below-freezing temperatures are expected.

Make sure the cover is clean and dry before folding for storage. Place in a marked bag or otherwise identify the cover if specific covers are intended for use on a specific green.

Conclusion

Heavy sand topdressing or synthetic turf covers can help prevent winter desiccation. Covers differ in their composition and effectiveness, so make sure the cover you use can deliver the qualities you need. Ask the manufacturer or distributor for names of other customers so you can check with them before you buy a cover with which you are unfamiliar. Proper use of covers can be tricky because of potentially enhanced diseases and decreased low temperature tolerance of the turf in the spring, so get them off the green early.

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From Course Owner to Equipment Sales, He Likes Both Sides of the Business



By Lori Ward Bocher

 ${
m F}^{
m rom}$ Friday night Fish Fries to aerifying greens to selling iron, he's done it all."

That's the way Monroe introduced me to this issue's "personality" to profile, Gary Huenerberg. Indeed, Gary has experienced many sides of the golf and green industry, from owning a golf course and serving as its superintendent to selling turf equipment on the road to being promoted to director of sales and marketing for the Wisconsin Turf Equipment Corporation (as of October 1, 2003).

"The transition from owning and managing a course to a career in turf equipment sales was smooth," Gary reports. "My background as a superintendent/owner made it very easy for me to go out and relate to the golf course superintendents. I was able to draw on my past experience of having gone through everything they're going through."

Gary was a third-generation golf course superintendent, and his 16-year-old son has plans to become a fourth-generation super. But that's getting ahead of our story. Let's go back to see how family has shaped Gary's career until an unexpected offer to buy the family golf course changed his direction.

Landscaping and farming...

Gary's grandfather and father had both worked as golf course superintendents. But they were running a large landscaping business in Bartlett, Illinois, when Gary was born in 1961. "Bartlett was a far western suburb of Chicago at the time, but other suburbs have grown right past it," Gary points out. "The area was expanding quite rapidly, which was great for the landscaping business as far as both new construction and maintenance. My start in the green industry was holding the end of a 100-foot tape to help my dad measure lawns for sod."

But in 1970 when Gary was 10 years old, the family sold the business in Illinois and moved to Wisconsin. "It had always been my dad's dream to own a dairy farm, so we moved to one just south of Watertown," Gary remembers. "I enjoyed the farm work as most any kid would. But after milking cows for nine years, I decided that the dairy business was not for me. I wanted to expand the cash crop side of the business and Dad wanted to expand the dairy. Obviously, we didn't agree.

"At the same time we noticed an ad in the *Milwaukee Journal* advertising a golf course for sale in Brillion, Wisconsin," Gary continues. "With my dad's



background as a golf course superintendent before getting into landscaping and farming, we decided to buy and run the course instead of farming. So we moved to Brillion and bought our course, Deer Run Golf Course, a 9-hole public course." That was in 1979.

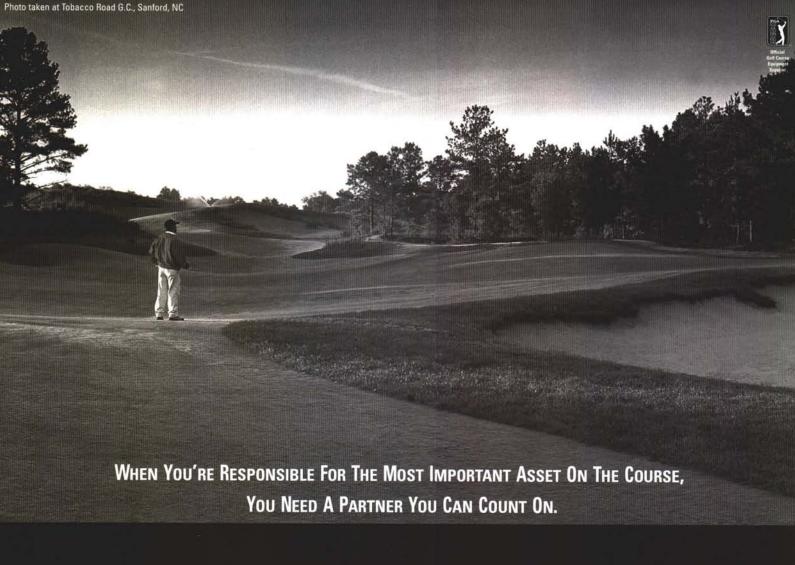
Course improvements needed...

The course had been built in the early 1960s, and not much had been done to improve it since then. "It was pretty run down," Gary admits. "It needed a lot of help. All of the maintenance equipment that was there fit into a small, one-car garage. We continually made improvements as we could afford them.

"We put in an entire irrigation system," Gary continues. "When we got there the course had gas engine water pumps and roller bases on the greens and tees. There wasn't any fairway irrigation. The only inground component was where you connected the hose into the water source.

"One thing I like to say about the gas engine pumps, which we struggled with for two years, is that they had an automatic shut-off at night because, when they ran out of gas, they shut off," Gary jokes.

So they bought a used trencher and started installing a new irrigation system on their own, going





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