2005 Winter Injury Survey

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Most winters are rather quiet here in Minnesota. Golf course employees enjoy educational seminars, vacations, table tennis tournaments, equipment repairs and preparation for the next golf season. Not last year. No sir!! The rumors started in December, 2004 that the Poa was damaged. This was verified by a group of very astute superintendents that were taking samples from their greens and growing them out under grow-lights.

The story continued……In late January through February, more rumors circulated that the Poa was now dead. The ugly smell of winter that we all dread was diffusing through the air around these putting surfaces. Impromptu educational roundtables were called to discuss what people were observing. There were groups of people that were "cautiously optimistic" and there were groups of people prepping their membership and owners that things were not going to be pretty come spring.

As the ground thawed and rough areas began to break dormancy and green-up, there lay dead expenses of putting surfaces. In order to understand the extent of the damage and to ascertain why the Poa died, a survey was sent to all MGCSA members asking a series of questions. The following are the results of that survey which was presented at the 2005 Golf Summit in May and sponsored by the Minnesota Golf Association and the MGCSA.

We had 70 people respond to the survey and respondents represent all of Minnesota except the far northwestern corner. Thank you to all who took the time to answer the following questions:

How would you classify your putting green soils?

59% - Native
41% - modified sand-based

I asked this question because during the 2003-2004 winter, some golf courses lost considerable amounts of turf after covering putting greens with impermeable covers where the soils may have been too wet from a late season rainfall or irrigation event. This was to determine if turf problems may have been related to soil drainage.

What is the predominant species on your putting surfaces?

47% - creeping bentgrass
53% - annual bluegrass (poa)

I asked this question because we know that creeping bentgrass has a higher tolerance to lower temperatures and is not as susceptible to winter injury in Minnesota.

Did you cover your putting greens last winter?

19% - yes, I covered all my greens
7% - yes, I covered some of my greens in problem areas
74% - no

Follow-up. Of those that covered any green, what type of cover did you use?

35% - HPI
11% - Excelsior
19% - Green Jacket with a second layer between cover and turf
11% - Green Jacket without a second layer
24% - other

With Excelsior mats, I did see courses where the age of the mats will make a significant difference in turf protection. These covers have worked well in our research but do need to be replaced as the wood fibers break down. The use of Green Jacket covers with a foam layer placed between the turf and the cover is relatively new for most of you. Thanks to an innovative idea by one of your fellow superintendents and years of testing by that same person, the use of these covers now comes with a recommendation to use foam, especially in problem areas.

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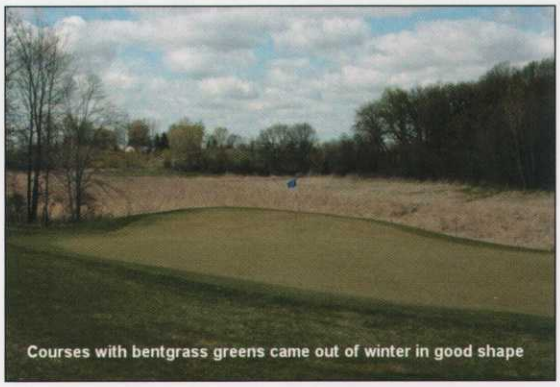
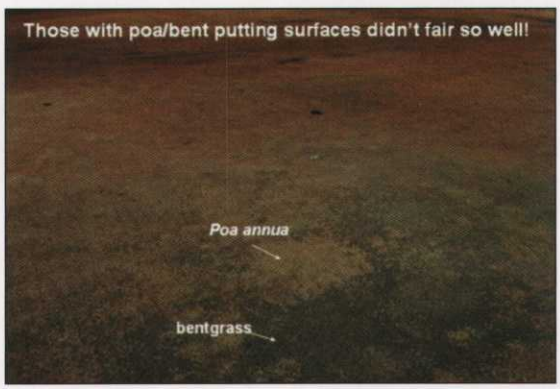

Courses with bentgrass greens came out of winter in good shape



Winter Injury Survey–

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Did you follow your turf health throughout the winter (remove plugs)?

14% - yes
84% - no

Those that took plugs had a history of Poa death and used this information for educational purposes and to develop an agronomic plan for spring.

Monitoring turf health throughout the winter is easily accomplished by cutting a section of turf and soil with a knife and placing it in a plastic bag or a food take-out container that has a clear plastic top. Place the sample in a refrigerator for a couple of days, then transfer to your desk with a supplemental light source. Make sure to keep it watered.

If you are interested in participating in a program to track health of your putting greens this winter, please contact me for more information at bphorgan@umn.edu.

Did you have any death? What species? Was the death in expected areas?

54% - had some level of Poa death ranging from 5% of a green to 24 out of 27 greens.

+ The majority of the death occurred in areas that were expected.

46% - had no death and either held snow cover and/or had bentgrass

+ Remember, 47% of respondents said they have bentgrass putting surfaces.

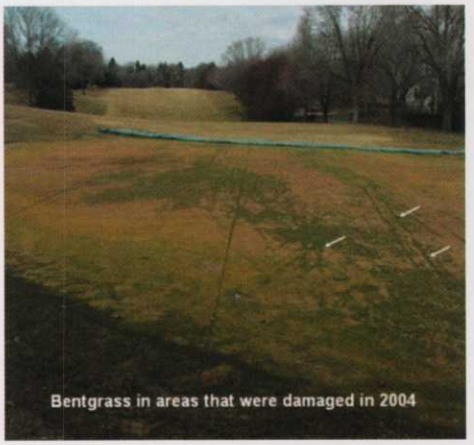
Poor drainage during the December freeze thaw cycles and during the February rains may have caused most of our Poa death through crown hydration. Other possible causes for the Poa death include improperly staked-down covers that bunched or blew off during winter storms; covers that were not placed far enough off the green and into the rough to prohibit water from migrating under the covers (note: if you have sunken greens and are using impermeable covers, then trench the cover into the ground to prevent water from moving under) and turf areas that are traditionally hard to manage anyway because of excessive shading, poor drainage or just weak biotypes of Poa.

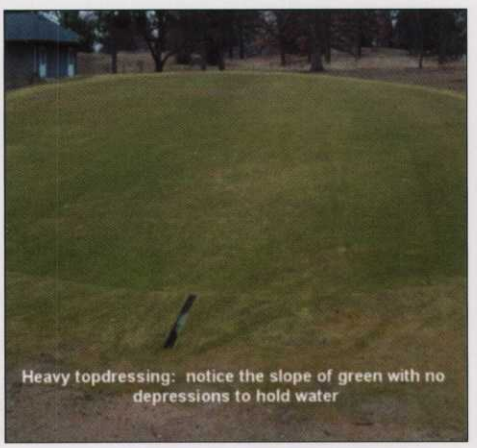
What was your plan of attack for getting your putting greens back into play?

+ Job Saving
+ Vertical mowing
+ Overseed with bentgrass
+ Nothing
+ Wait for Poa seed to germinate
+ Use covers to increase soil temperatures
+ Pray for good growing conditions this spring
+ Pregerminate seed

One of your fellow superintendents from Iowa who receives *Hole Notes* responded to the survey and had the following to say: "I feel for the Minnesota superintendents that I am reading about and can only hope for a warm and moist spring for them to get their turf back for the golfers."

Even though our spring was less than ideal for growing grass, the golf courses in Minnesota look great. The education, support and experiences you have doing what you love have paid off.


Bentgrass in areas that were damaged in 2004


Heavy topdressing: notice the slope of green with no depressions to hold water