



*Calcium chloride melted holes all the way to the turf surface.*

the temperatures for the solar absorption products declined to 30-32 °F, most likely due to the sun setting.

There were also differences in visible melt from the treatments. The following treatments produced the most visible melt: Milorganite, Sustane, Top Cut biosolids SGN 90, Eon 75 humic acid, and black sand. The standard salts and safer ice melt treatments produced very little visible ice melt.

The standard salts were the only treatments we observed that were able to penetrate through the 2 inch ice sheet so they could be effective in facilitating gas exchange with the surface but of course there is the risk of turf burning from the salt properties of these treatments.

Overall, even though temperatures were below freezing and cloud cover persisted the solar absorption treatments were effective at melting the ice surface but were unable to melt to the surface of

the turf given our 2 inch ice sheet. We are planning to replicate this trial again this coming week at both MSU and Minnesota when temperatures are forecast to be above freezing. We will also be assessing turfgrass phytotoxicity from the treatments this spring.

### **Helping the Melt**

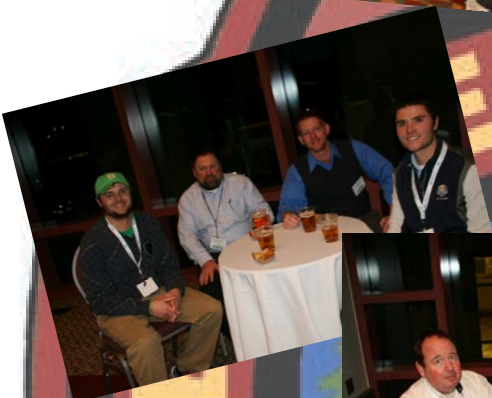
Next week most areas of Michigan are forecast to have temperatures above freezing and possibly into the mid 40's in combination with rain. Many superintendents have been

attempting to clear greens down to the ice layer to facilitate melting. Keep in mind that if this melt occurs there is going to be a tremendous amount of water that will be moving off greens. Ensuring the water can exit the greens will be critical to try and prevent water backing up onto the green and refreezing if temperatures drop below freezing at night. Ultimately Mother Nature is going to dictate whether or not our *Poa annua* putting greens have survived the ice sheet and the pending melting and freezing in the next month.



**Roger Stewart, CGCS, and 2014 MGCSA President on the left, thanks Scottie Hines, CGCS for his two year term as MGCSA President after the MGCSA 2014 Annual Meeting at the Northern Green Expo.**

# 2014 B&P Social HUGE Success!



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# *New Faces and Custom Testing Packages at the University of Minnesota Soil Testing Laboratory*

By Brian Barber, Keith Piotrowski, Angela Gunglogson, Sam Bauer and Dr. Brian Horgan

As golf course superintendents, you strive to maintain the best possible playing conditions day-in and day-out. This requires a solid understanding of the art and science of turfgrass management. Possessing skills in the art alone can leave you missing a big piece of the puzzle. To better understand the science of plant and soil health, turfgrass managers have been analyzing soil, tissue, and water samples for almost as long as turfgrass management has been a profession. Today, testing laboratories have become more advanced, timely, and economical, opening the door for a wide range of

Minnesota Soil Testing & Research Analytical Laboratory (STRAL) is opening its doors as well. The new staff, along with the UMN Turfgrass



**Keith Piotrowski**  
**Assistant Scientist**  
**Manager of STRAL**  
**22 years with the UMN**

Science group, has designed several packages specifically to meet the needs of professional turfgrass managers. The new packages offered

**Brian L. Barber**  
**Scientist**  
**Director of STRAL**  
**23 years with UMN**



**Angela Gunlogson**  
**Junior Scientist**  
**STRAL**  
**5 years with the UMN**



testing services offered specifically for golf courses. The University of

include 3 soil testing options, tissue testing, and water quality analysis;

these are listed in greater detail below. However before we detail that, an introduction to the laboratory and new staff is in order.

## About the University of Minnesota STRAL and Staff

Housed in the University of Minnesota's Department of Soil, Water, and Climate and in place for over 43 years, the Soil Testing & Research Analytical Laboratory is a service analytical lab providing Universities, State and Federal agencies, private industries, and the general public with environmental analyses of the highest quality. The laboratory offers over 100 tests for soil, water, plant, animal, agricultural lime and other specialized materials.

In early 2012, STRAL underwent significant staffing changes, and the new personnel have the experience and expertise to meet the needs of golf course superintendents. The new Director, Brian Barber, has 23 years of

research experience in soil-pesticide interactions and contaminants of emerging concern, as well as the analytical expertise to conduct a multitude of wet-lab analyses. The new Laboratory Manager, Keith Piotrowski, has 22 years of analytical experience dealing with many facets of environmental quality and the third core member of our staff is Angela Gunlogson, who has been with STRAL for five years, and has primary responsibility for our soil testing program.



STRAL is loosely divided into three separate labs; focusing on soil, water, and plant materials

respectively. In the STRAL soil lab, we measure the composition of samples and provide fertilizer recommendations based on most standard micro- and macro-nutrients. In the plant lab, we use combustion analyzers to determine N, P, and S levels in plant material, and we perform digests and ICP analyses for other elements detectable down to the parts-per-billion (ppb) level. Finally, in the STRAL water lab, we perform

routine testing of fundamental indicators such as pH, alkalinity, electrical conductivity, and various classes of solids. Over the last two years, we have also invested nearly \$100,000 in equipment that allows us to conduct colorimetric analyses for Ammonium<sup>+</sup>, Chloride<sup>-</sup>, Nitrite<sup>-</sup>, Nitrate<sup>-</sup>, various pools of Phosphate<sup>3-</sup>, and Total P. Our system is modular and expandable, allowing us to add new methods to meet the emerging analytical needs required to conduct a comprehensive water quality monitoring program.

The Soil Testing and Research Analytical Lab is trusted by corporations, universities, and private individuals to provide high quality analyses on nearly any kind of environmental sample. We have the equipment and experience needed to conduct analyses on all your golf course soil, plant, and water samples. Please see our website: <http://soiltest.cfans.umn.edu/>, or call 612-625-3101 for more information, or to discuss your specific analytical needs.

### New Offerings at the STRAL

The 5 new packages being offered are outlined here. New profes-

sional turfgrass testing request forms will be available on the STRAL website at: <http://soiltest.cfans.umn.edu/>. In addition to offering new packages, results can be emailed for faster turn around time and credit cards will now be accepted. Tissue results will be emailed out within 48 hours. Soil and water tests will be completed within 7 days.

Recommendations given will be based on nitrogen, phosphorus, potassium. For further consultation on the results of professional soil, tissue, and water tests contact Sam Bauer ([sjbauer@umn.edu](mailto:sjbauer@umn.edu)) or Dr. Brian Horgan ([bphorgan@umn.edu](mailto:bphorgan@umn.edu)).

We are excited about this new offering at the University of Minnesota and look forward to assisting you with testing services in the future. After all, today's turfgrass manager requires science-based information in order to make even slight adjustments in their management programs. These adjustments can often lead to cost savings, improved turfgrass health, and a more enjoyable golfing experience.

### **Soil Package 1: \$18.50**

Phosphorus, potassium, calcium, magnesium, pH, organic matter %, texture

### **Soil Package 2: \$49.75**

Phosphorus, potassium, calcium, magnesium, pH, organic matter %, texture

Zinc, copper, iron, manganese, boron, sulfur

E.C. soluble salts (1:1 slurry)

Nitrate and ammonium

### **Soil Package 3: \$99.75**

Phosphorus, potassium, calcium, magnesium, pH, organic matter %, texture

Zinc, copper, iron, manganese, boron, sulfur

CEC and base saturation (sum)

E.C. saturated paste, ESP, SAR

Nitrate and ammonium

Chloride

### **Plant Tissue Package: \$22.50**

Total nitrogen

Aluminum, boron, calcium, cadmium, chromium, copper, iron, potassium, magnesium, manganese, sodium, nickel, phosphorus, lead, zinc

### **Water Package: \$72.25**

pH and Electrical Conductivity

Hardness

Nitrate and ammonium

Sulfate and chloride

Carbonate and bicarbonate

Salt concentration (TDS)



*NGE CH*



*Thank You*







# Challenge



# Sponsors





# Within the Leather

by David Kazmierczak, CGCS

**I wrote almost.....  
last year  
about how  
fortunate**

**I am to be  
allowed to attend the GIS  
show each year and experience  
the education, networking  
and ultimate trade show that  
enhances what I do and how  
I do it at Prestwick. This year  
was no different in Orlando.  
The show may have been a little  
smaller, the duration tighter  
and the opportunities seemingly  
overlapping but still a solid  
experience.**

**As I walked the trade show  
floor it was fun to see all the  
new stuff coming out and  
talk to reps about how they  
were designed, when they  
will be available, etc. It is  
amazing what technology  
is bringing to the table  
for us to use and  
make our jobs easier  
and better. Well,**

**mgcsa.org**

**Before I get to my point  
of technological consternation,  
let me relate to you that I am  
a movie snob. I'm not a huge  
movie fan per se because my  
attention span generally is that  
of a gnat after a pot of coffee.  
For me to invest two to three  
hours of time in a single setting  
without flipping the channels,  
it takes a herculean effort from  
Hollywood and 99.9 percent  
of the time they simply are not  
up to the task. But when they  
are- the movie and the lines are  
woven into the tapestry of who I  
am, what I think and what I say.**

**It is probably safe to say  
that just about every guy who  
ever worked on a crew can  
recite Caddyshack verbatim  
or at least pull a dozen lines  
out of their hind end at a  
moment's notice. I am this  
way with any number of films,  
mostly comedies. In my warped**