

Head Scratcher—

(Continued from Page 10)

high spray volume followed by enough irrigation water to get the product to the action sites in the rootzone. This practice should eliminate the symptoms associated with ETRI fungi.

If you did not make preventative fungicide applications (like me) and find your putting surfaces expressing TAP symptoms, prepare for a long, drawn-out battle. TAP is very difficult to control, and often, suppression of the symptoms is all that can be expected until optimum growing conditions return. The following protocol for dealing with a TAP outbreak is provided by Dr. Phil Colbaugh of Texas A&M (www.colbaugh-turf.com):

Things you can do to reduce activity by this pathogen:

- 1) Be vigilant and look for small yellow patches on your greens.
- 2) Use the fungicide combination we are recommending but make sure you leach it down with post app. Irrigation.
- 3) Give your greens acid because this fungus operates at neutral to alkaline pH

values in the root zone. Some of the acid products are ammonium sulfate fertilizer, humic acid, sulfur, and ammonium sulfate can be used to lower soil pH. Your turfgrass agronomist may not agree with what I am saying here but for ETRI disease control shoot for a soil pH below pH 6.0.

4) Use a micronutrient pack that has lots of Fe and Mn as these micronutrients make turfgrass healthier (these elements are also available at acidic pH values)

5) Avoid coring and verticutting while this disease is active. Disease spread is enormous if you are pulling plugs, etc. If you are going to apply fungicide treatment however, one superintendent says he is doing pre-application aeration using star tines or 1/4 inch tines leaving the holes open. This helps to improve your fungicide penetration down into the root zone. Better yet use the Cushman (Textron) Enviroject for direct shot down into the root zone.

6) Increase mowing height to manufacture more plant food for root growth.

7) You may need to treat for this disease every month - two months if the rains keep stimulating ETRI root attack

activity.

8) Do not apply lime to your greens as this will raise pH values to the root attack range.

Dr. Colbaugh is recommending Clearys 3336 + Daconil WS or ZN (use 8oz + 4oz respectively) as the most effective chemistry for suppression and control. These products must be moved into the rootzone to maximize their effectiveness. Solid tine aerification prior to application may assist in this process.

In closing, as I write this column on July 25, I can tell you this from personal experience. I have never encountered a turfgrass disease as relentless as TAP in all my 23 years in the business. We have applied two fungicide drenches in addition to Mn and ammonium sulfate supplements. We needle-tined and bayonet-tined our putting surfaces prior to the fungicide applications. In an act of desperation, we even applied Banner Maxx at 4 oz./M on seven of our greens. The symptoms have not been suppressed and the disease continues to spread.

One word comes to mind...PREVENTION!

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Joseph S. Garske Legacy Awards Fund Scholarship Grants for Tenth Consecutive Year

Named after the founder of Par Aide Products Co., The Joseph S. Garske Legacy Awards now are in their tenth year of funding two scholarship grants to children and grandchildren of MGCSA Members.

The Par Aide firm, located in Lino Lakes, contributes \$3,000 annually, divided into two grants. This year **Brittania Panuska**, daughter of MGCSA President Robert Panuska, at Waseca Lakeside Club, received her second grant of \$1,500. Brittania is a sophomore student majoring in Biology at Wartburg College in Iowa.

Awarded her first \$1,500 grant for the 2005-06 school year was **Nicole Lohman**, daughter of Guy and Jane Lohman, superintendent and assistant at Voyager Village Country Club. Nicole will be a sophomore



Joseph S. Garske

student majoring in archaeology at the University of Wisconsin-La Crosse.

The late Mr. Garske, who died at the age of 76 in 1982, started Par Aide in 1954 with plans to make a "good" ball washer. A foundry man and avid golfer, he knew little about the golf business, tried to sell his ideas for design and tooling to two accessory companies, was turned down by both and so began Par Aide Products

Company.

The Garske scholarships were started in 1996 by Joseph Garske's son, Steve, who noted that his father "was an orphan with only a sixth grade education and was self-conscious about his lack of formal schooling, but he always wanted to help young people with their education."

"I am pleased to have our company provide these scholarships since for many superintendents, providing a college education for their children requires true sacrifice. I am fortunate to have the opportunity and ability to help," Garske said.

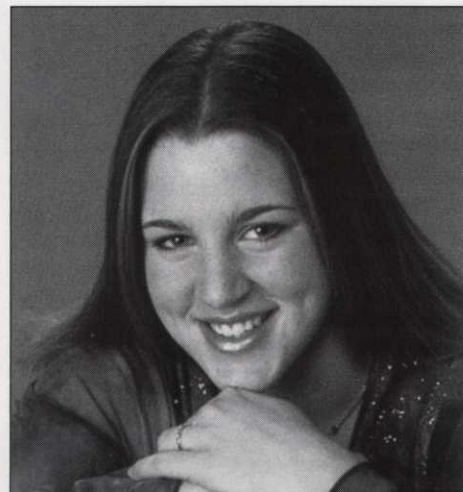
"As a long-time member of the Scholarship Committee some years ago, it always bothered me that we had lots of scholarships available for turf students but nothing for the legacy of current members," Garske said.

So it seemed obvious to Steve to initiate a legacy program. The problem was how to administer such a program. Suppliers to our industry did not want to be in a position of judging one potential recipient/customer against another, and Superintendent members were not comfortable with reviewing personal information and making judgments on each other either. The committee came across Scholarship America, which does nothing but review and award scholarships. It's completely impartial and considers all information confidential.

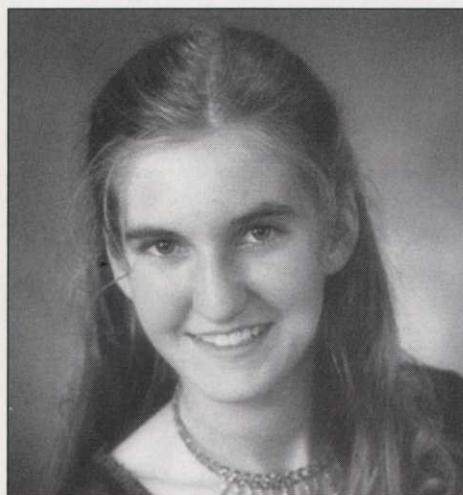
The MGCSA quickly agreed to accept the cost of administration and the Joseph S. Garske Legacy was born. The idea was to provide two two-year scholarships to deserving legacy of current MGCSA members. This program is thought to have been successful by all and has been in existence since 1996, helping numerous sons and daughters of Superintendents pursue their college education.

Par Aide has continued to prosper and as an expansion of its Minnesota program it now also offers a similar program nationwide through the GCSAA.

Winner of this year's MGCSA Legacy Award is Laura Walton, daughter of Pat and Jody Walton. Pat is currently working for Reinders. Laura will be a sophomore student majoring in English at the Morris campus of the University of Minnesota.



Brittania Panuska



Nicole Lohman



Laura Walton

*Scenes from the 2005 Minnesota State
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At The Minikahda Club in July*



The Minikahda Club's Grounds Crew.



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A Little Peace of Mind

By JEFF JOHNSON

Superintendent, The Minikahda Club

The spring of 2004 started out to be one, that many at The Minikahda Club would like to forget. Our unforgettable spring began the day our greens covers were removed. The greens were covered with the Stokote Greenjacket impermeable plastic covers, the same covers we had been using on an experimental basis the past three years. Seventeen greens were covered and 17 greens were damaged to one degree or another. Was it crown hydration, cold temperature kill or suffocation? All three forms of death were reasons for turf loss. We had incurred some minor damage in the past, but nothing to this degree. Nothing that indicated the need to revert to covers we had used in the past. The more we searched for answers, the less any of it made sense.

As we searched for answers we tried to correlate the similarities of turf loss from green to green. Did it only occur on north facing greens or was the damage worse on



Data Logger at The Minikahda Club

south facing greens. Was there a difference between shaded greens or greens in full sun? When did the damage occur? Was it in December during a warm up? Did the damage occur in January during an extremely cold period and the covers did not provide enough insulation from the cold? Or was the damage in the spring as temperatures rose and the ground thawed under the cover trapping moisture and causing crown hydration? Did the soil warm to a degree where the plant broke dormancy and a refreeze then killed the plants? As you can tell we asked ourselves many questions, and we came to one conclusion: the current system of covering greens did not work and we needed to change.

Roger Kisch, Superintendent at Southview Country Club in St. Paul, had been working with 1/8" rolls of packing foam that he was placing under the Greenjacket cover. Roger was working closely with the manufacturer of the Greenjacket cover to develop a roll of foam that could be used in conjunction with the plastic cover in order to provide better insulation. The theory was that the added foam would protect the plants from swings in temperatures and the plastic would protect the greens from that

nasty free water that can occur during the winter and spring. Roger had been having tremendous success with the foam. In fact, in the winter of 2004, greens that were covered with the foam at Southview emerged in perfect condition.

The Committee's Decision

After careful consideration our Grounds Committee concluded we would continue using the Greenjacket cover, provided that the foam was installed. The big question remained: Was this the protection and peace of mind we were looking for? Still thinking about the damage to the greens and wondering what really occurred under the cover last winter, I was bound to do a better job monitoring the condition of the greens throughout the winter. Since the greens would be covered with impermeable plastic it would be virtually impossible to look under the covers without tearing a hole in a cover, thus defeating the purpose of the impermeable plastic. My biggest question still remained: What was happening to the temperatures in the soil and under the covers during large swings in temperatures?

(Continued on Page 15)

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Peace of Mind –

(Continued from Page 14)

One day while paging through a Spectrum Technologies Catalog, I came across a Watch Dog Data Logger System. These systems were being marketed for recording temperatures and moisture in greenhouses as well as other applications related to that industry. This was exactly the type of system I was searching for to monitor our greens throughout the winter.

After calling the company to inquire about the versatility of the units, and to explain what we hoped to accomplish, I was assured that their product would meet our needs. My goal was to record daily ambient air temperatures, the temperature of the soil under the cover, the temperature at the green's surface (between the cover and the green), as well as soil moisture. I purchased one Watch Dog Data Logger model 425, along with a soil moisture sensor, one 20ft external soil temperature sensor that would be placed 2" into the greens surface and another 20ft probe to monitor the temperature between the green and the cover. The data logger itself would record the air temperature.

Normally, finding a way to consistently record data is always difficult. One has to be dedicated to record at the same time and location daily, but not with the Watch Dog System. Each unit can be programmed to record data as little as every 2 hours or as frequent as every minute. Having that capability was a big advantage of purchasing the unit. At an initial cost of \$537 for the software, the data logger, a soil moisture sensor and two cables to monitor temperatures as well as a radiation shield to protect the unit from the elements, we were going to have the capability to monitor temperatures 24 hours a day, 7 days a week, all winter long. I felt the \$537 was a minimal price to pay, knowing that the information gathered could be very valuable. In addition, we could purchase software, at a cost of \$100, that would allow us to program the unit as well as download and record the data.

Initially my thought was to purchase one unit and do a little research on our own, without really disclosing our intentions. But, at a Grounds Committee Meeting in October I decided to mention my plan to our committee. Unsure of their reaction to our project, I was asked the cost of the unit. One gentleman said "Is that all, you better buy one more so you have something to compare your results too." So.... I purchased two more!



Data Logger at the Minikahda Club

Results of the Study

We decided to place the data loggers on a north facing green with partial shade, a south facing green in full sun and on our sixth green, which faces slightly north and is also shaded on the south side. This green had the most damage in the spring of 2004.

The data loggers were installed in greens 6, 7 and 12 before the covers were placed on the greens. The beauty of these units is that based on the parameters that are programmed, one can record continual data up to 360 days straight without reprogramming. We set up the units to record data every two hours. This gave us enough time to record swings in temperature and record highs and lows without inundating us with too much data.

In the beginning of the study we brought the data loggers in on a weekly basis, mostly to make sure the units were working properly and to get a feel of how the software worked. I did not want to

make a mistake and lose the data. After we were comfortable with the process, I tried to leave the data loggers for about four weeks at a time. We found this to be very difficult. Our curiosity was so high that it was difficult to have patience.

Our initial theory regarding the foam was that once the greens froze, no matter the temperature, they would stay frozen until extended periods of warm weather would stick around. Meaning, the spring. Additionally we theorized that the foam would act as an insulator during extremely cold periods, even with a lack of snow cover. Would our theories hold up? There was only one way we were going to find out: check the data.

Early into the winter the results we were seeing looked very promising. Once the soil temperatures under the covers reached freezing in mid-December, the soil temperatures never again thawed until March. This was true for all three greens.

(Continued on Page 16)

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Peace of Mind—

(Continued from Page 15)

The Data Logger results that are posted with this report give some interesting feedback. Note the swings in the Ambient Air temperatures from the highs to the lows. The average high and low differences varied from 12 to 20 degree swings. The seasonal low was -15.1 degrees on the 17th of January and the high was 57.3 degrees on the 12th of February. With swings in air temperature varying to this degree it's no wonder unprotected golf courses lost grass this past season.

The temperatures under the covers told a different story. Under the cover you will notice less of a variance between the average high and low. On average, this difference was only about 4-5 degrees in January and February, but as spring drew near the difference was quite dramatic. High temperatures under the covers reached 58.7 degrees on the 7th green on the 28th of March. Coincidentally, this was the same day the cover was removed. It did not seem to matter whether there was snow cover or not. As long as the soil

temperature stayed below 32 degrees, the swings in temperature between the cover and the green did not vary that dramatically, nor did it have a detrimental effect on the poa. As predicted, once spring drew near, and the snow cover was gone and the air temperatures were on the rise, only then did we see a big difference in the temperatures between the cover and the green.

What I felt was the most interesting data laid within the first 2" of the soil profile. Once the soil froze, which was around the 20th of December, no matter how warm the air temperature or the temperature between the cover and the green got, soils did not reach a temperature above 32 degrees until the 25th of March. Just in time to remove the covers. The coldest any of the soil temperatures reached was 11.2 degrees on the 17th and 18th of January. At the same time air temperatures were almost 25 degrees colder, reaching a low of -15.1 degrees. As soil temperatures dipped into only the low teens, we were confident that we were not going to lose any poa annua to low temperature kill. It was just not possible.

The other assurance the data gave us

was that we were not going to lose turf due to crown hydration. The soil temperatures were never above 32 degrees at any point. The plant had adequate time to harden off in the fall, and as long as the soil stayed below freezing the plants were never going to break dormancy. Also we knew the soil never thawed and refroze, so there was never any free water on the greens. Having this knowledge was having peace of mind.

Now that we have the data loggers, we will continue to use them on a yearly basis. We also had excellent success this past year with the Stokote Greenjacket cover with the foam under the plastic. Our greens came through the winter in excellent condition. The data loggers proved the foam was enough of an insulator to protect the plants from the erratic swings in temperature. If we ever have another difficult winter, and I know we will, we are hopeful the data loggers are going to provide us with some valuable information that may help us minimize the damage or help us to make adjustments so damage can be prevented in the future.

2004-05 Data Logger Results from The Minikahda Club

6 GREEN

Mostly Shady

November 22 - 30

Ambient Air
Between Cover/Green
Soil @ 2"

Ave. High

36.1
35.1
33.6

Ave. Low

23.6
27.9
32.5

Difference

12.5
7.9
1.1

Dates of High

Dates of Low

December 1 - 31

Ambient Air
Between Cover/Green
Soil @ 2"

Ave. High

28.6
29.2
29.6

Ave. Low

14.8
23.8
28.3

Difference

13.8
5.4
1.3

Dates of High

30th @ 48.1
14th @ 35.4
12th @ 32.2

Dates of Low

24th @ -13.4
24th @ 6.9
24th @ 16.3

January 1 - 31

Ambient Air
Between Cover/Green
Soil @ 2"

Ave. High

23
23.5
24.2

Ave. Low

7.5
19.1
22.3

Difference

15.5
4.4
1.9

Dates of High

25th @ 46.7
25, 30th @ 29.7
26, 31st @ 29.7

Dates of Low

14, 17th @ -15.1
17th @ 5.7
17th @ 12.3

February 1 - 28

Ambient Air
Between Cover/Green
Soil @ 2"

Ave. High

35.9
29.4
30.1

Ave. Low

16.9
25.1
27.1

Difference

19
4.3
3

Dates of High

5th @ 54.5
5,6,12,13,14,15 @ 31.4
6th @ 31.4

Dates of Low

22nd @ -2.9
18th @ 11.2
18th @ 17.3

March 1 - 28

Ambient Air
Between Cover/Green
Soil @ 2"

Ave. High

34.1
33.5
30.8

Ave. Low

15.6
30.8
25.5

Difference

18.5
2.7
5.3

Dates of High

3rd @ -2.9
28th @ 67.7
28th @ 54.5

Dates of Low

9th @ 17.3
9th @ 22.0

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13th Hole at The Minikahda Club. Photo is courtesy of Jeff Johnson, Golf Course Superintendent.

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Manage Your Next Shot With the Safety Official

By DAVID HARCHANKO

Truman Howell Architects & Associates, Inc.

Communicating with your local Building or Safety Official about your facility improvements is generally recommended. Preparation for the conversation is extremely important.

As you contemplate making changes to your facilities you will need to get the approval of one or more regulatory agencies. How well you manage this relationship could have a major impact on the cost and configuration of the facility.

On the golf course we all know the advantage of knowing when to "lay up" or how a specific approach offers an advantage. We all know that the odds are better when we make the "smart" play.

The same strategy should be applied when you coordinate with the Building Official. Knowing where to place the shot is crucial. For example, you would never want to ask the Fire Inspector "How many

fire extinguishers should we have?" I can assure you that his idea of "how many" is almost certainly more than the code dictates. If you do your research and know what the code requires, you can direct the solution.

Be careful with your knowledge though; you must not challenge the Official with your calculations or analysis. As a group, these folks are used to being pressured and you want to avoid their wrath. Rather, you should try to finesse the discussion so that your suggestion becomes his idea of the solution.

Care should be taken in all communications as the following examples illustrate:

- + Expanding building area may place the structure into a category that requires different fire protection systems.
- + Locating a building or an addition to

the building on the site could require or avoid certain fire protection requirements.

+ Alterations to a building may change the energy conservation requirements for occupied spaces.

+ Changing the arrangement for storing certain equipment and materials could be declared hazardous.

+ Changing one building can cause an adjacent structure to be updated.

When you prepare for your next project, take the time to gather the requirements and understand the challenges ahead. The key to any successful project is the same as a well-played golf hole. Know the course and place your shots well.

(Editor's Note: David Harchanko may be reached at 952-401-7889.)

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Recognizing a Stroke Can Save a Life

A neurologist says that if he can get to a stroke victim within three hours he can totally reverse the effects of a stroke – totally. He said the trick was getting a stroke recognized, diagnosed and getting to the patient within three hours, which is tough.

Recognizing a Stroke

A patient named Suzie is recouping at an incredible pace for someone with a massive stroke all because her friend Sherry saw Suzie stumble - that is the key that isn't mentioned below - and then she asked Susie three important questions.

So Simple

This literally saved Suzie's life. Some angel sent it to Suzie's friend and they did just what it said to do. Suzie failed all three so 911 was called.

Even though she had a normal blood

pressure readings, and it did not appear to be a stroke as she could converse to some extent with the paramedics, they took her to the hospital right away. Thank God for

"Now doctors say a bystander can recognize a stroke by asking three simple questions."

the sense to remember the three steps!

Read and Learn!

Sometimes symptoms of these strokes are difficult to identify. Unfortunately, the lack of awareness spells disaster. The stroke victim may suffer brain damage when people nearby fail to recognize the symptoms of a stroke.

Now doctors say a bystander can recognize a stroke by asking three simple questions:

1) Ask the individual to **SMILE**.


2) Ask him or her to **RAISE BOTH ARMS**.

3) Ask the person to **SPEAK A SIMPLE SENTENCE** (coherently) (i.e. 'It is sunny out today').

If he or she has trouble with any of these tasks, call 911 immediately and describe the symptoms to the dispatcher.

After discovering that a group of non-medical volunteers could identify facial weakness, arm weakness and speech problems, researchers urged the public to learn the three questions. They presented their conclusions at the American Stroke Association's annual meeting last February.

Widespread use of this test could result in prompt diagnosis and treatment of the stroke and prevent brain damage.




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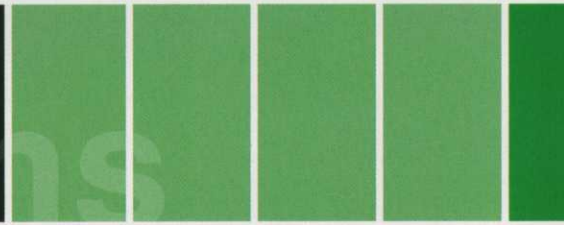


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