

Peer-to-Peer-

(Continued from Page 10)

with hardening off and the Poa really looks yellow in the spring. Overall trying to give bent the best chance to compete.

- Charles Kornmann

The Classic at Madden's, Brainerd

Tartan Park uses Primo as a primary means for keeping its greens consistent throughout the day. It is applied at a rate of 0.125 oz/1000 on 2-week intervals, starting in mid-May and ending after the first heavy frost. It is applied in conjunction with liquid fertilizers and fungicides. The tees and fairways do not receive PGR treatments.

- Jeff Hanson

Tartan Park Golf Course, St. Paul

Prestwick GC uses Primo at .12 oz./M on greens only every two weeks. It is tank-mixed with our liquid foliar feed program. First apps are roughly end of May through end of August. No PGRs are used on other areas of course.

- Dave Kazmierczak

Prestwick Golf Club, Woodbury

At **Village Greens Golf Course** I use Turf Enhancer 25C every 3 weeks on the greens @ 16oz to 24oz/Acre. I start at 16oz/Acre in the spring and I increase the rate as the season goes along. I have been on this program for 10 years and I am very happy with the results. I don't use PGR's on the fairways because of cost.

- Rick Dauner

Village Green Golf Course, Moorhead

At **Medina G & CC** we use Primo at a rate of 0.125 oz/M on greens, every two weeks starting in mid-May. About July 1st we increase the rate to 0.15 oz/M. (The length of regulation seems to get a little shorter as the season wears on.) We treat fairways with Primo at a rate of 0.15 oz/M every three weeks starting about June 1st, and we increase the rate to 0.2 oz/M in mid-July. I am planning to do some trials with Cutless and/or Trimmit this year on some fairways and greens. We have a pretty large percentage of bentgrass in our greens, due to severe winter-kill of the poa in the winters of 03-04 and 04-05, and I would like to do whatever I can to maintain and increase the percentage of bentgrass. Also, we do not cover our greens in the winter, in part because no one has ever proven to me that the benefits outweigh the costs, and also to tip the competitive balance in favor of the

bentgrass.

- Drew Larsen

Medina Golf & Country Club, Medina

I thought I would throw in my two cents of PGRs. I have applied Primo to my Bluegrass/Poa fairways at **Waseca-Lakeside** for the past 12 years. This program is so predictable, for me it has become a no-brainer in my management program. When I first started I experimented with rates and have settled in on .32oz/M in combination with a soluble fertilizer every three weeks starting around the last week of May or first of June. I budget for five applications and that has been fine all but two years in 11.

For greens I started using Primo about four years ago. The rate that has worked for me is .15oz/M every 14 days in combination with liquid fertilizer/fungicide as needed. I generally start the end of May first of June like fairways depending on growth and continue until the first week of September. We have Bent/Poa greens but manage for Bent and have a fairly good population.

- Rob Panuska

Waseca-Lakeside Club.

Brackett's Crossing uses growth regu-

lators to control clippings and seed head production. We have Bent/Poa greens and use Primo/Proxy in Spring. Primo/Proxy applications are dependant on temps and usually first application is mid April, followed by 2nd application early to mid May. Results here have been very good with Poa seed head reduction and minimal puffy turf.

We apply Primo to greens, tees and fairways throughout the golf season.

1) Greens two week interval, .10 Primo with liquid fert .10 N, with medicines (fungicides) as year goes on, may increase Primo to .12 or so as growth continues (Bent/Poa). 2) Tees, start of year

(April, May) 3 week interval .10 Primo with liquid N and medicines, (June, July, August) down to two week interval .12 Primo, N and medicines (Blue /Poa /Bent). 3) Fairways, similar to tees, start year three week interval, .25 of Primo, liquid N and medicines then down to two week interval, .18 of P, N and medicines (Blue/Poa/Bent).

- Tom Proshok

Brackett's Crossing C.C., Lakeville

Last season at **Dellwood** we switched from using Primo only to a combination of Primo and Cutless. Our main goal is clipping reduction. Secondary goals are Poa reduction and improved turf vigor. We are on a two week spray interval for fungicides and we include fertilizer and growth regulators at the same time. The rates we used last year were Cutless at 3oz/A and Primo at 3oz/A on greens. For tees it was Cutless at 3oz/A and Primo at 4oz/A and fairways were Cutless at 3oz/A and Primo at 5oz/A. Our results were good clipping control and better green speeds than with Primo alone and little discoloration. We did not see a significant reduction in Poa but did


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The matrix shown below demonstrates a dramatic increase in particle coverage (PPSI) by using smaller particle products versus increasing the rate (lbs.) of a larger particle product.


Rate (lbs/acre)	Particle Size (microns)					
	125	150	175	215	240	300
100	3.9	2.3	1.4	0.8	0.6	0.3
125	4.9	2.8	1.8	1.0	0.7	0.4
150	5.9	3.4	2.1	1.2	0.8	0.4
175	6.9	4.0	2.5	1.4	1.0	0.5
200	7.9	4.5	2.9	1.6	1.1	0.6
225	8.9	5.1	3.2	1.7	1.2	0.6
250	9.8	5.7	3.6	1.9	1.4	0.7
300	11.9	6.8	4.3	2.3	1.7	0.9

Avg. SGN (gms) = 1.8

Non-Uniform



Uniform Blend




The illustration below shows the effect of using a non-uniform fertilizer product. Note the severe skewing and banding of different nutrients.

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Insight

One Superintendent's Perspective

By Jeffrey J. Hanson
Tartan Park Golf Course



Course and Statistics

I am the Golf Course Superintendent at Tartan Park, which is a private recreational facility available for use by 3M employees, family members, retirees, and guests. It is located in Lake Elmo on 483 acres of land and includes 27 regulation golf holes, a clubhouse and conference center, four picnic pavilions, 12 tennis courts, five softball fields, four bocce ball courts, a driving range and two archery ranges.

Years in the Business

2007 marks the start of my 17th year in the golf course industry. I worked as a laborer for six years before going to Anoka-Hennepin Technical College. After attending college, I worked my way up from an intern to my current position, Superintendent at Tartan Park.

Why and/or how did you enter the turf management industry?

I was attending nursing school and decided to drop out during the spring semester in 1996. I went back to my summer job at Rich Acres for my sixth season and was having a hard time trying to figure out what to do with my life. One morning while emptying my greens mower buckets, I turned around to see several mowers and employees working near, or on, the green I had just finished mowing. In the background was the most beautiful sunrise I had ever seen, and at that moment I knew what I wanted to do with my life. I signed up for fall classes that week.

Who was your professional mentor?

I have been fortunate to work with some great people throughout my journey, but none is better than my current boss, Randy Allen. He has been in this industry for almost 40 years and has great knowledge and vision for what we do. I have learned more from him in our short time

together than I could have ever done on my own and can't come up with the words to express my feelings, so I will just say thank you.

What has been the highest point in your career?

I was having dinner with my family when the phone rang and I started shaking a bit, realizing who may have been on the other end. It was Randy Allen from Tartan Park and he was calling to offer me a position as his Assistant Superintendent. That was, without a doubt, the highest point in my career.

What has been your lowest point?

Thankfully, there have not been many of these, but I would have to say the Spring of 2005. Most working in Minnesota at that time know what I mean.

Are your greatest challenges political, agronomic or managerial?

My biggest challenges are managerial and I don't mean that to sound like we have a bad crew here because it is just the opposite. More so, I am new to management so my biggest challenges are getting to know the management ins and outs. IMHO, it is much easier to make the decisions from the passenger seat, but where is the challenge in that?

What is the most difficult disease to manage on your course?

We spray our greens preventively and have had very little trouble in that area. In our other fine turf areas, it is a matter of reaching a threshold and applying a curative application. We are fortunate, in that have not had any diseases that can not be controlled with today's technologies.

Is it hard to find good help in your area of the state?

No, we are lucky to have numerous applicants every year and I am generally able to pick a good crew.

Do you have a dog on your crew?

No, and for the record, coyote decoys don't work too well either.

Where will our industry be in 10 years?

I was practicing my archery the other night and needed a target, so I shot my magic 8-ball. I usually look to that for answers to tough questions like this so please bare with me. Realistically, in the future I think it will be tougher for folks to do their jobs. It seems as though every corner we turn, as an industry, has a new regulation, certification or license requirement for the things we do to keep our respective properties looking good. For professionals who prefer Green, there seems to be a lot of Red (tape) lately.

Where would you like to be in 10 years?

Happy, healthy, and still working at Tartan Park, until I can retire.

What is your perspective of our state association and what would you change?

I think our association has made great strides to improve the industry and our profession as a whole. The board has great focus and goals for the association in mind, and I wouldn't change a thing.

Name your foursome, who would



you play with and why?

I have been called an 'Archery Geek' so my foursome would be played out on an archery range, instead of a golf course. I would love to shoot with Jeff Hopkins, Nathan Brooks and Chance Beaubouef, three of the best in their business.

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IT'S ALL ABOUT ME

Nasal Obstruction

By Deborah Rosin, MD

WebMD Medical Reference from "The Sinus Sourcebook"

A common complaint of many individuals with sinus problems is a "blocked nose." This feeling of blockage can result from sinus infections. In addition, there are a number of things that anatomically block the nose and can lead to sinus problems. Blockage may occur when the lining of the nose swells, or when there is a deformity of the cartilaginous or bony structures that make up the framework of the nose. This article will explore the common conditions that cause nasal blockage and how they can be treated.

Normal Nasal Blockage: The Nasal Cycle

You may notice one side of your nose feeling blocked, and sometime later feel that the other side is clogged. Many people notice this at night when lying in bed, since they have to alternate sides they sleep on to be able to breathe comfortably. This is what is termed the "nasal cycle," which is the normal cycle of congestion (swelling) and decongestion (shrinkage) in the nose. The nasal cycle causes swelling and then shrinkage of the linings of each side of the nose. The blood vessels inside the lining of the nose become engorged in a cyclic fashion, which leads to this swelling and shrinkage.

This cycle varies from person to person but normally takes one to four hours. If you hold a finger over one nostril and blow air out the other nostril, you will notice a different amount of air coming from each side. This should normally vary from side to side according to your nasal cycle. Several factors affect the nasal cycle. For example, if you lie on your side, the nostril that is on top becomes more open. Emotional excitement causes nerves inside the nose to make the lining swell. Thus, you may notice intermittent swelling in your nose and still be within the range of normal.

Nasal Swelling

Many conditions lead to abnormal swelling of the linings of the nose, causing the sensation of constant blockage. It is

important to realize when these factors are contributors to your nasal obstruction. Otherwise, you could undergo surgery to correct what was thought to be a purely anatomic problem yet still be unable to breathe through your nose. If you have already had surgery, for example, straightening of a deviated septum (this will be covered later in this article), but still feel that your nose is blocked, perhaps you have one of these underlying problems.

Chronic Sinusitis

One of the most annoying symptoms for people with chronic sinus disease is the feeling of nasal stuffiness. The poor airflow in the nose that results from chronic infection causes nasal blockage, which can be intermittent or constant. When it is constant, it may be the result of an anatomic abnormality. These anatomic blockages can additionally block the "ostia" or openings of the sinuses, leading to recurrent infections. In this way, chronic sinusitis and nasal obstruction are intimately related.

Allergies

An allergy indicates that you are overly sensitive to something in the environment or to certain foods. When you are exposed to something to which you are allergic, it causes a reaction in the nasal lining that leads to swelling. In addition to this symptom of nasal congestion, individu-

als with allergies experience frequent sneezing, watery eyes and thin nasal drainage. Allergies can be treated by avoidance, medications or sprays, and for severe cases, allergy shots.

Nose Drop or Nose Spray Overuse

The medical term for this condition is rhinitis medicamentosa. It means nasal stuffiness due to the overuse of decongestant sprays or drops. Decongestant sprays (which are purchased over-the-counter) initially decrease the lining of the nose and give great relief to the congested patient. However, using these sprays for more than a few days leads to a rebound,

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Nasal Obstruction—

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whereby the lining of the nose becomes even more swollen than before the drops were used. This leads to the addiction, which I see at least weekly in my office, when a patient has used nose drops every day for months or even years yet still feels constant nasal stuffiness. The solution is to stop the decongestant spray completely, so that the swollen nasal lining can return to a normal state. I actually encourage patients with this problem to throw out the spray that caused it so they won't be tempted to continue to use it. To obtain relief during this weaning period, they should take a decongestant tablet (like nonprescription Sudafed) or a short tapering dose of oral cortisone (a prescription drug) to reduce nasal swelling. A saltwater (saline) nasal spray can be used as often as necessary to provide moisture to the irritated nasal lining. Some physicians prescribe a cortisone spray, since these do not induce the rebound phenomenon seen in the "Afrin addict."

Hypertension

Although hypertension (high blood

pressure) itself does not cause nasal blockage, some of the medicines used to treat it, for example, Reserpine, can cause nasal stuffiness. It is best to check with the doctor who prescribes the blood pressure medicine, and to see if you can switch to an alternative. Decongestants should not be used by hypertensive patients without their doctor's okay, since they can cause blood pressure elevation.

Hormones are substances excreted in one part of the body but can affect distant locations in the body. For example, the neck's thyroid gland secretes thyroid hormone, which affects metabolism all over the body. One sign of an underactive thyroid is nasal swelling. Other signs of hypothyroidism (low thyroid hormone) include weight gain, fatigue, facial puffiness and brittle hair. Telling your doctor of these symptoms may help him discern the cause of your nasal blockage. Treatment with thyroid medication should improve the nasal symptoms.

* * * *

(Editor's Note: This is Part I of a two-part article. Part II will be printed in the April 2007 issue of Hole Notes.)

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Spring Break

By NATE USELDING
The Bridges Golf Club

It's that time of year again where we are transitioning into our spring season and spring break is upon us. Do you remember all the good times you had on your spring breaks in high school and college? Have you ever thought about reliving those times minus the craziness? March is the peak season of travel for students and families to take advantage of a week off from school and venture off to a warmer climate. For the past two years, my wife and I made plans to travel for our own spring break to sunny Mexico, and we're off again this year.

It is our annual one-week vacation where we set aside money monthly for a whole year to splurge on a week of rest and relaxation. We pick the month of March, not because everyone else travels during this month but because it works the best for our work schedules. March is a perfect time of year because all the major projects are completed and there are only last minute preparations left to attend to. So why not take a week of vacation to recharge our batteries, acclimate our bodies to warmer weather and get ready for the upcoming season?

One of the great things about going to Mexico is coming home with a lot of pictures to share, not only with our family and friends, but also our Hispanic employees. You should see their faces light up when I show them a picture of a place in their home country. Granted, it is usually a picture of a popular tourist attraction or the beach, but for them it was a picture of home, the place they were brought up. Sharing stories with them about Mexico, a place we've both visited, really brings them back to their childhood memories. This small gesture of sharing with them my stories and pictures really allows me to connect more on a personal side with them rather than just a business one. This is important to me, as I want to build a relationship with them at work that isn't always about work. I feel they responded to this rather well, and amazingly they continue to ask questions throughout the year about my trip and when I'm going back.

Last year while staying at our resort, I noticed the beach was raked smooth every

morning from the previous days foot traffic. I had to find out how this was accomplished because it didn't look like they



Raking the beach in Mexico

used a machine. One morning as I went out for coffee, I was early enough to catch the employee working on the task at hand. He was working all by himself on smoothing out the beach, so I went over to talk to him about this process. I put my Spanish speaking skills to the test. With my broken Spanish, I had a conversation about what their maintenance practices were since that is what I was most comfortable talking about in Spanish. It turns out they are assigned job duties and their schedule rotates weekly. This week he was in charge of raking the beach by 9 a.m., a job that took roughly three hours to complete. He explained to me how he enjoyed it and proceeded to show me his biceps and joked to me that it was better than doing the garbage duties!

So what did he rake the beach with? It was a 2-

inch metal pipe that was in the shape of a letter T, about 6 feet by 6 feet and weighed a ton. His job was to start at one end of the beach and go from the water to the resort and back dragging the pipe behind him, which smoothed out the sand. All that was left were small impressions where he walked. During our conversation on the beach, I told him about the machines we use for the bunkers back home on golf courses. He was familiar with them but said they make too much noise and would wake up all the guests at the resort. Basically, their jobs were like ours; they didn't like to make noise

around guests and didn't want to be seen. Most of the landscaping, mowing and watering were done mid-day when guests were either out sightseeing

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Spring Break—

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or out on the beach because peak times around the resorts are early morning and late evening.

While it is important for me to relax on my vacation, these experiences inspired me to play a round of golf and hopefully tour a maintenance facility this year in Mexico. You never know what you may learn from a different operation that you can implement at your course. I was amazed at how similar the duties and routines were at two different operations, a golf course and a resort. I learned a lot last year about the upkeep of resorts, but most importantly I learned how to connect with our Hispanic employees in the least likely of places, while on spring break.

It's in the Hole

GCSAA Survey to be sent in March

Third phase of GCSAA's National Golf Course Environmental Profile project is coming soon. Widespread participation of GCSAA members and non-members is needed for continued success in the third phase of the association's Golf Course Environmental Profile Project. The results will be used to provide an accurate portrayal of nutrient use on golf courses.

This phase will collect data from golf course superintendents on the amount of nutrients applied to golf courses. Surveys will be distributed beginning March 19 in both hard copy and electronic forms, with the cutoff date for the receipt of information April 27.

"We have been pleased by the response rate of the first two phases," GCSAA Director of Research Clark Throssell, Ph.D., said. "It is important that we have strong participation by both GCSAA member and non-member superintendents to compile the necessary data. It is vital that we get data from all types and sizes of facilities. The information will help GCSAA to better serve them in managing their facilities."

The survey is part of a multi-year project being undertaken by GCSAA that will evaluate environmental performance on golf courses. The Golf Course Environmental Profile project is designed to collect information that will allow superintendents and other facility personnel to become better managers, help them operate more efficiently and lead to GCSAA developing more valuable programs and services. Such information will include details about playing surfaces, natural resources, environmental stewardship efforts and maintenance practices on the golf course.

Throssell indicated the data are still being analyzed from the first two phases, one focusing on the physical profile of a golf facility and the other on water use and conservation. The first comprehensive report of the first two phases will appear in a peer-reviewed scientific journal this year. The Environmental Institute for Golf funded the first two phases of the project, thanks in part to a grant from The Toro Foundation.

The Environmental Institute for Golf, the philanthropic organization of the GCSAA, is a collaborative effort of the environmental and golf communities, dedicated to strengthening the compatibility of golf with the natural environment. For more on The Institute, visit www.eifg.org.

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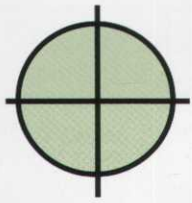
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Minnesota in the Crosshairs

The Heat is On!

By Paul Diegnau, CGCS, Keller Golf Course



Have you heard about this thing called Global Warming? How could you not? The subject has infected every crevice of our society, from newspapers and magazines to television and radio programs. Apparently this is pretty serious stuff and we all should be concerned. In fact, by one account, the climate of Minnesota will resemble that of Missouri within 30 years! A statement like that surely grabs your attention, but how credible is it?

Al Gore currently leads the charge concerning global warming and its negative effects upon the world we live in. Several months ago I experienced, first hand, the movie "An Inconvenient Truth," at the local theater. When the movie finished and the credits began to roll, the entire audience, except me, broke into a standing ovation. I had never experienced a reaction to a movie like that before. I was intrigued by the response I had witnessed and decided to further explore the

topic. What I discovered was that the issue of global warming is not as cut and dried as Al Gore portrayed it to be in his movie. There exists another side to the story that one rarely hears about - the side that says global warming is not the threat that it has been made out to be. Let's examine what we think we know and what we don't.

It is generally accepted among the scientific community that in the last century the mean global temperature has increased approximately .6 degrees C. There is also general consensus that atmospheric CO2 levels have increased approximately 30% over the same time period. And it is an accepted fact that greenhouse gases such as CO2, N2O and CH4 trap heat emitted by the earth's surface and increase atmospheric temperatures. Beyond these facts and contrary to what the mainstream media would have you believe, there are several very different

and contradicting views on global warming held by high-level members of the scientific community. The primary stumbling block centers on the actual effect of man's addition of heat trapping greenhouse gases to the atmosphere through the combustion of carbon-based fuel sources. So the \$10,000 question becomes: Is man's contribution of greenhouse gases causing global temperatures to rise, and if so, how much?

Recently, the U.N.-based Intergovernmental Panel on Climate Change (IPCC) issued a summary of its fourth report on climate change since 1990. The panel claims to be 90% sure that the rise in

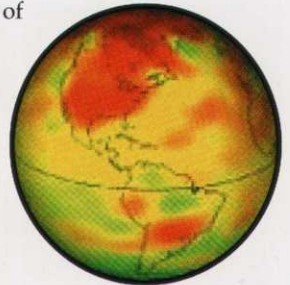
temperatures since the mid-20th century is due to man-made greenhouse gases. The fact of the matter is the IPCC relies on computer models to forecast climate change. Predictive computer modeling is only as accurate as the parameters and algorithms fed into them. Currently, scientists know very little about the effects of

particles (aerosols) on cooling or the role that water vapor and clouds have on temperature when interacting with greenhouse gases.

These are very complex mechanisms and, consequently, significant amounts of data used in the climate simulation models are nothing more than best guesses. Remember that computers crunch numbers. They do not have a mystical eye into the future. In comparison, today's modern meteorologist uses computer models to predict weather in the short term. Need I say more?

During the past one million years the earth has experienced eight glacial / interglacial cycles. Approximately 10,000 years ago the earth entered its most recent post-glacial period. Using ice core data from the past 400,000 years, paleoclimatologists believe that the last 10,000 years have been, by far, the warmest and most stable period. Keeping this in mind, there was a period in recent history from approximately 1400-1900 known as the "Little Ice Age." During this period, glaciers advanced rapidly in Iceland, Greenland, Scandinavia and the Alps. Europe experienced cold, wet growing seasons that translated into reoccurring famines. Early settlers in North America experienced very severe winters. In contrast, the period from the 9th to the 13th centuries is known as the "Medieval Warm period." During this period the otherwise inhospitable Greenland and Newfoundland were colonized by

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163 Yard Par 3 eighth hole at the Refuge Golf Club in Oak Grove, Minnesota.

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