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HOLE NOTES

Official publication of the MINNESOTA
GOLF COURSE SUPERINTENDENTS'
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FROM THE PRESIDENT'S DESK

JOHN NYLUND

The July picnic was a real success at Baker Park. Host Superintendent Steve Young and his staff provided a full day for children and adults at the Lake Independence site. What a beautiful area for our annual picnic. Also thanks to Kent Kromer for his fine display of equipment at the golf course.

Our Research Committee team of Mark Smith and Don Lindblad have called a meeting of the Research Committee to begin construction on a large practice green at University Golf Course. This green will be used to test different topmixes for greens construction and will be available to our University personnel for tests of all kinds. It will also be used by the public for putting to simulate natural conditions.

A pat on the back to Mark and Don for arranging a committee and getting results in so little time. Construction on this green should start soon with plans for an early fall seeding date.

A special recognition to Chris Hague, Hazeltine Superintendent, and his crew who had the course in A+ U.S.G.A. specified tournament condition for the Senior Open Championship. Not many people know the work it takes to reach that peak but we do and we salute your efforts.

Remember next month on August 15 we are at North Oaks for our tournament among superintendents for the Championship and other events.



VOYAGER VILLAGE VIGNETTE

by THOMAS C. FISCHER
GOLF COURSE SUPERINTENDENT
VOYAGER VILLAGE COUNTRY CLUB

Voyager Village is a 6,400 acre recreational land development with an estimated 3,400 possible homesites, of which approximately 300 lots have houses on them. Another 300 lots are used as campsites with the remaining lots purchased for land investment or retirement. About 800 sites are available on the real estate market at present.

Throughout the 6,400 acres there are eight lakes with maintained beach areas and boat landings, a small ski hill, riding stable, airstrip, clubhouse, and an 18 hole golf course. The duties of the superintendent encompass all the activities of the Village.

As for the care of the golf course there is one program that I perhaps handle differently than most superintendents due to the high quantity of sand in the greens. When I first came to Voyager in April of 1978, the greens were aerified in the fall, a standard practice. During the following spring and early summer, the course would experience many isolated dry spots on the greens, and to the dismay of the golfers, the dry areas on the greens were aerified once again and then hand-watered for two weeks to ensure that the soil was thoroughly wetted to prevent recurring dryness. By this time it would be the first of July before the greens would be in excellent condition. My next approach was to use a wetting agent along with the spot aerifying to promote healing and re-wetting of the soil.

After doing the standard practice for two years I developed a better way of eliminating those isolated dry spots on the greens by waiting until spring to aerify. That next spring I aerified around the first week in May, before the isolated dry spots had a chance to form. After coring, I verticut the plugs, dragged them in for topdressing and then soaked the greens to ensure that they were thoroughly wetted. A week or so later, a granular wetting agent was applied at the normal rate over these dry areas.

This program was very successful. By Memorial Day the greens had healed and perhaps there were still a few problem spots but only one or two per green instead of 10 to 15 per green as in previous years.

I have been doing this procedure over the past four years and believe that it has helped tremendously. Other benefits from spring aerification are more sun time and less humidity for drying the plugs which also means easier cleanup, aid in healing any winter injury, and fewer complaints from golfers prior to a season of heavy play.

STOP PYTHIUM OUTBREAKS

by DR. R. C. BOWERS
TUCO AGRICULTURAL CHEMICALS

Advance planning can mean the difference between an attractive, playable course and one riddled with an unwelcome Pythium blight infection.

Pythium blight, caused by one or more species of the water-mold fungi Pythium, is considered one of the most devastating diseases that can strike a golf course. Under optimum conditions, blocks of unprotected turf may be destroyed virtually overnight by this rapidly-spreading disease.

"Conditions are ideal for Pythium blight development when the maximum daily temperature is 85 degrees F or higher, followed by 15 or more consecutive hours with 90 percent relative humidity or above, while night temperatures remain at 68 degrees F or warmer," states Dr. R. C. Bowers, Head of Plant Health Research and Development for TUCO Agricultural Chemicals. "However, fungal growth can occur from a minimum of 40 degrees F to a maximum of 100 degrees F".

One of the nation's "hot spots" for Pythium blight development is St. Louis, Missouri. "In this area, the Pythium blight seasons starts around mid-to late-June and runs through the first or second week of September," says Denis Barron, superintendent at Cherry Hills Country Club, Glencoe, Missouri, which is located near St. Louis.

"During July and August, our temperatures average 90 degrees F during the day and 70 degrees F at night, and we're constantly pressured by high humidity," continues Barron. Pythium blight, which attacks both warm and cool season grasses, is a double-threat to Barron, who manages an 18-hole course located in the transitional zone where conditions are suitable for both grass types. The 180-acre private club has C-1 (Arlington), C-19 (Congressional) and Penncross bentgrass greens and zoysia fairways and tees.

With 30,000 rounds of golf played annually at Cherry Hills, Barron can't afford to let Pythium blight gain an upper hand, so he follows a rotational program to prevent Pythium outbreaks while avoiding resistance buildup.

Water-soaked leaves with small, light brown, irregular spots and streaks signal a Pythium blight infection. "I'll see cottony growth—mycelium—on greens in the early morning dew," says Barron, who uses a microscope to help correctly identify the infection. If left untreated, Pythium blight attacks the crown and root area, killing the turf plant.

"In 1981, I applied Banol at the rate of 2.5 ounces per 1,000 square feet during the second half of June," recalls Barron, who used the systemic fungicide, which is absorbed by both roots and foliage, while it was still under an Experimental Use Permit. Banol received full registration for control of Pythium blight from the Environmental Protection Agency in 1982.

"The first application gave me four to five weeks control and carried me through to August 1 when I applied a contact material. A second application of Banol was later applied and this carried me through the rest of the year.

"Last summer I used Banol and Subdue in a rotational program to avoid any possible resistance buildup. In late June, I applied Banol at 2.5 ounces per 1,000 square feet, and because Pythium didn't break, I skipped the contact application. However, I played it safe and used Subdue at one ounce per 1,000 square feet," continues Barron. "Each product gave me five weeks of protection, but it was unusually cool and pressure was light.

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"Before we had Banol, we used to spray constantly during a heavy pressure year. We'd spray every week and sometimes every three days during intense pressure periods," recalls Barron.

"Now Pythium blight is definitely not the most important disease facing us because of products such as Banol and Subdue. With these two products, I don't worry about Pythium blight anymore."

For maximum Pythium blight control, Bowers suggests following a preventative fungicide application program. "Based upon weather conditions and disease pressure, applications should be made at 7- to 21-day intervals. Generally, three applications of a systemic fungicide, such as Banol, will suffice," notes Bowers, "since research shows that Banol's residual activity provides control up to 21-28 days. Pay particular attention to greens and fairways that have had past Pythium blight infections because living and dead grass plants, thatch and soil previously infected harbors mycelium and thick-walled resting spores (oospores). Under favorable conditions these spores can germinate within three hours and rapidly infect healthy tissue." But also beware of spread to new areas because, as Barron notes, "equipment and golfers' shoes can easily spread the disease to other areas, especially if you have excessive rain."

In addition to timely fungicide applications, follow good management practices. To discourage fungal activity, Bowers recommends that courses be adequately drained, clippings removed promptly, thatch maintained at less than one-half inch and proper fertility programs followed. Adequately drained and properly fertilized turf is healthier and more disease resistant.

"If you have poor drainage, Pythium blight often shows up in these spots," says Barron. "This is especially true," echos Bowers, "in low-lying areas where drainage and air movement are restricted."

High levels of calcium and potassium also tend to reduce the susceptibility of turfgrasses to Pythium blight. In addition to Barron's regular fertilization program which consists of

5 pounds of nitrogen and 3 1/2 pounds potassium per 1,000 square feet per year, he applies an extra 1/2 pound of potassium per 1,000 square feet in late May or early June. "This extra potassium helps ensure that my turf is as healthy as possible going into the stress months of summer", explains Barron, who maintains pH levels of 6.4-6.8 on older greens and 7.0 on newer greens. "I may apply extra calcium if soil tests indicate it is needed."

Irrigation is performed on an "as needed" basis. "Our watering program is designed to keep grass from being stressed, yet we do not overwater because that provides ideal conditions for development of Pythium blight," explains Barron.

If a Pythium blight infection has already started, Bowers suggests using a curative program. "By applying higher rates of Banol, the infection can be stopped and further spread prevented. In addition, if conditions favor Pythium blight development, Banol's one-day 'kick-back' activity may prevent disease symptoms from developing."

A total disease prevention program that includes regular fungicide applications and proper management practices can eliminate superintendents' worries while providing quality turf for golf enthusiasts.

EDITOR'S CORNER



July is always an exciting month. It brings about so much that we superintendents must relate to. Challenges are always just an hour or so away with the weather conditions. Heat and humidity bring stress to our "little grass plants". We all must adjust to it
continued on Page 7

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accordingly. July brings to us in Mankato our annual Loren Krugel Golf Invitational Tournament. Mankato really hummed on the weekend of July 8-9-10. Mankato has its annual "Bend of the River" celebration, complete with dancing, parade, picnics and all around general party feeling. North Mankato has its "Fun Days" with a midway and all its frolics. And the Mankato Golf Club hosts the tournament. Needless, to say, hotels and motels were full and lots of people were on hand. The weather was perfect - mid to upper 90's - fairly low humidity - what more could one ask for?

Our course was in perhaps its best condition ever. Many of our newly planted trees from the past few years are starting to fill that void left by the loss of several hundred elms. The recently decorated clubhouse lawn area is starting to draw favorable comments. Our greens were smooth and fast, the rough was challenging, and tees and fairways looked great. All in all, a super weekend.

July also brings us the annual picnic, hosted this year by the illustrious and enterprising Steven Young and the Baker Park Golf and Park facility. Once again, a beautiful day with lots of sunshine. This outing has really grown in popularity over the years. For many years, Milt and John Wiley and their charming wives hosted this picnic. We have all really appreciated their efforts and time. But when they started this, there were only a few people there. This thing has grown from a dozen or two people to well over a hundred. I'm sure that Milt and John would like to be reminded of their efforts. Thank them if you see them. Largely through their efforts has this picnic become the super event that it is.

July also brought the U.S.G.A. Senior Open at Hazeltine. I was up there with virtually my entire crew and I know many of you were there. Chris Hague did a super job in his short tenure at Hazeltine and the golf course was in really super condition.

July also brought a note of dismay for many of us. Having learned that Leif Erickson of Austin will be moving to Montana means not only a loss of a really professionally minded

superintendent but it also means a loss to our Board of Directors. Leif was just elected at our last annual meeting. His input into the meetings has been most helpful. He and Jim Wodash have been working hard on the upcoming annual conference. Leif will be missed. Our loss is Billings' gain. Much good fortune and success to a super guy.

So you see, July is quite a month. What happened in your part of the state? We have some good articles coming up. The cooperation in the past has been excellent. Many thanks to all the contributors..both past and upcoming. Have a good summer. Hope to see many of you at North Oaks on the 15th.

M.G.C.S.A. RESEARCH UPDATE WHAT'S GOING ON?

by DON LINDBLAD & MARK SMITH
CO-CHAIRMEN
M.G.C.S.A. RESEARCH COMMITTEE

Just because you have not heard much about the M.G.C.S.A. Research Committee does not mean they have been inactive. The larger Research Steering Committee composed of Garold Murphy, Russ Adams, Roger Kisch, Larry Mueller, Keith Scott, John Nylund, Don Lindblad and Mark Smith has held periodic meetings in order to best allocate monies donated by your golf courses into productive turfgrass research programs.

That may sound great, but what have they actually done? Well, in May we allocated \$3,000.00 to Penn State University to help fund Dr. Duich's project, "Effect of Management Factors on Putting Green Speed". A letter of appreciation from James L. Starling, Head of the Department of Agronomy, reads as follows: "On behalf of the Department of Agronomy and Joe Duich, I want to express our appreciation to the Minnesota Golf Course Superintendents' Association for the \$3,000.00 contributed in support of our research on putting green speed. Your interest in and support of our program is greatly appreciated. We are very proud of our research here at Penn State on turfgrass and you can feel confident that your funds will go for a good cause."

We are presently in the planning stages of a project which will result in the installation of an experimental putting green at the University of Minnesota Golf Course. This green will utilize plots of different topmixes in order to evaluate their performance under traffic. M.G.C.S.A. is collaborating with the University of Minnesota on this project. In the near future we will be evaluating research proposals dealing with stress management of Poa annua.

We would like to sincerely thank all clubs and individuals who have donated to the M.G.C.S.A. Research Fund. You can rest assured that great care is taken in the expenditure of these funds so that all projects funded will yield benefits to member golf courses.

If you have any further questions or ideas about the M.G.C.S.A. Research Program, please contact Don or Mark.

The following have contributed to the 1983 RESEARCH FUND: White Bear Yacht Club, Cottonwood Country Club, Eshquaguma Club, Wayzata Country Club, Edina Country Club, Minnesota Valley Club, Minnehaha Country Club, Loon Lake Golf Club, Olympic Hills Golf Club, Minikahda Club, Majestic Oaks Golf Club, Windom Country Club, Interlachen Country Club, Brookings Country Club, Interlaken Golf Club, Forest Hills Golf Club, Dellwood Hills Golf Club, Mankato Golf Club, Whitefish Golf Club, Owatonna Country Club, Golden Valley Country Club, New Richmond Golf Club, Indian Hills Golf Club, Somerset Country Club, Woodhill Country Club, Mr. and Mrs. Ralph Haefner, Lafayette Club, Lakeview Golf of Orono, Northland Country Club, Town and Country Club, Hazeltine National Golf Club, Willmar Golf Club, Cloquet Country Club, Detroit Country Club, Rum River Golf Club, Mora Country Club, Minneapolis Golf Club, St. Cloud Country Club, Braemar Golf Club, New Hope Village Golf Club, Southview Country Club, Hudson Country Club, River Falls Golf Club and the Minnesota Golf Association.

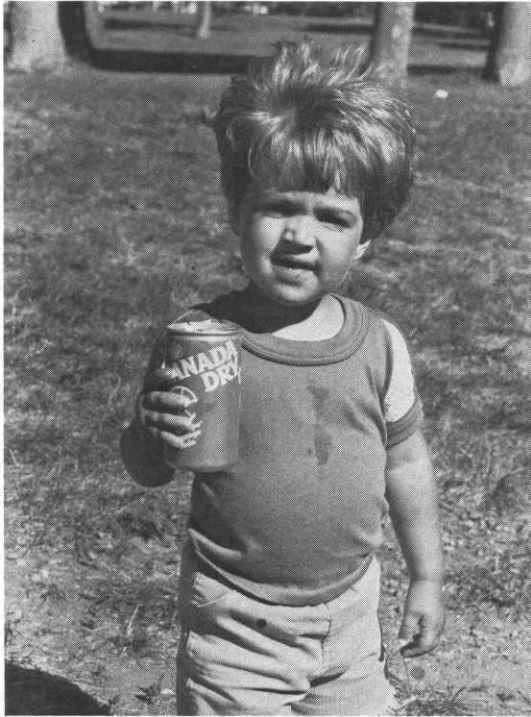
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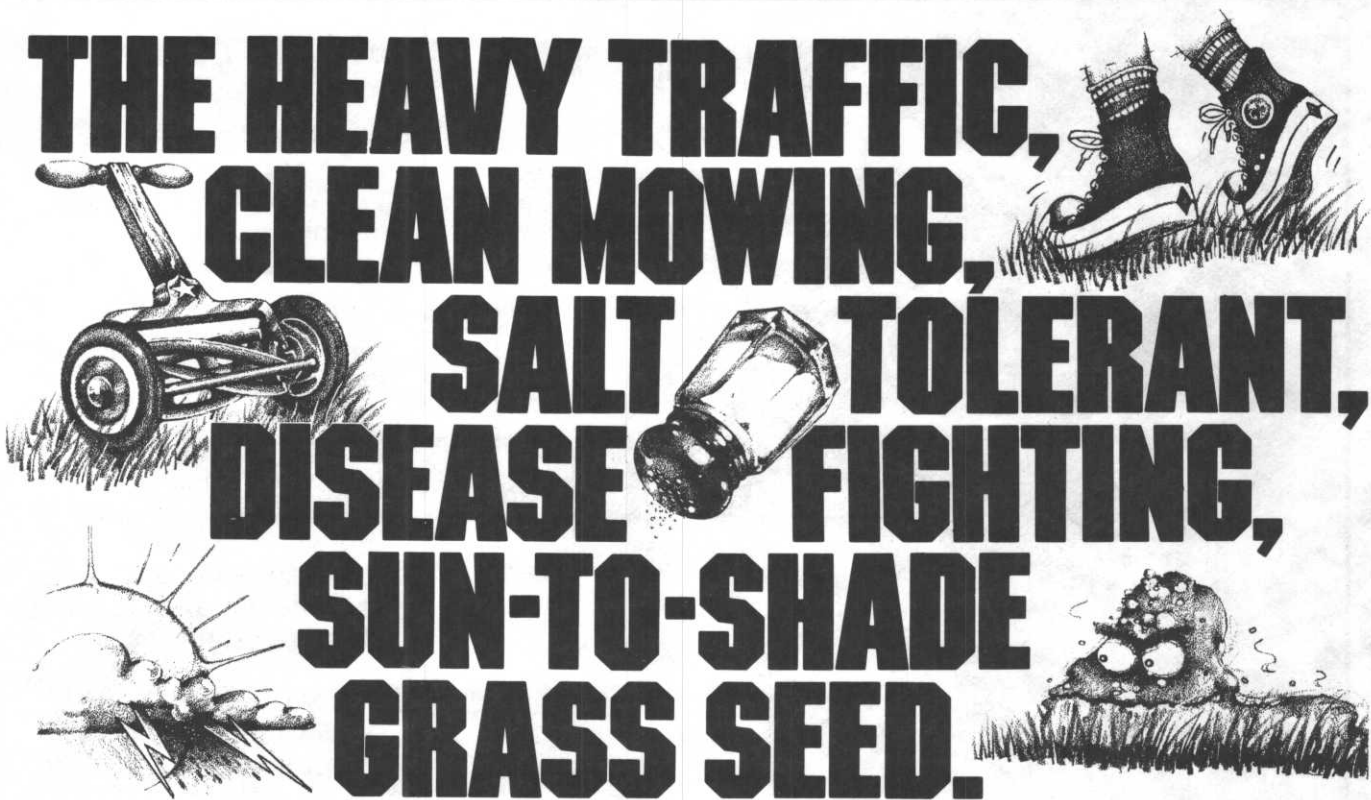
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