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OFFICIAL PUBLICATION OF THE MINNESOTA  
GOLF COURSE SUPERINTENDENTS' ASSOCIATION

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6550 YORK AVENUE SOUTH  
SUITE 402  
EDINA, MINNESOTA 55435-2383  
PHONE: 612/927-4643

ASSOCIATE EDITORS: GUY R. GREEN  
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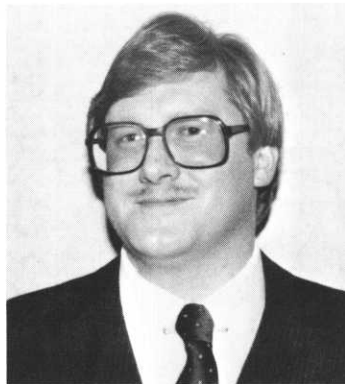
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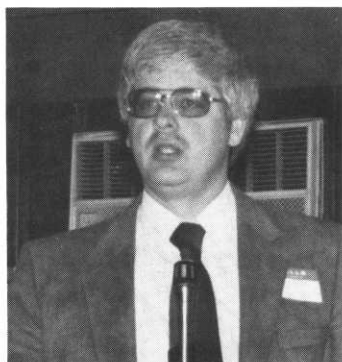
KERRY GLADER

I find it hard to believe that spring is just around the corner. I hope that we will come out of winter as well as it appeared we went into it. I've heard of some members with ice problems. I wish them the best of luck that they come out better than they think they will.

Many members traveled to the west coast for the GCSAA International Turf Conference held January 27 thru February 3. Many positive comments were expressed about the conference and of San Francisco. The seminars and sessions were all very informative and beneficial. With over 300 exhibitors at the Trade Show, I'm sure many ideas and dreams will result.

Articles in recent turfgrass publications, the USGA Greens Section Record and Grounds Maintenance, about EPA Regulations and the recently amended Resource Conservation and Recovery Act, are well worth your time to study. Areas of regulation are, Underground Storage Tanks, Pesticides and Waste Oils. By June 1, 1986 owners of underground storage tanks must notify the MPCA about the size, age, type, location, use, and contents. In addition, if any tank is removed from service, the MPCA must be notified. Also, pesticide rinse waters, containers, left-over solution, old banned or unidentifiable containers and contaminated soil and water where a spill has occurred are all hazardous waste concerns. Finally, waste engine oil, unless recycled, is hazardous even if burned or used as a supplementary heat source. Much information is needed for us to make the proper decisions for our facilities. Care needs to be taken and I urge you to do your updating on these regulations. For more information, call the MPCA 612/296-7373 or Minnesota Technical Assistance Program 1-800-247-0015 or 612/376-4404.

# RESEARCH REPORT PYTHIUM BLIGHT MICROPROCESSOR EVALUATION



by DR. WARD C. STIENSTRA  
Extension Plant Pathologist  
University of Minnesota

The prediction of disease development based upon environmental factors is a reality. Equipment and mathematical models do exist. The beginning of this process was a bydrothermograph instrument used two years at Interlachen Country Club. Today much more "High Tech" equipment is available. The ability to predict accurately the future development of a disease will improve disease management skills and lower costs by reducing or eliminating unneeded chemical applications. The objective of this research is to monitor golf course turf with such equipment and determine if predicted disease outbreaks do occur, or if outbreaks occur when they are not predicted, or if disease is predicted and does not develop and if no disease is predicted does the turf remain free of disease.

A Reuter Stokes units RSS-412 will be placed at one cooperating golf course. The exact location to be determined by myself and the Golf Course Superintendent. The site will be monitored by the superintendent and my staff to determine if Pythium does occur. Suspected diseased tissue will be sampled and examined for oospores typical of Pythium. An area near the monitored site must be left as a check area to determine when and how severe the Pythium attack is. I also suggest that treatments, timing and costs for Pythium control be compared when the

superintendent treats versus the forecaster decision to treat.

Environmental data and disease observation/documentations will be recorded with the cooperating superintendent and my staff. The frequency of chemical treatments - human vs. machine will be compared and evaluated. Success of a preventative program will be compared to a predictive programs.

The Reuter Stokes unit RSS-412 Predictor, shelter, tipping bucket rain gauge, printer and no Pythium chip was received and made operational in June and placed in the field on June 21 at Interlachen Country Club. On July 10, the Pythium Chips were installed and the system was complete and operational. Data in memory was lost July 5 and again on July 16 & 17. This was due to the rain gauge signal being feed in improperly to the computer. The signal line was removed and the remaining systems operated through September 3 when the system was no longer monitored. The Predictor was removed and will be sent to RS for rewiring to prevent rain gauge over ride problems.

Environmental data and disease predictions are presented in table form. The figures reflect the History of Environmental Data (Key 2) usually and on one day the current Environmental Data was used. Data is provided on Anthracnose; Level and Index Score and Pythium; Time Temperature was greater than 70 degrees F, Temperature Maximum-Minimum-Average, Time Leaf Wet and Pythium Score #1 and #2.

The disease predictor was set up on the edge of fairway 14, next to an area known to have Pythium the year before. A large untreated area was set aside for plot work and samples. The evaluation design was to compare the turf quality and disease development or control under three systems of fungicide management. A preventative disease program started when weather conditions were expected to be favorable for disease development, i.e. the Standard Preventive Schedule. The 2nd, a predicted disease development program started when the disease predictor indicated a "high" score for both #1 & #2, i.e. a Predicted Preventative Schedule. The 3rd, a curative application started when the disease is present and observed on the

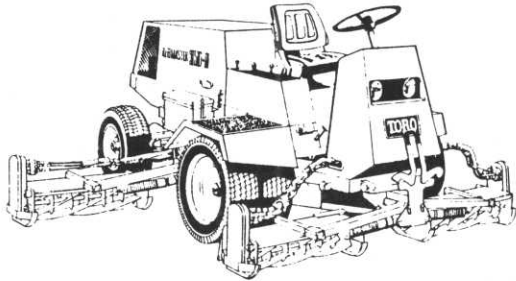
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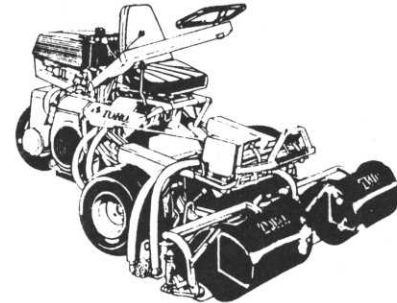


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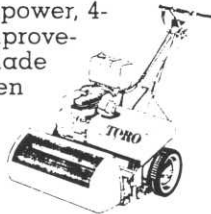
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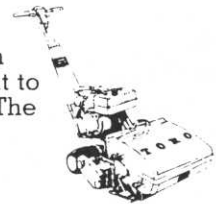
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## EVALUATION from page 3

plots, i.e. a Recovery Schedule.

In 1985 no disease developed on the plots. The Standard Preventative Schedule treatments began, 7/9 following several days of high 80 degrees and first 90 degree day. Re-treatment occurred in 14 days, however, the average temperature then was seldom over 70 degrees. The Predictive Disease Schedule did not call for any treatments and none were applied. No Recovery Treatments were made on the 3rd schedule. A final turf quality evaluation revealed no difference in plots treated or untreated with regard to Pythium damage. A few plots did have active Dollar Spot but damage was slight.

The R-S Disease Predictor, a unique monitoring system performed very well. The information record was clear and useful. A print out is nice and may not be necessary, however, in todays data oriented society, a permanent record will be wanted by most superintendents. The equipment was easy to set up, directions were clear and understandable. The loss of data, twice will not be a problem as the electronics will be rewired to accommodate the rain guage.

Disease development was not predicted by the RSS-412 in 1985 and no disease was seen. This is a positive for R-S Predictor. Some may say test results were inconclusive but in fact the results are positive. The unit successfully predicted no disease and no disease occurred. That half of the system works and additional field testing is needed to prove the other half of the system. In economic terms negative disease predictions that are correct will result in substantial savings. This is the major economic benefit of a disease predictive system. The benefit of an early disease treatment resulting in no or reduced disease damage will be measured less in economic terms and more in "quality control" and "job security". Although another year of testing is required to complete the evaluation of the Disease Predictive system it may already have shown its greatest economic benefit-prevention of unneeded fungicide applications.

Evaluation Data Table - Page 13

## RESEARCH COMMITTEE SPRING UPDATE

by DOUG MAHAL

Research Committee Co-Chairman

The MGCSA Research Program has taken a strong and positive direction in the past two years. The current projects we are funding illustrate that direction. It is only through the donations of our associate member companies and the golf and country clubs that this progressive direction can be maintained. Our program has become a model for golf turf research among superintendent associations in the country. Through your continued support, MGCSA research will continue its trend toward focused technical answers to Minnesota's technical turf research questions. A written request for funds applicable to research will be forthcoming very soon. Thank you all in advance for your monetary support of our program.

The following is a list of pre-committed research funding for 1986:

- \*Summer Patch Study (Dr. J. Vargas)  
2nd year of 3-year program
- \*Poa annua - Bentgrass Competition Study  
(Dr. A. Douglas Brede)  
2nd year of 3-year project
- \*Pythium Blight Microprocessor Evaluation  
(Dr. W. C. Stienstra)  
2nd year of 3-year project
- \*Biological Snow Mold Control Study  
(Dr. W. C. Stienstra)  
2nd year of 3-year project
- \*GCSAA Research Program  
(Tissue Culture Work)
- \*USGA Research Program  
(Tolerance Breeding Studies)  
(Establishment of Turfgrass  
Information Center)

The MGCSA Research Committee has also recently contacted 29 noted turf researchers in an effort to obtain research project proposals which we may be further interested in funding for 1986.

As further funding decisions are made or other pertinent research information becomes available, additional updates will be published.

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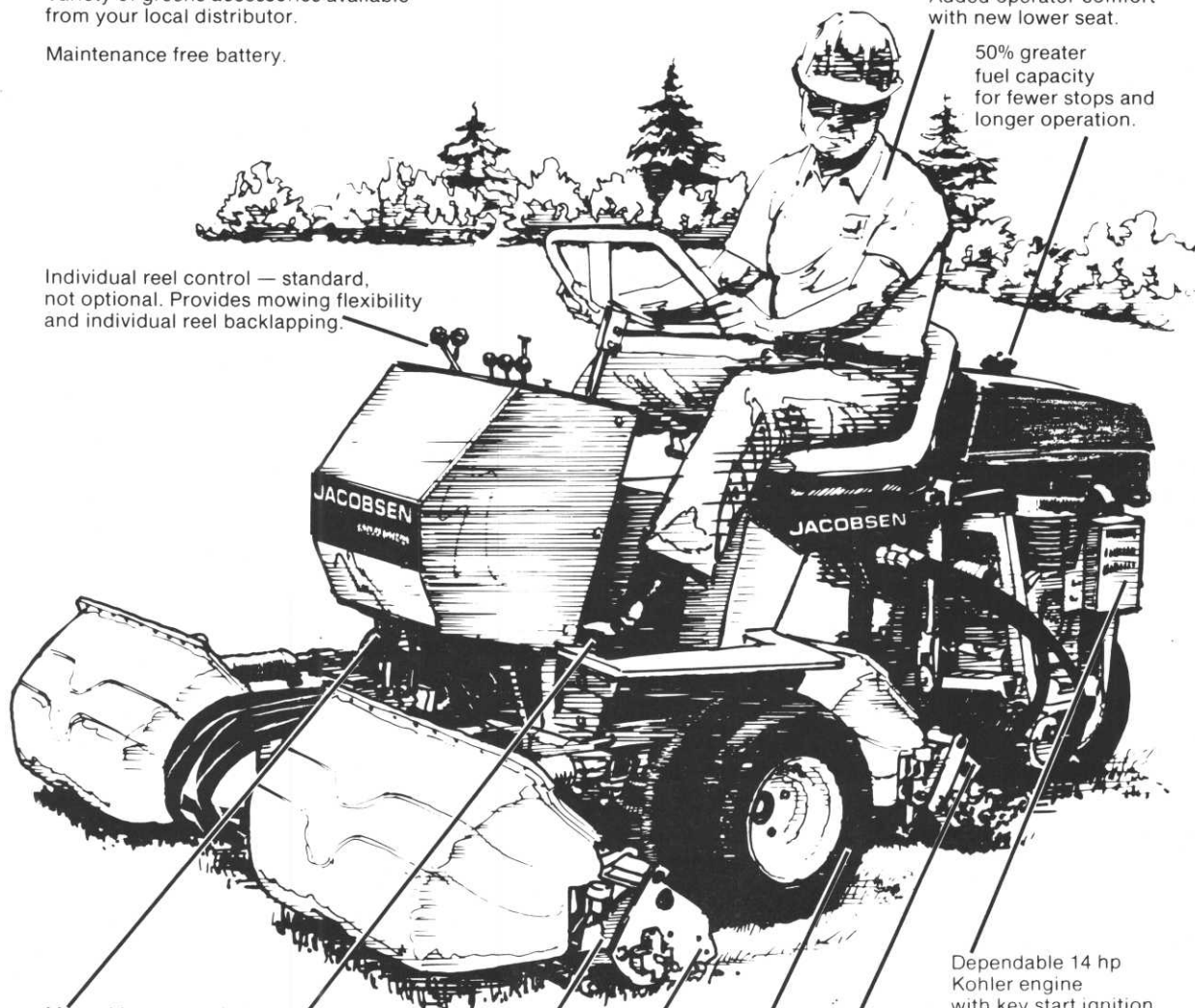
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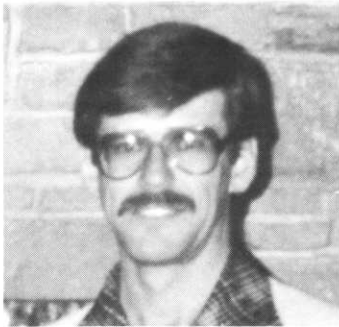
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## EDITOR, S CORNER

RANDY NELSON

Well, the 1986 GCSAA Turf Conference and Show held in San Francisco is history, and for those of you that were not able to attend all I can say is, "You missed a great conference."

The festivities started early for the eight of us who participated in the GCSAA Golf Championships held in Palm Desert, California. A two-man best-ball event was held on Saturday, January 25 for players from two different chapter organizations. This was an enjoyable event because it provided each of us the opportunity to meet new friends in the turf industry and enjoy a round of golf. The Championship took place on Monday, January 27 and

Tuesday, January 28 with the winners being decided by combining both days scores for low gross and low net. Chapter team scores were decided by taking 3 of the 4 best rounds for both days and awarding low gross and low net team winners. Unfortunately, neither of our MGCSA teams rallied to capture any team honors, however, Fred Anderson from Purple Hawk Country Club did win the coveted third place honors in the black and blue division, (oops, I meant the black flight), with rounds of 78 and 76. Nice going, Fred, but you won't be able to talk anyone into giving you strokes from here on out. The weather was ideal with highs in the 80's and beautiful clear skies. Anyone jealous yet. Palm Valley Country Club and Monterey Country Club are position courses with many of the desert courses characteristics. Those being: Short, very rolling layouts, many beautiful lakes and palm trees, waterfalls and condos lining most of the holes. It is a perfect place to play winter golf and we all enjoyed our chance to compete in this event.

The GCSAA Turf Conference and Show got off

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**TOM HAUGEN**

to a good start with many seminars that were provided for members, and General Charles E. "Chuck" Yeager provided an entertaining keynote speech on aircraft and his experiences. As the week progressed the amount of expertise and knowledge offered by the researchers, the suppliers, and our fellow superintendents was overwhelming in each of the sessions. The equipment show was truly the largest ever assembled for GCSAA, and new innovative ideas are becoming reality as our turf industry manufacturers strive to provide us with the products we tell them we need. For new members of GCSAA attending a conference of this magnitude must be overwhelming, but for those of us that have attended many nationals, I feel it reassures the inner feeling that we are part of a truly great industry and the GCSAA.

Our executive board of MGCSA was able to receive some noteworthy recognition by personally presenting checks earmarked for research to fine research projects being conducted by the USGA, GCSAA, and the Musser Foundation. This personal touch made the donations more meaningful and was

exceptionally gratifying.

Even though another national conference has ended, our MGCSA board continues to push forward into the new year scheduling meetings intended to instruct, inform, and to be enjoyed by all our members. Look for the flyers as they arrive monthly, fill them out, and return the pre-registration forms as soon as possible to make the Arrangements Chairman's job that much easier.

I have received a good number of responses to my request for articles to publish in our HOLE NOTES newsletter. I wish to thank those individuals for taking the time to write and share their ideas. To the rest of our silent membership, I will continue to pry the vast knowledge you as superintendents harbor in your minds out for our fellow members to learn from and experience your accomplishments.

### NOTICE

Membership dues for 1986 are now due and payable. Deadline for receipt is March 31, 1986. The new Directory will go to press shortly after that date so be sure your dues are in if you want to be included.

# New Convenient One Piece Cap

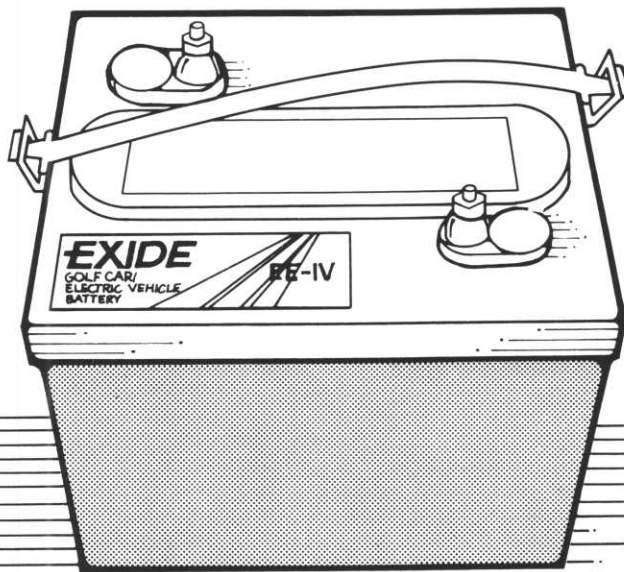
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# MINNESOTA'S GOLFING HERITAGE



## NORTHLAND COUNTRY CLUB

FIRST IN A SERIES      Part 3

by W. K. Montague  
President 1936-37

As early as 1917 there was discussion of the possibility of buy land on top of the hill so as to have all eighteen holes on the upper side of Superior Street. In October of 1921, the Club purchased 160 acres of the necessary land from T. F. Cole for \$84,000. A month later there was submitted to the Directors a proposed plan for the new course, prepared by Mr. William Watson, a golf architect who had been recommended by Donald Ross to the Club. However, the members wanted Donald Ross himself to lay out the course, and in the fall of 1922, he undertook the job of course architect and supervised its construction.

The President's report for that year states that: "The committee feels he has laid out what would make one of the finest 18 hole courses in the United States. \*\*\*In addition he has left sufficient amount of the less desirable part of the property, from the golf course standpoint, that will be available in making an additional nine hole course, if the Club's needs should ever require it."

During the planning there was so much controversy over the fact that the ninth green was not at the Club House that Ross was called back to reconsider the plan of layout, but the final decision was that it was not practicable.

The new course was put into play in 1927

and, except for the usual filling up of old bunkers and putting in of new ones, is the course we play today.

In the annual financial report of March 1903, there is an item "Board and Room for Watson, Instructor, \$61." This is the only appearance in the Club records of J. Martin Watson, our first golfing teaching professional. He later lived in Boise, Idaho, and wrote golfing articles for a Pacific Coast golfing magazine. He has been quoted as saying: "It may be of interest to you to know I was the first teacher in Duluth—the old Northland Golf Club. It was a short, but happy outing. I think the President was a banker by the name of Cutler. I also visited Superior—then returned to my club—the Minikahda Club of Minneapolis."

The first formal professional was J. Moffett, who was succeeded by M. W. Lawrence. Then came Willie Leith, who was a crack golfer.

For about twenty years the members took their lessons from, and tried vainly to match their skill against Dick Clarkson, who later lived in retirement near Carnoustie, his birthplace. In Clarkson's shop worked another Carnoustie product—Kenneth Smith—whose fame as a clubmaker is now nationwide. In recent years he has been an occasional visitor of our Club. Clarkson was followed by George Carney, who later was one of the professionals at Pinehurst, and a contributor of articles to THE GOLF WORLD.

Then came Harold Clasen, friend of every member, who met a tragic death by drowning in 1953. The present very popular professional, Everett Stuart, came to Northland from the Sankuty Head Club on Nantucket Island.

The Club has had its ups and downs; it went into the depression of the 1930's heavily loaded with a \$250,000 mortgage given to fund the indebtedness for the new Club House and to pay for the new course. It was saved only by a court reorganization and the tolerance of the bondholders and banks.

The rights of women members and wives of members of the Club have been pretty well established and defined in recent years. They now have a women's committee and

specific provisions relative to their use of the Club House and golf facilities.

This is the Club which in 1946 was host to the Western Amateur Championship, and in 1956 to the U.S.G.A. Women's Open Championship. It has been the scene of Minnesota State Amateur Championships, as well as the State Women's Championships on quite a few occasions.

## KAYE CORPORATION OPENS IN EDEN PRAIRIE

Kaye Corporation, Mankato based distributor for Ransomes and Ransomes Bob-Cat Commercial Grass Machinery has announced the opening of a full branch facility in Eden Prairie, MN. The announcement was made by Marlin Lloyd, president of Kaye Corporation, and is effective immediately. Lloyd commented, "This new facility will enhance our positioning in the commercial grass

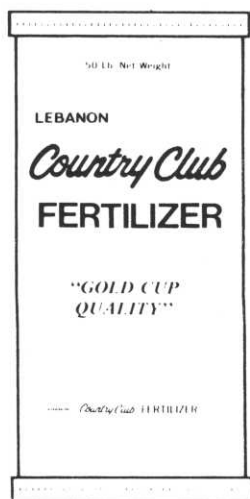
machinery market and will better enable us to serve the Minneapolis/St. Paul metro markets."

Prior to the opening of the branch, Kaye had used various warehousing space in the Metro Area. The new branch will be staffed with only Kaye Corporation employees and will also house full parts stock as well as a Commercial Division Service facility.

Kaye Corporation, founded in 1944, is also the Distributor for Snapper Mowers, Green Machine high performance yard care products, Amerind-McKissic, and Jari Sickle bar mowers. Kaye Corporation entered the Commercial Grass Machinery product line four years ago and now covers all of Minnesota, Western Wisconsin, as well as North and South Dakota. Their new address in Eden Prairie is 8000 Wallace Road and the phone is 612/934-8448.

Kaye Corporation will continue to have its Corporate Headquarters in Mankato and an "open house" at the new facility is planned for early spring. Look for the announcements.

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