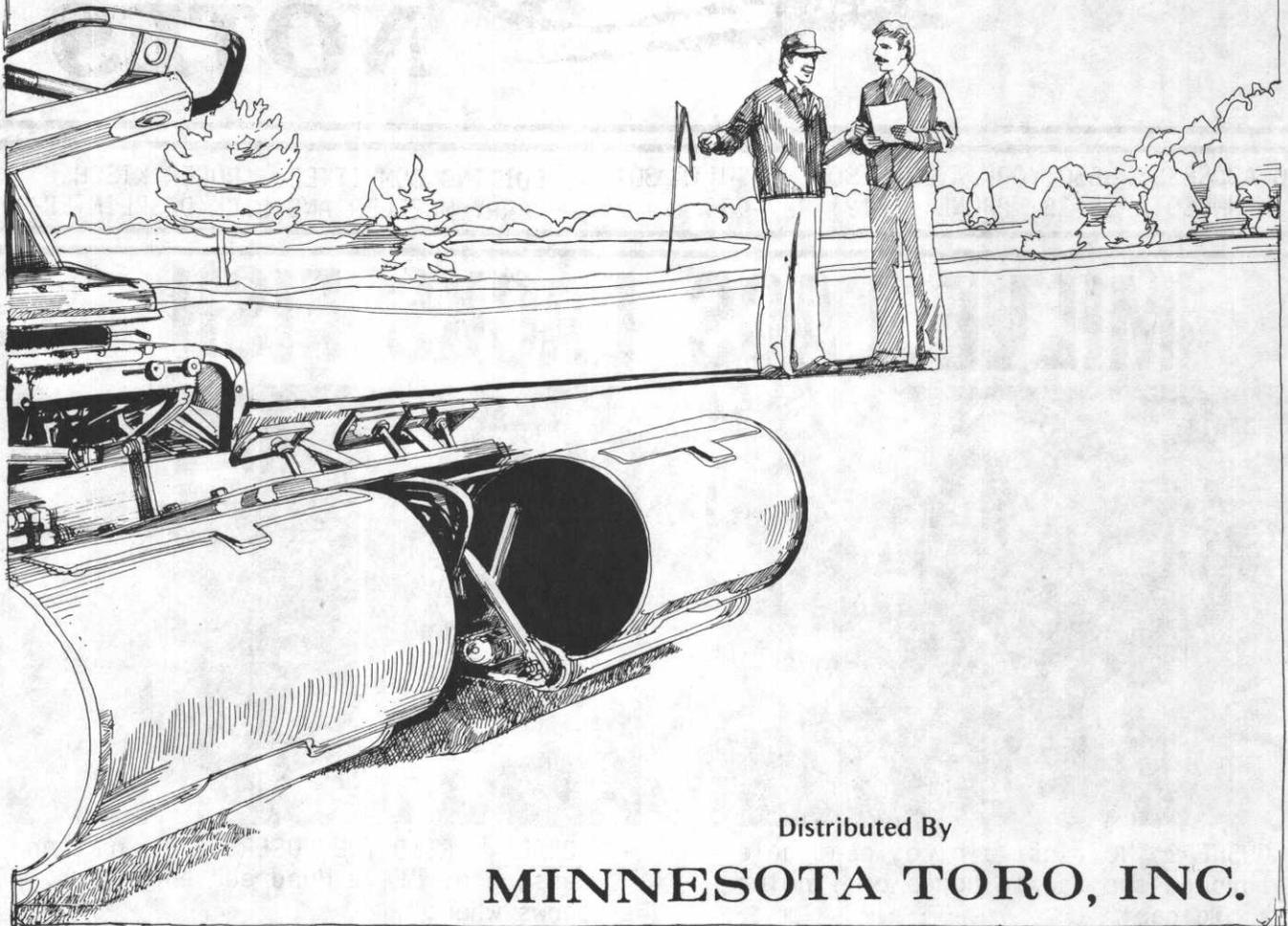


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product. Your local USS Vertagreen distributor can tell you much more about the advantages of nitrogen derived from urea-formaldehyde, the chelated iron, sulfate of potash and the guaranteed amounts of secondary and micro-nutrients in this fine product. USS Tee-Green is another reason we say, "see the best, for the best" — and that's your local Vertagreen distributor. He can always deliver.



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Division of United States Steel

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# ICE - THE WINTER OF 1979 - 1980

WARD C. STIENSTRA, DEPT. OF PLANT PATHOLOGY, U OF M

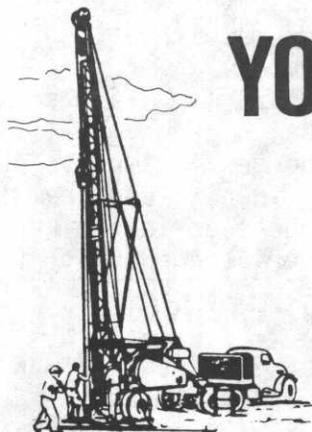
While it's too early to say that winter disease will be down from the high level in 78-79 it does appear that most turf areas went into the winter season in good to excellent condition. The long warm fall was quite dry and the turf was completely dormant when our first snow arrived. Little snow cover persisted and slowly but surely the winter is becoming an open dry type. Little moisture and the warm winter season now has developed another potential problem, ICE - reports of 2-3" and up to 6" at some locations.

An ice cover is often related to winter injury. Ice is believed to function as a barrier to gas exchange. The lack of oxygen, i.e. suffocation or the presence of toxic gases, i.e. poisons like CO<sub>2</sub> or cyanide from respiration or oxidation of organic matter. The production of hydrogen cyanide gas in plant tissue is known for some low temperature fungi in the snow mold group.

Direct injury from ice cover has not been a major cause of winter injury when compared to desiccation and snow molds. Most perennial, cool season turfgrasses can tolerate continuous ice coverage for more than 60 days without significant loss of turf plants. Creeping bentgrass is quite resistant to ice cover injury. Kentucky bluegrass is less tolerant and annual bluegrass can be thinned when ice cover persists for longer than 75 days.

The degree that ice prevents gas exchange varies greatly. Clear ice stops air movement much more than ice that is white or granular. Also less injury is reported from ice cover when snow is layered in or below the ice. Turfgrass injury from ice cover may be indirect also. If water drainage is restricted - surface or internal, the plants may become saturated and then temperatures dropping below 20°F will kill the meristem. Fungi can also be active under ice for a long time period as the moisture level remains high.

Ice cover disruption should be considered if continuous ice cover exists for more than 60 days. The creeping bentgrasses can tolerate over 100 days of ice coverage. Ice cover removal should be considered if melting snow and ice will cause saturated crown tissues and a greater probability of spring low temperature kill. Up to 1" of ice should be left to minimize damage to turf and to provide protection from desiccation. Removal should be done prior to thaw. If removal is impossible, improve surface drainage by creating channels for water to move off the green area. Secondly, encourage thawing by punching holes in the remaining ice every 2-3ft. and/or apply a dark organic material - solar power.



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MEMBER: M.G.C.S.A. AND G.W.I.

# THE DIRECTORS CORNER



THIS IS A NEW FEATURE THAT WILL CARRY AN ARTICLE BY ONE OF THE OFFICERS OR DIRECTORS IN EACH ISSUE. THIS WEEK FEATURES THE VICE-PRESIDENT, DENNIS HENDRICKSON.

The primary function of our association is education. Two of our tools are our monthly meetings and our annual conference. At present both are being carefully scrutinized in hopes of improving them. Among the changes being considered is a change from a dinner meeting to a noon luncheon. This would allow all those who drive long distances to return home earlier in the evening. We are all aware of the danger of late night driving. A change in the entire format of our Annual Turf Conference is also being investigated. Many feel that it could be made a more attractive educational experience. Some feel the present format has a tendency to discourage attendance at our Annual Business Meeting and Banquet. Please give the survey very careful thought and return it with any comments you might have. Our goal should be meetings which will provide quality education in as professional a manner as possible.

I would like to encourage everyone to make a special attempt to attend as many of our meetings as possible. The meeting dates and sites for 1980 are in this issue of HOLE NOTES. You will see that every meeting is at an interesting and beautiful site and nearly all are clubs where we have not had a meeting for a long time, if ever. Mark the dates on your calendar now so you can work the meetings into your schedule more easily. I'm sure you would all agree that a part of the learning experience at our meetings is in seeing a golf course you have not seen before.

As Dick DeSplinter mentioned in his letter last month, communication is very important in our education. Whether it is a brief discussion over the phone or a lengthy discussion at one of our meetings, by talking and sharing ideas with others in our profession, we learn. The M.G.C.S.A. is growing very rapidly, making it possible for us to meet and share ideas with more and more people. This fellowship is very basic to our education. We should all make it a point to meet the new members of our association, learn their names and expand our sphere of friends. A challenge that each of us can give ourselves is to learn to know at least one new member at each of our monthly meetings. If you are able to do this, you will go home with a good feeling of accomplishment.

I hope as our association grows we will all strive to make changes to improve our educational tools and then to use them to improve ourselves. Education is the key to becoming a better Superintendent.

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          1 GOLF COURSE TECHNICIAN  
SALARIES COMMENSURATE WITH EXPERIENCE.  
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TELEPHONE 612/922-9012

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turf gets  
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and scuffed  
and it still  
looks great.**

**But that's  
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*That's just why so many pros like you specify turf seed from Northrup King. For years, Northrup King has given pros all they need—low maintenance varieties, winter hardy blends, special mixes for specific geographic problems, and expert help in selecting the right one.*

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*Or talk to someone with great looking turf.*

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# FEBRUARY IS NEW MEMBER MONTH

Bill Johnson, Chairman of the M.G.C.S.A. Membership Committee in 1978, established February as "New Membership Drive" month. In keeping with this format, I am again requesting that each of the current M.G.C.S.A. members contact a superintendent at a nearby club who is not a member and give him the opportunity to join our association. Please take a few minutes to speak with him about the many benefits our association has to offer. Then go one step further and invite him to the March meeting.

If you have read the January issue of HOLE NOTES you already know that one of Dick DeSplinter's goals is to increase member communication and participation. I can't think of an easier way of accomplishing this than by increasing the size of our membership. New members give us new ideas, new enthusiasm and added interest. New members will strengthen our association and we all benefit from that. So don't let February go by without helping a fellow superintendent become an active member in our association!

A hearty welcome is extended to the following people who were accepted as members during the January meeting at Izaty's: Pictured left to right, Ritchie Just, Class A, Terrace GC, Staples; Fred Route, Class BII, Pine City CC; Donald Krupke, Class BII, Koronis Hills GC, Paynesville; C. Bruce Klinkner, Class B, City of Richfield G.C.

Steve Young  
Membership Chairman

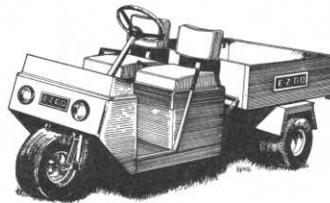
## E-Z-GO



**E-Z-GO GOLF CAR  
THREE WHEEL MODEL**

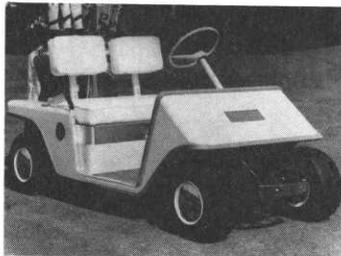
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**E-Z-GO GOLF CAR  
FOUR WHEEL MODEL**

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### 1980 MGCSA MEETING SCHEDULE

FEB. 18-22	GCSAA Int'l Turfgrass Conf.
MAR. 11	Majestic Oaks C.C. 1:00-5:00
(Tues)	Educational Meeting
APR. 14	Keller Golf Club
MAY 5	North Oaks C.C.
JUNE 9	Town & Country Club
JULY 14	Braemar (Family Picnic)
AUG. 11	Lake City Country Club
SEPTEMBER	Annual Golf Tournament
OCT. 13	Hastings Country Club
NOV. 10	Hanson House, Long Lake
DECEMBER	MGCSA ANNUAL CONFERENCE

# Minnesota Golf Course Superintendents' Association

AFFILIATED WITH THE NATIONAL GOLF COURSE SUPERINTENDENTS' ASSOCIATION

WHEN COMPLETED RETURN APPLICATION TO:

STEVE YOUNG  
BAKER PARK GOLF COURSE  
P.O. BOX 296  
MAPLE PLAIN, MINN. 55359

TELEPHONE: 612/473-7418



## Membership Application

I HEREBY APPLY FOR MEMBERSHIP IN THE MINNESOTA GOLF COURSE SUPERINTENDENTS' ASSOCIATION:

PLEASE PRINT OR TYPE

NAME \_\_\_\_\_ AGE \_\_\_\_\_ SINGLE \_\_\_\_\_ MARRIED \_\_\_\_\_  
HOME ADDRESS \_\_\_\_\_ HOME PHONE: A/C \_\_\_\_\_ WIFE'S NAME \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_  
CLUB \_\_\_\_\_ WORK PHONE: A/C \_\_\_\_\_  
CLUB ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SEND MAIL TO HOME ADDRESS ( ) CLUB ADDRESS ( ). PLEASE CHECK ONE.

SEND 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ COPIES "HOLE NOTES".

ARE YOU WILLING TO JOIN THE NATIONAL ASSOCIATION IF ACCEPTED? YES \_\_\_\_\_ NO \_\_\_\_\_

MY PRESENT POSITION IS \_\_\_\_\_

LENGTH OF SERVICE IN PRESENT POSITION \_\_\_\_\_

I AM APPLYING FOR CLASS: PLEASE CHECK ONE.

- |                         |   |
|-------------------------|---|
| \$25.00 _____ CLASS A   | SUPERINTENDENT FOR THREE YEARS OR MORE.                               |
| \$25.00 _____ CLASS B   | SUPERINTENDENT MORE THAN ONE YEAR BUT LESS THAN THREE YEARS.          |
| \$25.00 _____ CLASS BII | SUPERINTENDENT FOR LESS THAN ONE YEAR OR AN ASSISTANT SUPERINTENDENT. |
| \$15.00 _____ CLASS C   | STUDENT   |
| \$15.00 _____ CLASS D   | TECHNICIAN  |
| \$35.00 _____ CLASS F   | ASSOCIATE MEMBER OR OWNER   |

AMOUNT ENCLOSED: \$ \_\_\_\_\_ . ONE YEAR'S DUES MUST ACCOMPANY THIS APPLICATION  
REFUNDED IF NOT ACCEPTED.

I PROMISE TO OBSERVE AND ABIDE BY THE BYLAWS OF THE ASSOCIATION.

DATE \_\_\_\_\_ APPLICANT'S SIGNATURE \_\_\_\_\_

OVER



# NUDGING THE SUPERINTENDENT

Whether we think so or not, each one of us on occasion can use a little refresher course or prodding to stimulate the adrenalin toward the betterment of our golf courses. And what better way can we accomplish these objectives than by attending the GCSAA's 51st International Turfgrass Conference and Show.

First of all, let's have a goodly representation in St. Louis. Attend the meetings that you feel might be most closely associated with your problems. Perhaps it could be communications. Whether it be factory representatives claiming a superior or improved product and being a bit over zealous about the whole thing or whether it be some gold bricking machine operator you find basking in the sun, there is a reason for it all, and the ability to converse with these people without its creating high blood pressure is indeed a virtue worthwhile.

Perhaps equipment "down time" is your pet gripe. Would it be advisable to purchase new equipment or repair the old machine? Perhaps you or your mechanic do not have the particular "know how" for a good repair or the machine is so obsolete that to have it repaired would not be feasible. The time wasted, the cost and the course appearance due to the breakage are all items to be considered.

GCSAA's Conference theme, "Conservation, Our Key to the Future", has many sessions which relate to this.

Conservation of Personal Resources, a series about family finances, insurance, dealing with stress and alcoholism; Conservation in Key Areas, conserving water, power, fuel and fertilizer; Using Some Keys, fighting diseases; Unlocking Potential, golf course design, construction and course marking; Conservation of Resources, installing and designing irrigation systems; Important Keys to Business Management, for golf course owners dealing with tax assessment, food service, buy or lease equipment; Thinking Superintendents, improving course maintenance, course accessories, transplanting trees, fertigation and using effluent water and drip irrigation.

The Turfgrass Show which opens on Tuesday morning and runs until Thursday afternoon has 225 companies participating. They include manufacturers to maintenance equipment to chemical companies.

Anyone not understanding products, equipment, bring your list and find the factory rep and he will be glad to help. One could go on and on with positive reasons for attending the GCSAA Conference and Show and know that it would be extremely beneficial. I am also sure that we would be able to impart many suggestions to superintendents who do not have to cope with our extreme climatic conditions. The benefits that we receive and the knowledge and ideas which might be incorporated in our operations have no ending.

ATTEND THE CONFERENCE AND SHOW, FEBRUARY 17-22 IN ST. LOUIS. SEE YOU IN ST. LOUIS!

The Golf Course Superintendents Association of America's  
**51st International Turfgrass  
CONFERENCE AND SHOW**  
Conservation ... Our Key to the Future

# SUPPORT YOUR UNIVERSITY

The resolution that appears below was adopted by our association at our November 1977 meeting. What the resolution means is that our association is 100% behind the University of Minnesota in their attempt to get the State Legislature to appropriate funds for the new building. This building would house the Agronomy, Plant Genetics, Soil Science and Plant Pathology departments. In December of 1977 you were requested to write letters to your legislators in support of the building. The 1978 Minnesota Legislature did appropriate \$574,103 for working drawings of an addition to the buildings of the three departments. The University of Minnesota's central administration and the Board of Regents have approved and submitted to the 1980 Legislature a request for construction funds of \$13,778,466.00. We are again requesting that you write your respective State Senators and Legislators in support of the new building. We would also like your members or golfers to write. We hope we can do as well this time as we did in 1977.

THANK YOU! Dennis Hendrickson, Vice-President

## RESOLUTION OF THE MINNESOTA GOLF COURSE SUPERINTENDENTS' ASSOCIATION

WHEREAS, culture and maintenance of quality turf on sportsfields is important to the physical and mental well being of Minnesotans, and

WHEREAS, many of the principles of turf management are closely related to those of production of many of our agricultural crops;

WHEREAS, improving the quality of turf in Minnesota and protecting it from diseases, and improving and protecting the basic productivity of the soil resources is to the advantage of all citizens of the State;

WHEREAS, resources previously allocated to agricultural and turf research and education in Minnesota have been an investment in the future of, rather than an expense to, the State;

THEREFORE, BE IT RESOLVED, that the Minnesota Golf Course Superintendents' Association urges the 1978 Minnesota Legislature to appropriate funds to provide (at the earliest possible date) additions to the buildings of the departments of the University of Minnesota charged with primary responsibility for dealing with many of the important turf grass problems and for improving the efficiency of crop production (Agronomy and Plant Genetics, Soil Science, and Plant Pathology), because these additions will enable these departments to pursue promising new research for which increased Federal funding is available, and to continue to make contributions to the State and Nation of which they are capable, both in research and in providing educational opportunities for young people of the State who will become the leaders of tomorrow.

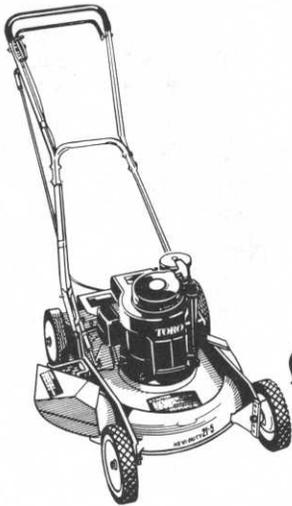
## REGIONAL PESTICIDE WORKSHOPS

A pesticide applicator training session will be held on February 25 at the Student Center on the St. Paul Campus of the University of Minnesota. To renew your license you must either attend an approved training session such as above or complete a renewal mail-out examination. The training session listed above will cover the following license categories: E-Turf (9:00 a.m.), F-Aquatic (9:00 a.m.); J-Rights of Way (9:00 a.m.); G-Forest Spraying (11:00 a.m.) and I-Tree Treatment (1:30 p.m.) The registration fee is \$5.00 and registration begins at 8:00 a.m.

For those applicators who have never acquired a license, new applicator training sessions will be held on the following dates and locations: March 11-12, Rochester; March 12-13, Marshall; March 13-14, St. Cloud; March 18-19, Crookston. For more information on these sessions, contact Michael Fresvik at 612/296-8547.

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## HEAVY DUTY MOWERS



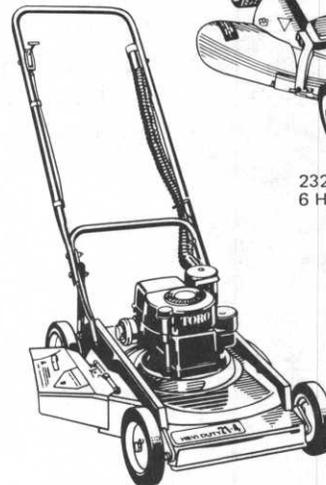
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5 HP



23022 HEVI DUTY  
5 HP



23370 HEVI DUTY  
2 cycle



23400 HEVI DUTY  
4 HP



23267 HEVI DUTY 25"  
6 HP

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The heavy duty trimmer that delivers that extra cutting ability when the going really gets tough. The 30cc engine delivers its power smoothly through the drive shaft to the fixed nylon head. Handle bar has no-slip hand grips equipped with throttle control and a toggle type kill switch. Extra wide shoulder straps reduce operator fatigue. Optional accessories include an automatic line feed head, circular saw blade or 10" weed cutter blade to add versatility to this powerful trimmer.



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