

average of 12" over a 10-week period, whereas brushing alone was near identical to the check. Combined brushing and verticutting was similar to just verticutting.

At 4/32", verticutting only increased speed about 3" over the control, and the combination treatment was similar. Brushing alone was slightly slower than the check for five weeks, and only slightly faster for the next five. The quality or trueness of ball roll is being studied in this test, and another on multiple varieties. It is difficult to quantify trueness of ball roll.

5) Mechanical rolling effects were studied using an "Augusta" sand box and frame weighing 70 additional pounds mounted on a Jacobsen walker mower. Treatments on Penneagle at 4/32" consisted of single and double rolling after rolling for 2 to 6 consecutive days. Single rolling increased speed from several inches to approximately a foot proportionate to number of days rolled; whereas double rolling increased from 12 to 18 inches, also proportionately. In all cases rolling effects subsided to control levels the second day after rolling ceased.

6) Quantification of firmness. It is assumed that firm green surfaces roll faster, but subjective measurements of firmness has never been achieved. Preliminary results using an Instron compression analyzer are very promising. Continuous compression at variable weight pressures appear capable of measuring just the foliar deformation, as well as thatch or other underlying materials under the canopy at higher pressures. In 1984 we plan to use this instrument to further refine firmness under various management variables, and hopefully to correlate firmness and speed.

All aspects of this year's work will be continued in 1984, as well as other variable or modifications.

WHAT DO WE DO WITH OUR RESEARCH FUNDS ?

DALE CALDWELL
MARK SMITH
CO-CHAIRMEN, RESEARCH COMMITTEE

Turf research is the foundation of the future of the turf industry.

In an attempt to create more professionalism within the Research Committee of M.G.C.S.A., policies and procedures have been changed over the past two years. Presently, various researchers are requested to submit proposals which include budgets and outlines of objectives and procedures with timetables. These proposals are discussed in committee and then funded if deemed necessary and appropriate for our area and purposes. Proposals are initially funded with a portion of the requested budget with the remainder given upon receipt of progress reports. These reports are released to the membership through the HOLE NOTES.

The following programs were funded in 1983:

- 1) Dr. Joe Vargas of Michigan State University for research on Gaeumannomyces. \$2,000.00.
- 2) Dr. J. M. Duich of Pennsylvania State University for research dealing with putting green speed. \$3,000.00.
- 3) Dr. Ward Stienstra of the University of Minnesota for research on Snow Mold control. \$1,150.00.
- 4) \$400.00 was contributed to G.C.S.A.A. for their research programs.

The following programs were funded in 1984:

- 1) The construction of a demonstration green at the University of Minnesota Golf Course. \$1,200.00.
- 2) Dr. Don White of the University of Minnesota for research on Poa annua stress management. \$3,500.00.



WASHINGTON, D.C.

February 5-13, 1985

**56th International Golf Course
Conference & Show**

3) Dr. Ward Stienstra of the University of Minnesota for continued research on snow mold and summer disease problems. \$2,878.80.

This year Associate Members were asked to contribute to the Research Fund for the first time and we would like to thank the following organizations for contributing to the cause:

Turf Supply Company
Cushman Motor Company
Par Aide Products
Leitner Company
Golf Car Midwest
National Mower Company
Fitz Brothers, Sales and Service

Receipts:

1982.....\$ 6,300.00
1983.....\$ 6,240.00
1984.....\$ 8,228.00

Expenditures:

1/10/83 Stienstra, Fung. studies
\$3,240.00
5/12/83 Duich, Putt. green speed
\$3,000.00
9/26/83 Vargas, Gaeumannomyces
\$2,000.00
11/28/83 Agri. Systems, Test topmix
\$ 500.00
12/20/83 G.C.S.A.A., Research
\$ 400.00
4/11/84 White, Poa annua stress
\$2,000.00
6/12/84 Stienstra, Fung. studies
\$1,150.00
8/22/84 Taylor, Exp. green
\$ 378.90
9/30/84 Leitner Co., Exp. green
\$ 488.79

We would like to thank the following contributing clubs for their generosity:

continued on Page 10

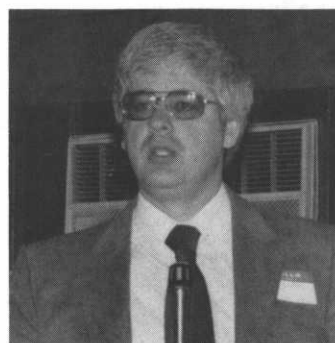


with the true heritage and traditional founding of the game.

"The award is presented to an individual who, through a continuing, selfless commitment to the game of golf, has helped to further the welfare of the game with the same dedication and zeal demonstrated by Old Tom Morris," said James W. Timmerman, CGCS, President of GCSAA.

"President Ford was selected for this award because he exemplifies some of the same characteristics that Old Tom demonstrated throughout his life. Ford's love for the game of golf is known around the world. Mr. Ford, like Old Tom, is a gentleman first, a gentleman last," said President Timmerman.

1983-84 SNOW MOLD RESEARCH RESULTS



OLD TOM MORRIS AWARD TO GERALD FORD

Former President of the United States Gerald R. Ford will receive the Old Tom Morris Award from the Golf Course Superintendents' Association of America (GCSAA). Ford is the 1985 recipient of this significant international award that is identified throughout the golfing world

by DR. WARD C. STIENSTRA
EXTENSION PLANT PATHOLOGIST
UNIVERSITY OF MINNESOTA

If your snow mold program failed this past year you should seriously consider what you did last fall and revise it to include treatments that are recommended for your area.

In excess of a \$150.00 contribution:

Minnesota Golf Association
Golden Valley Country Club
Interlaken C.C. (Fairmont)
Woodhill Country Club
Willmar Community G.C.
Minikahda Club
White Bear Yacht Club
Olympic Hills Golf Club
Minnetonka Country Club
Southview Country Club
Minneapolis Golf Club
Minnesota Valley Club
Edina Country Club
Indian Hills Country Club
Interlachen Country Club
Town and Country Club
Mankato Country Club
Mendakota Country Club
St. Cloud Country Club
Faribault Golf & C.C.
Wayzata Country Club
Rochester Country Club
Somerset Country Club

Up to a \$149.00 contribution:

Little Crow Country Club
Hillcrest Country Club
University of Minnesota G.C.
Voyageur Village G.C.
Hennepin Co. Park Reserve Dist.
Wedgewood Valley Golf Club
Forest Hills Golf Club
Lafayette Club
Majestic Oaks Golf Club
Lakeview Golf of Orono
Albany Golf Club
Midland Hills Country Club
Madden Resorts
Keller Men's Golf Club
Cannon Golf Club
Granite Falls Golf Club
Cottonwood Country Club
Riverside Town and C.C.
Pierz Municipal Golf Club
Tipsinah Mounds C.C.
Mora Country Club
City of St. Paul
Long Prairie Country Club
Eshquaguma Country Club
Castlewood Golf Club
Terrace View Golf Club
Whitefish Golf Club
Austin Country Club
Oxbow Country Club
Loon Lake Golf Club
Redwood Falls Golf Club

Bergerson- Caswell dissolves well water worries...

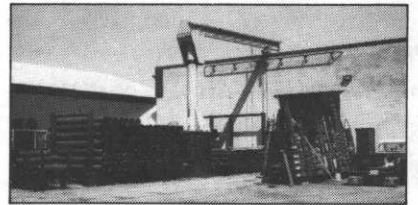
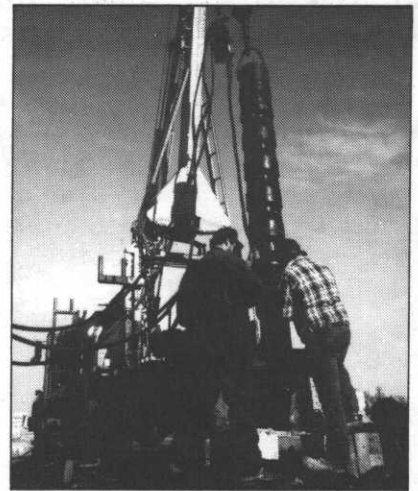
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Fleet size. The number of rigs a well company has isn't just breast beating, it has a direct bearing on the timing of service. With our service rigs we can usually arrive within 24 hours of your call because it's easier for us to free-up a truck. **Pump and pipe inventory.** We have the buying power to stock a large inventory of parts. We buy right, sell right and we can repair your problems faster without waiting for factory shipments. Ask other well companies about the size of their inventory. **Innovation.** Much of well installation and repair is problem solving and we approach it creatively. We patented the *high velocity jetting* method of cleaning wells and we're always building special problem solving tools. Hire a contractor who thinks as they work. **Byron-Jackson pumps.** If a contractor isn't using these premier *all-American* made submersible and vertical line shaft turbines you may not be getting the best from your supplier.

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- Monitoring wells and test holes
- Well and pump maintenance
 - high energy rate development
 - high velocity jetting
- Video TV well inspection
- Elevator shafts
- Foundation boring



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