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COURSE SUPERINTENDENTS' ASSOCIATION

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FROM THE PRESIDENT'S DESK

DON LINDBLAD

It's been a great season of golf, but we all know the work never stops. Just ask Keith Scott and Jim Wodash who are toiling away in preparation for the big Turf Conference November 28-30. You have received registration materials and information on the many fine speakers who will be on hand. I certainly hope to see you all there at the Sheraton-Inn Northwest.

Our thanks go out to Doug Mahal for hosting our monthly meeting at Interlachen. It's always a treat to visit that wonderful golf club and partake of its great beauty.

While I'm busy issuing thanks, I would like to express our appreciation to our staff, Warren, Anita, Ross and Guy for all their help with HOLE NOTES and mailings. Also to all our directors and officers who made my term in office a rich experience as well as a pleasure, many thanks.

Special thanks should go to our Associate Members and their companies. Their's is a very important role in our association and the input they provide at our meetings and conferences helps us all serve golf as best we can. Let's all show our appreciation at the conference and also by patronizing their businesses.

I hope to see everyone at the November meeting at the Hanson House. It's always a highlight of the year and I'm sure 1984 will be no exception.

Last but not least, let me say one more time that the golf courses in Minnesota never looked better than they did this season. You should all be proud of your work. It won't always be this great, but it surely feels good when it happens.

MANAGEMENT FACTORS AFFECTING GREEN SPEED

by DR. JOSEPH M. DUICH
STEVE LANGLOIS
PENN STATE UNIVERSITY

(INTRODUCTION) In 1983 M.G.C.S.A. provided partial funding for the research project "Management Factors Affecting Putting Green Speed". The project is being conducted at Penn State under the direction of Dr. J. M. Duich and his research assistant, Steven Langlois. Steve will be on our program at the annual conference and will speak on this project. What follows is a progress report that was issued to M.G.C.S.A. this summer.

Putting green speed continues to receive much attention because of the Stimpmeter. This instrument now allows superintendents to quantitatively measure the speed of greens in a quick simple procedure. The increase in attention has made it necessary to understand how all management practices affect green speed. This Progress Report presents results on the second phase study on management factors affecting putting green speed conducted at The Joseph Valentine Turfgrass Research Center at The Pennsylvania State University.

The study began with these objectives.

1) To learn how management factors affect putting green speed. Therefore, we designed experiments to study the effect of height of cut, watering, topdressing, verticutting, brushing and mechanical rolling.

2) To determine how the firmness of a putting surface affects speed.

RESEARCH FACILITY

The Joseph Valentine Turfgrass Research Center has approximately two acres of creeping bentgrass maintained as putting greens; one half of which is used for our study. All of the research was done on Penncross and Penneagle creeping bentgrass. The turf received preventive fungicides, 2 1/2 lbs./1000 sq. ft. of nitrogen for the year and regular maintenance watering.

RESULTS OF MANAGEMENT PRACTICES

1) We continued measuring seasonal speeds on Penncross and Penneagle creeping bentgrass mowed at 3/32", 4/32" and 6/32" six times a week. Putting green speed increased significantly from 8.0 feet to 10.0 feet as the mower was lowered from 6/32" to 4/32". However, the 3/32" cut only further increased speed approximately 4". This was not always significant and suggests that it may not be advantageous to mow that close for the additional speed. These speeds were recorded on both varieties with no significant difference between the two.

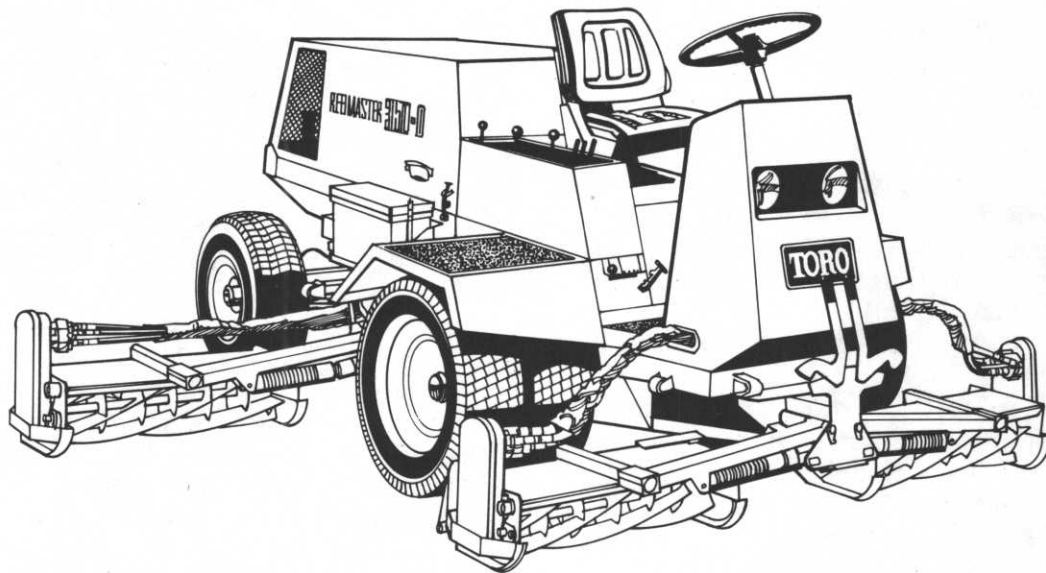
2) In July 1983, 10 rain-free days with temperatures in the upper 80's allowed us to conduct additional moisture effect on Penneagle mowed at 4/32". Water treatment received daily measured irrigation applied to provide surface saturation, whereas the non-watered was only syringed to sustain grass. The non-watered areas never exceed the watered by more than 4" over an 8-day period. These data further confirm preliminary results that withholding moisture does not substantially increase putting speed. Results are opposite the common belief that dry surfaces are faster. Wetting agent at 6 oz. per 1000 had no significant effect on speed over five consecutive days following application.

3) A fine sand, 90% remaining on a .10mm sieve, was used to study the effects of topdressing on speed. On an area mowed at 5/32" rate 1, 40 lbs./1000 sq. ft. of sand applied approximately once a week, and rate 2, 400 lbs./1000 sq. ft. of sand applied in the spring and fall, were compared to a check. The area chosen for the experiment was an 8 year stand of Penncross and Penneagle high in thatch. The sand applications on this type of surface failed to change the speed. Therefore, we decided to more effectively firm the surface. In September 1983 we heavily verticut, aerified and topdressed with sand, and the same procedures are planned for 1984.

4) Verticut and brushing treatments, alone and in combination, were applied to Penncross mowed at 6/32" and 4/32". Near weekly treatments consisted of double "nip" verticutting with a Hahn at high rpm. and/or brushing with a Bunton rotary brush. Prime interest was in the higher, 6/32", cut. At this height, the frequent light verticutting increased speed an

continued on Page 5

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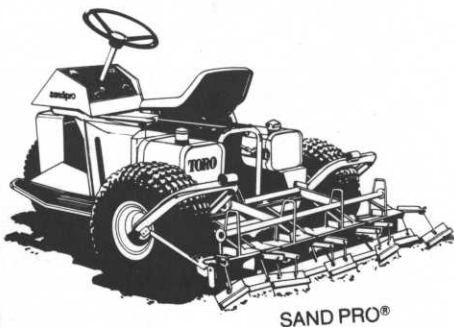
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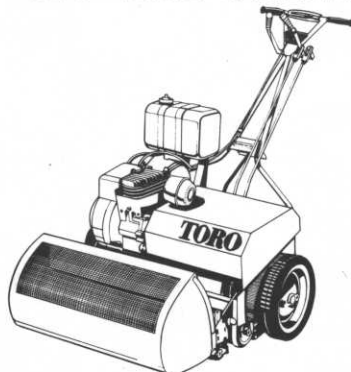
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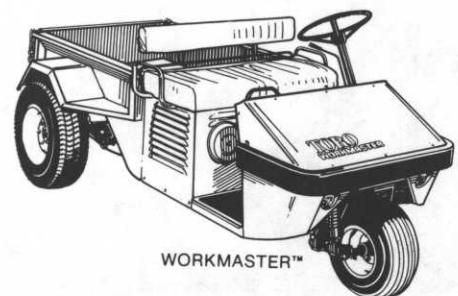
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average of 12" over a 10-week period, whereas brushing alone was near identical to the check. Combined brushing and verticutting was similar to just verticutting.

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
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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

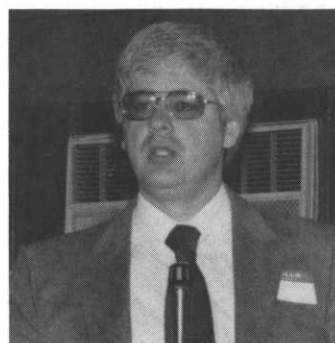


with the true heritage and traditional founding of the game.

"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.

The major disease organism at all locations was Typhula ishkariensis, or small sclerotial Typhula. A few spots had Typhula incarnata while I observed no Gerlachia nivalis or Myriosclerotinia borealis. Caloclor is the only chemical, when applied alone which provided 100% disease control on a percentage basis. Caloclor in combination (Tank Mix) with Terraclor or plus Terraclor and Chloroneb

also resulted in 100% disease control. Terraclor plus Chloroneb which failed at Duluth did result in 100% disease control at the other locations. Daconil 4F performed quite well, second best single chemical treatment at Duluth and should be tested in future years as a component of a tank mix. While the results at Rochester, Minneapolis and Detroit Lakes in 1984 suggest its use, other years data indicates

Snow Mold Results 1983-84 at Four Minnesota Locations.
Data Expressed as means of 4 replicates.
Plot size is 4' x 11'.

Treatment and Rate /1000 sq ft	% Area Diseased		# Spots per 44 sq ft	
	Duluth 10/21	Minneapolis 11/3	Rochester 10/28	Detroit Lakes 10/20
No Treatment Check	95	47	9	10.5
Caloclor 3 oz.	3.8	0	0	0
Caloclor 5 oz.	0	0	--	0
Tersan SP 5 oz	45	4.5	2	2.3
Tersan SP 9 oz.	51.3	6.8	--	2
Terraclor 8 oz	47.5	0.5	1.8	0
Terraclor 16 oz.	35.	0.3	--	1.8
Tersan 1991 2 oz.	92.5	47	3.5	3.5
Chipco 26019 4 oz.	83.8	19	14.3	5
Bayleton 2 oz.	92.5	5.5	2.3	2.3
Bayleton 4 oz.	81.3	3	5	0
Bayleton 2 oz.*	86.3	13.8	11.3	--
Bayleton 4 oz.*	91.3	18.8	5.3	--
Ciba Geigy 64250 32 gms ai.	42.5	1	0	0.3
Ciba Geigy 64250 16 gms ai.	65	4.8	2	0.8
Rubigan 2 oz.	86.3	2	5.3	2.8
Rubigan 4 oz.	63.8	4.8	0.8	1.5
SN 84364 1.5 oz.	46.3	4.3	0.5	3
SN 84364 2.4 oz.	35.	1.8	0	3
Daconil 4F 8 Fl. oz.	22	1.8	0	1.8
Daconil 4F 16 Fl. oz.	11.3	0.5	0	1.5
Daconil 4F 8 Fl. oz. plus Tersan 1991 2 oz.	10.8	0.8	1	3
plus Rubigan 2 oz.	16.3	1	0	1.3
plus C 26019 4 oz	13.5	0	0.3	2.5
Tersan SP 5 oz. plus Tersan 1991 2 oz.	51.3	27	0.3	4.3
Caloclor 3 oz. plus Terraclor 8 oz.	0	0	0	0
plus Tersan SP 5 oz.	0.3	0	0	0.8
plus Terraclor 8 oz. and Tersan SP 5 oz.	0	0	0	0
Terraclor 8 oz. plus Tersan SP 5 oz.	19.3	0	0	0

*Applied before date listed - Duluth 10/5, Minneapolis 10/10 and Rochester 9/27.

the results are variable. It does appear, however, that tank mixes or sequential treatments with Daconil 4F should be evaluated further. Results with Tersan SP, Terraclor, Bayleton, Ciba Geigy 64250,

Rubigan and SN 84364 at Minneapolis all suggest activity. Performance at Duluth, where at least twice the disease pressure exists reveal weakness but opportunity does exist for combinations.

Table 3.

Snow Mold Results at University of Minnesota
Data expressed as means of 4 replicates
Plot Size is 4' x 11'

<u>Treatment and Rate</u>	<u>% Disease</u>	<u>Color*</u>
No Treatment Check	24	2
PCNB 2 oz.	1.3	2
PCNB 4 oz.	2.5	2
PMA 1 Fl. oz.	3	3
PMA 2 Fl. oz.	3	4
Thiram 4 oz.	25	2
plus PMA 1 Fl. oz.	8	2
plus PMA 2 Fl. oz.	5	4
plus PMA 1 Fl. oz. & PCNB 4 oz.	0	3
plus PCNB 4 oz.	1.8	2
Daconil 4F 8 Fl. oz.	2.5	1
Daconil 4F 4 Fl. oz.	0.5	1
plus Chipco 26019 2 oz.	1	1
Chipco 26019 2 oz.	13.8	1
MF 701	0	1

*Color Scale = 1 Best, 2 Okay, 3 Poor, 4 Burn

The results from Table 3 show disease control with all products but Thiram and Chipco 26019. Turf appearance over several weeks was best with Daconil, Chipco 26019 and MF701 which contains caloclor and nitrogen. No nitrogen response was observed during April due to nitrogen. Turf color was improved when thiram was added to PMA at 1 Fl. oz. but

not when 2 Fl. oz. was applied. PCNB plots appeared to be slightly pale green but the color was judged to be okay on subsequent visits. Thiram may reduce chemical injury but it also reduces disease control. Daconil 4F results are interesting and combinations will be tested this year on fairway plots.

ASSOCIATE'S CORNER

by JAMES BROWN
PJ'S TURF PLUS, INC.

After our first full year in the lawn care and nursery business we can look back at our decision to move from being a golf course superintendent and assistant superintendent into our own business. What were the deciding factors that prompted us to make the decision?

Primarily our business is total lawn care with additional services such as irrigation design and installation and a nursery-garden center to better service our customers. New London- Spicer is an area that is surrounded by many lakes and also many summer people who do not wish to take care of their own yards.

The first thing we looked at before going into business was the competition. We noticed that although there were plenty of people to mow lawns, there didn't seem to be anyone who knew any more about turf than just that "it needs to be mowed". We also checked with local nurseries and found

that no one was maintaining plants on a regular basis after they were put into the landscape. We purchased a minimum of equipment, printed flyers and started part time. Our first two customers were just what we had expected...people who had been looking for someone who was able to do more than just mow their lawns. We provided full line maintenance and a program to beautify their lawns and properties. Now two years later, 80% of our lawn customers want this service.

In looking back at the reasons why I wanted to leave the golf course, they are the same reasons any superintendent faces. I would say that #1 is the frustration of old equipment and repairing repairs; #2 is seeing money spent in areas a superintendent doesn't feel has priorities; #3 is succumbing to the stress of the job. If I would have decided to stay with the golf course, there are two things I would do differently. #1 I would have been more forceful for the needs of the golf course at board meetings and especially with the greens committee; #2 I would have made the monthly meetings and involvement in the

continued on Page 11

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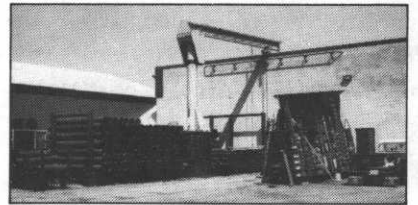
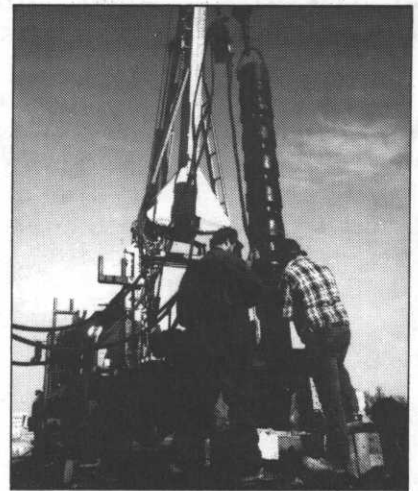
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