



## Season's Greetings

At this Happy Holiday Season, we are glad to put aside the routine of business and extend to you our thanks and appreciation.

One of the genuine pleasures in doing business is the friendships that are developed and we are grateful for yours.

We take this opportunity, therefore, to extend to you "Season's Greetings" with the profound hope that the New Year will bring you a full measure of Good Health, Blessedness and Security.

Sincerely,

Rajah Kolb

Dave Krupp

Ann Belknap

Case Jack Kolb  
Frychow

**TURF SUPPLY COMPANY**

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# HOLE NOTES

Official publication of the MINNESOTA  
GOLF COURSE SUPERINTENDENTS' ASSOCIATION.

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## SOMETIMES YOU CAN'T WIN!

The bride was a rather untidy housekeeper and knew it. At last, she mustered the energy to give things a thorough cleaning one day.

That evening her husband shouted from the hall, in great dismay. "Honey, where's the dust on this table? I had a phone number written in it."



## FROM THE PRESIDENT'S DESK

LARRY MUELLER

Our Association continues to be the recognized leader of Turf Management in Minnesota.

Our membership is growing larger each year, which is a very positive sign, and our headquarters' staff of Warren, Tom and Anita continues to be the backbone of our day-to-day operation. We owe much of our success to these people who do a great job with the paper work along with promoting our Association in a very positive manner to the entire Golf Community.

I believe education is the most important resource we have to offer our members and this past year we again gave it top priority along with our continuing research program.

One of our major changes this year is that your Board of Directors now interviews all applicants before accepting them as members. This has been a very constructive change which will help insure that our Association will stay in good hands.

I want to thank all the golf clubs and turf supply companies for their generous donations to our Research Fund. We will continue to investigate problems germane to this area.

It has been an honor for me to serve as your President and represent this Association during the past year. I would like to thank all the officers, directors, committee chairmen and helpers for all their time and hard work to help make 1982 a successful year for the Minnesota Golf Course Superintendents' Association.

I wish each of you a HAPPY HOLIDAY SEASON and a HAPPY AND SUCCESSFUL 1983!

## **SAND TOPDRESSING: SOMETHING OLD, SOMETHING NEW, MOSTLY BORROWED, NEVER BLUE**

When I came to Ravisloe Country Club in 1981, I promised the membership to improve the thatchy, puffy, slow putting surfaces. The greens had been mowed at 3/16" and 2" to 2 1/2" of thatch had accumulated through the years. I had the opportunity to observe several superintendents in Wisconsin, who used a sand modification-topdressing program successfully while I was superintendent at Kenosha Country Club. I decided the sand program was the quickest way to achieve my goal.

The purpose of this report is to give an overview of the sand program as developed by the Wisconsin superintendents, the specifics of the program I am using at Ravisloe, the advantages and disadvantages as I see them, and a few comments.

In 1973, Dennis 'Skip' Willms, then superintendent of West Bend Country Club, decided to rebuild a problem green with sand. Both Skip and the Milwaukee Sewerage Commission searched for a sand that would meet J. H. Madison's recommendations and specifications for a suitable topdressing sand. Skip found a silica sand in Portage Wisconsin which had the desirable characteristics. The green was built and the sand used for construction was then used for topdressing. The results were outstanding. Skip decided to sand topdress the rest of his greens and fellow superintendent Wayne Otto from Ozaukee Country Club also started a sand program.

In 1975, the Lakeshore Sand and Stone Company found a sand within the desirable particle size range in a dune in Michigan. They started barging the sand to Milwaukee and the superintendents in the area started topdressing with Lakeshore sand. Most of the techniques used in my sand topdressing program were borrowed from the work and experimentation of the above mentioned Superintendents and others too numerous to mention.

Equipment used at Ravisloe for the sand topdressing program.

1. Lely type W ground driven spreader
2. (2) 3' x 5' coco mats
3. Mete-R-Matic model F-8 topdresser
4. Ryan Greensaire II with 5/8" tines
5. Cushman truckster (for pulling Lely and drag mats)
6. Jacobsen Greensking IV with extra set of cutting units used only for mowing off sand
7. Toro Greensmaster III with verticut units
8. Front end loader
9. Dump truck

The program was started at Ravisloe in March of 1981. The greens were aerified with the Ryan Greensaire II with 5/8" tine and the soil cores removed. The greens were then topdressed with Lakeshore sand applied with a Mete-R-Matic topdresser set at 3 1/2. This setting applied enough sand to fill the aerification holes without leaving too much sand on the surface of the green. The sand was allowed to dry, at which time the sand was dragged in with a flexible steel link type drag mat. The greens were then heavily irrigated and mowed two days later at 1/8".

Four weeks after the initial sand application, a program of light weekly or semiweekly sand topdressing was started. The light topdressing is applied with a Lely ground driven spreader pulled by a Cushman truckster. The spreader is equipped with a sand and salt kit, agitator, and a steel platform mounted on the front of

the spreader for a man to stand on. The feed ring is positioned in various setting holes, depending on the moisture content of the sand, in order to achieve even distribution. The feed ring opening is set at about 5 and the spreader is driven in various directions and patterns for even coverage.

The amount of sand applied is determined by monitoring growth and clipping removal. The more growth, the more sand applied; usually about 1/2 Lely hopper per green. Optimal growth is about 1/8 to 1/4 basket of clippings a mower per green on 6,000 ft. 2 greens.

Topdressing is accomplished with two men. One drives and loads the dump truck, loads the spreader, and rides on the spreader platform to make sure the sand keeps flowing. The other man drives the Cushman and helps load the spreader. Topdressing all twenty greens requires 2 1/2 to 3 hours.

After the light topdressing is applied, the sand is allowed to dry at which time the greens are dragged with the coco mats pulled behind a Cushman with smooth tires. The dry sand works in so well, it is difficult to tell the greens have been sanded. Usually after dragging, the greens are mowed with a special set of reels used only after topdressing. This mowing removes any grass blades or runners raised up during dragging and also cleans up any sand left on the greens.

Three or four times a year, a Mete-R-Matic is used to apply sand around the perimeter of the green where the triplex greens mower makes the circle cut. For this operation, the Mete-R-Matic is set between 1/2 and 3/4. This practice, along with mowing circles only two or three times a week, help eliminate wear and scalping caused by triplex mowing.

Other management practices used on the greens at Ravisloe are double vertical mowing before topdressing followed by dragging and regular mowing. This is done three or four times a year in the spring and early summer. The greens received 1/2 pound of nitrogen in 1981, (Milorganite applied in October), and 1/2 pound of nitrogen this spring (Scotts 22-0-16). Urea and ferrous sulfate are applied with fungicide sprays to keep the color reasonable. Aqua Gro wetting agent is applied at 2 to 10 ounce rates, the heavier rates applied in the rain. The greens are irrigated every three or four days with Rainbird 808 sprinklers in a center sod cup valve. The duration of irrigation varies from 1/2 hour to 2 hours depending on conditions. A normal disease control program is followed with fungicides applied at seven to fourteen day intervals.

The greens were aerified again the fall of 1981 using the same procedure of core removal and topdressing. The amount of sand applied was reduced to a 2 1/2 setting on the Mete-R-Matic, because the lower mowing height reduces the amount of sand which can fill the stem area. The source of sand was switched to Old Dutch sand due to better test results (more sand in the fine range than the medium range) and because the cost was less than half that of Lakeshore sand due to lower shipping costs. Also during the fall aerification, the greens were seeded with a mixture of Penncross and Penneagle bent.

The light frequent topdressing program was continued in 1982. The amount of sand applied has been reduced due to the slower growth experienced this year. The greens will be aerified and seeded one more time next spring. After that, the greens should not need aerification again, or at least, less frequently.

Advantage of sand topdressing:

1. Putts roll true and smooth.
2. The greens can be kept short and fast without

cont. on Page 5

# **TURFCAT II SYSTEM**

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scalping or wilting.

3. Grain is eliminated.
4. Thatch is buried.
5. Spike marks are not a problem, even on wet days.
6. Well hit shots hold even if the greens are dry.
7. Greens do not get puffy.
8. Greens need less frequent irrigation.
9. Sand is clean and easy to apply. It goes on wet and cleans up without a mess as with topdressing containing soil and peat.
10. Topdressing with the Lely spreader is quick.
11. Greens firm faster in the spring, allowing earlier play.
12. The greens can be mowed at 1/8" on the first mowing in the spring.
13. Sand is a reliable, clean, and uniform material.
14. All 20 greens are uniform regardless of type of grass, or former soil condition.

Disadvantages of sand topdressing:

1. The program involves more work than a conventional program.
2. The wear and tear on greens mower reels is greatly increased.
3. Sand flies up when the ball hits the green.
4. The initial heavy applications of sand following aerification are inconvenient.
5. Precise application of chemicals is more critical.
6. More equipment is needed.
7. The sand has a tendency to be dragged or washed off of hill or steep inclines.

Observations:

Over a period of a year and a half, 1/2 to 3/4 inches of sand has accumulated. Most of the roots still penetrate into the soil or are in the sand channels created through aerification. Some of the thatch under the sand still has

a tendency to swell in the heat and humidity and cause some scalping. Sometime in the future, the turf roots will have to survive in a total sand medium, at which time, fertility, micro-nutrient availability, and moisture will become more critical. Localized dry spots have not been a problem due to the use of wetting agents.

I feel the addition of soil or peat to the sand is a waste of time and money. The soil and peat only make cleanup a messy operation. One of the main reasons for going on the sand program in the first place was to reduce organic matter and thatch. So why add organic matter to the topdressing?

The three aspects of sand topdressing I found most amazing are first, how fast the greens respond and become fast and true. Secondly, the fact that the sand has dramatically reduced the irrigation requirements for the greens and thirdly, how much I needed to learn about reel mowers, bedknife angles, roller leveling, and keeping a uniform cut.

**David Ward**  
Ravisloe Country Club

Credit: "The Bull Sheet"

### WIND CHILL TEMPERATURE CHART

Wind Speed	Thermometer Reading									
	50	40	30	20	10	0	-10	-20	-30	
Calm										
Equivalent Temperature in Degrees										
5 mph	48	37	27	16	6	-5	-15	-26	-36	
10 mph	40	28	16	4	-9	-21	-33	-46	-58	
15 mph	36	22	9	-5	-18	-36	-45	-58	-72	
20 mph	32	18	4	-10	-25	-39	-53	-67	-82	
25 mph	30	16	0	-15	-29	-44	-59	-74	-88	
30 mph	28	13	-2	-18	-33	-48	-63	-79	-94	
35 mph	27	11	-4	-20	-35	-49	-67	-82	-98	
40 mph	26	10	-6	-21	-37	-53	-69	-85	-100	

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# NOVEMBER MEETING HIGHLIGHTS



Friendly Inspection. Jim Wodash and Quentin Castle look over the products from Long Lake Ford on a cold blustery day.



Happy Hosts. Thanks to (left to right) Jim Cox, Gerry Shaughnessy, Milt Hanson, Mary McCarty and Greg Shaughnessy of Long Lake Ford for a delightful cocktail hour.



New Members Keep Coming. Here are seven new members we welcomed at the November meeting. Left to right, Oscar Norstegard, Rolling Hills G.C.; Dennis Morgenweck, Student; Kathleen Dahl, Student; Brian Reyerson, Student; John Monson, Long Prairie C.C.; Greg Shaughnessy, Long Lake Ford; and Tom Wodash, Willmar G.C. Also accepted was Tom Haugen from Brayton Chemicals. In a classification change, Doug Mahal of Interlachen C.C. moved from Class B to Class A.

**We're seen in all the  
right places.**



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## DR.BEARD PENS NEW USGA-SPONSORED TEXT:

### "TURF MANAGEMENT FOR GOLF COURSES"

"Turf Management for Golf Course", written by eminent turfgrass researcher Dr. James B. Beard and sponsored by the United States Golf Association, is the newest and most comprehensive reference and "how-to" book concerned with the culture and management of golf turf.

The book, a detailed, well-illustrated work that was eight years in the writing, emphasizes the application of basic turfgrass principles to golf course turfgrass culture. In preparing the book, Dr. Beard, Professor of turfgrass science in the Department of Soil and Crop Sciences at Texas A&M University, was assisted by the staff agronomists of the USGA Green Section, headed by then-National Director Alexander M. Radko, and by seven golf course superintendents representing the various climatic regions of the United States.

The 660 page hard-cover edition, which contains hundreds of easy to read line drawings, graphs, illustrations and photographs, provides a handy reference tool for golf course superintendents, golf club officials, course owners, green committee chairmen, golf course architects, novice golf course workers and student of golf course turfgrass culture.

"The goal was to provide a comprehensive, practical book that can be used by professional individuals in leadership and management positions on all types of golf courses, including private, municipal and public fee facilities," Dr. Beard states in the preface of the book. "It is hoped that the information presented will prove a useful guide and practical reference for the economy, establishment and maintenance of golf course turfs, which in turn will provide optimum conditions for the game of golf."

Dr. Beard is an internationally known turfgrass researcher and educator and has made major contributions through his research on turfgrass stress physiology. Among his honors are National Science Foundation Post Doctoral Fellow, Fellow in the American Society of Agronomy, Meritorious Service Award of the International Turfgrass Society, Honorary Award of the American Sod Producers Association and the Oberly Award of the American Library Assoc.

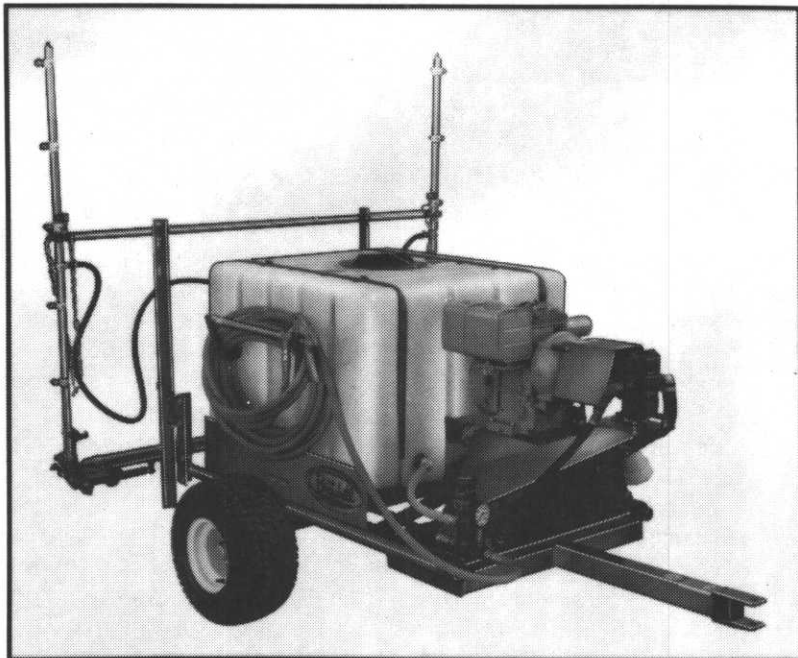
He has authored four other books: Turfgrass: Science and Culture, Turfgrass Bibliography, Introduction to Turfgrass Science and Culture - Laboratory Exercises and How to Have a Beautiful Lawn.

Turf Management for Golf Courses is the third in a series of turf related books sponsored by the USGA. It is not a revision but a completely new text. In 1917 the USGA sponsored the first book on golf course turfgrass culture, Turf for Golf Courses, by Charles V. Piper and Russell A. Oakley. In 1950 Turf Management, by H. Burton Musser, was published under USGA auspices; it was revised in 1962.

Turf Management for Golf Courses, published by Burgess Publishing Company of Minneapolis, Minnesota is available to the public for \$46.75 postpaid. To order, contact the USGA, Golf House, Far Hills, New Jersey 07931.

\*\*\*\*\*

USGA ANNUAL GREEN SECTION EDUCATIONAL PROGRAM. For the third year in a row this program will be held in conjunction with the GCSAA International Turf Conference and Show in Atlanta, Georgia. Thursday, February 24 there will be an all day program. It will cover such topics as "Golf Courses of the Future", "Ups and Downs with the Stimpmeter", "The Soil Controversy-Mixes for Putting Green Construction and Topdressing" and "How Green Does a Golf Course Have To Be?" This Educational Program is open to all attendees of the GCSAA Conference week.



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**NEWS FROM NATIONAL**

The Official Slate of Candidates for the 1983 election has been determined by the Nominating Committee as follows:

**PRESIDENT**

Robert W. Osterman, CGCS-Easton, Conn.

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Paul Boizelle, CGCS-Lake Forest, Ill.

James W. Timmerman, CGCS-W. Bloomfield, Mich.

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James E. Lindblad, CGCS-Wayzata, Minn.

Richard V. Slivinski, CGCS-Phoenix, Ariz.

The Annual Election will be held during the 1983 Annual Membership Meeting in Atlanta, Ga., on Thursday, February 24, 1983, at 2:00 p.m.

**PALMER WINS PRESTIGIOUS NEW GOLF AWARD.**

Arnold Palmer has been named the first recipient of the "Old Tom" Morris Award, established recently by the Golf Course Superintendents Association of America (GCSAA) to satisfy the need for a significant international award that would help identify with the true heritage and traditional founding of the game. "Old Tom" Morris, one of golf's first greats, was a greenkeeper, golf professional, club and ball maker, golf course architect and accomplished player who won four British Open Championships between 1861 and 1867.

Selection of Palmer as the first recipient of such a significant award was an easy task, according to GCSAA President, James A. Wyllie. "Besides being a superstar like 'Old Tom', Palmer has displayed a continuing, selfless commitment to golf and furthered the welfare of the game in a manner exemplified by 'Old Tom' Morris," Wyllie said last week. Palmer is slated to accept the award at GCSAA's 54th International Turfgrass Conference and Show in Atlanta, Georgia, on February 24, 1983.



## NEW HYDRAULIC/DIESEL MEDIUM SIZED REEL MOWER INTRODUCED

The first medium sized hydraulic mowing tractor offered by a U.S. turf equipment maker has been introduced by the R. L. Gould Co. of St. Paul. The new HF-5, a compact five gang reel mower that cuts a swath up to 11 ft., is also the first turf machine in its class with diesel power. Manufactured by Jacobsen Division of Textron Inc., it comes with Volkswagen's economical 4-cyl. engine, modified for industrial use, that is 30 per cent more efficient than a comparable gas unit.

"Powering reels hydraulically ushers in advantages never before available in this size machine," said Gordon Miller, Mgr. of Gould's Turf Products Division. "Performance and productivity over non-hydraulic units of similar capacity has been substantially improved". Key advantages of the HF-5's hydraulic reels include: ability to adjust cutting frequency, for mowing fine grasses, rough turf and everything between; unlike ground-driven units, reels rotate at a pre-set rate even though the machine slows or speeds up; because reels can turn faster, the machine can travel faster. Another advantage cited by Miller is a savings in fuel consumption because less power is required.

Unlike conventional reels that rotate in one direction only, the hydraulically driven reels can be reversed to discharge debris. The reversing feature also makes it possible to back-lap without dismantling the reel assembly. The HF-5 also features a hydraulic transmission, a hydrostatic unit with single foot-pedal control for forward and reverse travel; power steering; and a system for raising or lowering individual wing reel units to adjust the width of the mowing swath. When raised, reel rotation automatically ceases, a safety feature. For operator comfort, a high-back contoured seat with three height positions is provided. Controls have been expanded to keep the operator informed: alternator and glow plug lights, engine oil pressure light, hydraulic oil temperature/pressure light, temperature gauge and voltmeter. A buzzer system is incorporated for warning and safety.

The R. L. Gould Co. supplies and services turf care equipment and materials typically used by golf courses and other organizations that maintain large turf areas.

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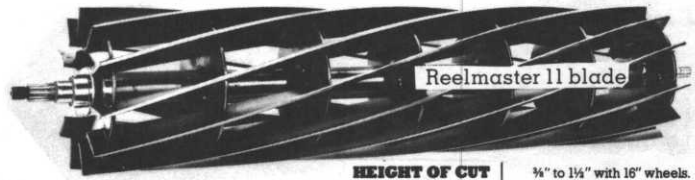
# INTRODUCING

## THE NEW REELMASTER TRANSPORT FRAME FROM TORO: FEATURING HYDRAULIC LIFT ARMS FOR AMAZING MANEUVERABILITY COMBINED WITH EASY TRANSPORTABILITY.

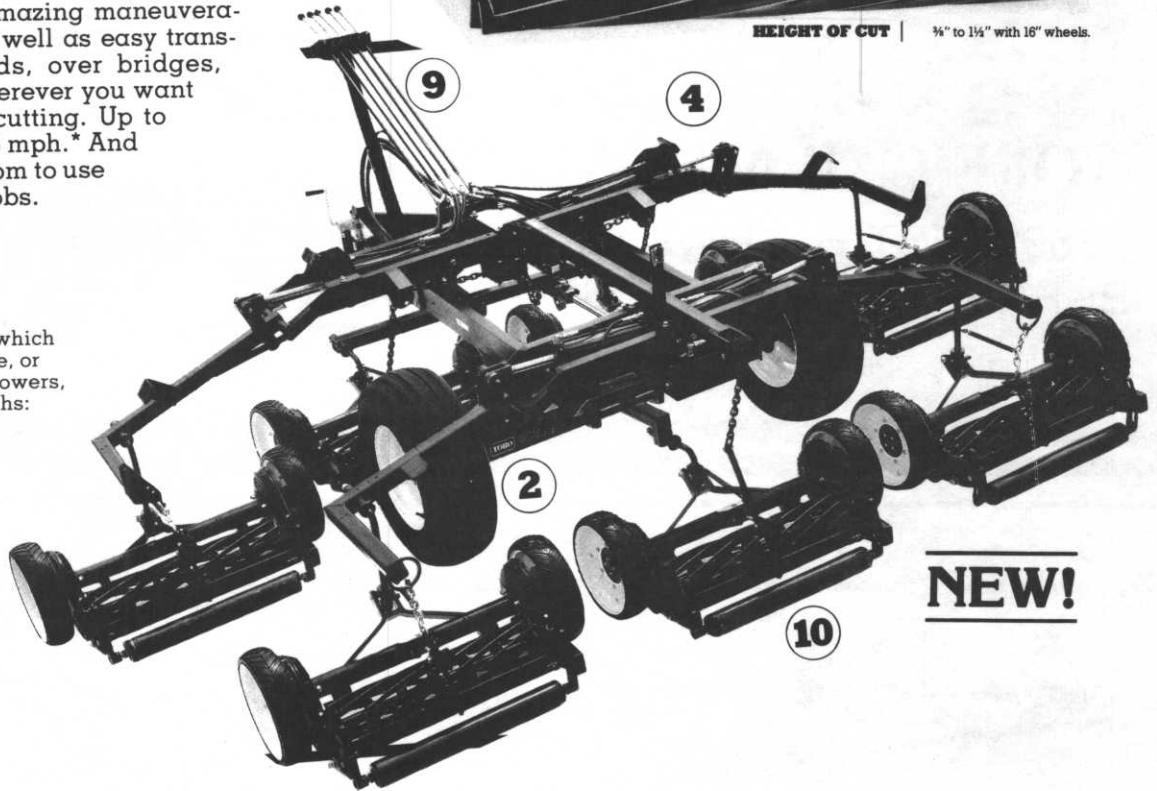
**J**ust hitch it to a tractor and this professional is ready to take on your biggest mowing tasks. It has a gang of 7 reel mowers that can be raised in various combinations for cutting widths of 6'9" to 14'4". Plus, amazing maneuverability in tight spots as well as easy transportability down roads, over bridges, through gateways, wherever you want high capacity formal cutting. Up to 9.4 acres an hour at 5.5 mph.\* And it allows you the freedom to use your tractor for other jobs.

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