INTRODUCING

THE TORO REELMASTER 11 BLADE GANG MOWER: THE MOWER WITH THE MOST BLADES. MOST CUTTING FORCE. MOST PRECISE DESIGN. FOR THE MOST SUPERB CUT OF ALL.

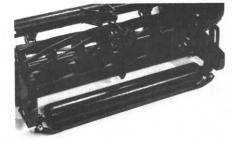
REELMASTER 11 BLADE PERFECT FOR SUPER FORMAL CUTTING on golf

courses and elsewhere, this mower has eleven blades, more than any other, to give you the lowest cut (3/8" to 1-1/2")with the least visible clip (as low as .58"). And the 7" diameter of the reel helps deliver more power at the cutting point to ensure smooth cutting with no wheel slippage. With single knob bedknife to reel adjustment, the operator can adjust the mower with precision (by one one-thousandth inch increments) in the field. And for fine tuning, the Reelmaster 11 blade's height of cut can be adjusted by .040" increments. The gear drive incorporates the already proven Spartan gear drive design. It's simple and sturdy, with few moving parts and just two major points of contact, for less downtime, fewer repairs and parts replacements. And Toro uses seven 7 gauge steel spiders, more than any other, to support the blades. Mounts on the Parkmaster, and Reelmaster Transport and Universal Frames.



LOWEST CUT

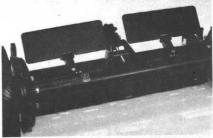
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ROLLER SCRAPER KIT. To reduce buildup of grass on roller, in order to prevent change of height while cutting.



WHEELS. Your choice of 16" steel, 16" pneumatic or 16" semi-pneumatic.



GRASS DISPERSION SHIELD KIT. Dispersion shields to direct clippings. Individual settings give ability to direct clippings discharge for desired finished look.



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HOLE NOTES

Official publication of the MINNESOTA GOLF COURSE SUPERINTENDENTS' ASSOCIATION.

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FROM THE PRESIDENT'S DESK

LARRY MUELLER

Our 1982 golf season has nearly come to an end and we now must protect our turf for the winter months ahead. There are numerous chemicals on the market and using a combination of two or three of these chemicals shows the most promise. Some people also topdress greens late with a heavy layer of sand or soil. Others use excelsior mats. Each of these practices shows benefits under certain conditions but are not necessarily the answer for everyone. Grass types, soils, drainage, exposure to the winter winds all play an important part in what is necessary to protect our courses and each of us must know our particular situation and handle it accordingly.

I wish to thank the officials at Minnesota Valley Club for the complimentary cocktails and golf carts at the October meeting.

Dale Caldwell and Irwin Fuller, Jr., our Education Co-Chairmen, have put together an excellent program for the 1982 Annual Conference to be held December 1-3 at the Sheraton Inn Northwest. The Wednesday afternoon session will qualify us for recertification of our pesticide license or help train those of us not now licensed for taking the test if we so desire.

The annual conference is our yearly educational highlight and everyone should attend if at all possible.

It has just been announced that small quanities of gypsy moths from the northeast section of this country have begun to appear in Minnesota. They are responsible for denuding tens of thousands of trees of their leaves during the summer months. They are believed to have been transported on the outdoor furniture of people moving here from the northeastern part of the United States. It would behoove us all to look into this matter, get educated and do what is necessary to stop this potential problem before it gets a foothold.

IN DEFENSE OF THE STIMPMETER

by DONALD D. HOOS

Director, Western Region, USGA Green Section

O AN ARCHEOLOGIST in the 25th century, this extruded aluminum bar, 36 inches long, with a v-shaped groove extending along its entire length, may well be a puzzle. But to us, it's a Stimpmeter! We use it to measure the speed of greens. It has a precisely milled ball-release notch 30 inches from the tapered end (the end that rests on the ground). It is simple enough. However, this simple device has been embroiled in controversy ever since it became available to golf course superintendents in 1978. Why the controversy?

Some opponents feel too much emphasis is being placed on green speed. As an example, one can point to the greatly publicized rebuilding of greens at the Augusta National Golf Club, in Augusta, Georgia. The objective of the rebuilding was to regain speed and uniformity that had diminished with the passage of time. The publicized average speed of greens at this year's Masters Tournament ranged from 11.32 feet to 11.61 feet, with an average of 11.48 feet. Fast by anyone's standards.

Prior to manufacture and release of the Stimpmeter to member clubs, it was thoroughly tested by the Green Section staff and Frank Thomas, Technical Director of the USGA. Putting green speeds throughout the United States were measured under all kinds of conditions. Measurements were made at championship sites as well. From all these measurements, general ranges for putting green speed were determined and published as part of the instruction manual with each Stimpmeter.

Unfortunately, most club members never see the Stimpmeter Instruction Manual. What they know about putting green speed is what they learn during telecasts of the U.S. Open and Masters Tournament. Speeds at these events generally are in excess of 10 feet. Also, not pointed out during television coverage is that the course hosting such events has worked very carefully over a period of several years to have the golf course in the very best condition. These are courses with higher than average maintenance budgets peaking their greens at incredibly fast speeds for a one-week period.

But it should be pointed out that quality of putting greens is not measured by speed alone. Perhaps as important as speed is consistency from green to green. The Stimpmeter is a tool that can gauge consistency, just as a height of

T	ABLE I.
Speeds for Regu	ular Membership Play
8′6″	Fast
7′6″	Medium-Fast
6'6"	Medium
5'6"	Medium-Slow
4'6"	Slow
Speeds for	Tournament Play
10'6"	Fast
9′6″	Medium-Fast
8'6"	Medium
7′6″	Medium-Slow
6'6"	Slow

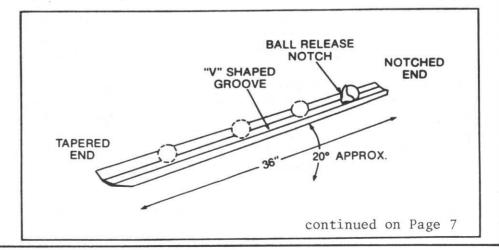
cut bar gauges mowing height. Smoothness and lack of grain are important factors in putting quality and are just as important on fast greens as on medium-fast greens. The speed at which greens are to be maintained should be a membership decision. If the membership wants fast greens, then they must be willing to provide budgetary support to reach this goal.

TO ACHIEVE fast greens on a daily basis requires more maintenance. Fast greens must be mowed more frequently. They must be verticut more frequently. They must be topdressed more frequently. Fertilization must be on a light and frequent basis. Watering must be done more carefully. Lower mowing heights needed to achieve fast greens also place the turfgrass plant under more stress. A reduced rooting depth can be expected under lower mowing heights. The shorter roots require more frequent irrigation and syringing during the summer to sustain the turfgrass plant. Shorter roots also reduce the grass plant's ability to recover from insect and disease attack. An increase in insecticide and fungicide use may be needed.

To achieve putting green speeds above 8'6" generally requires mowing heights below 3/16 inch. Mowing at these low heights requires additional time by the mechanic adjusting and setting the putting green mowers. Additional grinding and backlapping of bedknives and reels will be needed. Again, pressure is placed on the maintenance budget because of these practices.

Weather conditions also influence putting green speed. Through the year as day length and temperatures change, variations in growth rate occur. If the growth rate is slow, daily mowing and other practices produce faster speeds than if the grass is growing vigorously. In areas of the country subject to high summer temperatures, growth of coolseason grasses almost ceases. Bentgrasses become partially dormant. Maintenance practices that produce fast putting green speeds can be especially dangerous under these conditions. The plant's ability to recover from stress is especially reduced; one mistake could result in turfgrass loss that could require the rest of the season to recover. It is of little value to have fast greens on July 4 if there are no greens in August.

Comparisons between putting green speeds from one club to another are inevitable. Comparing the speed between greens at neighboring clubs





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(Guest Signature) Reservations should be received <u>3</u> weeks in advance of function date.	NO. OF GUESTS
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has been going on since golf has been played in this country, and it will continue, with or without the Stimpmeter. However, rather than compare putting green speeds, perhaps the comparison should be in dollars budgeted for putting greens, water, pesticides, and labor. Perhaps a mathematician could develop a formula to compare putting green speed and budget and also add in the weather for good measure. It is the grand total of innumerable agronomic practices that equals good putting qualities. Don't be blinded by speed alone.

THE STIMPMETER is a tool, plain and simple. It was invented in the 1930s by Edward S. Stimpson and refined by the USGA Green Section to give the golf course superintendent a way to measure the consistency in putting greens on his course. By using the tool on a regular basis, great inequities in putting green speeds over the course can be detected. If great disparity exists, then maintenance practices can be adjusted to even out the variations.

Many superintendents have found the Stimpmeter to be a valuable tool and have made it work for them to make their courses even better. If you are one of those who consider the Stimpmeter an enemy, I would challenge you to know your enemy. Learn about the Stimpmeter. Educate your membership about its uses and how it works. Make it a tool you can use. Al Radko, former National Director of the Green Section, has suggested the following four-step program for use of the Stimpmeter:

Step 1. Following the steps recommended in the Stimpmeter Instruction Booklet, measure all greens thoroughly and record the average speed of each green. By thorough measurement it is meant that all areas of each putting green be averaged and recorded to determine the overall average of every green, including the practice green. At minimum, three separate areas of each green should be tested and averaged, except where contours or slopes limit the number of measurements per green.

Step 2. If the average speed of any green varies widely from the average speed desired, determine the cause and correct this deficiency to bring the reading up to the desired average speed. This may be done by additional mowing at first and if this does not correct the deficiency, by altering other management practices on deficient greens.

Step 3. Once the average speed is attained and the average speeds are

consistent (within plus or minus 6 inches among all greens), then it will only be necessary to test three or four greens daily to insure that the greens remain consistent throughout. The number tested daily will depend on the number of mowers used — i.e., if three different mowers are used, then it will be necessary to test one green mowed by each, etc. If triplex mowers are used, then four greens at minimum should be tested daily (two on the front side and two on the back side).

Step 4. Once every month, re-test all greens to determine whether the average speed continues to be uniformly consistent.

Variations in speed can do more to negate a player's skill than perhaps any other factor on the golf course. Consistency is the key word - not speed. Putting greens kept at speeds over 8'6" as a daily average will need extra labor and manpower because of additional maintenance practices required. Under extreme weather conditions, there is also a much greater potential for turfgrass damage when putting green speeds are maintained above the fast range for regular membership play. As with any other tool, I would urge you to use the Stimpmeter to your professional advantage.

Science and Us

Perhaps one of the greatest gospels you and I can preach today in turfgrass management is that "green does not necessarily equal good." This story should be told over and over again, especially to American golfers.

Now, I have heard the quick voices of dissent among us regarding this philosophy. There are always quick voices of dissent. But before we agree to argue about it, let's first be sure we understand what is being said. No one has said, "Green golf courses are bad!" That's foolishness. But the demand by some for a green, green, green golf course, overly watered, overly fertilized, not properly mowed for good playing conditions (but mowed instead for a good green appearance) does NOT make it a good golf course for golf.

Our concern, our job today is much the same as it was for the "keeper of the green" 500 years ago. It is to provide the best possible playing surfaces for the game of golf, not necessarily the greenest ones.

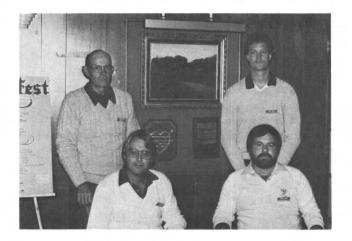
Science will help us immeasurably in our work. But it takes more than science. It takes that special, magical ingredient known as YOU. It is you who make it all come together. You make it happen. You are the artist. Please don't ever forget that!

World's Longest Golf Hole?...

Two top Australian golfers, Billy Dunk and Ted Ball, will tee off next April on a one-hole golf match—the hole is 1,597,550 yards long and par has been set at 7,173. They'll start at the Ceduna Golf Club in South Australia and hope to hole out at the Kalgoorlie Golf Club's 18th green in Western Australia three or four weeks later. They'll play across Australia's harshest terrain on the Nullarbor Plain and down the Eyre Highway, always being careful not to hook into the shark-infested waters of the Great Australian Bight. The two pros will be riding special three-wheel motorcycles. Accompanying them, will be a mechanic, a doctor, an army logistics expert, Ball's wife, Margaret, and a Guinness Book of World Records official. The whole thing is an attempt to set a record that will go into the Guinness Book of World Records as the world's longest golf hole.

The Hartford Courant

WELCOME NEW MEMBERS



Back Row, left, Roman Meitz, David Deem. Front Row, left, Rich Taylor and Chris Hague.

DON LINDBLAD



Back Row, left, Peter Mounts, Kevin Clumis. Front Row, left, Doug Veillette and Jim Linn.

NOMINATING COMMITTEE REPORT

DENNIS HENDRICKSON, CHAIRMAN

The Nominating Committee is pleased to propose the following slate for election in the Minnesota Golf Course Superintendents' Association.

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The Art Of Yesterday - The Science Of Today

It is one of the fascinating paradoxes of our profession. Turfgrass management - for golf - is indeed both an art and a science. It was always meant to be so.

The keeper-of-the-green profession has a heritage going back 400, perhaps 500 years. How much it has changed! Science has changed it. And yet, paradoxically, how little it has changed. It is still basically an art form. The thoughts that follow are mostly concerned with science, but my real message is about art.

Science and the Earthworm

Back in the 1930's, Dr. John Montieth, then Director of the Green Section, recalled golfers of that day continously complained about earthworm casts on the surface of greens. Invariably, they told him, the casts would deflect their putts away from the hole. Now, from a scientific and statistical point of view, he felt surely a ball would occasionally be deflected into the hole. Over the years, he never recalled hearing one complaint about this occurrence!

Science has long ago solved the earthworm problem - and many more. Weed control, disease devastation, better machinery, better fertilizers - we are all better off because of turfgrass science.

Science and the Stimpmeter

"Science" has even developed a little stick we now roll a ball down to test the speed of the green. The Stimpmeter os designed to establish speed criteria - not to make every green lightning fast, virtually impossible to putt of to maintain a healty turf. Man did that! Those who condemn the Stimpmeter overlook the fact that there is an art in using it. The speed of any particular set of greens must surely be at that level best suited for the membership and the conditions that prevail.

Science and Soils

Science has given us specifications for putting green construction. The Green Section Specifications, written in the early 1960's, are officially entitled, "A Method of Putting Green Construction." No one in a responsible position with the Green Section ever said or claimed they would produce the perfect foolproof green. Someone else said that. But science produced the data. It is up to us to execute, to use the data, to make it work. An artist does that.

Science and Research

Now a new era of research, to be sponsored by the USGA Green Section, lies just ahead. Conceived by Al Radko, a long-range, multi-million-dollar research project on minimal maintenance turfgrasses will soon be

by William H. Bengeyfield National Director, USGA Green Section

underway. The objective is to develop turfgrasses that will have greater winter hardiness, wear resistance, drought and temperature tolerance, disease and insect resistance, salt tolerance, require lower fertility levels, and still produce superior playing qualities. Grass plant selections in Asia and South Africa are now underway by U.S. scientists, sponsored by the Green Section. Once the work is complete, an intensive plant breeding program will begin. Genetic selections will be made by advanced computer analysis that cuts years off of previous plant breeding techniques. The full study will take at least 10 years. It will require an estimated outlay of \$5 million. It is an exciting undertaking, the largest of its kind in history! It will need your help and your support.

Science and Computers

Computers have been mentioned and they are indeed a new "science". They are going to affect our professional and private lives immeasurably in the immediate future. Dr. V.B. Youngner, University of California, Riverside, recently said, "Computers are an unbelievably fast and unbelievably accurate machine. They are also incredibly dumb. Man, on the other hand, is an extremely slow and inaccurate machine. However, he is brilliant! Bring these three forces together, i.e., speed, accuracy and brilliance, and there is no limit to what may be accomplished."

Notice, if you will, it is man's brilliance, his art that makes the difference. He makes the computer work.

And so it is in turfgrass management, in cooking, in driving an automobile, in just about any pursuit in life. You can have all the science in the world, but if you don't have that certain ability, that perception, that art, to bring it all together in the right manner:

If you don't have that "touch,"

You don't have very much!

Science and Irrigation

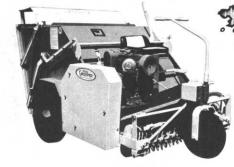
Science has also given us improved methods of irrigation. Now here is a topic we can all relate to as a science and an art. Who among us will disagree that automatic irrigation is not AUTOMATIC? Any type of irrigation is, at best, an inexact science. There are so many variables: wind, cloud cover, temperature, soil types, humidity, cutting height, type of grass, shade factors, etc, The more variables one must deal with, the greater the "art" becomes. Good irrigation is indeed an art.

continued on page 7

LEAF CLEANUP'S A CINCH!

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MODEL 154 SELF PROPELLED SWEEPER



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Handles the big jobs with ease. Sweeps wet or dry. Patented rubber fingers provide positive removal of grass clippings, leaves, thatch, twigs, rocks, cans, bottles, paper, pine straw and other debris.

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MODEL

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> The Jacobsen Model 40 Blower has proven itself by years of use on golf courses, cemeteries, schools, parks and airports. Its heavy-duty design with 3-point hitch, chain driven 36" impeller powered from P.T.O. and all-steel welded frame provides efficient one-man operation.

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