

# Introducing the Front Line.<sup>™</sup> The first mower built tough enough to be a Cushman.

There's a good reason why Cushman has been around for such a long time: We build equipment that lasts a long time.

And that's never been more obvious than with our new Front Line rotary mower.

### **Built for keeps.**

The Front Line's 72" mower deck is made of 12-gauge carbon steel, reinforced and arc welded. It has a multi-disc PTO clutch, direct drive to the deck gear box with a sealed and lubricated shaft drive. The hydrostatic transmission is driven by two continuously engaged "A" section belts with self-adjusting tension.

There's no need to worry about overloading the Front Line's engine. The combination of our high torque engine and specially designed mower deck allows you to mow tall weeds and fine grass.

### **Superior performance.**

The Front Line's cut in fine grass is so smooth, you won't believe it was made with three separate blades. That's because the blades overlap 1 1/2" to reach every inch of grass in the full 72" swath. Also, the cutting height is adjustable to eight positions, from 1" to 4 1/2" in half-inch increments.

Operating the Front Line couldn't be easier. With individual front wheel brakes, and wheel-type steering controlling a single rear wheel, you get tight maneuverability and better control on varying terrain.

The Front Line's mower deck makes your job easier, too.

It extends more than a foot to

one side, so you can trim right up to fences or trees. And it lifts hydraulically for transport over curbs. What's more, a large capacity fuel tank lets you work up to 6 hours between refills.

### **100% Cushman.**

Most rotary mowers use engines built by outside suppliers. Not the Front Line. Its 18-hp, air-cooled engine is all-Cushman. So is the differential. And the PTO drive. Which means all parts and service are provided by your Cushman dealer.

Send us this coupon today, and we'll tell you more about the new Front Line: The only mower built Cushman-tough.



YES, I want more information on the new Front Line<sup>™</sup> rotary mower. Prove to me that it really is tough enough to be a Cushman.

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**The Front Line.  
Tough enough to be a Cushman.**

HOLE NOTES, official publication of the  
MINNESOTA GOLF COURSE SUPERINTENDENTS'  
ASSOCIATION.

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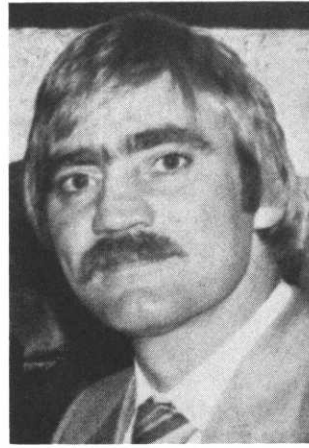
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AS A CHEAP SKATE.



**Dick DeSplinter**

**FROM THE  
PRESIDENT'S  
DESK**

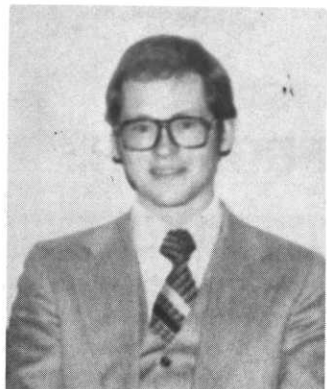
The time has arrived as it does each year. As soon as the snow melts from their back yards, the golfers are ready to "have at it" for another season. The golfer is understanding but impatient. We would like and need time to prepare the course for play. We remember what it looked like last summer and are disappointed in the appearance of the grounds. Mother Nature has left many scars on our once beautiful turf. We second guess whether or not the turf will ever look that beautiful.

I have missed many springs, or so it seems anyway, because of becoming completely involved in and impatient for the turf to become lush once again.

This is the year to slow down, relax and enjoy spring. We can't make plants begin to grow until they are ready. It's rather like an engine. We can overhaul and tune it up, but until we put gas in the tank it will not start. In an attempt to push Mother Nature it would be like starting the engine without first putting oil in the crankcase.

So relax, fellows, the course will be green and beautiful soon. And if you look ahead, you can imagine yourself complaining about not having enough time, manpower or equipment to keep the damn stuff cut anyway.

We often place more pressure on ourselves than anyone else could program. So take it easy, be patient and get your clubs dusted off for our first golf outing on April 14 at Greenhaven.



# RESEARCH COMMITTEE REPORT

BY DENNIS HENDRICKSON

The Research Committee met after the educational meeting at Majestic Oaks on March 11. We discussed several topics. Among them were ways to further involve the general membership in the research presently being done. We are all losing out by not seeing the plots more frequently. Hopefully, we will be able to find a way to make it more convenient for everyone to visit the plots. One possibility would be to hold regular monthly meetings at or near clubs where plots are located. Another would be to remind the membership that often we pass by a club where plots are located on our way to a meeting. With a little extra time coming to or returning from a meeting, the plots could be visited. The Research Committee is also going to hold meetings at the plot sites during the time when diseases are active or when definite differences in the plots can be seen.

The committee also discussed the six topics mentioned in the February issue of "HOLE NOTES" as well as consideration of a study on ice damage to turf, anthracnose and PMAS rates. Any other topics which you or a member of M.G.C.S.A. would like to see studied should be brought to our attention. We need your ideas.

Unfortunately, one of the factors governing how much can be done by the research program is the money available. This is where all of the members of M.G.C.S.A. can do their part. In the very near future you will be receiving a letter, as will each club president, which will include the research program memorandum invoice. Please discuss the matter with the appropriate people at your club. The help of every club is needed.

I would like to take this opportunity to thank everyone who supported the research program in 1979. The following is a list of last year's contributors:

- |                            |                         |                          |
|----------------------------|-------------------------|--------------------------|
| Midland Hills Country Club | Mora Country Club       | Mesaba Country Club      |
| Cloquet Country Club       | Olympic Hills Golf Club | Dwan Golf Course         |
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| Warren Rebolz              |                         |                          |

## National Tournament Results

Guadalajara, Mexico. T. C. Hamilton, CGCS, superintendent of the Dallas (Texas) Country Club, came from four strokes back to beat defending champion Dan Meyers, CGCS, Temple Terrace (Florida) Golf and Country Club in a one-hole playoff during the Golf Course Superintendents' Association of America's annual golf tournament. The tournament was played on three Guadalajara, Mexico courses. Hamilton, 1978 winner, played the final eight holes at 3-under par to tie Meyers at the end of the 36-holes of regulation play, and his par on the first playoff hole gave him the title. Vaughn Barker, superintendent of Fore Lakes Golf Club, Murray, Utah, finished one shot back and won the Seniors Flight.

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# HISTORIAN'S CORNER

BY DICK DeSPLINTER

The M.G.C.S.A. was incorporated under the laws of Minnesota on April 16, 1971. From the original seventeen charter members in 1928 the Association has grown consistently to our present membership totaling 316 members.

The M.G.C.S.A. has been pretty well represented on the National Executive Boards with one president, one vice-president and several directors.

In the early years of the organization they sponsored the greenkeeping short courses at the University of Minnesota under the guidance of Dr. C. O. Rost and Professor Al Lawson. Later Rost and Lawson helped organize and hold the educational conferences privately.

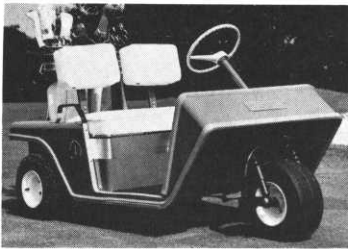
Prior to the inception of our association the green chairmen would round up an expert or two and would hold meetings on occasion on their golf courses and invite their greenkeepers along.

After the Association was founded the greenchairmen dropped their meetings and encouraged the greenkeeper to attend local and national educational conferences. This was a great boost for better golf courses.

The greenkeepers used to meet at the shop and from there the group would go out on the course, usually accompanied by some expert, criticize, inspect and discuss the shape of things and recommend.

As time passed the greenkeepers felt the absence of the greenchairmen and realized an important link missing. So our best minds devised the idea of having an annual tournament with the greenchairmen and so it is today.

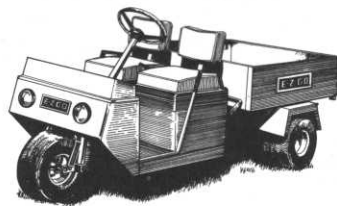
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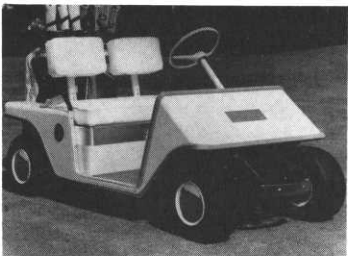
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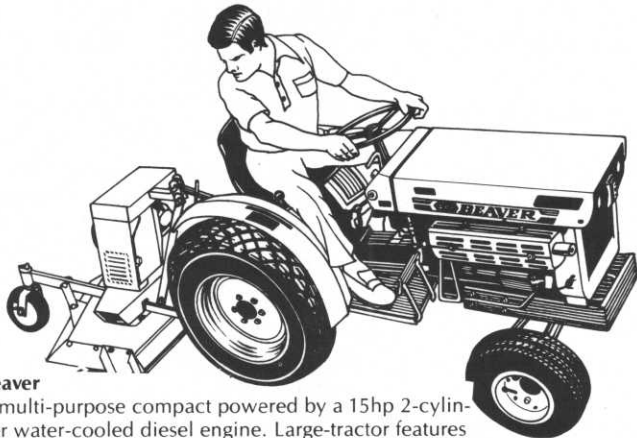
## EASTER!

From the

Staff of

Hole Notes

# SATOH TRACTORS



## Beaver

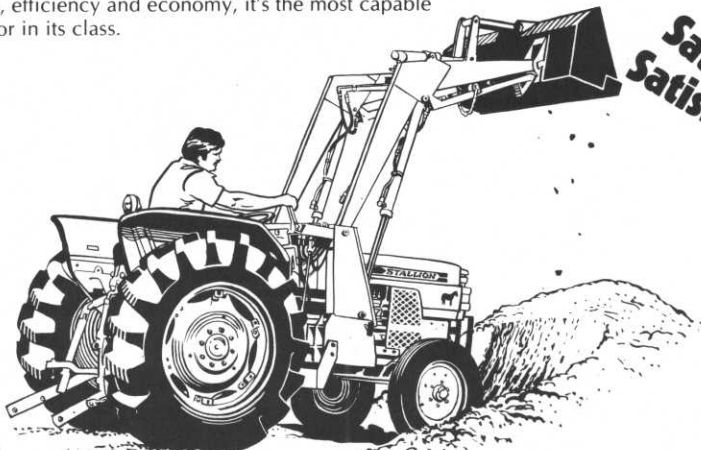
A multi-purpose compact powered by a 15hp 2-cylinder water-cooled diesel engine. Large-tractor features such as dual-range 8-speed transmission, 3-step PTO, 3-point linkage, differential lock, independent-wheel brakes and live hydraulics are standard. In performance, efficiency and economy, it's the most capable tractor in its class.

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## Bull

A mid-sized tractor with the comfort and power necessary for grounds maintenance or construction work. Its 2-cylinder 4-cycle water-cooled diesel engine delivers 25hp at a low 2500rpm. With a 4-step PTO and 12-speed transmission.

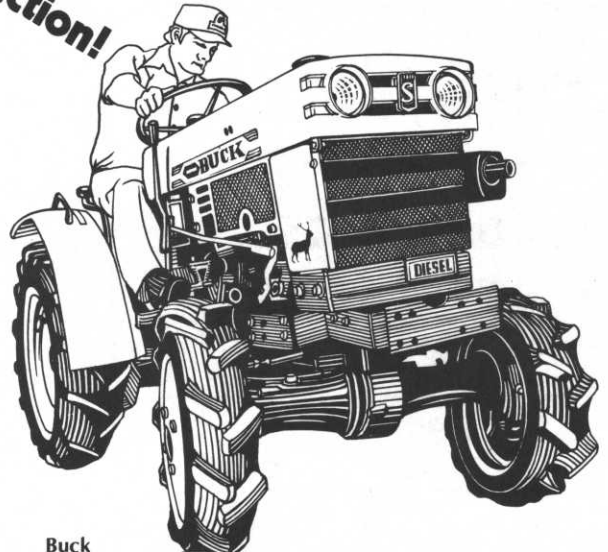


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## Stallion

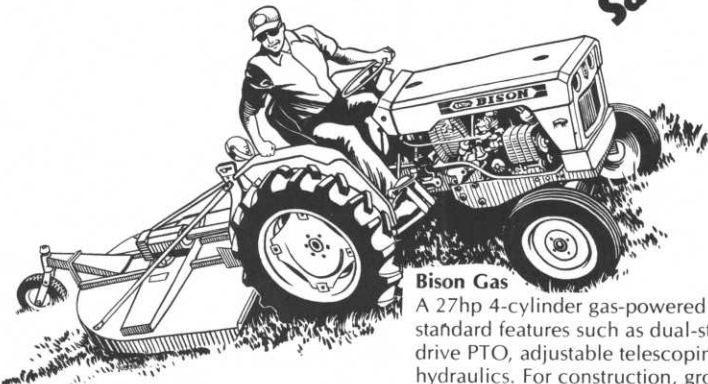
The 38hp 3-cylinder water-cooled diesel engine, power steering, dual-stage clutch, 12-speed transmission, live hydraulics (with draft control), high ground clearance, and 2-step PTO mark this rugged mid-size as a leader in light cultivating, backhoe and loader work, brush cutting and a variety of other applications.

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## Buck

The perfect high-performance utility tractor for all applications, with a rugged, quiet 18.5hp 3-cylinder water-cooled diesel engine. Economical and efficient, it offers features and capabilities demanded by professionals throughout the outdoor power equipment market.



## Bison Gas

A 27hp 4-cylinder gas-powered workhorse, offering standard features such as dual-stage clutch for live-drive PTO, adjustable telescoping front axle and live hydraulics. For construction, grounds maintenance and farm applications.

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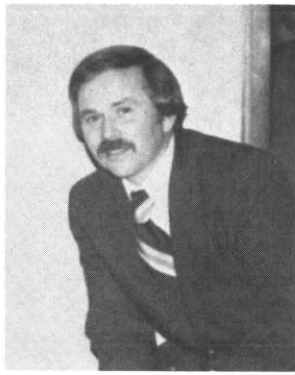
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# THE DIRECTORS CORNER

BY JOHN NYLUND

Our G.C.S.A.A. National Conference is now history and from all reports it turned out to be a huge success. Attendance records were set to make this conference and show the biggest in G.C.S.A.A.'s history.

The equipment hall was large and roomy and provided a great showplace for all the distributors and their equipment. I'm sure many questions were answered that week to make both superintendent and distributor happy. I enjoy the equipment show the most because you can get answers, prices and generally compare equipment all in one trip. Many people feel the equipment show alone is worth the price to attend the National Conference.

I'm sure there are many members who have never attended a National Conference. It would be worth your time to talk to club officials to express your interest in attending if you desire going. Remember you don't have to be a G.C.S.A.A. member to attend. I'm sure you and your club would benefit from your participation at the National Conference.

The show has many fine educational sessions. You have the option to attend what interests your particular situation so your time is well spent. This year a photography course and a Cardio Pulmonary Resuscitation (CPR) course were offered along with many golf course related subjects.

Our Minnesota Association was represented by approximately 60 members who arrived by airplane and automobile. We enjoyed great weather (for St. Louis, anyway) all week long. It reached 62° the day I left and many I heard were out on the golf courses.

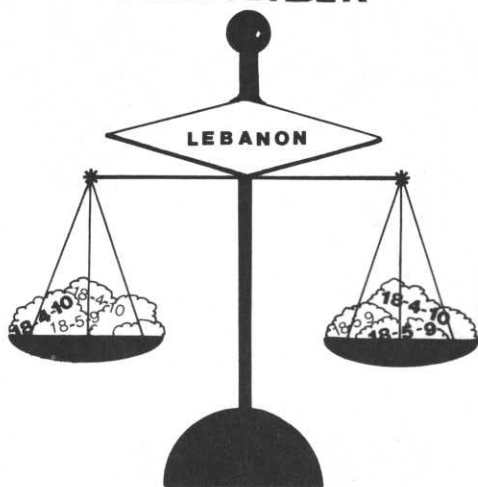
The famous arch in St. Louis was one of the sites of the city which was very popular and is an incredible piece of architecture. Even more incredible was the thirty-minute movie on how the arch was built. Other sites included the Budweiser Brewery, Busch Stadium, Lacedes Landing and, of course, the huge riverboats. St. Louis had plenty to offer the superintendents that week.

Special thanks go out to R. L. Gould for arranging a flight to St. Louis and to Minnesota Toro for the fine cocktail party. Our Associate Members are vital to our association and we thank all of them for making the stay in St. Louis enjoyable.

For those who attended the National Conference and feel a question went unanswered or if you have a gripe, please contact the headquarters of the National with your suggestions. They can use improvement like everyone else and may put your ideas to good use.

Well, next year can only be bigger and better. Anaheim, California is a gorgeous place to hold a conference with many interesting places to visit. If you have not attended a conference and would like to, start making your plans now. I guarantee you and your golf club can only improve from your participation.

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It stops the major turf diseases:  
dollar-spot

(including benomyl-resistant dollar spot),  
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And it does it, at low, economical rates.



## **Save enough for a new sprayer!**

### **Minimum costs for sprayer**

<b>Pump</b>	<b>\$300<sup>00</sup></b>
<b>Motor</b>	<b>150<sup>00</sup></b>
<b>Tank</b>	<b>200<sup>00</sup></b>
<b>Misc.</b>	<b>150<sup>00</sup></b>
<hr/>	
<b>Total</b>	<b>\$800<sup>00</sup></b>

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*Compare granular fungicidal cost  
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***Granular fungicides cost a minimum  
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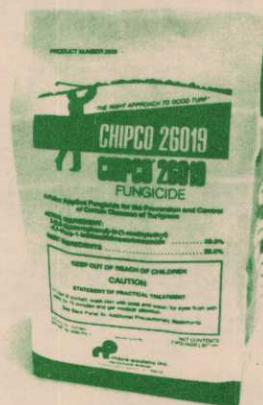
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Here's a new fungicide that could  
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Because new **Chipco 26019** gives more control with fewer sprays  
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# CHIPCO 26019 Disease Control Spray Schedule



## GOLF COURSE GREENS

DISEASE	TIMING	RATE/PER 1,000 SQ. FT.
Leaf Spot — Melting Out (Helminthosporium spp.)	Mid-April	2 oz. Chipco 26019
	May — 21 day interval	2 oz. Chipco 26019
Dollar Spot (Sclerotinia homeocarpa) Brown Patch (Rhizoctonia solani)	June	Contact fungicide
	June — 14 day interval	1½ oz. Chipco 26019
	June	Contact or Systemic fungicide
	July — 14 day interval	1½ oz. Chipco 26019
	July — 14 day interval	Contact or Systemic fungicide
	July — 14 day interval	1½ oz. Chipco 26019
	Aug.	Contact or Systemic fungicide
Aug.	1½ oz. Chipco 26019	

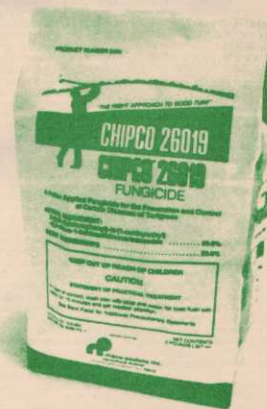
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# CHIPCO® 26019 Disease Control Spray Schedule



## GOLF COURSE FAIRWAYS

DISEASE	TIMING	RATE/PER 1,000 SQ. FT.
Leaf Spot — Melting out (Helminthosporium ssp)	Mid-May — 21 day interval May	2 oz. Chipco 26019 Contact fungicide
Dollar Spot (Sclerotinia homeocarpa) Brown Patch (Rhizoctonia solani)	June — 21 day interval or when disease reappears	1½ oz. Chipco 26019 Contact fungicide
	June	
	July — 21 day interval or when disease reappears	1½ oz. Chipco 26019 Systemic fungicide
	July Aug.	1½ oz. Chipco 26019

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NEW QUICK-ADJUST REEL: adjust reel to bed knife without disturbing height of cut.  
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Converts in minutes to become a  
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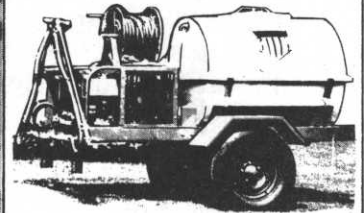
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# Automatic Irrigation for Disease

## Control.

BY MICHAEL KLATTE  
SUPERINTENDENT, ELM CREEK G.C.



Irrigation on a golf course means more than just watering to make things grow. The average Superintendent knows the importance of disease control, especially during those hot months. The true value of a watering system is its use as a management tool and the speed and timing involved.

When it comes to disease control many of us have found that chemicals alone are not enough. You need a good cultural program of preventative maintenance using your irrigation system as one of the tools.

If you think of the circumstances surrounding disease occurrence it will be easy to see why automatic systems can save you time and money like they advertise so often. In order for a disease to occur, there must be an interaction between the plant, pathogen and environment. What the irrigation system can do is control this environment by removing or washing off residues brought on by dew, fertilizer and pesticides that have sustained themselves in the growth medium of the soil.

The environment we are speaking about is the combination of the soil chemistry and the temperature-humidity index which work together in a natural phenomenon to move extracts of amino acids and salts up from the soil and out through the open stomata and clipped ends of the grass plant. This is usually associated with dew, but the residues of salt left by fertilizer and pesticides that accumulate in the soil are just as bad. Sudden

changes in temperature, particularly at night, where there is a faster rate than the ability of the atmosphere to evaporate the exudated water which accumulates and creates a perfect environment for the fungus. The amino acids and salts weaken the grass by drawing moisture and starches out of the plant.

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An automatic irrigation system will do a super job of washing away dew in the early morning and syringing in the afternoon without the harm of overwatering which might happen with manual systems and human nature. The automatic system can be programmed to put out an estimated time of one minute per thousand square feet of green. For example, if a green is 5000 square feet, set the timer to water for five minutes. This would give you the approximate time required to cover the green completely without overwatering.

If the automatic irrigation system is used in this way it will lessen the chance of disease and the fungicide will do a better job, especially those systemic types that must be watered in after application.

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| *MYERS      | Sprayers                                    |
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