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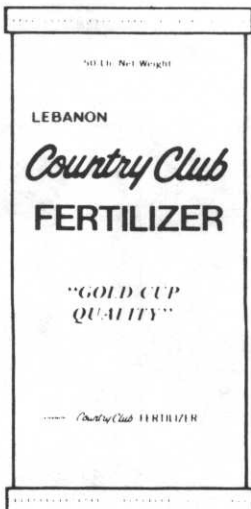
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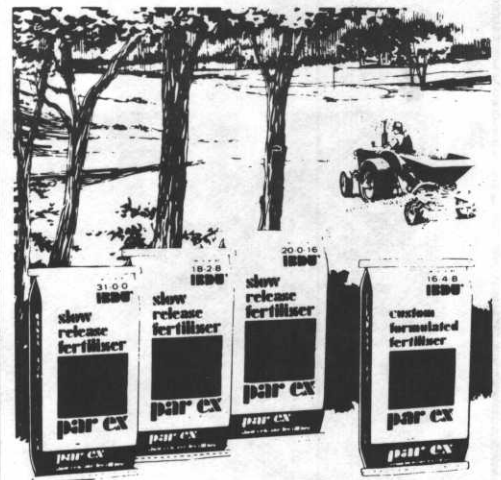
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HOLE NOTES

Official publication of the MINNESOTA
GOLF COURSE SUPERINTENDENTS'
ASSOCIATION

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FROM THE PRESIDENT'S DESK

JOHN NYLUND

It's hard to believe the year is half over with the month of July already here. The month of June provided our Association the opportunity to have a meeting out of town. The site was Whitefish Golf Club with Host Superintendent Bernie Zimmer.

Our thanks go to Bernie and his staff at Whitefish for a very enjoyable weekend. Also thanks to Turf Supply Company and Cushman Motors for participating.

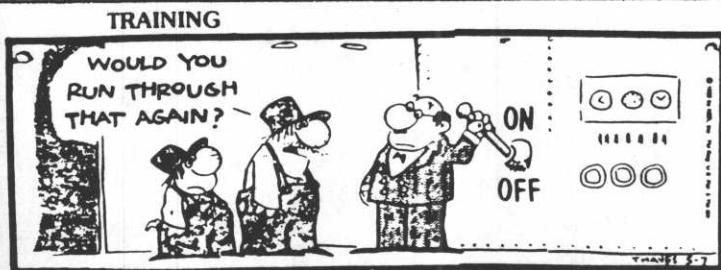
July takes us to Baker Park Golf Course and Host Superintendent Steve Young. Steve has a full day's activities planned for the adults and children so mark July 11 down and plan to attend. He will have a separate mailing so please be sure to pre-register.

I received word that Leif Erickson from Austin will be moving to Billings, Montana to take over a golf course. Our thanks go to Leif for his participation as a board member and to his family we wish the best of luck in Billings.

Remember the U.S. Senior Open at Hazeltine in July. Your Golf GCSAA card will admit you to all the action.

The announcement of the resignation of Jim Mc Loughlin as Executive Director of the Golf Course Superintendents of America probably puts the future plans of the national association on hold until a replacement can be found. Meanwhile, the day-to-day operations will continue as before.

I would like to congratulate Boots Fuller for the great job he is doing in getting members of our association to write fine, interesting articles for the HOLE NOTES. There's nothing better than learning from your peers.



IS THIS YOUR CREW?

PATHOLOGICAL POINTERS



by WARD C. STIENSTRA
DEPARTMENT OF PLANT PATHOLOGY
UNIVERSITY OF MINNESOTA

"SNOW MOLD 1982-83"

The winter season treatments began on October 21 at Duluth and Gilbert. Detroit Lakes and International Falls were applied 10/26. The metro plot was applied 10/28 and Rochester 10/29. A fairway plot at Oak Ridge was applied 10/28 and also on 11/29. The winter was strange and good for many turf areas yet the open cold weather in north central Minnesota created turf injury unseen for many years in the Bemidji area. The annual bluegrass and thatchy bent was severely injured and considerable damage due to pink snow mold occurred in the wet September and October period last fall.

The first plot observed was Oak Ridge on 3/10 and the last data was collected 4/26. This again was one of the longest coolest springs for turf I can remember. While some had serious problems this spring the slow growth during cool cloudy weather may have made the damaged areas seem worse than they really were.

Brad Klein at Detroit Lakes said in December that the weather looked good for his turf and in March the turf was disease free. I tried one more time to go up to Detroit Lakes, but Brad said he had nothing to show.

At Somerset, G. Murphy averaged 18.25 spots of disease in the untreated checks. None of the plot area was seriously damaged and most of the spots I counted were small. The damage was done by Fusarium, and Typhula ishikariensis. The weakest of the standard three materials was chloroneb

at 5 and 9 oz. per 1000 sq. ft. The products from Mobay, E. L. Lilly + Ciba Geigy; Bayleton Rubigan + Banner performed well but then so did Daconil 4F at 8 Ft. oz. An experimental mercury granule from Mallinckrodt performed as well as the standard Calogran.

At Rochester, observed on April 7, disease pressure was light to nearly none. No significant differences were found due to any treatment. All treatments produced adequate control but several untreated checks had no disease evident. The usual tip burn was evident from Caloclor, alone or in combination.

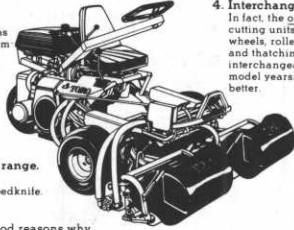
Duluth was most interesting! After three attempts to view the plot, all blocked by snow storms, the area was observed on 4/25. The untreated areas averaged 85.7% disease mostly Typhula ishikariensis, with a few spots of Sclerotinia borealis and a little Fusarium. The east side of the plot just lost snow cover the morning of the 25th, while the west side was open for about two weeks. There were no real surprises in the standard treatments and combinations; however, several points can be reviewed. One, when disease pressure is high single product treatments at low rates are inadequate, greater than 10% of area diseased. Two, contacts other than the standard three and systemics like 26019, Tersan 1991, do not perform satisfactorily. Three, new products like Bayleton, Banner + Rubigan, while reducing snow mold damage have a rather flat dosage response, (increased concentrations don't improve disease response). Four, any two way combination of Caloclor, Tersan SP and Terraclor or a combo of all three produced the best results. In the 1982-83 test there is no difference between these four treatments. Five, addition of Tersan 1991 to Tersan SP reduced the disease control by 26%. This was observed before and a smaller reduction was also seen when Tersan 1991 combined with Daconil 4F. In past studies when disease pressure was lower treating with Tersan 1991 alone resulted in more disease damage than what was observed in the untreated check areas. Granular formulations of Mercury or Chloroneb performed the same as a spray application, however PCNB granules performed poorly. I believe this was due

continued on Page 5

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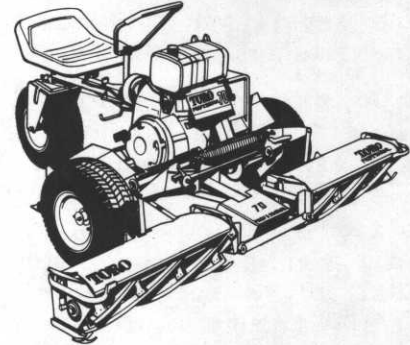
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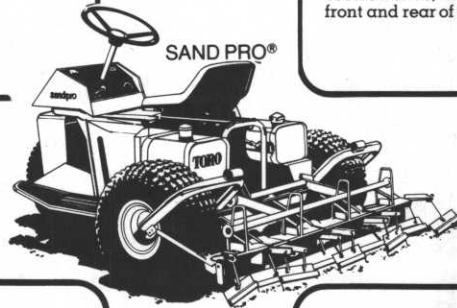
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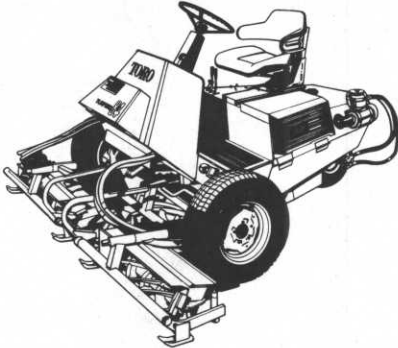
The Toro Professional 70" is a compact mower with three power driven reels that can cut many acres of formal turf a day, at easy-to-adjust heights of 1/2" to 2 1/2". The articulated outboard "wing" reels follow ground contours for a smooth, even cut. Low center of gravity for good stability on hills. Superior handling and maneuverability. As the Teemower 70," it has grass baskets and rollers front and rear of the cutting units.

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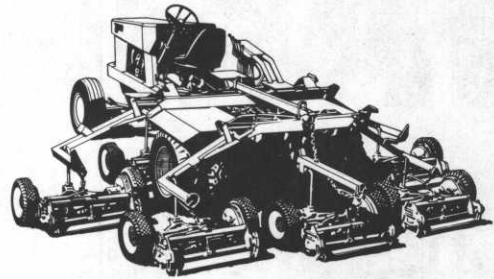


The Toro Turf Pro 84 is an all hydraulic triplex that gives you the right clip for the right height of cut and type of grass. All three reels and wheels are hydraulically powered, reducing maintenance time and cost. Reels have independent suspension, providing a better quality of cut. With movement of a single pin, cutting height adjusts from 3/8" to 2 1/2". Front rollers, grass catchers and deluxe seat are optional.

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to an application error resulting in less active ingredient when applied as a granule. PCNB applied with a fertilizer acted as the spray formulation. The experimental mercury from Mallinckrodt was equal to the standard Calogran. A complete report on the Duluth Plot in chart form is printed on Page 9.

A new plot location this year-Gilbert Minnesota - Eshquaguma Country Club, observed 4/26 confirmed what I've seen before. The Chloroneb, Turfcide granule combination had more diseases than combining mercury with either Chloroneb or PCNB. All three materials at high rates (10# Calogran plus 6 oz. ai. of Chloroneb and 16 oz. ai. of PCNB) produced nearly 100% disease control on POA. Also a new seeding of Penncross had nearly no disease. That will change as the Penncross matures. Another small plot at International Falls was observed 4/26 also. Snow left the plot on 3/16 and for a change little disease pressure occurred.

A fairway plot at Oak Ridge was observed 3/10 and 4/8 Treatments were applied 10/28 and 11/29 after removing the snow cover. There were five single chemical plots. One - two way combination and one

-three way combination and two - two way combinations for nine treatments. Three chemicals PCNB at 2 + 4 oz, PMA at 1 + 2 Fl. oz. and Thiram at 4 oz. were used.

There was close agreement between the results of chemicals applied 10/28 and 11/29. Late season applications did not improve disease control, however, little moisture fell after 10/28 other than snow. I'd expect more differences if the weather was wet and rain washed the PMA from the foliage.

Overall not much fairway disease was present on the plot. PMA was phytotoxic especially at 2Fl. oz./1000 sq. ft., while adding Thiram reduced burn and disease control.

Thiram plus PCNB was about equal to Thiram and PMA while a three way combination produced the best disease control and had no phytotoxic reactions. After two years of testing the results are not as clear as I had hoped since in both years mild disease pressure existed. However, as an alternate to PMA, PCNB at 2-4 oz/1000 sq. ft. may be a good possibility.

Continued on Page 9

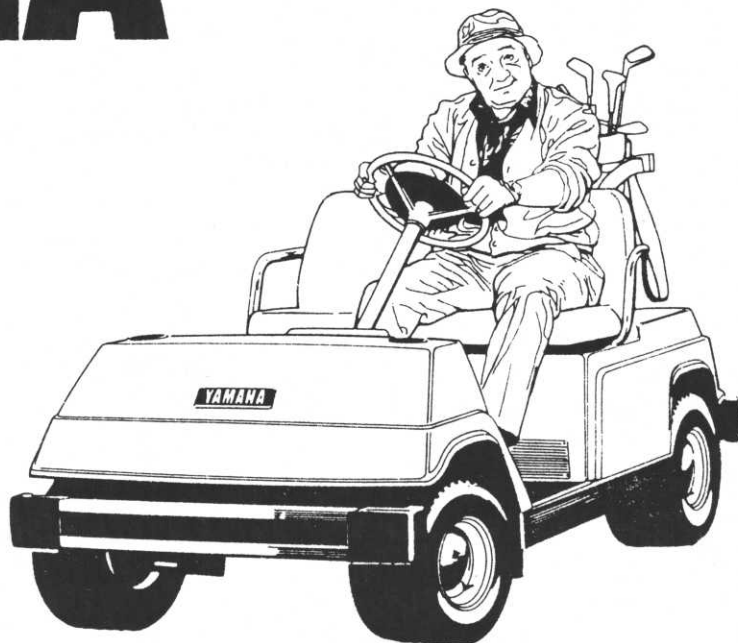
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Maybe you're having second thoughts about the agronomic value of synthetic UF, IBDU, SCU nitrogen release — *and cost*. If so, you are not alone. No matter how hard the scientists have tried, they have failed to match synthetic nitrogen release with natural growth patterns.

SOME OF THE PROBLEMS

Take IBDU as an example. Its water solubility increases by $\frac{1}{3}$ from 40 degrees to 80 degrees Fahrenheit. This might not be too bad for warm-season grasses, although it does mean the long lasting qualities are reduced. However, it could be disastrous to cool season turfs where reduced, rather than increased, nitrogen availability is wanted during hot weather.

Sulfur coated urea (SCU) has the same problem. As temperatures increase, water becomes a better solubilizing agent, thus promoting faster — sometimes much too fast — release.

Ureaformaldehyde (UF), on the other hand, calls for a sizeable investment in product, time and wonderment (up to two years) while waiting for nitrogen supply from the more slowly available UF to stabilize to adequate growth rates. The more soluble methylene diurea doesn't last as long and has a greater tendency to burn.

THE COST FACTOR

Cost is yet another factor with the synthetic nitrogens. They have gotten so high that they are seldom sold in pure form. They are instead included in mixtures with fast acting urea (the inferior source in most comparison charts) and often potassium and phosphorus, as well. This lowers the analysis but increases the "burn" potential.

Interestingly, the comparison charts and graphs point out the superior nitrogen release and low salt index of IBDU and UF when compared to urea, yet the sales push is for the 24-4-12 or similar mix. In a 24-4-12 example given by the IBDU folks, 55% of the nitrogen is water soluble, whereas only 15% of IBDU Fine falls in this category. And, granulation does make a difference. Coarse IBDU has 1.6% less water soluble nitrogen than the Fine. And the fines react much faster.

Milorganite is more than just a simple source of nitrogen.

Just maybe it isn't only the s-l-o-w nitrogen release that does the job. MILORGANITE includes some potentially fungicidal properties as well. Could it be MILORGANITE's cadmium content? Just maybe it's because MILORGANITE supplies nutrients the way plants want them.

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TELEVISION AN ADDED DIMENSION

by JOHN GRANHOLT, SUPERINTENDENT
EAU CLAIRE COUNTRY CLUB

When asked by Boots Fuller to write an article for HOLE NOTES I thought writing about our locally televised golf tournament would be rather unique. The CUGA Tournament of Champions has been held at the Eau Claire Country Club for a number of years now.

First, a little about the CUGA and the tournament requirements. The Chippewa Valley Golf Association covers an area from Prescott to Neilsville and Black River Falls to Ladysmith. Tournament play begins in May and is held each weekend at a different course. The season has its finale in August with the televised tournament of champions held at the Eau Claire Country Club. All tournaments are set up on a player point system with the top 120 point winners invited to play in the finale. Players also must golf in a minimum of four tournaments to qualify.

The two-day tournament is usually held on the 3rd or 4th weekend in August. This year it is on August 27 and 28. A sponsors tournament is held on Friday, prior to the actual tournament. The 17th and 18th holes are televised both Saturday and Sunday with cameras mounted on electric hydraulic lifts which raise 40'. Also they use portable cameras on these holes.

Usually a week before the tournament the club officials and myself meet with the TV station crews, set up scheduling and final details are worked out at this time. Set up of control vans and camera scaffolding begins on Thursday afternoon. Our regular golf course crew helps out in any way we can with the set up of the TV crews. We provide rope around their equipment and rope around greens for gallery control. The gallery can get quite large on these televised holes so some control is needed. The location of cups and tee markers which can be covered by the cameras is also discussed for best locations and angles. The location of other cups and tee markers are determined by CUGA officials and myself.

Continued on page 8

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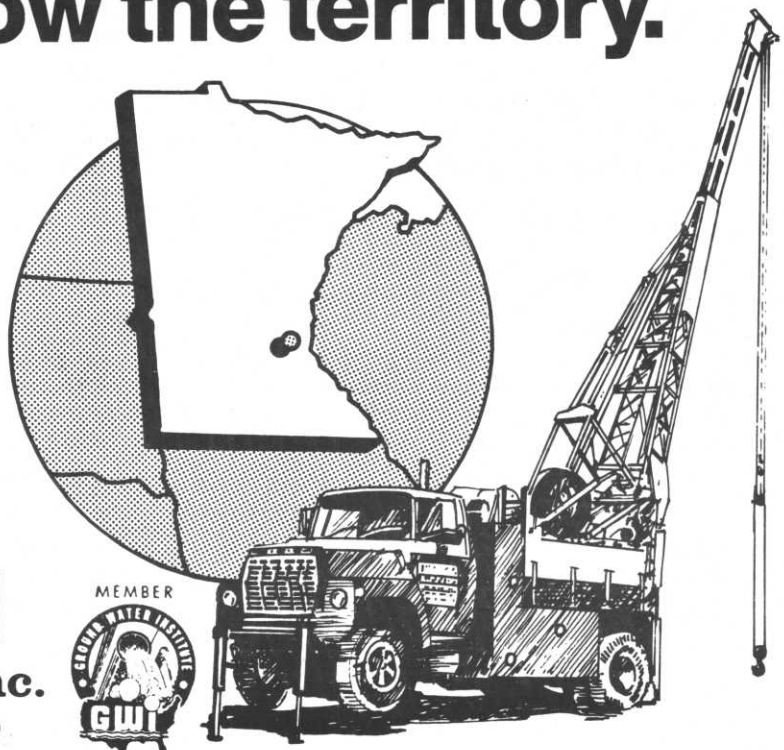
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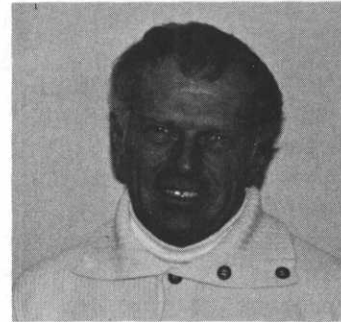


Preparation of the golf course is not too much out of the ordinary. We try to give our members the same conditions throughout the year. Speed on the greens is increased considerably. Tees and fairways are mowed everyday, greens are mowed twice a day for the tournament.

This tournament is on a very small scale but I think it's easier to see what the P.G.A. Tournament courses go through preparing for their major events with television coverage. Many people are involved in the coverage of our tournament. I have never been to a major televised golf tournament, myself, but I can imagine the amount of people, equipment, towers, cameras, etc. that it takes to give you that coverage. These are all things you don't see when sitting in front of your TV.



EDITOR'S CORNER



by **BOOTS FULLER**
EDITORIAL CHAIRMAN, M.G.C.S.A.

There weren't too many of us, but we surely had fun at Whitefish! Bernie Zimmer has quite a layout there. Nine holes are under construction to compliment a beautiful nine that is already there. And it's all carved out of native woods so it's really a demanding course. For we who have slight tendencies to spray our shots, it is really demanding!

I rode up with Dale Caldwell and Gary Peterson and that alone was worth the trip. The weather was super, the lunch
Continued on page 10

We're seen in all the right places.



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1982 - 1983 DULUTH PLOT

PRODUCTS	RATE OZ/1000 SQ FT	% DISEASE
A) SPRAY 5 GAL/1000 SQ FT		
Caloclor	3	14.25
Caloclor	5	2.75
Tersan SP	5	16.25
Tersan SP	9	3.5
Terraclor	8	12.5
Terraclor	16	4.75

Tersan 1991	2	65
Bayleton 25 WP	5	13.75
Bayleton	1	12.75
Ciba Geigy 64250 (3.6 E)	32 gms ai	1.25
Ciba Geigy 64250 (3.6 E)	16 gms ai	6.75
Daconil 4F	8 Fl oz	48.75
Daconil 4F	16 Fl oz	19
26019 50 P	4 oz	56.25
Caloclor + Tersan SP	3 + 5	2
Caloclor + Terraclor	3 + 8	1
Tersan SP + Terraclor	5 + 8	.5
Caloclor + Tersan SP + Terraclor	3 + 5 + 8	.25
Tersan SP + Tersan 1991	5 + 2	53.75
Daconil 4F + Tersan 1991	8 Fl oz + 2	42.25
EL 222	2 oz	14.25
EL 222	4 oz	14.0
EL 222	6 oz	15.0
CHECK	0	85.75

B) GRANULES	LBS/1000 SQ FT	% DISEASE
Calogran	6	NA
Calogran	10	0.75
Fungicide II	N	7.5
Fungicide II	D	1.5
Turfcide	5	47.5
Turfcide 10% g	7.5	26.25
FFII	N	5
FFII	D	7.5
Exp. Ag.	6	7.5
Exp. Ag	10	0.5

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THERE'S NO such thing as the perfect solution. Every solution, no matter how good, creates new problems.

Cleaning your house while your kids are still growing is like shoveling the walk before it stops snowing.

was great and I'm sure that all in attendance had a great time.

In the week prior to the Whitefish trip, the Board met at Baker Park where we had a chance to check out the layout for the July picnic. I am convinced that this is going to be a real outing if the weather man cooperates. I played a few holes of golf with John Nylund, Jim Wodash and Host Superintendent Steven Young. The 9-Hole regulation course will be a good challenge for all. Put the date on your calendar and plan to attend. The format has changed somewhat so please watch for the changes. It is a family outing and Baker Park has some excellent facilities for all. MONDAY, JULY 11 is the date. See you all there.

Summer has finally arrived in southern Minnesota. Things are greening up, temperatures are rising and the weather has finally decided to cooperate with us. Let's hope that the stress of July and August won't be too severe. But so far, things really seem to be falling into shape.

We really have some interesting articles this month and more is on tap for next month. The cooperation has been super.

ASSOCIATES' CORNER

REFLECTIONS ON MY LIFE WITH A GOLF COURSE SUPERINTENDENT.

by LINDA CALDWELL

In May 1974 I met my first golf course superintendent. Prior to that time I didn't know such people existed because I had never been on a golf course and knew absolutely nothing about the game of golf. Since then I still know very little about the game; however, I feel I understand at least a little more about this person known as a golf course superintendent.

What could a golf course superintendent possibly have to do but cut the grass, I thought. No big deal, right? Wrong! I was soon informed during a tour and golf lesson from the golf course superintendent of the various duties and responsibilities involved. It was certainly eye opening to me. What does a golf course superintendent do in the winter, I wondered. If only I had a nickel for all the times I have been asked that question. Continued on page 11

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By DR. HARRY NIEMCZYK

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Easy-to-read language
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