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HOLE NOTES

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WILLING TO LEARN

You've criticized my stance and swing,
My drives and every shot.
From tee to tee, you've helpfully
Improved my game a lot.

Now one more item needs your clear
And analyzing brain.
Please tell me how you like my grip—
Around your jugular vein.

—Catherine Lavarney



FROM THE PRESIDENT'S DESK

JOHN NYLUND

I will begin by thanking Sundance Golf Club with Host Superintendent Gary Peterson for hosting our May meeting. The day provided many superintendents with a golf outing despite the strong winds and many superintendents were treated to an impressive display of Toro's equipment.

June 6 will take us to Whitefish Golf Club and Host Superintendent Bernie Zimmer. This area is a great recreation area for the entire family so make a long weekend and enjoy some fishing, golf or just relaxing at the resort. Cushman Motors will also have an equipment display and Turf Supply Company will have Dr. Robert Shearman as a speaker following lunch on Monday.

I would like to recognize Don Lindblad and Mark Smith of our Research Committee for the fine job they have done this year organizing our Research Program. Many fine projects have been received by the committee and now it's time to decide which ones our association shall pursue. They will be informing the association of the details soon in HOLE NOTES.

I would also like to mention that the U.S.G.A. has notified us that admittance to the National Senior Open at Hazeltine National Golf Club will be by showing your GOLD G.C.S.A.A. membership card at the main gate for clubhouse and grounds privileges. This is your national G.C.S.A.A. card, not your green state membership card.

In closing, I would like to thank our associate members for their participation in our association's monthly meetings and our HOLE NOTES. They, in turn, appreciate your patronage and ideas so take time to let them know your needs.

Thanks...and see you all at Whitefish Golf Club in June.

ELM CREEK'S SAND TOPDRESSING PROGRAM



by

MICHAEL KLATTE CGCS
ELM CREEK GOLF CLUB

I started a sand topdressing program five years ago at Elm Creek to try and alleviate a number of problems with our greens. These greens had become heavily thatched and shallow rooted which led to a number of problems in disease and insect control. I wanted deeper and stronger roots and more control of our thatch. With some knowledge of the characteristics of Penncross creeping bent and its very vigorous growth habit, I realized that complete control of thatch and graininess would be next to impossible. Due to over-watering and heavy traffic our soil structure was next to non-existent. Sand had to be incorporated into the root zone region. Sand would also help break up and decompose most of the thatch layer. The characteristics of the sand particle itself with its "sandpaper" abrasiveness would start the reaction desired. The sand would take up space in the thatch fibers and marry into it to benefit one another. The fibers are destroyed by the cutting action of the sand and decompose into organic matter, and blend in with the firm structure created by the sand particles. This, in theory, becomes the perfect soil mix. This then was the assumption I would go with. This logic became the basis of why I started this program. Putting this theory into practice is another thing and one that must be taken with the utmost care. In my particular case I had no other choice; it was either sink or swim.

The first thing I did was to contact Dr. George Blake of the University of Minnesota, an agronomist in soil science. He highly recommended a very fine sand particle which could be purchased through the Arsenal Sand Pit in New Brighton. The sand size was from .25 to 1.0 millimeters and the pH read out is at 7.2 which has been the best pH reading of all the sand pits in this area. It was washed sand free of silt and clay.

The second thing was how much and how often during the season one must apply sand to greens. There is not a hard and fast rule that applies here. The first year I applied about six applications to 1/8 inch depth per application. The greens with a lot of Poa in them turn yellow in spots and become shallow rooted. I was going to lose what grass I had on these greens. I decided to slow down and apply three to four applications and spread out the intervals between applications. This has worked out the best for me. It allowed time for the grass to get caught up. I wanted the sand particles to have time to work down into the thatch layer and open up spaces for better root movement into this substance. This would also allow for better infiltration of irrigation water and surface drainage.

I have found through experience that this sand program has cut my fungicide applications in half. It has almost eliminated a need for insecticides and my watering has been cut in half. The sand has broken through the thatch layer enough to allow a faster rate of infiltration into the soil root zone. Since most of my roots are living in the thatch layer I feel this program of spreading out the intervals of applications of sand has proved positive. I don't want to destroy my present root zone structure by an over judicious supply of sand toppings. I also feel it is not correct to bury this living substance which keeps the top growth alive. The whole idea is to help open it up. This will give you a better Cation Exchange Capacity for nutrients and a better breakdown of nitrogen with the larger population of micro-organism in the organic substance.

Once you go too heavy with sand, like I did a few years back, a whole new set of

rules for cultural management must apply. You lose a lot of nutrients like potassium, Magnesium and iron through leeching. The roots get pulled away from the original soil and shallow rooting follows. The pesticides, if used at normal rates, become phytotoxic to the plants, because sandy soils have very little buffering capacity compared to mineral soils. So you are looking at more fertilization and more frequent but light application of water.

The present cultural practices have been one of less applications of fertilizer, about 3 pounds N per season balanced with a like amount of potassium. I supplement my nitrogen with frequent applications of iron sulfate. I watch for any signs of disease and use a curative program for the most part. I had quite a bit of dollar spot last season due primarily to the shortage of nitrogen. I found some reprieve from Bayleton which did an excellent job of stopping the disease.

This report is not intended to be an all conclusive study of my sand program. Each green takes to the sand mix a little differently. Some need more applications than others depending upon the growth habit and proneness to thatching that a few greens have shown over others. Like anything else in this profession, I have to be constantly watching for changes in the growth habits and needs of the plant. Only time will tell how successful this program will be. I may want to go with more applications of sand on some of the more thatchy greens which tend to be the ones with the most organic clay content and have more water holding capacity. Elm Creek is a heavily wooded golf course with deciduous trees crowding most of my greens. There seems to be a distinct difference in growth habits of my Penncross greens with the more open greens compared with the ones near trees. There is more vigorous growth and puffiness with the open greens. The roots from the trees have competed for moisture and nutrients. Firming up the more open greens has been a major problem. The major problem has been this different reaction of Penncross in different locations on the golf course. This problem really doesn't have anything to do with sand. From a player's standpoint the crowded greens



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roll the ball better and generally look better. In general, sand has deepened the roots on all my greens whether vigorously thatched or not, but there is a difference in putting quality where less speed is found on the more thatchy greens. These greens will need more sand and aerification in the future. Only time will tell if I will achieve uniform putting quality on all my greens.

If there is anything I have learned from my experience with sand it has been to appreciate and respect the different characteristics of each green. I will have to treat the open greens differently than the wooded ones; keeping in mind a uniform consistency for putting. I am really looking for ease in management and development of faster, smoother greens. With the elimination of less thatch a subtle change in cultural management of watering, fertilizing and pest control will happen. The high sand content will bring on new changes, especially in fertilizing with an emphasis on more frequent applications. I won't want to fertilize too much because of the nature of Penncross greens.

In closing, it is important to realize that the first priority in green management is to provide a smooth, reasonably fast playing surface for the golfer. I feel sand will provide this quality.

EDITOR'S CORNER



by

BOOTS FULLER
EDITORIAL CHAIRMAN - M.G.C.S.A.

By now most of us are pretty well into the golf maintenance scene in spite of the weather. The Mankato area has been drenched during the first half of May. There are more days we can't be on the course than there are days we can be. Fortunately, we were able to continue on our U.S.G.A. program of aerification and heavy topdressing and overseeding on our greens and tees, largely due to some efficient efforts of our crew; certainly not due to any help we got from the weather.

As most of your know by now, we fertilize very infrequently and then, very lightly. We will be putting down our tenth fertilizer application by Memorial Day weekend. Then we apply one light feeding during the summer, followed by one feeding in late season. We plan to put down a total seasonal feeding of approximately 2 1/4 lbs. per 1000 sq. ft. and this will be for both greens and tees.

We have also altered our fairway mowing patterns this season. Contouring our mowing patterns has given new design and depth to our otherwise straight line holes. In an effort to cut compaction on our approach areas to our greens, we are triplex mowing a rather substantial area

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TURF SUPPLY COMPANY

News

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Update

Vol. 1 No. 4

Summer 1983

Compatibility Information

Mixing of chemicals is becoming more popular and in many cases recommended, i.e. Surflan plus Roundup, i.e. Embark plus herbicides.

Problem: How do you mix two different chemicals in a spray tank and expect that mix to have synergism or remain true in its individual target without chemical change, precipitation, phytotoxicity or agglutination. Ask yourself the following questions:

1. **Are the chemicals to be mixed on the same side of the pH scale?**
If your water pH is above 8 as most in Minnesota are, weak acid soluble chemicals can be neutralized to zilch.
2. **Are your chemicals soluble or wettable powders?**
Soluble chemicals generally should not be mixed with other soluble chemicals as ionization or salts could be set up and new compounds formed. Generally wettable powders are insoluble products and can be mixed. One soluble and one wettable insoluble could be mixed.
3. **Are the chemicals applied in different manners?**
Soil insecticides are applied with high volume water and washed into the soil.
Contact fungicides are applied with low volume water

ATTENTION:

Golf Course Superintendents

Andrew Bertoni, retired golf course superintendent and venerable speaker, will be visiting Turf Supply Company during the week of June 6, 1983.

The visit coincides with the golf course superintendents Association meetings at Bernie Zimmer's White Fish Golf Club, Monday, June 6.

Andy was a golf course superintendent for 27 years before his retirement. He has been dedicated to upgrading the "Supers" position and we expect he will have a lot to say on this subject when addressing the Minnesota group. His charm, wit and never ending humor make him a much sought after speaker.

Andy's association with Notre Dame University and many years of big league refereeing have led to a wide range of friendships with national sports figures from which many of his stories are drawn.

Best of all, Andy brings to the superintendent a compassionate message of professionalism and technical information on managing a golf course. It would behoove greens chairmen and other managers to attend this event with their superintendents and share in this speaker's message.

and left to dry on the foliage.

Certain systemic fungicides are applied with high volume water.

Turf Supply Company emphasizes the importance of mechanical agitation in the use of many wettable powder compounds being dispensed with a sprayer. Some of these compounds can have high specific gravity readings or on the other hand high volumes of material per tankful. The most graphic illustration of this would be the application of Calo Clor plus 75% PCNB Wettable Powder.

Leave mixing to the experts and then follow their recommendations.

Chlorneb

Chlorneb will be available for 1983-84 winter. Although Dupont has discontinued production of Chlorneb, trade name Tersan SP, PBI Gordon has announced that it will be assuming production and distribution of Chlorneb under the trade name of Teremec SP. This product will have the same labeling as Tersan SP for both Grey Snowmold and Pythium.

Dymet

Dymet, a new Mallinckrodt insecticide that claims a broad spectrum of control for insects in turf, ornamentals and nursery crops. The product is a mixture of Diazinon and Methoxychlor that offers a synergistic effect.

This is the year to evaluate new RUBIGAN in controlling 5 major turf diseases

You have the opportunity this year to see turf disease control you've never seen before, thanks to a newly-extended Experimental Use Permit for RUBIGAN Turf Fungicide. While full label clearance is pending and expected this year, this EUP extension assures that limited quantities will be available for evaluation on turfgrass areas.

Quantities of Rubigan available under the extended EUP are expected to be sufficient to supply Rubigan distributor orders placed early in the year; however, later-season orders may be subject to a first-come, first-serve priority. It is therefore wise to order you **full-season** needs as soon as possible.

Extensive research indicates that Rubigan controls five major turf diseases. The highly active local systemic fungicide has both preventive and curative powers, with reach-back effect. Its longer lasting control permits less frequent spraying. And it has a wide margin of safety to perennial turfgrass species.

Rubigan Provides excellent control of Dollar Spot (including strains resistant to some fungicides), large brown patch, fusarium blight, strip smut and pink and gray snow molds. The product also is compatible with fungicides

commonly used to control other diseases such as leaf spot, melting out and pythium.

Turf managers will find the reach-back feature of Rubigan, the ability to control the disease after it starts, of value in their operations. If disease is checked promptly, grass will recover rapidly. Also, if spray applications are delayed or missed because of equipment failure or bad weather, the reach-back of Rubigan can stop the disease.

The local systemic action of Rubigan will allow turf managers considerable flexibility in their spraying programs. Once the fungicide dries, it cannot be washed off by rain or irrigation since it penetrates the leaf surface rapidly and moves locally through plant tissues to attack fungi from the inside.

Since Rubigan is a highly active material, very small amounts provide long lasting disease control. Only .2 (2/10) or .4 (4/10) of an ounce per thousand square feet of turf every 10-28 days will control Dollar Spot.

Research has shown that there is no adverse effect on perennial turfgrasses when Rubigan is applied at twice the recommended rate for the entire application season. However, scientists caution that where *Poa annua* is under normal environmental stress, Rubigan lead to the gradual reduction of this annual. For this reason, turfgrass areas containing *Poa annua* which cannot tolerate its reduction should not be treated with Rubigan. (See foot note).

EDITOR'S NOTE:

The statement regarding the demise of *Poa annua* by the use of Rubigan is predicated on a build-up of 2 oz. of Rubigan per each 1000 sq. ft. per season. In Minnesota it is unlikely that 2 oz. level would be achieved.

Using 0.2 to 0.4 oz. of material it would take 5 to 10 such treatments to acheive this build-up. For those who would deliberately apply 2 oz. of material you can be assured *Poa annua* will be affected.

Moles, Seeking Lunch,

Aren't Nice Neighbors

It's not hard to be ambivalent about moles. Those sightless creatures that live in the ground under your fairway spend most of their time munching earthworms and such insects as the white grub. Their tunnels and mounds disfigure and damage golf courses.

These shallow tunnels are constructed in a surprisingly short time as the mole searches for food, according to Dr. Gordon Nielsen, Extension entomologist at the University of Vermont. The earthworks are made by the mole's paddle-like front feet as it lieterally swims through the soil.

If the moles would stay in the wild their troubles with mankind would be non-existent.

But when their tunnels make ridges on lawns and golf greens, they become a nuisance, and grass and flowers may turn brown because their roots have been disturbed.

Field mice like to use mole tunnels to reach a variety of plants, which they gnaw causing a great deal of damage.

If golf courses want to get rid of moles, the simplest way is to get rid of the white grub which are the animal's food supply.

Mole traps are also available, as are a variety of mole repellants which contain lye, paradichlorobenzene, and naphthalene. The repellants work by placing a small quantity in a mole tunnel and reclosing it.

Gassing is generally ineffective because it is practically impossible to fill all tunnels, runways and nest cavities with lethal amounts of gas.

Vorlan

New fungicide for control of resistant Dollar Spot, Leaf Spot, Red Thread and Fusarium Patch.

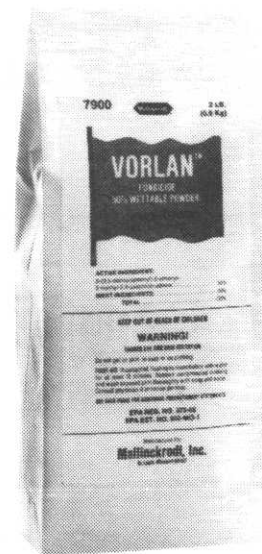
Vorlan has been used in Germany for eight years without the first incident of resistant Dollar Spot. Mallinckrodt introduced **Vorlan** in this country 3 years ago, sold as Ornalin to control Botrytis and Sclerotinia on ornamental crops grown in greenhouses.

Seventeen researchers have reported excellent Dollar Spot control with **Vorlan**. Dr. Noel Jackson at University of Rhode Island showed excellent control at 1 ounce per 1000 sq. ft. Dr. Vargas, Michigan State University, Dr. Pat Sanders, Pennsylvania State University, reported 30 days control of Dollar Spot at 1 ounce per 1000 sq. ft. The University of Illinois reported 6 weeks control of Dollar Spot at 2 ounces per 1000 sq. ft.

Ruttgers reported far superior control of Dollar Spot with **Vorlan** than with other fungicides including 26019.

The present recommended application rate is 2 ounces per 1000 sq. ft. In the near future, **Vorlan** will be labeled 1 to 2 ounces per 1000 sq. ft. Tom Rodems, Superintendent, Kankakee County Club in cooperation with the University of Illinois, showed 39 days control of resistant Dollar Spot on fairways at 1 ounce per 1000 sq. ft. with **Vorlan**. Many leading superintendents throughout the United States are experiencing excellent fairway Dollar Spot control using only 1 ounce per 1000 sq. ft. of **Vorlan**.

Vorlan is a new, economical Dollar Spot control fungicide that will improve your disease control program.



NEW

Subdue 2E

for
Pythium control
in **TURF**

Subdue* lasts longer than presently used fungicides for Pythium control.

Developing a Fertilizer Program

Iowa Turfgrass Grower - June 1982

When you look at the numbers, black on white, they leave no doubt that fertilizer makes up a major portion of your budget. But dollar for dollar, there is no management practice that does more to improve the appearance of turf than fertilization. A sound fertilizer program is essential in the management of high quality turf.

The demand for nitrogen by turfgrass plants often exceed the supply in the soil. For this reason, nitrogen is applied in greater amounts than any other nutrient. From a management standpoint, extremes in the levels of nitrogen available to plants produce conditions favorable to disease and damage from environmental stress. It is important then to develop a fertilizer program, based on nitrogen source, that provides nitrogen uniformly through the growing season. Nitrogen sources are divided into broad groups—quickly available (water soluble) and slow-release.

Quickly available nitrogen, ammonium sulfate, diammonium phosphate, and others. These materials are water soluble, and the nitrogen is immediately available for plant uptake. Fertilization with soluble nitrogen sources results in a flush of growth and rapid depletion of available nitrogen. Therefore it is necessary to make several light applications of these materials to obtain uniform growth over a long period of time. Because there is a higher salt-index with water-soluble nitrogen sources, there is a greater risk of burning the turf if misused. An advantage of quickly available materials is that they are less expensive per pound of nitrogen than slow-release fertilizers.

In the past thirty years several slow-release nitrogen sources have been introduced in the turfgrass industry. The more popular materials presently used for turfgrass fertilization include ureaform products, IBDU, sulfur-coated urea (SCU), and activated sewage sludge (Milorganite).

Ureaform is a generic name for several compounds that are the product of reacting urea with formaldehyde. These reaction products are called methylene urea polymers. They have different solubilities, and their resistance to microbial decomposition varies. Therefore, a small amount of nitrogen is released over a relatively long period of time.

Urea materials can be varied by changing the ratio of urea to formaldehyde used in production. If the urea to formaldehyde ratio is decreased, the final product will have more water insoluble nitrogen and the methylene urea polymers will be more resistant to decomposition.

Nitroform has a U/F ratio of about 1.3 to 1. Because of this low ratio, Nitroform contains a large percentage of polymers resistant to decomposition. Fertilization with Nitroform will build up levels of nitrogen in the soil that will eventually become available in later years. The real benefit of this residual nitrogen may not be realized until four or five years after application. For this reason, you should consider supplementing ureaform with other nitrogen sources in the first few years of your ureaform program. There are many complete fertilizers on the market that contain ureaform and soluble nitrogen in the same formulation.

Since release of nitrogen from ureaform is dependent on microbial decomposition, nitrogen availability will be low when microbial activity is low, such as the cool months of spring and fall. During these months ureaform should be applied in conjunction with soluble nitrogen.

Most Scotts' products contain a ureaform produced at a higher U/F ratio, 1.9 to 1. The nitrogen in these polymers becomes available over a relatively short time. There is usually a flush of growth after fertilization with release of nitrogen over 6 to 8 weeks. There is little carryover of nitrogen in the soil from one year to the next when these products are used.

IBDU (isobutylidene diurea) is a synthetic nitrogen source that is dependent on hydrolysis to release nitrogen. Therefore, adequate soil moisture is essential.

Since the release of nitrogen from IBDU is not totally dependent on microbial activity, IBDU has the advantage of releasing nitrogen during periods of cool weather, provided that moisture is

adequate.

A characteristic of IBDU that should be considered when developing a fertilizer program is that there may be a delay of up to six weeks after fertilization before nitrogen becomes available. After the delay, IBDU will release nitrogen uniformly for an extended period of time. It has been shown that this delay can be eliminated if IBDU is incorporated with aeration. To disguise this delay, use a fertilizer containing IBDU in conjunction with soluble nitrogen or another slow-release source (SCU).

Herbicide controls broadleaf weeds

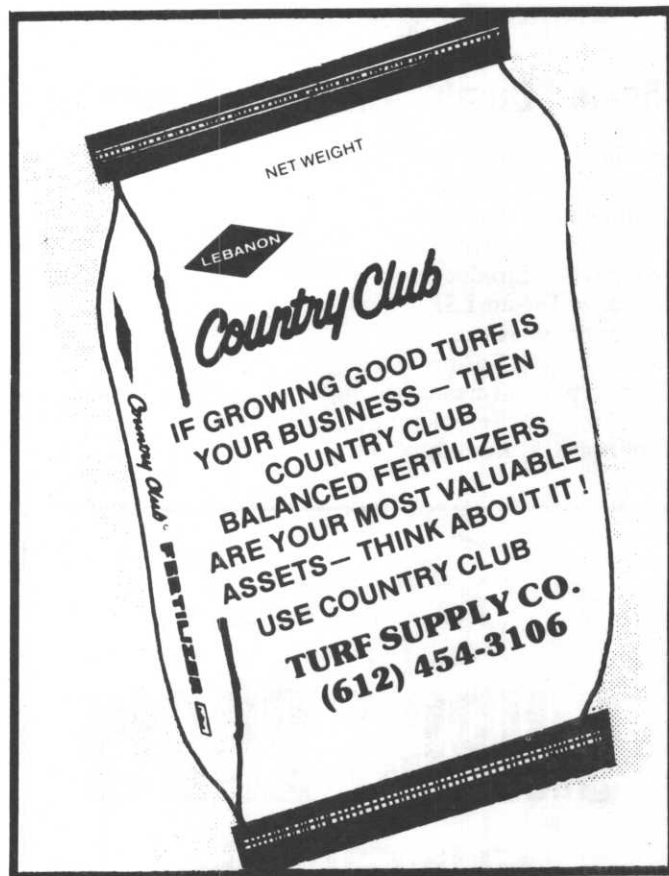
According to Rhone-Poulenc Agro-chemical Div. marketing manager Lionel Wells, Buctril® herbicide controls a wide variety of broadleaf weeds on established turf including bentgrasses, Kentucky bluegrass, fescues, ryegrass, Bermudagrass and St. Augustinegrass. "Buctril herbicide is a contact weed killer that controls weeds more quickly than most other available selective turf herbicides, and is very effective against prostrate spurge, a hard-to-control turf weed," says Wells.

Diclobenil 4G Changes Name

Diclobenil 4G, formerly marketed under the trade name Casoron, will not be sold as Dyclomec. The product has not been changed and remains an effective pre-emergence herbicide against a wide spectrum of annual and perennial weeds.

What is an Adjuvant?

An adjuvant is a substance added to a pesticide to facilitate application or to improve the results of a pesticide application. Most adjuvants are surfactants, or



surface wetting agents that the pesticide formulator has already included in the pesticide product to make it miscible in water. Although adjuvants can be added to a spray tank, this use of additional adjuvant usually is an unnecessary expense and may cause undesirable effects. There are instances, however, when an adjuvant will be helpful or even essential. The decision to use an adjuvant should be based on the pesticide label, the pesticide users own experience and observation, or sound unbiased advice from a qualified source. Adjuvants should not be added routinely.

When selecting an adjuvant, be sure that it will provide the effect you desire. Some effects that can be provided by adjuvants are improved dispersion of materials in the spray tank, better coverage, extended residual effectiveness, improved compatibility of mixtures, reduced phytotoxicity, reduced foaming, increased penetration, and pH adjustment.

—Georgia Pesticide Digest, December 1979

Turfgrass Quiz

This quiz is over the article on fertilization. Try to answer the questions without looking back.

1. As U/F ratio is increased, will the percent water insoluble nitrogen (WIN) increase or decrease?
2. Which of the following nitrogen sources is not totally dependent on microbial decomposition to release nitrogen—Milorganite, IBDU, or ureaform?
3. Which nitrogen source characteristically has a delayed response to fertilization?

Now, check your answers.

Some "Dumb" Things To Remember

- Bendiocarb = Turcam
- Fenarimol = Rubigan
- Dichlobenil = Casoron
- Dyclomec
- Metalaxyl = Subdue
- Maneb = Tersan LSR
- Manconeb = Fore
- Formec
- Chloroneb = Tersan SP
- Teremec SP
- Glyphosate = Roundup

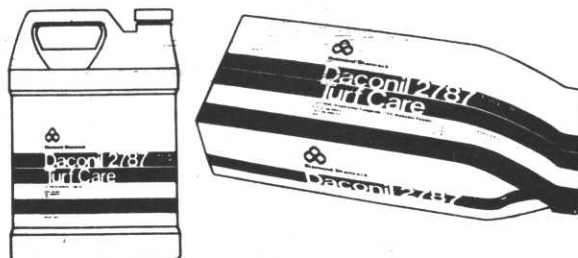
New Koban Flowable

A new member is added to the Mallinckrodt family. New Koban Flowable is here. The newest formulation advance to come from Mallinckrodt is available to you now. Koban Flowable has many significant benefits.

1. No dusting or mixing problems found with wettable powders.
2. Easy to use—stable formulation with minimal settling.
3. Preventive and curative control. This product eradicates Pythium; doesn't merely suppress the disease.
4. Not subject to resistance.

Koban Flowable is offering an effective, economical, easy to use product to rid your golf course of dreaded Pythium.

Wipe out dollar spot before dollar spot wipes out your greens. Daconil 2787® fungicide.

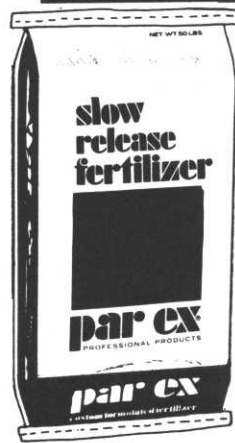


BAYLETON turf fungicide.



Superior control of Fusarium blight. Preventive and curative action for many other turf diseases.

BAYLETON 25% Wettable Powder provides good residual activity for long-lasting control. That means fewer applications throughout the year.



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CHIPCO® 26019
FUNGICIDE

in our approaches. By keeping our fairway mowing unit off these areas we hope to be able to maintain a better quality turf. We might be opening the door to a total concept of triplex mowing our fairways, but so be it.

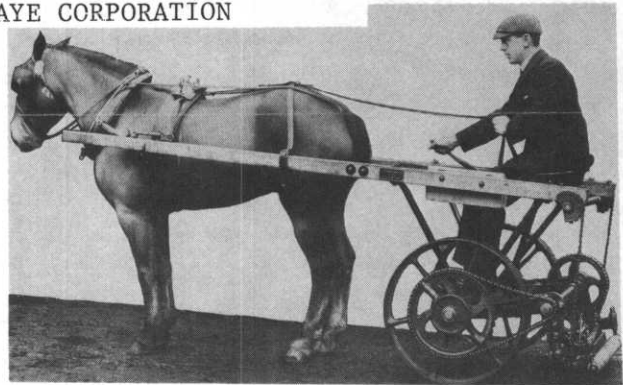
I want to thank all the people who have contributed articles for the HOLE NOTES. We have another pair of good ones coming next month from John Granholt of Eau Claire Country Club and Dan Hanson of Minikahda. Mike Redmond has also agreed to get an article into our Associates' Corner. I also want to thank those of you who have made comments and suggestions about the HOLE NOTES. We are always trying to improve the quality of the paper and any suggestions are welcome. We can't always do everything that is suggested, but we try to work in what we can.

The June meeting is at Whitefish where I'm sure Bernie Zimmer will have an excellent program for us. Be sure to

make plans for the picnic at Baker Park on July 11. Many thanks to Sundance and Gary Peterson. One of these days the weather will cooperate and we'll have that ideal golf outing. Until then, let's hope we all have good seasons. Hope to see many of our "northern" friends at Whitefish.

ASSOCIATES' CORNER

TOM DAWSON
KAYE CORPORATION



1905 RANSOMES FAIRWAY MOWER

CUSHMAN® TURF-CARE EQUIPMENT



CUSHMAN®

The Front Line™ Mower

Tough enough to be a Cushman.

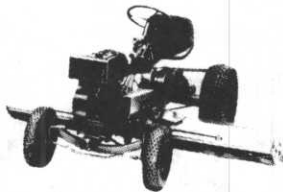


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First of all, I would like to thank Boots Fuller and the entire M.G.C.S.A. for giving us the opportunity to display our Ransomes grass machinery at the Mankato Golf Club on April 11. I'm sure that was the first time a lot of you had ever heard of Ransomes or of Kaye Corporation. In the paragraphs to follow, I would like to tell you a little bit more about us.

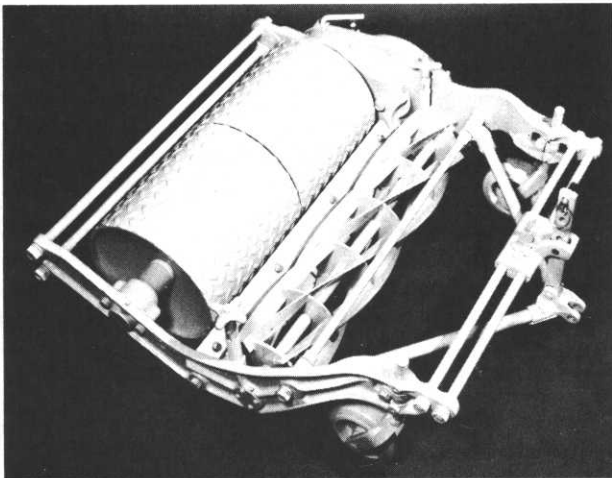
Kaye Corporation was founded in 1944. We sold sporting goods and automotive supplies in a 60 mile radius of Mankato. In 1961 we took on the Snapper line of outdoor power equipment and have since grown to be one of the largest distributors in the midwest. Kaye's headquarters are in Mankato with branch facilities in Minneapolis, Fargo and Eau Claire, Wisconsin. Our sales territory includes Minnesota, North Dakota, South Dakota and western Wisconsin. Marley Lloyd joined Kaye in 1965 as a salesman and worked his way up to sales manager, general manager and in April 1982 bought the majority of the company. That is when our commercial products division was born. Don Merschman and myself are the salesmen in this division with Lynn

McAllister overseeing us and we have a complete parts and service department. At this point, Kaye is best known for our total commitment to the independent outdoor power equipment dealer, but we are rapidly becoming totally committed to the golf course industry and other users of commercial grass machinery.

Ransomes, Sims and Jefferies LTD. was founded in 1789 in Ipswich, England. They manufactured the world's first lawn mower in 1832 and now are Europe's leading manufacturer of commercial grass cutting machinery and rank among the world's top three. In 1905 Ransomes built the world's first horse drawn fairway mower and introduced their gang mowers in 1921. Ransomes has created a great tradition of grass cutting technology during the past 150 years.

In 1981 Ransomes acquired the Bob-Cat commercial rotary mower factory in Johnson Creek, Wisconsin. This gave them a rotary mower to complete their line of turf equipment and also a North American base in which to market their Ransomes reel mowers. Kaye Corporation has been involved with the Bob-Cat line since the
continued on Page 9

ROSEMAN



Roseman Hollow Roller Drive Mower places less weight per square inch on turf than any other mower.

MOWING PERFECTION

- LESS COMPACTION
- IMPROVED PLAYING SURFACE
- FINEST POSSIBLE TURF
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YOU JUST CAN'T BUY A BETTER MOWING TRACTOR.

That's just one of the many advanced features you'll like about the Jacobsen F-10 mowing tractor.

The seven out-front reels not only cut the turf evenly, they're also steerable. Because they turn in the same direction you turn the steering wheel, you can get a more accurate cut and smoother finish.

When all the reels are down, you can mow a 15' wide swath. The reels can be raised or lowered in any combination hydraulically right from the driver's seat. And when they're all raised, the whole vehicle is only 8' wide for convenient transport.

Because you have excellent visibility of the reels from the driver's seat, trimming and precision mowing is made easier.

If you're looking for a big mowing unit that cuts up to 62 acres in an 8-hour day and gives a professional finish to your turf at the same time, ask us about the F-10.

The more you hear about its many fine features, the more you'll know we've been listening to our customers.

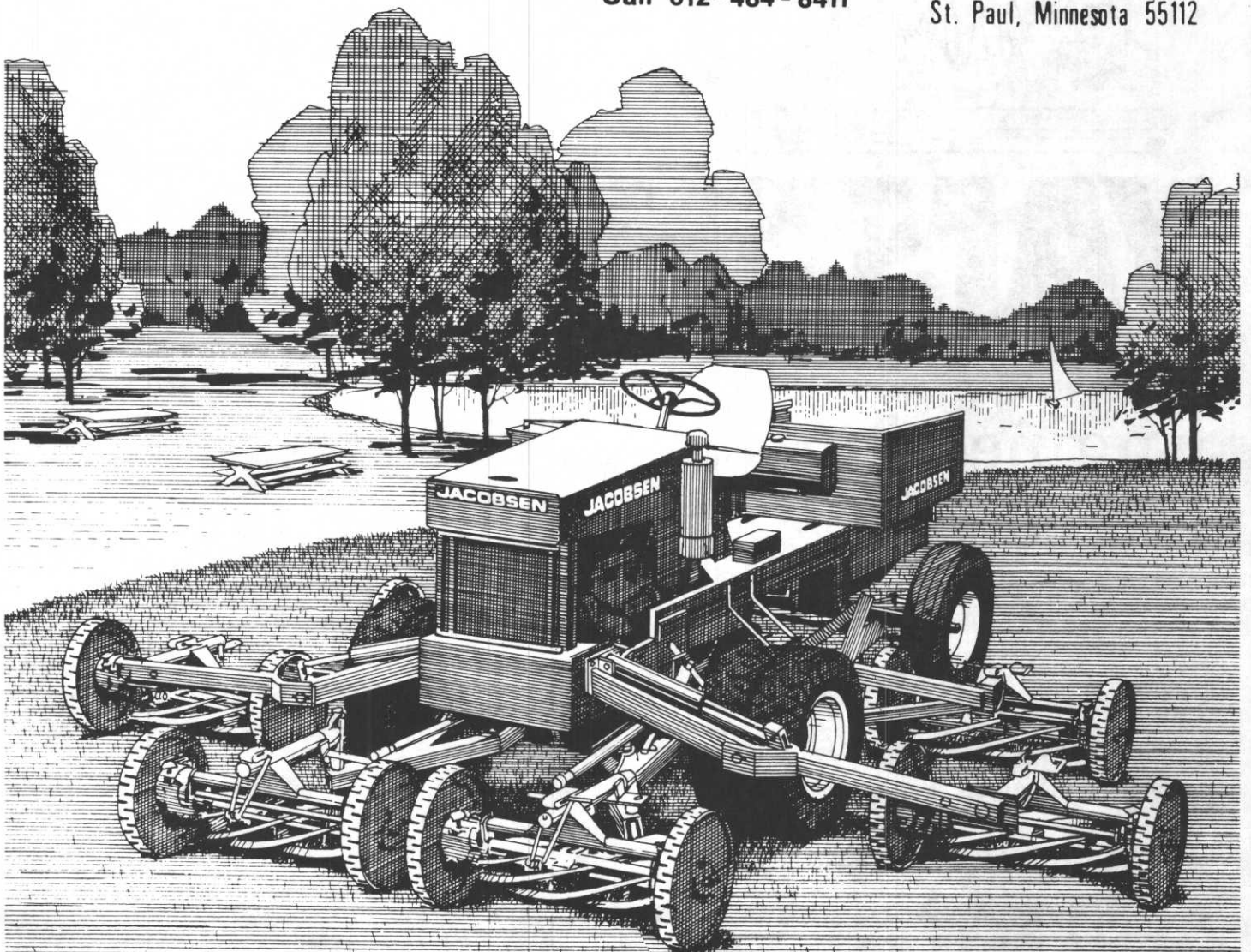
We hear you.

Let us arrange a demonstration of this F-10

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St. Paul, Minnesota 55112



mid-seventies so it was a natural for us to get into the Ransomes reels.

We at Kaye Corporation can't pretend to be experts in the golf course business. In fact, we are learning new things every day from the superintendents we talk to. We see this industry as a tremendous opportunity for us and with our track record in the consumer end, we fully expect to become a major factor in the commercial turf maintenance business. We can't do it without the support of the M.G.C.S.A. so we will be working very hard to earn your respect. Thank you very much!



MEMBERSHIP REPORT

by

KERRY GLADER
MEMBERSHIP CHAIRMAN - M.G.C.S.A.

We are pleased to welcome the following new members: Roger Freerksen, Class A, Oaks Country Club, Hayfield, Minn.; Tom McCann, Class B, Daytona Club, Dayton, Minn.; Paul Townley, Sr., Class BII, Faribault Golf & Country Club; Dave Clark, Class BII, Village Green Golf Club, Moorhead, Minn.; Brad Harne, Class C, Albert Lea Golf Club; Dean Pelkey, Class D, Woodhill Country Club, Wayzata, Minn.; Tom Rudberg, Class E, Minneapolis Society of Fine Arts.

The following were reclassified: Mike Odegaard, Class A, Village Green Golf Club, Moorhead; and Tom St. George, Class A, Soldiers Field Golf Club, Rochester.

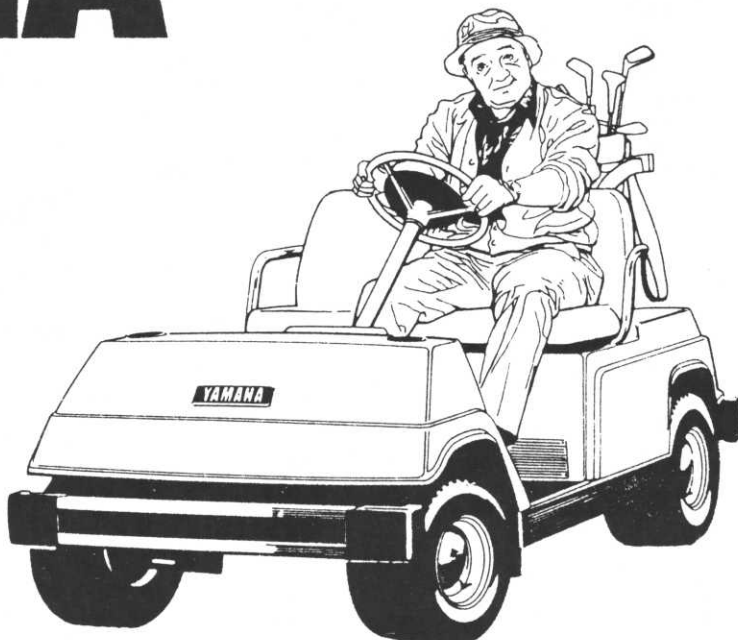
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GREENSMASTER 3[®] BEST ON THE GREENS BECAUSE IT HAS WHAT COUNTS MOST.

1. Most consistent quality of cut.

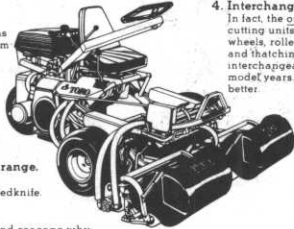
No other greensmower has cutting heads isolated from traction unit and grass baskets for a consistent, quality cut.

2. Shortest turn radius.

Means fast, easy maneuverability.

3. Greatest height-of-cut range.

From 3/16" to 1 1/16"
Optional 1/8" with thin bedknife



4. Interchangeability.

In fact, the only greensmower with cutting units, reel motors, baskets, wheels, roller cleaners, spiking and thatching reels, that are all interchangeable — even between model years. The best just gets better.

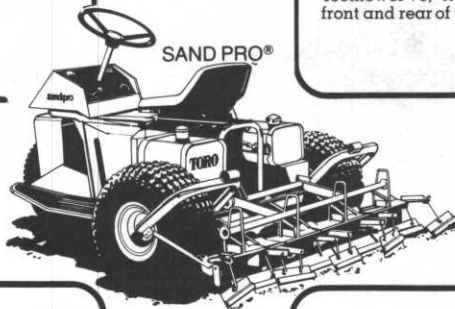
No gimmicks. Just some good reasons why the Toro Greensmaster 3 is the top professional of its kind in the world.

Powered by a 14 hp Kohler engine, this fast, agile performer gives a uniform cutting height, appearance and playing characteristic to each green. And conversion to thatching or spiking reel is quick and simple.

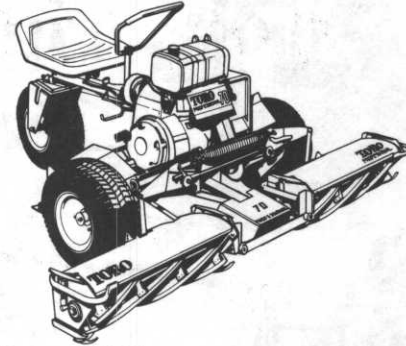
Interested?
We'll tell you more about the machine that's best on the greens.

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THAT KEEP YOU CUTTING.



Professional[®] 70" The Professional for a formal cut.

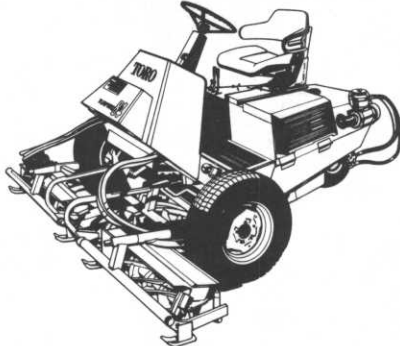


The Toro[®] Professional[®] 70" is a compact mower with three power driven reels that can cut many acres of formal turf a day, at easy-to-adjust heights of 1/2" to 2 1/2". The articulated outboard "wing" reels follow ground contours for a smooth, even cut. Low center of gravity for good stability on 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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THAT KEEP YOU CUTTING.

Turf Pro 84[®] Every inch a Professional.

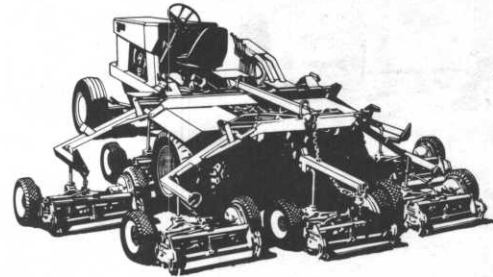


The Toro[®] Turf Pro 84 is an all hydraulic triplex that gives you the right clip for the right height of cut and type of grass. All three reels and wheels are hydraulically powered, reducing maintenance time and cost. Reels have independent suspension, providing a better quality of cut. With movement 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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Parkmaster[®] The Professional for large areas.



The Toro[®] Parkmaster mows swaths from 30 inches to 18 1/2 feet wide — up to 80 acres a day. With a 7 or 9 unit hydraulically-controlled frame, it has a compact pattern of gangs for easy mowing, easy transporting. The Parkmaster is the mowing tractor built to take Spartan[®] gangs. Comes with powerful gas or diesel engine with cab and roll over protection system (ROPS) optional.

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