

GV
975
.A1
P3

MARCH/APRIL 1989

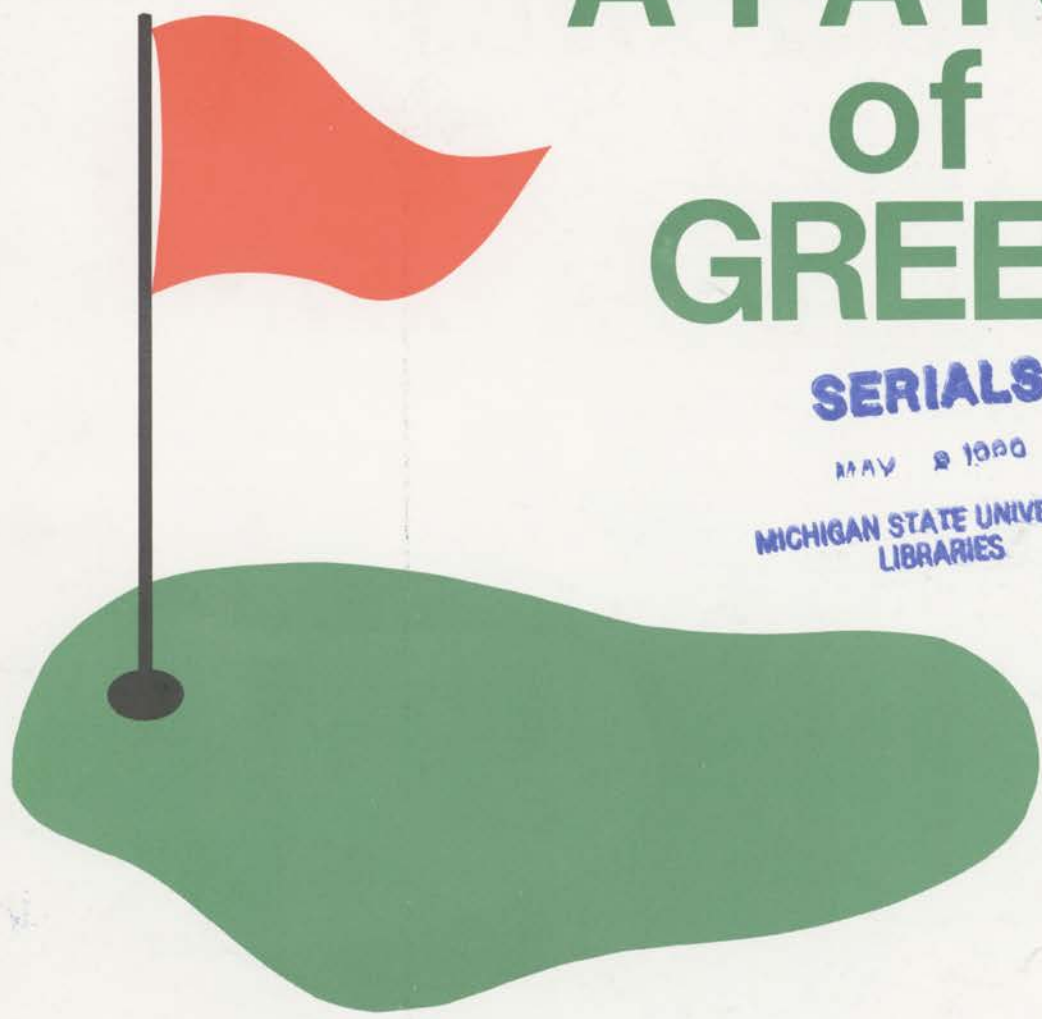
Our 64th Year

A PATCH of GREEN

SERIALS

MAY 2 1989

MICHIGAN STATE UNIVERSITY
LIBRARIES



PERIODICAL



OFFICIAL PUBLICATION OF THE MICHIGAN & BORDER
CITIES GOLF COURSE SUPERINTENDENTS ASSOCIATION

***“CENTURY?
I TRUST THEM
TOTALLY. I RELY
ON THEM A LOT.”***

“Century has a good feeling for irrigation -- better than any company I've ever seen.

“We've had their Rain Bird heads here since 1971 and had almost no problem with them.

“And service? It's been really good.

“There's no one as good as Century.”



Bruce Wolfrom, CGCS
Grounds Superintendent
Barton Hills Country Club
Ann Arbor, Michigan

**Want to get
a great quote
on your course's
irrigation
system?
Call Century
Golf Team today!**

31691 DEQUINDRE
MADISON HEIGHTS
313 588-2990

2461 S. INDUSTRIAL HWY.
ANN ARBOR
313 668-1020

22159 TELEGRAPH
SOUTHFIELD
313 358-2994



CENTURY GOLF TEAM

■ *The Dependability Irrigation People*

GOLF COURSE MECHANIC

THE UNSUNG HERO



The past ten years have brought about tremendous change in the equipment that golf course superintendents use to maintain their golf courses. Tractor drawn, ground driven units for use on fairway turf and certain rough areas are virtually a thing of the past. The trend to use lightweight mowers in the three and five unit classification on fairway turf has been established and appears here to stay.

Golf Course Superintendents seem to be cutting all fine turf areas at lower heights, which puts a premium on a sharp, properly adjusted, well maintained machine. The person generally responsible for the overall performance of a mowing machine and other golf course equipment is the Golf Course Mechanic.

Many golf courses today have equipment inventories that easily exceed \$300,000 in replacement cost. Included in the inventory are many specialized pieces of equipment which require all together different preventative and daily maintenance. Mowers of varying types and styles, tractors, transport/utility vehicles, spray appa-

ratus, aerators, trucks, trap rakes, weed eaters and sod cutters. The list could go on. Maintaining all the above mentioned equipment in proper operation condition sounds like a large responsibility. It is.

The majority of golf course maintenance operations need a full time mechanic. The Golf Course Superintendent doesn't usually have time and is not paid to be the hands on mechanic. The superintendent's time is to be devoted to managing and maintaining his golf course.

A qualified Golf Course Mechanic should have a thorough understanding of internal combustion engines, both two and four stroke, reel mower maintenance and adjustment, and spraying apparatus maintenance and repair. Some knowledge of hydraulic system maintenance and repair is very helpful since so many machines are using hydraulics as a power source.

The equipment maintenance area where the mechanic spends many hours should be neat and clean. A good supply of the proper tools with easy accessibility should be available. Tools should not leave

the shop unless the mechanic needs them in the field.

The parts area should be stocked with often used items, plus a supply of items that habitually utilized Murphy's Law, should be kept on hand.

Finding a mechanic that meets your specifications is indeed a tough task. What is a good way to find and keep that "Great Mechanic" we are all hoping for?

One possibility is to hire a vocational school student whose schooling has covered the basics, and by utilizing local equipment dealers to train a person on how to maintain the specific equipment you have in inventory. Also there could be someone on your existing crew who with some extra effort and training could work into the position.

I feel that we as Golf Course Superintendents, through the use of proper communication channels with our committee chairman or Board of Directors can have the funds allocated to properly train and educate our Golf Course Mechanic. Once the Superintendent feels comfortable with the mechanic's abilities, the mechanic should be compensated adequately for his skill and efforts. After all, the mechanic's position is a very important one.

When viewing your golf course and the greens are rolling well, fairways striped to perfection and equipment breakdowns are at a minimum remember your mechanic. He can make your whole operation run much more efficiently.

Charlie Cross, Three Rivers Green
December, 1987

"For Land's Sake 'Use Peat'"



OXFORD PEAT CO.

1430 E. Drahn Rd.
Oxford, Michigan 48051

PROCESSED PEAT
Custom Mixes

FRED LATTA • 313/628-5991

LOW COST DAMS
SEA WALLS
RETAINER WALLS
WOOD • STEEL • PVC
VERTICAL INSTALLATION
BRIDGES

MINIMAL OR NO DAMAGE TO COURSE

american marine
shore control

313-673-3320

313-623-9495

Bush, Congress and the Environment: Assessing the Legislative Climate

A Report to the Membership
From the GCSAA Government Relations Committee
William R. Roberts, CGCS, Chairman
January 20, 1989

The weather vane on top of EPA headquarters began to swing around on Inauguration Day as a combination of factors - most significantly George Bush's election - indicated that the environmental winds in the United States were starting to shift.

Considering Bush's pre- and post-campaign statements ("I am an environmentalist") and the strengthening of the Democrat's control of Congress (they now hold a 55-45 Senate majority), many believe that the "hands-off" environmental policies of the last eight years are on their way out.

Other factors support a major policy swing on the environment: Bush has talked about making EPA a Cabinet-level department — and some insiders now say that any piece of legislation addressing an environmental protection issue will get Senate consideration this year. That assertion is reinforced by the selection of Sen. George Mitchell (D-Maine) as Senate majority leader. Mitchell, a supporter of "hard-core" environmental positions, will control the flow of legislation through the Senate.

The selection of EPA's new administrator, William K. Reilly, is another indication that Bush is taking his commitment to environmental issues seriously. Reilly comes to EPA from three years as head of the World Wildlife Fund — U.S., an organization known for negotiating economically sound solutions to environmental disputes. He also presided over the Conservation Foundation, a research and policy "think tank" credited with finding methods of direct cooperation between business and conservationists.

For those reasons, Reilly is being called a "consensus builder with consensus support" who will seek to establish a "productive dialogue" with regulated industries. Cooperation, not confrontation, may be the thrust of his tenure at EPA.

Whether or not environmental change takes place under President Bush will depend largely on the price tag. Bush faces mounting pressure to erase the budget deficit, lower the trade imbalance and make a dent in the national debt — all, according to his campaign, without new taxes. Obviously, those pressures are not conducive to funding expensive new environmental programs or to increasing the EPA's enforcement budget.

However, even if Bush cannot find the money to enact major federal environmental protection programs, the new president has already succeeded in making the environment a high-profile issue. Because of his attention, the media and the public have renewed their interest in environmental topics. Their concerns about "big" issues like global warming, waste proliferation and air pollution are sure to have trickle-down effect on the regulation of golf courses.

That effect could be magnified if Bush continues EPA and OSHA policies that shift more regulatory and oversight responsibility to state and local governments. In a general climate of environmental concern that kind of grass-roots activism could stimulate the potential for more local restrictions aimed at specific targets like golf courses.

Issues: What's Ahead?

The final days of the last congressional session saw action on several pieces of legislation affecting golf course superintendents and their operations. Most important among these was the passage of "FIFRA Lite," a compromise package of FIFRA revisions that failed to address several controversial issues. From GCSAA's perspective, the main question left open by FIFRA Lite is groundwater contamination.



"A PATCH OF GREEN"

Published Bi-Monthly by the
MICHIGAN AND BORDER CITIES GOLF
COURSE SUPERINTENDENTS ASSOCIATION

President
CHARLES GAIGE

Vice-President
TOM MASON

Secretary/Treasurer
JON MADDERN

Directors

KEN DeBUSSCHER
ED HEINEMAN
JAY DeLCAMP

GARY THOMMES
JIM ECCLETON
STEVE KOLONGOWSKI

President Emeritus
KEVIN DUSHANE

Editor
TED WOEHRL

Printed At
BLAKEMAN PRINTING CO., INC.
Fraser, Michigan
(313) 293-3540



Model PAL
Aerial Lift/Trailer (top)

Model 400
Log & Brush Chipper (center)

Model R-18
Stump & Root Grinder (bottom)



Full vision cutting. 22" wide.
Hydrostatic drive.



6" capacity. Hydraulic tilt dump.
8 1/2 cubic yards.



6" capacity. 360° discharge.
Self feeding.



Self-propelled. Positive clutch.
Cuts 20" deep.



12" capacity. 360° feed rotation.



Working heights to 40 ft.
Removable in 5 minutes.

PROMARK.

Everything for tree-related grounds maintenance.

For aerial lifts that reach up to 40 feet for tree and utility service work, to rugged stump grinders that eliminate roots down to 20" below ground, Promark provides landscapers, arborists and grounds maintenance professionals with a complete family of equipment.

Making up the strong center of the line are Promark's brush chippers and log splitters, in a range of sturdy models that make finishing a job easy and profitable.

Call
731-7240

WEINGARTZ

"WE SERVICE WHAT WE SELL"

46061 VAN DYKE, 1/2 Mile North of M-59, UTICA

HOURS: Mon. 8:30-8

Tues.-Fri. 8:30-5:30; Sat. 8:30-5

MICHIGAN'S LARGEST LAWN & OUTDOOR POWER EQUIPMENT DEALER

Since
1945

**Tired of the high cost of maintaining your vehicles?
CHECK OUT THE HIJET!**



- * Cut-a-way
- * Full cab with guard bars
- * Full cab with steel doors
- * Tipper with full cab and guard bars
- * Tipper with full cab and steel doors
- * Lift pick tipper with steel doors
- * People mover
- * Security patrol unit

PFEIFFER L/M DAIHATSU

**2424 28th Street, S.E.
Grand Rapids, MI 49508**

**Tom Elliott
(616) 949-7800**

United States
Golf Association®

Green Section
Great Lakes Region



8727 N. Deerwood Drive
Brown Deer, WI 53209
(414) 354-2203 or 351-2203

March 7, 1989

To: Turf Advisory Service Subscribers
Great Lakes Region
USGA Green Section

Gentlemen:

Now that the GCSAA's International Conference and Show has ended and most of the attendees are home, it's time for all of us to think spring, even though our Brown Deer thermometer is back to its normal level of 10 to 20 degrees F.

Let's hope that our Education of '88 will not be consigned to past history files so that we will be better able to cope with the Augusts of the future. It was apparent that golf courses can withstand high temperatures and arid conditions, as long as the water holds out. The problem lay in water and soil management when evaporation/transpiration is shut down while temperatures remain high. Water application and air drainage became critical factors in intensively maintained areas such as greens and tees. Last season we saw, early on, how far tree root systems extended - much farther than the drip line. Their influence on irrigation patterns were quite visible throughout the Region. Later in the season the adverse influence of forest-like conditions to air movement across turf surfaces became equally obvious. This is not a call for massive lumbering operations, but in some cases the health of the turf has been seriously impaired by trees. And let's not forget that our most desirable grasses need a fair amount of sunlight for survival. Current practices on greens do not leave much functioning leaf surface. To look at this another way, perhaps the best turf for tree-fringed, shaded areas on golf courses, especially greens and tees, is *Poa Annua*, if the fungicide budget is adequate.

Observations throughout 1988 also proved that properly built greens with laboratory-determined topmixes withstood the environmental and cultural stresses better than any others. That means that

"Green Section Specifications" were followed in their entirety. Remember, there is **no such thing** as a "Modified" Green Section green.

The guidelines for proper construction method are being printed at this time and should be available soon. A copy will be sent to every USGA member organization and additional copies can be obtained from any Green Section office.

To complement that publication, a video tape has been produced to illustrate the procedure. It should be available in the next few weeks, at a cost of only \$20 to \$25. It will run about 30 minutes and is in a format for use by superintendents, golfers, and architects. We reviewed the tape in Anaheim and feel that it will meet the needs of organizations considering building or rebuilding.

There are a number of fine old greens which have served golfers admirably for many years. To meet the needs for today's play, however, their foundation is inadequate for the superstructure and they **need** to be rebuilt. Detroit Golf Club has taken the lead in this by rebuilding the internal structure of all greens while retaining the Donald Ross topography of most. The turf industry continues to benefit from splashes from agriculture. New chemical products are being made available to do some jobs better than ever before. They are not salvation in a bottle, though. We will have to know and use all the practices needed to grow healthy turf.

The Green Section exists solely to provide informational assistance to golf operations by working with golf course superintendents. We, too, are employees of your organization and function through a cooperative accommodation with everyone involved. Our commitment to you is to help your course management team provide the best possible playing conditions for your golfers, within the fiscal and physical constraints imposed on the operation.

I am looking forward to visiting you at a mutually convenient time this season. If we can be of any assistance until then, don't hesitate to call.

Sincerely,
James M. Latham

P.S. If you haven't sent your 1989 subscription yet, remember that the best rate is obtained prior to April 15. Later subscriptions become progressively more expensive, because special schedules to a specific course add to our cost of operation.



THE GRASS WON'T DO IT YOUR WAY

by J. M. Vargas, Jr.
Turfgrass Pathologist
Michigan State University

Reprinted from proceedings of the 1988 Canadian Turfgrass Conference — Too often we try to make the turf grow to our specification instead of adapting our practices to those of the turf. We often hear "I don't believe in using a lot of nitrogen," "I don't believe in aerification," or "I never use phosphorous." It doesn't really matter what we believe or what we think. What is important are the needs of the grass plant to survive, especially during the stress periods.

First of all, it is important that we realize turfgrass lives in a dynamic plant community where it is in constant battle with many other plant species for the space it occupies. We have been able to maintain a turf system as a mono-culture, mainly because of the modern-day herbicides available to us. We have many broadleaf herbicides to manage the broadleaf weeds and pre-emergence to manage the annual broadleaf weeds and grasses. However, we do not have a selective means to manage the annual bluegrass with the possible exception of "Prograss," which is currently unavailable in Canada. Therefore, the main competition for creeping bentgrass under golf course conditions is annual bluegrass, and depending on how we manage the system, we will favor one species over the other.

But before we discuss the cultural requirements of each species, I think there is one fallacy that needs to be corrected. The idea the annual bluegrass is a weak turfgrass species is not true. If it were truly "weak" grass, it would not have persisted as the dominant species on all our older golf courses. It is a very diverse species, with each golf course probably having over 50 different biotypes or cultivars, if you prefer. Some can adapt to high ground while others adapt to low ground. Some can tolerate dry conditions, other wet conditions, some tolerate good soil, and others compacted soil. So, whatever situation presents itself on your golf course, annual bluegrass has a biotype that is adaptable to it. All it needs to germinate and to become established is for a void to occur in the turf through mis-management.

In addition to its tremendous genetic diversity, it also has a greater photosynthetic rate than creeping bentgrass. This means it is more efficient at making energy and compounds it needs for survival.

Creeping Bentgrass Management

CORING

This should be done at the beginning of prolific seed head production by annual bluegrass in the spring.

The roots of the annual bluegrass plants stop growing and begin to deteriorate as all the plants' energy and carbohydrates are put into seed production. If coring is done at this time, the actively growing creeping bentgrass roots will fill the coring holes. Adequate oxygen will be present in these coring holes for good root growth and the proper uptake of water and nutrients. This should give the creeping bentgrass a competitive edge over the annual bluegrass plant, which will have to try and develop roots in the more denser or compacted surrounding soil where there will not be as much oxygen present for good root growth or adequate uptake of water and nutrients.

FERTILIZER

Pennecross and most of the "native" bentgrasses can survive quite well on low to moderate levels of nitrogen. Annual bluegrass is a "nitrogen lover" and does better under high nitrogen fertility regimes. Timing is also important when fertilizing. Applying nitrogen during prolific annual bluegrass seedhead production, where few annual bluegrass roots are functioning, should allow the creeping bentgrass plant to take up the nitrogen. By doing this at a time when the annual bentgrass plant has limited ability to take up nutrients will also help give it the competitive edge to creeping bluegrass by denying the "nitrogen lover" annual bluegrass the nitrogen it needs to survive.

Rhizotron studies have shown creeping bentgrass roots to remain active approximately three weeks longer than annual bluegrass roots in the fall and to start growing three weeks earlier in the spring. Therefore, by applying a late fall application of nitrogen after annual bluegrass roots have ceased activity should again deny the annual bluegrass plants the nitrogen they need to be competitive, while supplying the creeping bentgrass plants adequate nitrogen to survive. An August application is needed to help promote plant growth after the slow down phase in the summer from high temperatures (See Figure 1).

Figure 1.

Month	May-June	July	Aug	Sept	Oct	Nov-Dec
1 lb/1000 sq. ft.	1		1/2			1

CONTINUED PAGE 20



worth more

GREENSMASTER 3[®]

Still the leader...

...outsells competition two to one.

A fast and agile performer on the greens with a unique ability to be changed quickly into a spiker or thatcher.

Backed by The Toro Promise – and



WILKIE

Turf Equipment Division, Inc.

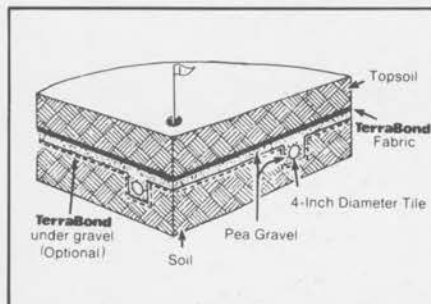


1050 OPDYKE RD. • P.O. BOX 749 • PONTIAC, MICHIGAN 48056 • (313) 373-8800

SPECIFY THE BEST FOR YOUR GOLF COURSE

Warren's® TerraBond™

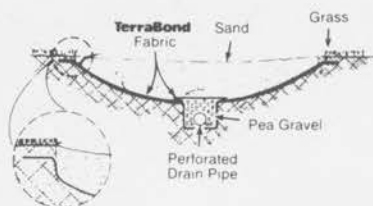
PUTTING GREEN CONSTRUCTION



Use TerraBond as a replacement for the usual 2" coarse sand layer between the greens mix and the gravel drainfield. The fabric will eliminate downward migration of the mix into the gravel and the subsequent reduction of water flow from the green.

TerraBond's high water permeability and highly engineered uniform density and EOS (AOS) make it an ideal fabric for this use. It will not rot in the soil-water environment. Its horizontal (planar) flow characteristic moves excess water horizontally out to the sides.

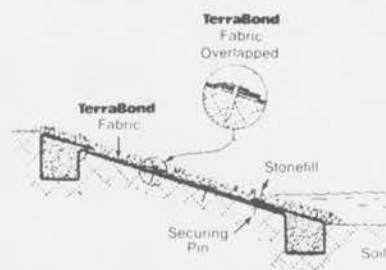
SANDTRAP LINING



Line the entire golf sand trap with TerraBond, including 6" under the surrounding sod. The sod's roots will knit the fabric to the soil beneath. Clay and rocks will be totally restricted from moving up into the sand.

Sand wash-down in rainstorms will be dramatically reduced, because TerraBond interrupts the interface of sand/soil. Rakeup will be greatly reduced. Time will be saved. Also, "wrap the gravel" in the trap drain to keep it flowing indefinitely. TerraBond's polyester will resist chemical and ultraviolet degradation.

SLOPE EROSION CONTROL



TerraBond is utilized beneath cut slope stone protection (rip-rap) as shown above. The fabric provides long-term confinement of cut slope or fill material.

Being constructed of soft and pliable needle-punched polyester, TerraBond will remain stable and functional for many years, in spite of potential exposure to the sun's ultraviolet rays and/or concentrated hydrocarbons such as gasoline, diesel fuel, oil or hydraulic fluid.

TerraBond also can be used in weed control, gravel path construction, retaining wall filtration, subsurface drainage, patio construction and planter filtration/separation.

Warren's® TerraShield™

Polyester ↑ Geotextile Ground Covering

... the best greens **BLANKET** in the business.

THE EXPERTS AGREE

Winter 1984-1985 Wind Desiccation Damage Test on bentgrass greens (Univ. of Nebraska-Test compared the protection of TerraShield cover with clear plastic cover and uncovered control area.)

- Desiccation injury around test site was severe. Uncovered control area had 60% damage. TerraShield covered area had no injuries. Control area produced only 36% of the green cover obtained under TerraShield blanket.
- Green-up occurred 24 days earlier with TerraShield . . . and remained significantly greener than the uncovered control area for 21 days after cover was removed.
- TerraShield produced 3 times the recuperative potential of the control area . . . and twice that of clear plastic covered area.
- TerraShield enhanced soil temperature compared to uncovered control area.
- TerraShield remained in place all winter with no ripping or tearing despite heavy winds.

***CALL FOR MORE INFORMATION, SAMPLES, AND WHOLESALE PRICING.**

CENTURY RAIN AID

31691 Dequindre
Madison Heights, MI 48071
313-588-2992

22159 Telegraph
Southfield, MI 48034
313-358-2994

3400 Jefferson, S.E.
Grand Rapids, MI 49508
313-452-3373

CALL TOLL FREE number MICHIGAN 1-800-544-9219

SULFUR AND THE BLACK LAYER

Lee Berndt, Joe Vargas, Jr. and Brad Melvin
Department of Botany and Plant Pathology
and the Pesticide Research Center
Michigan State University

Black Layer forms in turfgrass solid when metal sulfides precipitate from soil solution and deposit on soil particles and organic matter. Iron sulfide (FeS) is probably the most common metal sulfide in black layer, but it is certain that other forms, such as manganese sulfide, exist.

Metal sulfides form from a bacterial respiratory process known as dissimilatory sulfate or sulfur reduction. This is essentially bacterial respiration in the absence of oxygen. In sulfate reduction, electrons from food burned for energy by the bacteria are passed to sulfur instead of oxygen, forming hydrogen sulfide. Hydrogen sulfide is very poisonous and also very reactive with metals such as iron. Thus, if hydrogen sulfide is produced and iron is present, metal sulfides will be formed. More importantly, if hydrogen sulfide is produced the potential for the decline which frequently accompanies black layer increases. This is because hydrogen sulfide is a respiratory toxin which blocks electron transport.

Hydrogen sulfide is formed only in the absence of oxygen. Thus, conditions which favor oxygen depletion also favor sulfide formation and black layer development. These conditions include waterlogging, high rates of respiration from microorganisms, compaction, and addition of compounds such as elemental sulfur. The chemistry of sulfur is such that its most stable state is sulfate. In order for sulfur to become sulfide it must acquire 4 oxygen atoms for each sulfur atom. When this occurs in turf soils, it happens at the expense of aerobic microorganisms and turf plants.

Management of black layer lies in prevention. There are several things you can do to prevent the creation of conditions necessary for sulfide production hence black layer formation. Control the amount of irrigation applied to your soil. The easiest way to achieve

conditions in soil where oxygen is deficient is by adding an excess of water. There may be nothing you can do about torrential rain but you can control your irrigation regime. Also, control the amount of sulfur applied to your turf. Pay attention to the sulfur content of micro-nutrient solutions, fertilizers, and fungicides. If you must add sulfur add sulfate and not sulfur. Less black layer forms from sulfate sulfur than from mineral sulfur. It is also better to add nutrients such as iron and phosphorous than to attempt to make them more available by lowering soil pH. Why risk layering by adding large amounts of sulfur when adding these nutrients is so easy?

If black layer has already become a problem do everything you can do to get oxygen into the soil. Core aeration is an effective way to do this. Remove plugs from the turf, and leave core holes open and unfilled. Do not core, however, when your green is overly wet. You will do more damage then good. Allow your soil to dry out as much as possible. This will encourage oxygen diffusion into soil. Syringing is mandatory for maximum black layer control. Adding potassium nitrate or calcium nitrate will also help. These compounds are good oxidizers and will allow aerobic respiration in soil using nitrate as an electron acceptor. Nitrate in effect prevents sulfate reduction in environments where oxygen is lacking. The state highway department routinely adds nitrate to stagnant water in roadway ditches to stop the smell (from sulfides) and clear up the scum. Also, if black layering has already become a problem do not add organic N sources. Organic matter will intensify sulfide formation and "feed" black layer. Do, however, spoonfeed nutrients, including P and K, to the turf. Nutrition is very important in black layer management.

POND DREDGING SPECIALIST

Off Road Trucking

Wide Track Bulldozing

Shore Line & Land Development

Grading



SWEETCO INC.

218 Audubon
South Lyon, Mi. 48178

313-437-1830



**Tire Wholesalers
Company, Inc.**

Phone: (313) 354-5644

19240 West Eight Mile Southfield, MI 48075
(½ Mile West of Southfield Road)

**TRUCK - CAR, MOTORCYCLE,
FARM, TRAILER, INDUSTRIAL
TIRES & TUBES**

Pirelli



Carlisle



LAWN & GARDEN EQUIPMENT TIRES



GCSAA NEWS

NEW GCSAA PROGRAM DESIGNED TO PROTECT GOLF'S ENVIRONMENT JANUARY 1989

Coping with regulatory obligations and managing environmental and safety risks are increasingly being recognized as important professional priorities for today's golf course superintendent.

To help superintendents continue to meet these responsibilities, the Golf Course Superintendents Association of America (GCSAA) has contracted with Hall-Kimbrell Environmental Services, Inc., one of the nation's leading environmental consulting firms, to develop the first comprehensive environmental management program for the golf course industry.

"We want to help superintendents make their golf courses as environmentally pleasant and safe as possible," said John M. Schilling, executive director for GCSAA.

In recent years, federal, state and local environmen-

tal regulations that apply to golf courses have increased dramatically. The rules are complex - sometimes even contradictory - and compliance is often frustrating and time-consuming. The new regulatory compliance audit package allows superintendents to objectively and comprehensively evaluate their own facilities.

"As the superintendent of several municipal courses, I can say that this new program gives me a better opportunity to meet regulatory requirements in a timely fashion and to manage for risks that might have meant liability or fines," said Dennis D. Lyon, CGCS, Golf Division Superintendent for the city of Aurora, Colorado.


The audit package deals with such issues as pesticide usage, storage handling and disposal of containers and rinsates; worker safety, hazard communication standards, proper equipment use; water supplies, use, purity and restrictions applying to irrigation; underground storage tanks; and many more.

The package consists of:


The Compliance Audit Booklet - a notebook-style set of checklists containing more than 500 questions that the superintendent answers and then submits to Hall-Kimbrell for evaluation. Results are returned to the superintendent as a "Response Report" detailing specific compliance on the federal and, in some cases, state level. The report also provides additional expert guidance to allow superintendents to find out more on their own.

An instructional videotape, which gives users an

STATEWIDE DISTRIBUTOR OF JOHN DEERE
GOLF & TURF PRODUCTS



JDX
CORPORATION

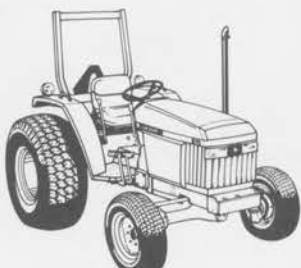


**Nothing Runs
Like a Deere**


TAYLOR
(313)946-8686

GRAND RAPIDS
(616)784-5330

TRAVERSE CITY
(616)263-7574

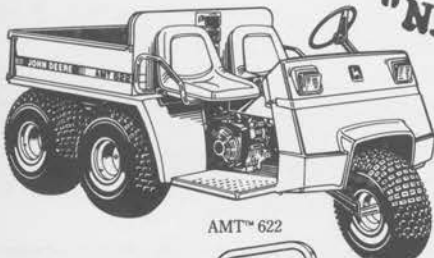


TRACTORS




"NEW"

2243 PROFESSIONAL GREENS MOWER



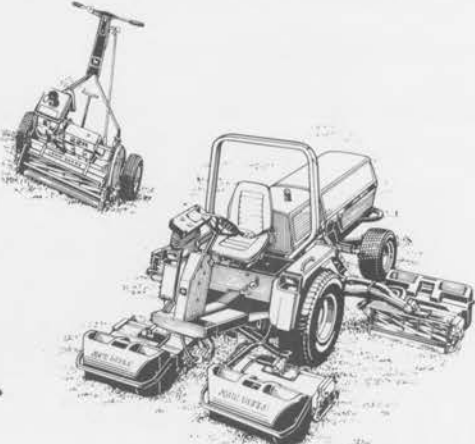
"NEW"

AMT™ 622




"NEW"

1200 BUNKER & FIELD RAKE



3325 PROFESSIONAL TURF MOWER



"NEW"

COREMASTER 12 AERATOR

overview of the regulatory framework affecting golf courses.

Additional printed material, giving superintendents more information on the regulations that affect them.

In addition, Hall-Kimbrell will develop on-site follow-up services to help superintendents develop in-house programs to meet or exceed the compliance standards set out in the response report.

"The up-front cost of developing these materials is several thousand dollars, which Hall-Kimbrell has decided to invest," noted Schilling. "The result will be a very valuable new management tool with comparatively low per-audit cost to individual superintendents.

The cost of a privately solicited environmental audit can approach \$10,000. Under this jointly sponsored program, GCSAA member superintendents will pay only \$725.00, Non-members will be charged \$900.00.

For further information, contact Bob Still, GCSAA media relations manager, (913) 841-2240 or (800) 472-7878.

Course Superintendent (CGCS) by the Golf Course Superintendents Association of America (GCSAA).

Miller has been superintendent of the West Bloomfield, Michigan, course since 1977. He lives at 30410 West 14 Mile Road in West Bloomfield.

To become certified, a candidate must have five years experience as a golf course superintendent and be employed in that capacity. The candidate must pass a rigorous six-hour examination testing knowledge of the game and rules of golf, turfgrass management, pest control management, financial management, organizational management and the history, ethics, purpose and procedures of GCSAA. Also, an on-site inspection of Miller's golf course operation was conducted by two currently certified superintendents and former presidents of GCSAA: Ted Woehrle, CGCS, of Troy, Michigan, and Jim Timmerman, CGCS, of Orchard Lake, Michigan.

The GCSAA certification program was instituted in 1971 as a means of recognizing outstanding and progressive golf course superintendents.

MICHIGAN SUPERINTENDENT RECEIVES GCSAA CERTIFICATION

Martin D. Miller, superintendent of Knollwood Country Club, has been designated a Certified Golf

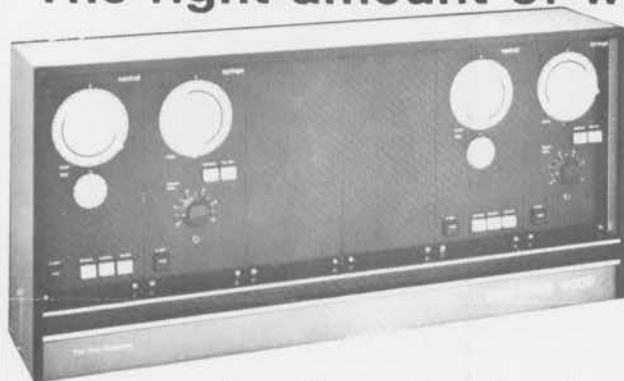
GCSAA CERTIFIES 1000th MEMBER

Ronald M. Ross, superintendent of Hillcrest Country Club, Lincoln, Nebraska, has become the

CONTINUED PAGE 24

The No. 1 name in golf course irrigation.

The right amount of water



In the right place



At the
right time



WILKIE

Turf Equipment Division, Inc.



1050 OPDYKE RD. • P.O. BOX 749 • PONTIAC, MICHIGAN 48056 • (313) 373-8800



GET A GOAT

"FROM THE CLEAN-UP SPECIALIST"



Briggs & Stratton
& Kawasaki Engines

Prices start at \$299.95

3 H.P. to 11 H.P.: Blowers that work up a storm!

TRUCK LOADERS

- 5 H.P. to 11 H.P.

Prices start at \$1069.00



VACUUMS

- 3.5 H.P. to 11 H.P.

Prices start at \$499.00



IDEAL

MOWER SALES, INC.

For Information or Demonstration,
Call Bob Cluff or Ed Stesny,
Turf Manager at:
(313) 541-4660

RANSOMES

BOB-CAT®



Shemin Nurseries INC.

HORTICULTURAL DISTRIBUTION CENTERS

Our Standard Is Excellence

ONE STOP SOURCE

NURSERY

Top quality, constantly fresh and changing. From one gallon containers to 4" caliper trees, perennials, ground covers, specimen material - we have it all! Fast pick up service or delivery.

HARDLINES

Chemicals, fertilizers, herbicides, mulch, ties, grass seed and hydromulch to name a few. One of the most complete offerings in the trade.

TOOLS AND POWER EQUIPMENT

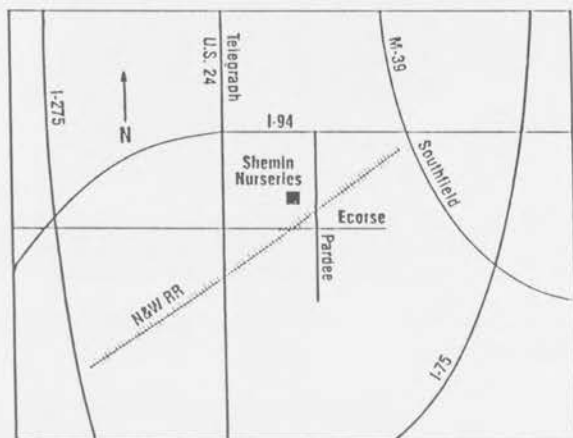
Top quality for the professional; Ames, True Temper, Jackson, Nupla, Sandvik, Hanco, Little Wonder and much more!

IRRIGATION

Complete offering of turf and drip systems, filters, fertilizer injectors and all pipe and fittings, as well as a complete selection of outdoor lighting featuring the full line of Nightscaping.

POTTERY

Italian Terra Cotta, Malaysian, Redwood and more!



Shemin Nurseries, Inc.

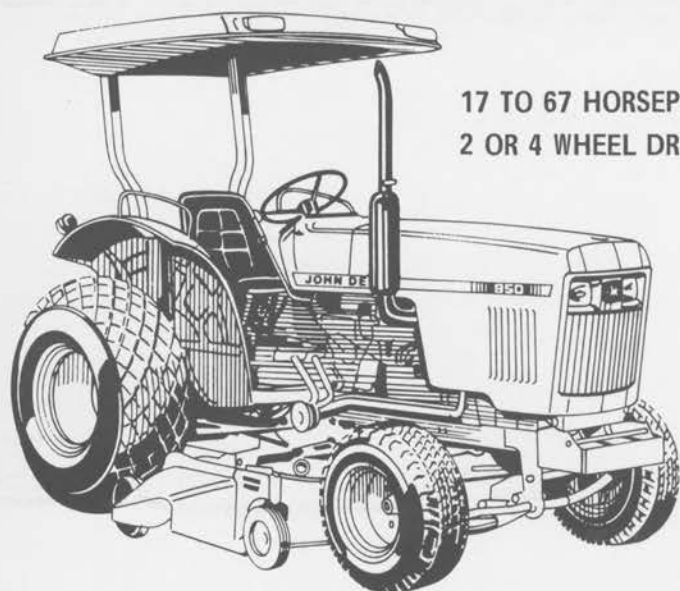
6900 PARDEE ROAD
TAYLOR, MICHIGAN 48180

Phone (313) 291-1200

Wholesale Only!

Nothing Runs Like a Deere®

JOHN DEERE COMPACT DIESELS



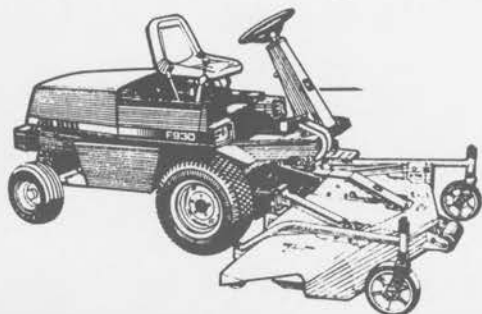
17 TO 67 HORSEPOWER
2 OR 4 WHEEL DRIVE

John Deere compact diesels come in eight models, so you can match horsepower to your needs. All are packed with performance features that make them small giants on any big

JOHN DEERE FRONT MOWERS

*The most
versatile equipment a
groundskeeper can own*

- ☐ Mowers 50 to 76 inches
- ☐ Snow Blowers
- ☐ Front Blades & Brooms
- ☐ Vacuum Attachments
& Cabs Available
- ☐ Gas or Diesel Engines



52 INCH —
2 YEAR WARRANTY



Panther  **Sales**

2274 TELEGRAPH, BLOOMFIELD HILLS

Phone 335-5149

SUMMER HOURS — MAY 1
MONDAY-FRIDAY 8-7 SATURDAY 8-12

job. More than 50 capacity-matched attachments are available to keep the tractor you buy busy the year round. See us for a test drive soon.

New John Deere AMT 600. It's almost a truck.



There's nothing else like it! Our new All Materials Transport gives you true hauling ability. Not just travel. Takes loads up to 600 pounds on flat land, up to 400 in hills. Dumps them, too. Goes places a truck can't.

Unique 5-wheel stability and 4-wheel differential lock traction. 341 cc engine and 62:1 torque ratio transmission for pulling power. With no gears to shift. Spring-loaded front fork cushioning. Low compaction. Anti-skid features.

**GIVE US A CALL AND WE'LL DROP ONE OFF
FOR YOU TO USE FOR A DAY!**

M.T.F. FOUNDERS SOCIETY

PURPOSE: TO GUARANTEE OUR FUTURE BY EDUCATION THROUGH RESEARCH

EDUCATION is the key to our future and we need to keep abreast or in front of our future needs.

As turfgrass professionals, we are all aware of the ever-expanding pressures (environmental concerns) on us and our profession. We need concrete answers to our concerns.

Turfgrass research as an industry is an infant. By that I mean our education through research began only about 30 years ago, and has made great progress since then. The only limiting factor in research is monies available and we have a responsibility to support research as much as possible.

The Founders Society was established so individuals have the opportunity to contribute to research as individuals.

MSU has one of the best research staff's in the country and they need our support. The Founders Society is in solid partnership with MSU. In fact the University believes the Society memberships are so vital that donors are recognized as University contributors, there are five different levels of membership and all contributions are cumulative. Join at one level and work your way into another. Lapel pins are

awarded at the levels of Emerald and Diamond.

LEVELS

- 1 — Bronze
- 2 — Silver
- 3 — Gold
- 4 — Emerald
- 5 — Diamond

CONTRIBUTIONS

- \$100-249
- \$250-499
- \$500-999
- \$1000-2499
- \$2500 and up

Organizations in turf throughout the United States have started fund-raising programs for research, and they have all followed ideas and examples set by M.T.F. Be proud of your participation; this organization is only as good or as strong as we make it by our participation.

All contributions qualify for the M.T.F.'s 501-c3 status. You will be contacted by the M.T.F. Founders Society Zone Chairman in the near future. Continue to support MSU and research through your contributions.

Bill Madigan
Chairman, Founders Society

(313) 373-5264

CLIFF DAWSON



FREE ESTIMATES

FULLY INSURED

**SPECIALIZING IN
GOLF COURSE WORK.**

**TREE REMOVAL,
TRIMMING, SHRUBS,
POWER STUMP REMOVAL.**

6220 GRASS LAKE ROAD,
MILFORD, MICHIGAN 48042

B & C Distributors

51000 Grand River Wixom, Michigan 48096
(313-349-7779) (800-888-7779)

**Michigan's Only Stocking Dealer
For
R & R PRODUCTS**

TORO	JACOBSEN	HAHN-WESTPOINT	CUSHMAN
RYAN	ROSEMAN	RANSOMES	MOTT
NATIONAL	YAZOO	FORD	EXCEL
REEL SHARPENING COMPOUND			

CALL US TOLL FREE

800-888-7779

**FOR YOUR SUPPLY ITEMS
FLAGS — POLES — RAKES — CUPS**

**WE ARE RICO MFG. ONLY DISTRIBUTORS FOR
MICHIGAN, OHIO, INDIANA AND ILLINOIS**

EXCELLENT QUALITY PERSONALIZED TUBE FLAGS
SOLID FIBERGLASS POLES WITH SOLID IMPREGNATED COLOR
FIBERGLASS RAKE HANDLE, FOAM FILLED TO FLOAT
14" or 22" RAKE HEAD
PUTTING GREEN FLAGS AND POLES - CUPS

**WE ALSO HANDLE LEWIS AND PAR AIDE
REPLACEMENT SEATS FOR GOLF CARTS...TRACTORS...ETC.**

What Every Budding Gardener Should Know

Condensed from "Gardening"
Henry Beard and Roy McKie
Reprinted from Reader's Digest

Furrow. Horizontal line on the forehead of a gardener.

Garden. One of a vast number of free outdoor restaurants operated by charity-minded amateurs to provide healthful, balanced meals for insects, birds and animals.

Green Thumb. Common condition suffered by gardeners in which the skin of the thumb develops a greenish hue from handling large amounts of currency at nurseries.

Hoe. Gardening tool whose name derives from the fact that when its blade is stepped on, its handle delivers a sharp rap to the gardener's brow, at which point he cries "Ho!"

Hose. Crude but effective and totally safe type of scythe towed through gardens to flatten flower beds.

Mulch. Material placed around the base of a plant to keep it moist and warm. Wood chips, leaf matter and even unwanted printed matter may be used. (Note: The Paper on which this article is printed contains colored ink and may damage plants).

Nursery. The only known place where money grows on trees.

Perennial. Any plant which, had it lived, would have bloomed year after year.

Pest. Any creature that eats green vegetables voluntarily.

Potato. The ideal vegetable. Not bitter, stringy, pulpy, sour or gritty. It can be boiled, fried, baked, roasted, creamed, mashed or hashbrowned. It is even tasty served as a salad. Best of all, since potatoes of excellent quality are available the year around at reasonable prices, there is absolutely no reason whatever to grow them — in fact, there is a very good reason not to.

Potato Beetle. The very good reason not to.

Root. 1. Subsurface part of a weed inadvertently left in the ground when the upper portion is removed, thus resulting in the weed's speedy regrowth. 2. Subsurface part of an ornamental shrub, or tree, a small portion of which is inadvertently left in the ground when the specimen is transplanted, thus resulting in the plant's rapid death.

Rose. Beautiful and fragrant flower, of which there are thousands of hybrids. Most common garden type is a specimen with a tight, six-inch cluster of short, thick, brownish stems with large thorns, bearing a shiny metal tag.

Rot. Gardening advice.

Seed. Highly nutritious form of bird food sold in handsome packets.

Stake. Hard, tasteless garden product that generally

constitutes the bulk of the harvest after visits by raccoons, rabbits, birds, squirrels and deer.

Tools. Gardening implements that have a distinct life cycle: active phase (1 to 12 weeks), marked by appearance of blisters on hand and bruises on legs of user; metamorphosis phase (12 to 14 weeks), during which the handle suddenly breaks at the point where it is joined with the metal working-end; and dormant phase (14 weeks to 20 years), spent by the two halves of the tool in a dark corner of a shed.

Weed. Any plant that will survive at least one week without being watered, fertilized, pruned, sprayed, staked, mulched, misted, dusted, or wrapped in burlap, paper or plastic.

Yard. Dusty open area where hard labor is performed.

Zzzz. 1. Sound produced by dozing gardener. 2. Sound produced by bee trapped in dozing gardener's pant leg.



CLASSIFIED ADS

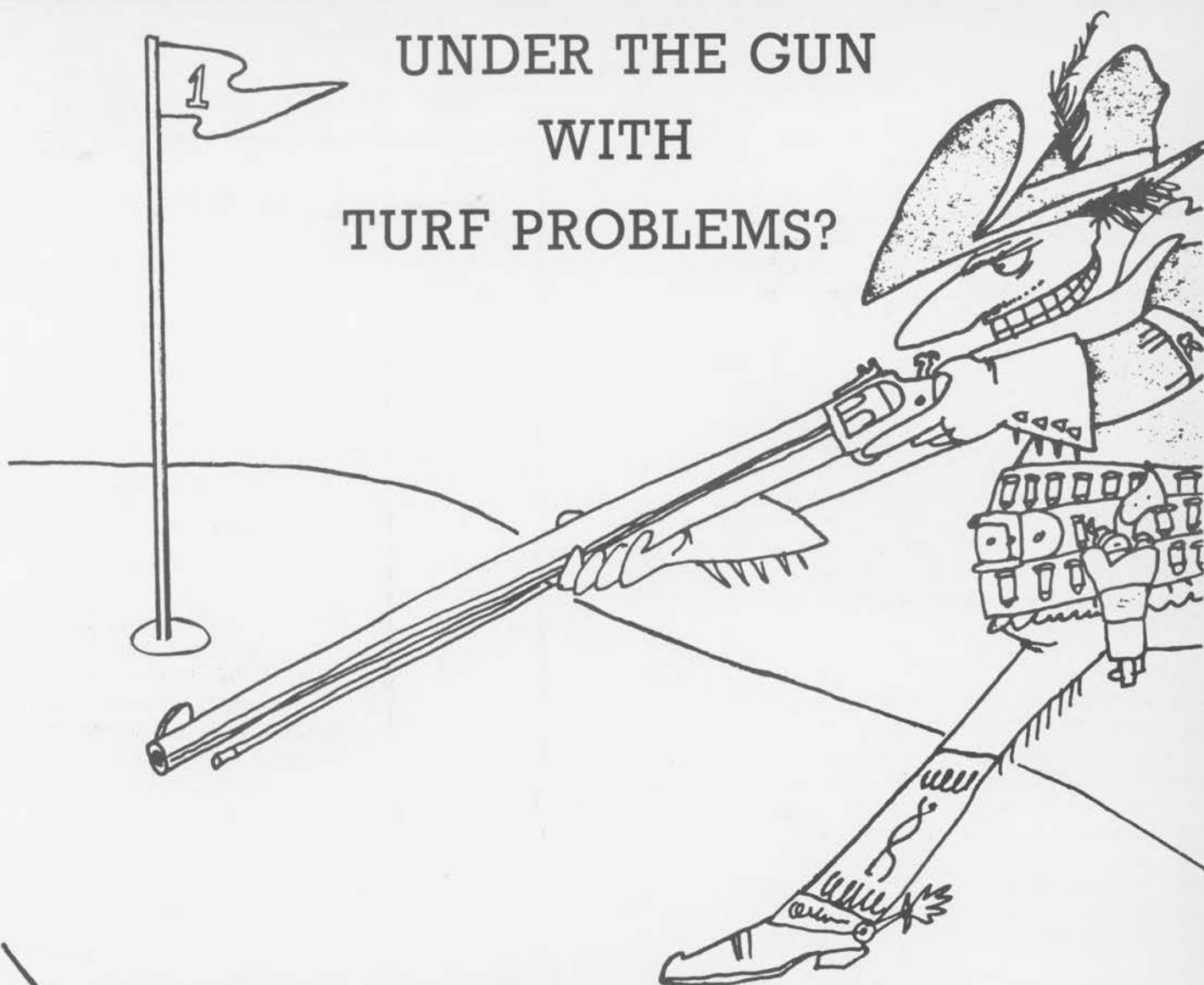
FOR SALE

JACOBSEN HYDRO-TURF KING
76 Inch Reel Mower
\$1,500.00 Or Best Offer
Call 746-6000 between 9 a.m. & 4 p.m.

SALES AND SERVICE

Full time and summer positions available on the Century Rain Aid Golf Team in Chicago and Michigan. Knowledge of irrigation and golf required. Candidate must have reliable automobile and be comfortable with sales and customer contact. Salary, commission, benefits plus expenses. Phone Pat, 313-588-2990 to apply.

UNDER THE GUN
WITH
TURF PROBLEMS?



Great Lakes Minerals Co.
**Trap &
Topdressing Sands**

CONTROLLED TO USGA SPECIFICATIONS
GREAT LAKES' TOPDRESSING SAND IS
AVAILABLE IN TRUCKLOAD QUANTITIES.
ALSO AVAILABLE - TRAP AND SPECIALTY SANDS.



EVANS MINING CORPORATION

1900 RICHMAN ROAD — SMITH'S CREEK, MICHIGAN 48074
1-800-332-3294 367-3021

VERTICAL MOWING

Vertical mowing should be done lightly every week from late May through September to prevent scalping of the traditional thatch that creeping bentgrass tends to develop during the warm weather.

PGR

Cutless will selectively stop the growth of annual bluegrass while allowing the creeping bentgrass to keep on growing. When used in combination with overseed, it could greatly increase the amount of creeping bentgrass in your fairways.

COLLECTING CLIPPINGS

This has led to the single greatest improvement in fairway management. It has also led to an increase in creeping bentgrass content in fairways, probably due to lower nitrogen levels as well as to the beneficial effects of removing the clippings during the warm weather of summer. This prevents the clipping from breaking down rapidly and releasing toxic products which can thin the creeping bentgrass and allow the annual bluegrass to germinate and fill in the voids in the fall.

Annual Bluegrass Management

AERIFICATION

Aerification should be done three times a year if possible. The first time should be early in the spring after green up, the second in the spring after heavy seed production, and then later in the summer when the cool night temperatures return. If only one aerification can be done, the one following prolific seedhead production is the most important. The roots of the annual bluegrass plants stop functioning during this period, as all the plant's energy is transferred to seedhead production, the plant has only 2 to 3 weeks to develop a root system to get it through the summer stress period.

PGR

Embark applied at low rates between 70 and 90 degrees F, using a base 50 degrees F will prevent seedhead production and allow the annual bluegrass to continue good root development in the spring and to store energy needed to survive the summer stress period.

VERTICAL MOWING

Vertical mowing should be done deeply in the spring to promote juvenile plants, which should be better suited to survive the summer stress period. This will also supply aerification for better root growth.

COLLECTING CLIPPINGS

For the reason mentioned under creeping bentgrass, and as stated before, this is the single greatest discovery for fairway quality. This has been demonstrated over the past twenty years, since we started spraying fairways with fungicides.

CONTINUED PAGE 24

TURFGRASS INC.



Serving you better with . .

Technical information

Fungicide programs

Free timely delivery

... Quality products

Fertilizers	The Andersons, Lebanon Country Club, Nitroform, Turfgrass
Chemicals	Dupont, Ampel, Ciba-Geigy, W.A. Cleary, Chipco, Daconil, Mobay, Elanco, NAIAD, Dow, Monsanto, Bio Greenskeeper, Agri Diagnostics, Mallinckrodt, Nor-Am, Riverdale, Pana Sea, Miller, Agri-Plex 4X
Seeds	Northrup King Medalist Turf Products
Spreaders & Sprayers	Cyclone, Spyker, Back Pack, Wheely, Spray-Hawk
Golf Supplies	Lewisline, Par Aide, Standard, Fore-Par, Yankee, United Stockmen, Chix, Fox Valley
Safety Equipment	Mine Safety Equipment
Soil Management	Grid System, TerraFlow, TerraBond, TerraCover
Markers	Richway, Blazon

1-313-437-1427

Office

1-800-521-8873

(Michigan Only)

Rich Locke

Douglas Johanningsmeier

Keith Richards

Gene Johanningsmeier

"GREENKEEPER" vs. "GREENSKEEPER"

Historically, the "green" referred to the common, a smooth grassy area or plot open to the use of all. By extension, when the green came to be used for golf, the caretakers of the course were known as "greenkeepers." It is important to note that the term "green" was inclusive, comprising the entire golf course (excluding designated hazards). This connotation has survived in the **Rules Of Golf**, which refer to the course of play as "through the green."

By folk etymology, however, the comprehensive term "the green" came to be replaced by the more circumscribed application, "greens" — referring to a course's putting surfaces. Thus, the erroneous term "greenskeeper" has gained a foothold in popular usage.

This development can be traced in the game's literature. **The Golfer's Manual**, 1857, states that "green" refers sometimes to the links, but more generally to the putting-ground. **The Golfer's Handbook** of 1881 took the reactionary position, however, that the term referred first to the whole links and second to the putting-ground. A contemporary (1980)

reference work, **Davies' Dictionary of Golfing Terms**, states unequivocally that the term "greenskeeper" is erroneous, while citing numerous literary examples of both proper and improper usage.

It is our feeling that the battle lines on this issue can be demarcated nationally: "greenskeeper" seems to be an Americanism which is seldom, if ever, employed by the British — who, after all, nurtured the sport in its infancy and conceived the terminology.

It is both ineffectual and myopic to attempt to deter the natural evolution of the language. On the other hand, some linguistic developments may be unnatural and ought to be resisted. We here at **Golfiana** are unapologetic traditionalists. The earlier and more fundamentally correct "greenkeeper" will forevermore be the standard usage within these pages.

Bud Dufner
GOLFIANA, The International
Journal for Golf Historians
and Collectors, P.O. Box 668,
Edwardsville, IL 62025,
616-656-8172.

TORO

The No. 1 name in golf course irrigation.



It's no coincidence that the country's top golf courses use TORO irrigation systems. Because there are more TORO systems installed on golf courses than any other kind. For a number of very good reasons.



WILKIE

Turf Equipment Division, Inc.



1050 OPDYKE RD. • P.O. BOX 749 • PONTIAC, MICHIGAN 48056 • (313) 373-8800

DISTINCTIVE MERIT



Becoming a Certified Golf Course Superintendent isn't easy. Getting to the top of a profession never is.

You need five years' experience before you can even attempt our rigorous written test. And your golf course has to undergo a thorough review as well.

But if you and your course measure up, you're granted the title

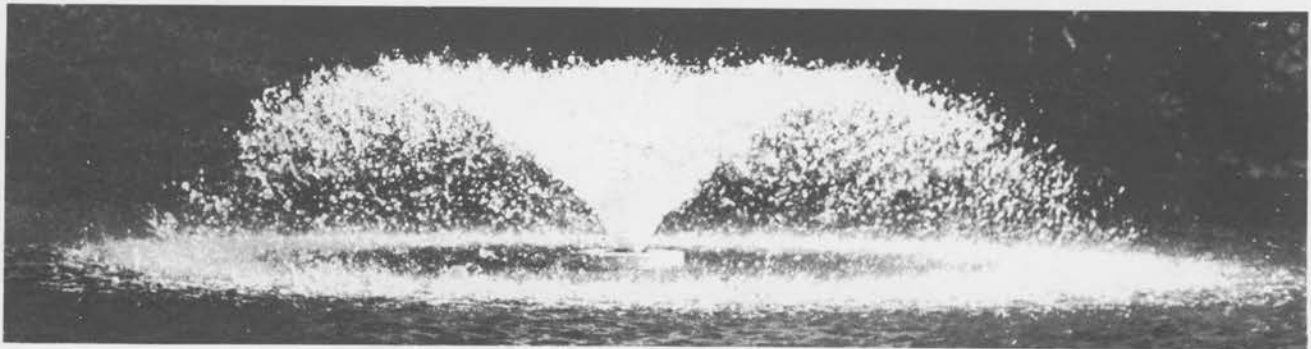
that's recognized as the definitive symbol of professional excellence: Certified Golf Course Superintendent.

To keep it, you have to keep up with the state of the art by taking at least 30 hours of continuing education every year.

It's tough. But it's worth it to anyone dedicated to the highest standards of keeping golf green.



WE KEEP GOLF GREEN.
913-841-2240



OTTERBINE DECORATIVE FOUNTAINS

OTTERBINE Aerators can help you keep unsightly algae growth and objectionable odors under control naturally. The fact that OTTERBINES also create beauty - is just one of the many benefits of using our Spray Sculpture Floating Fountains. We create beauty while solving problems. **LIGHTING AVAILABLE FOR DRAMATIC NIGHTTIME BEAUTIFICATION**

CALL TOLL FREE 1 - 800 - 544 - 9219

CENTURY RAIN AID

31691 Dequindre
Madison Hts., MI 48071
313/588-2992

22159 Telegraph
Southfield, MI 48034
313/358-2994

3400 Jefferson S.E.
Grand Rapids, MI 49508
616/452-3373



ATTACKS ON MICHIGAN APPLES MISS THE MARK

Recent attacks on apples treated with the growth regulator Alar miss the mark, balanced scientific evidence indicates.

Michigan State University's Extension Service indicated in a release to all Michigan counties that the results of the mouse-feeding study used in a "60 Minutes" television program would be the equivalent of a human being eating 25,000 lbs. of apples per day. Even at that rate just one in 20,000 mice would develop a tumor, according to EPA risk assessment, and none of the rats would have tumors. . . and the single tumor would be caused by chemical toxicity, not genetic cancer.

Actually, a can of beer has the highest HERP (Human Exposure/Rodent Potency) index of products rated in a University of California published study. An Alar-treated apple, on the other hand, had 30 times less risk than a few pieces of bacon, 300

times less than the risk of eating a peanut butter sandwich a day, 1,000-fold less than the risks associated with eating a single raw mushroom per day and 600 times less risk than drinking a diet cola. The actual figures may be helpful in defending agriculture against seemingly unwarranted attacks. . . and may provide information for people interested in defending the apple-producing segment of Michigan agriculture. Here are the figures:

Possible Hazard [HERP] %	Daily Human Exposure
2.8	Beer (12 oz.)
0.003	Bacon, cooked (100 g)
0.03	Peanut butter (32 g)
0.1	One mushroom, raw (15 g)
0.06	Diet cola (12 oz.)
0.0001	Alar-treated apple

TREE TRANSPLANTING

LARGE TREES UP TO 11" DIAMETER

ARMSTRONG

LAWN AND TREE, INC.



"YOUR EVERGREENS SHOULD BE MOVED NOW."

44275 Whithorn
Sterling Heights, Michigan 48078

731-5550
264-8803

GCSAA NEWS, CONT.

1000th active golf course superintendent to earn the designation Certified Golf Course Superintendent (CGCS) from the Golf Course Superintendents Association of America. GCSAA President Dennis D. Lyon, CGCS, made the announcement at the association's headquarters in Lawrence, Kansas.

Ross has been superintendent of the 18-hole private club since July, 1984. Previously, he worked at the Great Oaks Country Club, Rochester, Michigan, and the Grand Hotel Golf Club, Mackinac Island, Michigan.

The on-site inspection of Ross' golf course operation was conducted by Alan G. Culver, CGCS, Lincoln, Nebraska, and Tom Athy, CGCS, Fremont, Nebraska.

GCSAA, a professional association of golf course superintendents, was founded in 1926 to promote the art and science of golf course management. Its 8,000 members represent the United States, Canada, Mexico and 32 other countries.

For more information contact Bob Still, GCSAA public relations manager, at (913) 841-2240 or (800) 472-7878.

VARGAS, CONT.

FERTILITY

Annual bluegrass is a nitrogen lover. It requires nitrogen to survive and to help it fight off diseases like anthracnose and summer patch (See Figure 2).

Figure 2

	June 1	July 1	Aug. 1	Sept. 1	Oct.	Nov. 15
(lbs/1000 sq.ft.)						
Option I	1/2	1/2	1/2	1		1
Option II (Slow release)	1-1/2			1		1
	(Anthracnose)					
	(Dollar spot)					
	(Brown patch)					

Fusarium Patch
Typhula Blight

CONCLUSIONS

The grass plant won't grow to your needs. You must supply it with its needs. The grass plant lives in a dynamic system and whatever you do with management practices will favor one over the other. You can have creeping bentgrass or annual bluegrass, the choice is yours; it all depends on your management regime.

Credit: Greensmaster, Sept./Oct., 1988

Worried about selective tall fescue control?

Buy a 10-pack today!
And, stop worrying!



LESCO TFC™ Herbicide is the first product to provide selective spot control of tall fescue in Kentucky bluegrass, bentgrass, fine fescue, bahia-grass and bermudagrass without digging or spot-treating with a non-selective herbicide.

A water dispersible granule, LESCO TFC is convenience and accuracy in a 10 pack.

Order today!

Nationwide • (800) 321-5325
In Ohio • (800) 686-7413

LESCO

LESCO, Inc. 20005 Lake Road, Rocky River,
Ohio 44116, (216) 333-9250

Always read and follow label instructions before using any chemical product.

Wm.F.Sell & Son, Inc.

SINCE 1923

RENTAL
SALES - SERVICE



- ★LOADERS ★SWEEPERS
- ★TRENCHERS ★MOWERS
- ★ROTARY CUTTERS
- ★BACK HOE DIGGERS
- ★BACK FILL BLADES
- ★POST HOLE DIGGERS

JOB TAILORED EQUIPMENT

COMPLETE LINE OF
MATERIAL HANDLING
& FARM EQUIPMENT

CALL

282-5100

16555 TELEGRAPH RD. - TAYLOR
1 Mile South of Eureka

Country Club Greens Grade Fertilizers

**Gold Cup quality for great-looking
greens, tees & fairways.**



- Small Homogeneous Granulation
- Less Mower Pick-up
- High Methylene Ureas (W.I.N.)
- Four Unique Formulations
 - 18-4-10 90% Org.
 - 8-4-24 30% Org.
 - 18-3-12 70% Org.
 - 18-0-18 80% Org.

**GREAT ON FAIRWAYS EVEN AT LOWER
RATES WON'T SPECKLE LIKE BLENDS**

Lebanon
TOTAL TURF CARE

1-800-233-0628



—LIME—

—GYPSUM—

"Our business is spreading"

**THE MIDWEST'S LEADING CUSTOM APPLICATORS
OF DRY BULK MATERIALS**



"THE FLOATER"

Call for Prices & Availability

(216) 563-5902 - PETE

(216) 466-3835 - CHIP

P.O. Box 303

Rock Creek, OH 44084



BUSH, CONT.

FIFRA/GROUNDWATER. Protection of groundwater resources is the hot topic in environmental circles as the Bush administration and the 101st Congress begin work. Contamination issues are central to several new or pending EPA actions (underground storage tanks last November and above-ground storage tanks in spring 1989) and Bush is on record as saying, "I support zero tolerance for groundwater pollution."

Those facts are evidence that the current political muscle of groundwater makes it very likely that the issue will come before lawmakers in some form this year.

Groundwater legislation (e.g. application restrictions and mandatory water quality monitoring) could be attached to pending revisions of the 1985 Farm Bill. It is also possible that groundwater measures could be included under a new flurry of FIFRA revisions. (However, because the late 1988 revisions also reauthorized FIFRA for three years, there is no immediate need for Congress to act.) Finally, lawmakers may choose to introduce "stand-alone" groundwater legislation that creates regulations outside of FIFRA, the Farm Bill or even the Clean Water Act.

In short, in this political climate, action on groundwater is a virtual certainty. The only real remaining question is how much the legislation will affect the golf course management industry.

A tentative provision that excludes golf courses from the Farm Worker Protection Standards, another FIFRA rule, is apparently not as solid as had been thought. Signs from Washington indicate that golf courses could indeed be included under the final EPA rule that will be published in April. GCSAA will continue to support the exclusion, but members may do well to prepare for the "worst-case scenario." Among other things, the new farm worker standards set restrictions on employee re-entry into treated areas and call for health testing for employees who might be exposed to chemical hazards.

Other pertinent issues that could come before Congress this year include:

OCCUPATIONAL DISEASE NOTIFICATION.

This House "right-to-know" initiative died out last year but will surely reappear again in 1989. The bill would establish a new federal program to identify, notify, monitor and counsel current and former employees who have been exposed to chemical health risks. The most significant part of the legislation would make employers responsible for tracking down ex-employees and telling that they were exposed to risks in their former workplaces.

CLEAN AIR ACT. With this act's 1988 sponsor (Mitchell) now sitting in the majority leader's chair, a 1989 version of the bill is sure to come to the Senate floor. Last year Mitchell's bill included provisions on pesticide drift. However, these provisions are largely targeted at aerial spraying by agriculture and may

CONTINUED NEXT PAGE

BUSH, CONT.

not have a significant impact on golf course users.

USED OIL. Legislation that would prevent EPA from classifying used motor oil as hazardous waste will probably be reintroduced this year. The bill, as it was written last year, calls instead for the development of a separate set of somewhat less-stringent guidelines to deal with used oil. These regulations would emphasize safe handling and recycling.

MINIMUM WAGE. Proposals on raising the minimum wage were debated in both houses last year, but neither measure gained passage. Introduction of a 1989 bill, probably based on a 50 percent increase phased in over three or four years, is certain.

PENSION PORTABILITY. Vermont lawmaker James Jeffords, the sponsor of last year's House bill to allow workers to shift pension contributions to an IRA instead of "cashing out," is now a member of the Senate. In his new position on the Senate Education and Labor Committee, he will have more authority to push for flexible pension rules that could benefit "mobile" workers like superintendents.

MANDATORY HEALTH INSURANCE. Sponsored by Sen. Edward Kennedy (D-Mass.), this legislation would require employers to provide coverage for hospital and physician care, diagnostic tests, birth-related expenses, catastrophic illness and mental health services. If passed, the measure would benefit superintendents who don't already receive full health benefits — but it would also make it more expensive for smaller employers to do business.

Time magazine may have provided the best indication of what 1989 will hold for environmental issues. The publication, famed for its "Man of the Year" selection, decided instead to salute the "Planet of the Year." The planet was, of course, the "Endangered Earth."

The magazine's decision is yet another sign that the barometer of environmental activism is rising. Public concern about global risks will be reinforced by a new president who has made it clear the environment is part of his personal agenda. The realities of balancing a federal budget may curtail that agenda, but an overall tone of awareness and willingness to change has already been set. Ultimately, then, the challenge facing GCSAA and its members is to take positive steps to adapt to this shift in the environmental winds before they blow ill for the golf course superintendent.

REMEMBER! You will never be a professional Golf Course Superintendent until your fellow superintendents, your membership and the general public recognize and accept you as one.

Credit: The Georgia Turfgrass News

Introducing a new benefit from Chipco® 26019... convenient Chipco® 26019 FLO



RHÔNE-POULENC INC.
AGROCHEMICAL DIVISION



ROBERT P. DUGAN
SALES REPRESENTATIVE - SPECIALTY
P.O. BOX 398
ROMULUS, MICHIGAN 48174-0398
(313) 753-3392

The Ryan GATM 30 beats the competition in versatility, speed and precision.



Ryan continues to set the standard to which others compare.

The new Ryan GA 30 is designed to aerate golf greens, tees, fairways, sports turf and commercial grounds. With a flexible aerating pattern ranging from 1" X 2½" to 5" X 2½", you can aerate from 5,625 square feet/hour up to 28,125 square feet/hour. The GA 30 is not only faster on the green, but with a transport speed of up to 6 mph, it gets you off the golf course twice as fast. It's a tractor and aerator in one compact, durable riding machine. Ask for a convincing demonstration today.

RYAN®

BUILT TO LAST

Lawn Equipment Service & Sales

**151 N. PERRY
PONTIAC, MICHIGAN 48058
(313) 858-7700**

JACOBSEN. UP FRONT IN LIGHTWEIGHT FAIRWAY MOWING.

Introducing the all-new Jacobsen LF-100, the 5-gang designed to increase your lightweight mowing productivity.

The wing mowers are up front for better visibility. So the operator can hold a closer line—even at mowing speeds over 5 mph—to take full advantage of the 100" cutting width. This unique, up-front configuration also gives better access to all mowing units to quickly empty catchers and make mower adjustments easy.

Heavy-duty reels deliver a greens-like cut. New heavy-duty reel construction provides extra strength for long life in demanding fairway conditions. The fully floating, 22-inch steerable 7-blade reels are heavier, to follow ground contours closely, for that smooth, consistent Jacobsen cut that's the envy of the industry.

True lightweight mowing. Newly designed low-profile turf tires produce the lightest ground pressure, and the rear wheels roll on a different track than the front,

so your tender turf thrives with less compaction. And the wide 4-wheel stance offers excellent traction, increased stability and a tight turning radius.

Built to last. The LF-100 has a proven, rugged chassis, a durable and simple hydraulic system and liquid-cooled diesel engine for a longer, trouble-free life on your fairways.

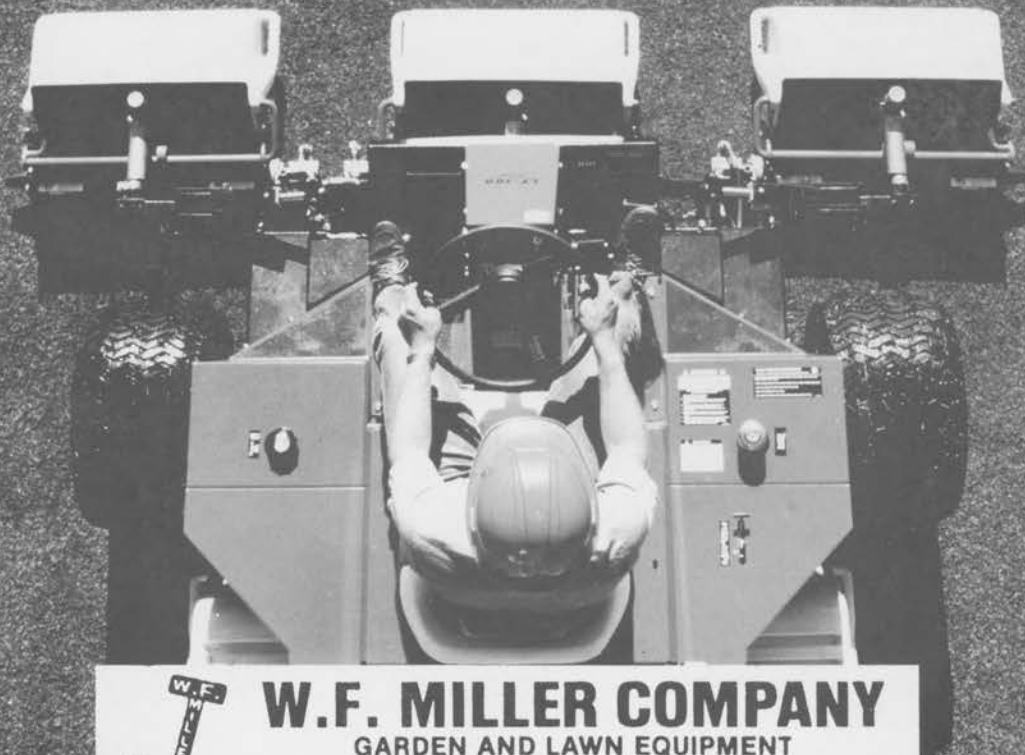
What's more, the entire machine is backed by your Jacobsen distributor, so you're never far from dependable parts and service support.

See all the LF-100 differences. Ask your Jacobsen distributor for a free demonstration. Attractive lease and finance plans available. Or contact:
Jacobsen,
1721 Packard
Ave., Racine,
WI 53403.

**JACOBSEN
TEXTRON**

Jacobsen Division of Textron Inc.

© Jacobsen Division of Textron Inc. 1988



W.F. MILLER COMPANY
GARDEN AND LAWN EQUIPMENT

25125 TRANS-X

NOVI, MICHIGAN 48050

(313) 349-4100

"A Patch of Green"

31823 UTICA ROAD
FRASER, MICHIGAN 48026



U.S. POSTAGE

PAID

PERMIT NO. 37

MICHIGAN STATE UNIVERSITY
LIBRARY - SERIALS
EAST LANSING, MICH. 48823