

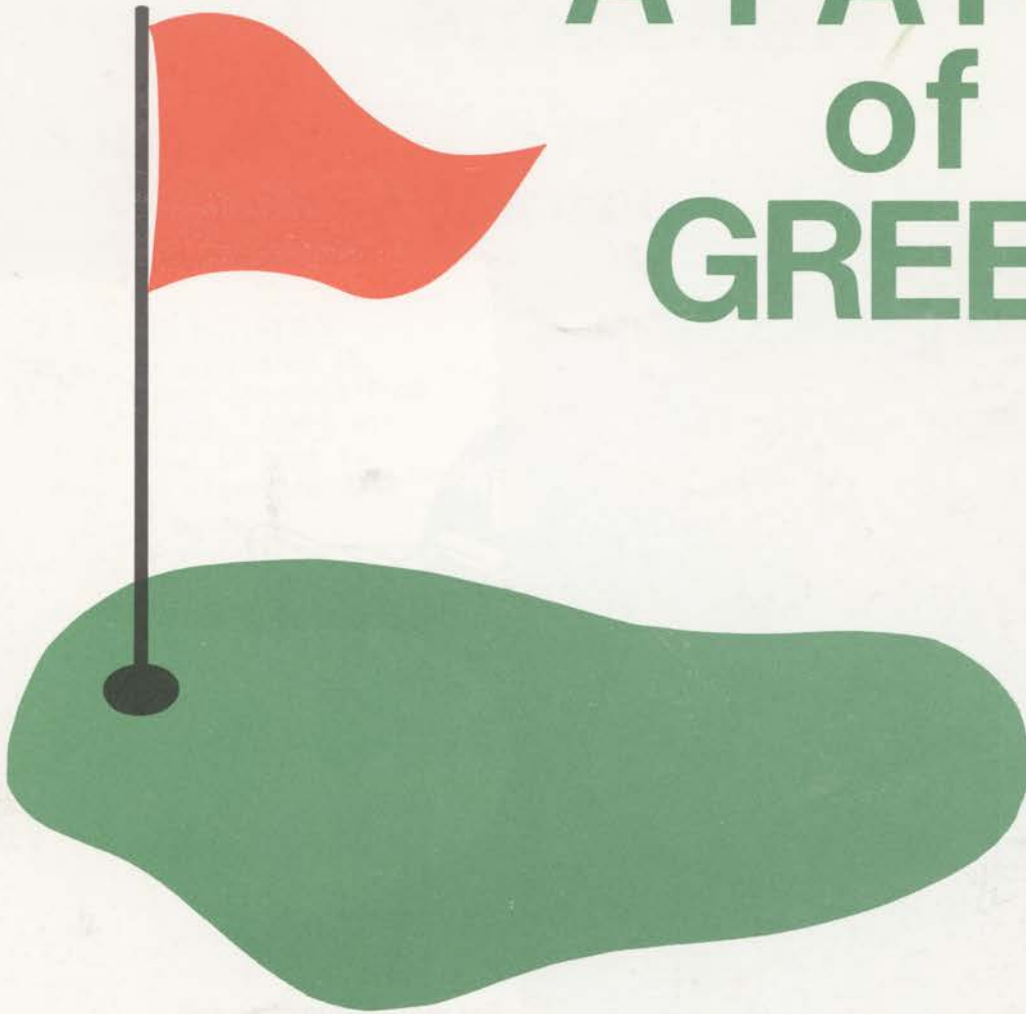
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MARCH/APRIL 1990

Our 65th Year

A PATCH of GREEN



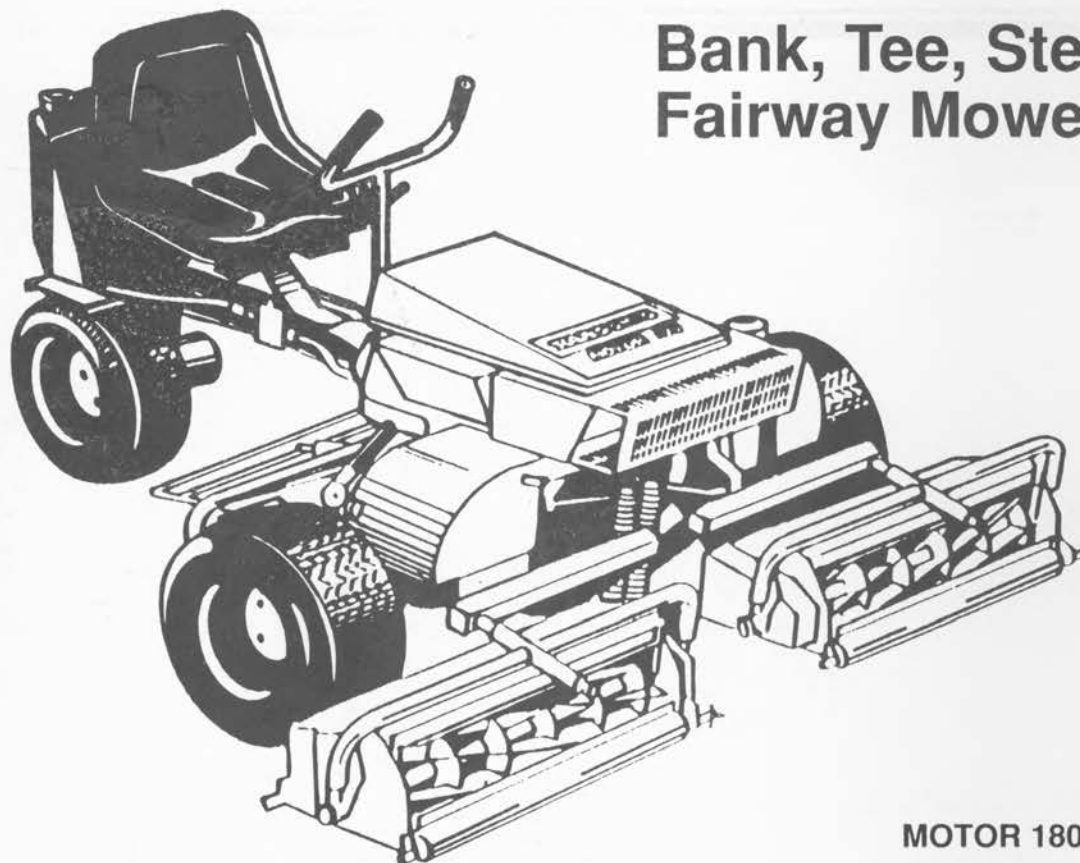
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PRESIDENT'S MESSAGE

Spring is when a young man's fancy turns to thoughts of golf. As the days get longer and warmer, we find golfers panting breathlessly waiting for us to wave the green flag. We all know that as soon as the green flag is waved and clubs are being loaded onto golf carts, the parade won't be over until it snows again.

Spring for the golf course superintendent is a different matter than for most people. Most superintendents that I know are tested in the area of organizational ability every spring. The tasks of ordering supplies, hiring employees, taking deliveries, turning on the irrigation, etc. are happening very fast. Hopefully all of your paper work is in order, such as: Right-To-Know info, Employee Safety info, Inventories, etc.

Organizational ability is one of the areas of focus for MBCGCSA in 1990. I would ask every superintendent to take a good hard look at their operation during the 1990 season and take note of their strengths and deficiencies in organization. Our profession would be greatly enhanced if we were

cognizant of how other people (members/owners/-public/friends) see how we operate.

During the month of April all Class A and B members will receive a survey to fill out. This survey is very important to the future and image of our association. Hopefully, as you read through the questions, you will quickly see the value of this survey and promptly fill it out and return it to Marty Miller.

The month of April will find MBCGCSA having a joint meeting with our Ontario friends at the Sarnia Golf and Curling Club. May will be our Annual Special Olympics Benefit, and it will be held at Links at Pinewood on May 11. As we enter spring, 1990 let us put some organizational ability to work and find the time to participate in these traditional meetings.

Tom Mason

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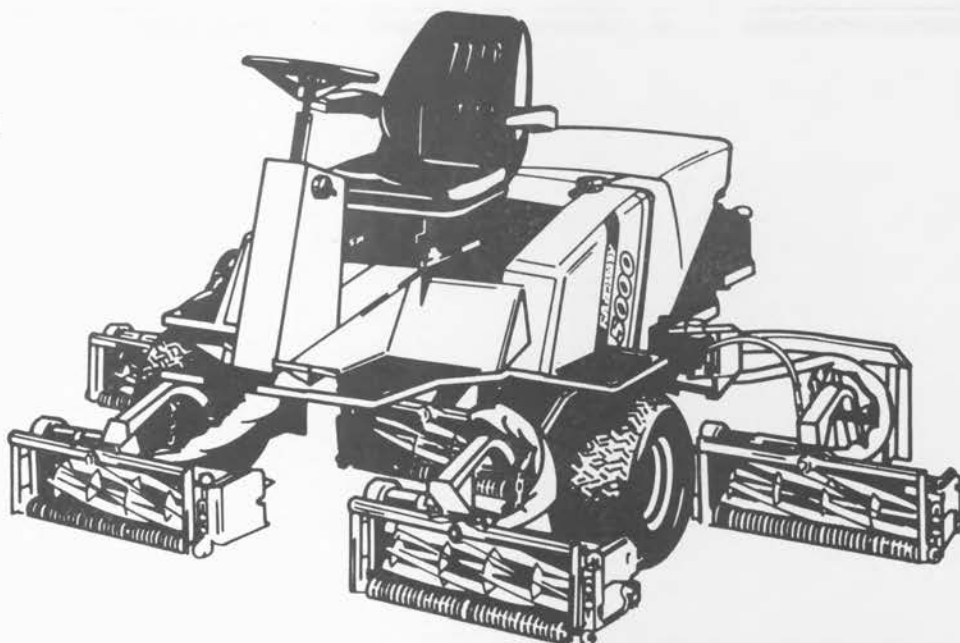
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The following articles were submitted by William R. Roberts, CGCS, Chairman, GCSAA Government Relations Committee.



GCSAA NEWS



WE KEEP GOLF GREEN.

913-841-2240

GOLF COURSE OPERATIONS MUST SUPPLY INFORMATION ABOUT HAZARDOUS CHEMICALS

Congress recently approved the largest appropriation to date — \$27 million for fiscal 1990 — for the U.S. Environmental Protection Agency to implement the federal right-to-know act, specifically to encourage local emergency planning. Congress also has ordered the Federal Emergency Management Agency (FEMA) to prepare, by March 31, a study on the major threats facing communities and local emergency management coordinators.

In 1986, the U.S. Congress enacted the Emergency Planning and Community Right-To-Know Act (EPCRA) as a response to growing concerns about the effects of chemical releases on communities. The act (1) supports emergency planning efforts at the state and local levels, (2) provides citizens and local governments with information concerning potential chemical hazards present in their communities and (3) establishes enforcement procedures and civil, administrative and criminal penalties for non-compliance.

Subtitle A establishes the framework for emergency planning by state and local governments by calling for the creation of state emergency response commissions and local emergency planning committees. These local panels are designed to work on emergency response plans in cooperation with representatives of facilities — including golf courses — covered by the law.

Subtitle B, which was designed to provide information to appropriate local, state and federal officials on the type, amount, location, use, disposal and release of chemicals, includes three reporting provisions:

SECTION 311 applies to all facilities, such as golf courses, that are subject to the Occupational Safety and Health Act of 1970 and subsequent OSHA regulations. The owner or operator of a golf facility must submit material safety data sheets (MSDSs) or a list of the chemicals for which the facility is required to keep MSDSs to state emergency response commissions and local emergency planning committees and fire departments.

Updates are due within three months after OSHA regulations require the owner/operator to prepare or have available an MSDS for a specific hazardous chemical. A revised MSDS must be submitted for significant new information regarding a chemical for which an MSDS was previously submitted.

Also, under **SECTION 311**, EPA can establish threshold quantities for hazardous chemicals, so that no reporting is required if a facility has a below-threshold amount of a hazardous chemical.

SECTION 312 requires facilities covered by **SECTION 311** to submit a chemical inventory form annually by March 1. The inventory must contain an estimate of the maximum amount of the hazardous chemicals present at the facility during the preceding year, an estimate of the average daily amount of hazardous chemicals at the facility and the location of these chemicals at the facility.

SECTION 312 calls for two reporting "tiers." Tier I requires only general information on the amount of hazardous chemicals at the facility. Tier II information, which need not be submitted unless requested by the state commission or the local planning committee or fire department, requires more detailed information about each chemical.

SECTION 313 requires EPA to establish an inventory of toxic chemical emissions from facilities that meet certain criteria. The information will be used to establish a computerized national database accessible by the general public.

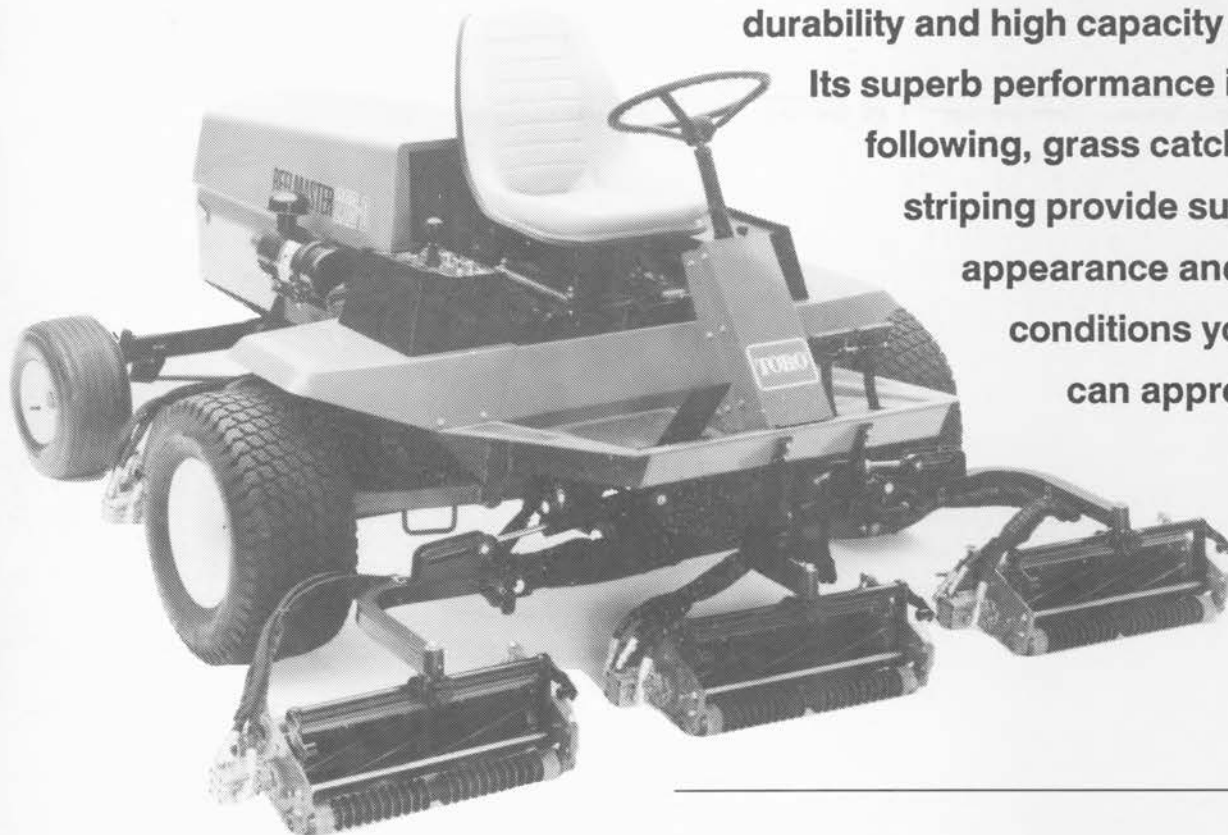
Under **SECTION 313**, owners and operators of certain facilities must complete a toxic chemical release form for specified chemicals, reflecting releases during the preceding calendar year, to be submitted to EPA and state officials annually on or before July 1.

Facilities that use more than 10,000 pounds of a single listed toxic chemical or that manufacture or process more than 25,000 pounds total of any of the listed chemicals must submit toxic chemical release

CONTINUED PAGE 7

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HOW EPCRA WORKS IN MICHIGAN

As a response to growing concerns about the effects of chemical releases on communities, the U.S. Congress enacted the Emergency Planning and Community Right-To-Know Act (EPCRA) in 1986. The act supports state and local emergency efforts and provides citizens and local governments with information concerning potential chemical hazards present in their communities by requiring reports from businesses — **including golf courses** — that deal with hazardous chemicals.

In 1986, Michigan enacted an emergency planning

GCSAA NEWS, CONT.

forms. These forms request information on the maximum amount present at the location; treatment and disposal methods; and annual quantity released into the environment for each listed chemical or chemical category.

The initial list of toxic chemicals subject to reporting requirements consists of 329 entries, including 20 categories of chemicals. EPA's administrator may add or delete chemicals on the list based upon an agency determination of health or environmental hazards. State governors and the public may petition the administrator to add or to delete from the list.

Title III of EPCRA outlines trade secret protection and enforcement procedures:

SECTION 322 applies to trade secret claims under reporting requirements for emergency planning and **SECTIONS 311, 312 and 313**. Even if specific chemical identity of an extremely hazardous substance or chemical is allowed to be withheld as a trade secret, the generic class or category of the chemical must be provided.

SECTION 323 requires that chemical information withheld from the public as a trade secret must be made available to health professionals for diagnostic purposes and emergency assessment activities. In these cases, the person receiving the information must be willing to sign a confidentiality agreement with the facility.

SECTION 325 provides for enforcement procedures and penalties as follows:

- *civil penalties for owner/operators not complying with emergency planning requirements

- *civil, administrative and criminal penalties for owner/operators not complying with emergency notification requirements following the release of a listed hazardous substance

- *civil and administrative penalties for owner/operators not complying with reporting requirements in **SECTIONS 311, 312 and 313**

- *civil and administrative penalties for trade secret claims that are ruled frivolous

- *criminal penalties for disclosure of trade secret information.

law authorizing fire jurisdiction. Also in 1986, Michigan repealed a state community right-to-know law that had allowed for public access to information. Federal EPCRA provisions do apply, however.

The state fire marshal's office, a division of the Michigan State Police Department, administers the emergency planning law.

Under state law, golf course operations must provide the fire department, upon request, with the following information:

- *workplace chemical list

- *copies of material data safety sheets (MSDSs) for each hazardous chemical identified on the chemical list

- *quantity of hazardous substances in the workplace

- *workplace location of hazardous substances

- *updates of any significant chemical substance information.

The fire chief may exempt minimal and portable quantities of hazardous substances from reporting requirements.

Michigan's emergency planning law includes no penalty provisions for non-compliance.

COMMUNITY RIGHT-TO-KNOW CONTACTS

For emergency notification, call 800/292-4706.

For general information, emergency planning notification and document submissions, call the Emergency Planning and Community Right-To-Know Commissions at 517/373-8481.

Submit follow-up emergency release notification, MSDSs, chemical inventories and annual toxic chemical release forms to Emergency Planning and Community Right-To-Know Commission, Michigan Department of Natural Resources, Box 30028, Lansing, MI 48909.



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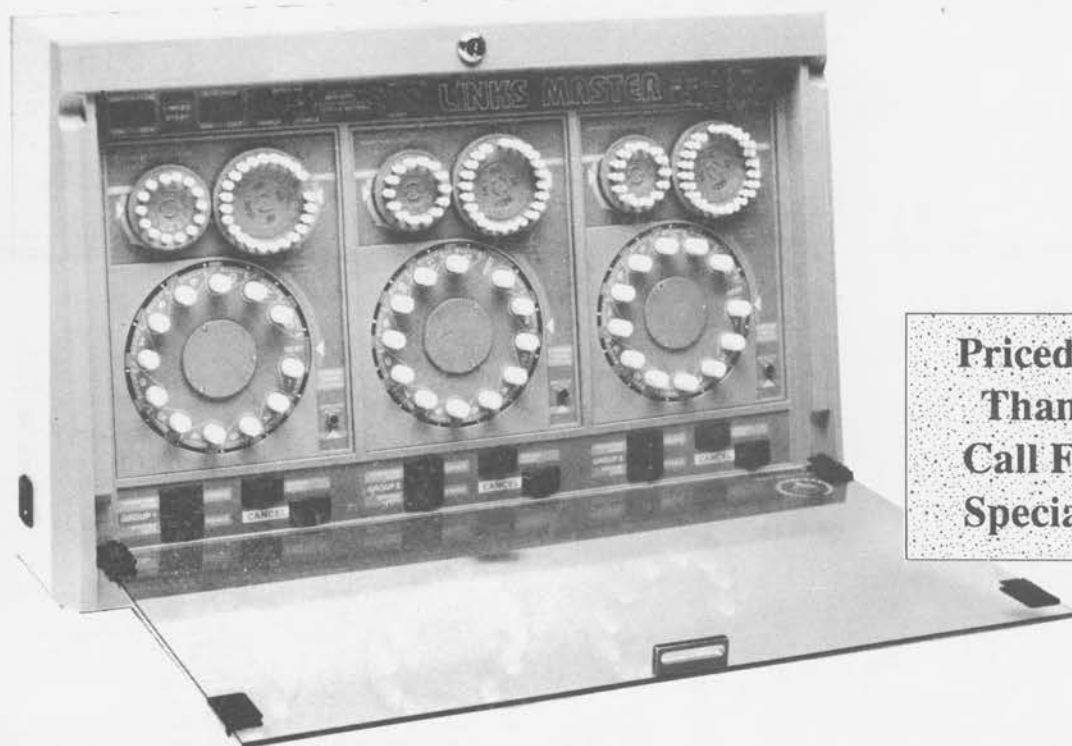
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TURFGRASS NUTRITION STRATEGIES

by Dr. James Beard — Texas A & M University

Turf and lawngrass nutrition can be complicated. In order to adequately meet plant needs, a combination of different strategies may be employed. Dr. Jim Beard has devoted considerable time and effort to research in this area. Here he presents the following for your consideration.

There are 9 major effects of nitrogen on turfgrasses: (1) shoot growth; (2) root growth; (3) shoot density; (4) color of foliage; (5) disease proneness; (6) heat, cold, and drought hardiness; (7) wear tolerance; (8) recuperative potential and rate; (9) composition of the turfgrass community.

- Nitrogen rate of application should be limited to no more than one pound of nitrogen per 1000 square feet of water soluble types.

- The first response of nitrogen is on color of foliage. There are many gradations of green. The darkest green turf is not necessarily the most healthy.

- Nitrogen has an effect on disease. The application rate, the nitrogen carrier and application timing can either increase or decrease disease incidence.

- Under low nitrogen turf management, grasses are more prone to dollar spot, red thread and rust, for example.

- Use of nitrogen carrier Oxamid has resulted in no brown patch on St. Augustine grass.

- Timing of nitrogen applications in the late fall have produced more snow mold.

- Look for nitrogen deficiency first by checking the tips of older leaves (the lower and outer leaves). When they are pale green, this is the first indication. The yellow of these leaves will progress toward the base as deficiency intensifies.

- Nitrogen deficiency is encouraged by removal of clippings. As much as 2 pounds of nitrogen per 1000 square feet may be lost in a year.

- Coarse textured soils that are low in organic matter are prone to production of nitrogen deficient turf.

- Where there is intensive rainfall, nitrogen leaches away and the turf becomes nitrogen deficient.

- Phosphorus is not readily leached from the soil. At soil pH levels from 6 to 7, it is most available. In addition, turfgrass requirements for phosphorus are low.

- Phosphorus has 4 major effects on turfgrasses: (1) aids in establishment; (2) promotes rooting; (3) causes maturation of plants; (4) enhances seed production.

- When phosphorus is deficient, the foliage becomes darker green — a dull bluegreen. Older leaves exhibit this coloration first. Only a little phosphorus is required to correct this.

- Potassium is a good turf restorer. It affects rooting, drought, heat and cold hardiness, wear tolerance and disease proneness.

- With potassium, there may be $\frac{1}{3}$ more roots. More roots are observed under conditions of moisture stress.

- Hardiness is related to soil temperature (hot and cold) and only indirectly to air temperature. Nitrogen to potassium balances are important in the promotion of turf hardiness — 2 to 1 or 3 to 2 (nitrogen to potassium). This balance is needed year round.

- With more potassium, there is less wear damage on turf. Up to 3.6 pounds of potassium per 1,000 square feet per year have been found beneficial.

- Addition of potassium has led to increased resistance of turf to brown patch, dollar spot and fusarium.

- Potassium is subject to luxury consumption by turfgrasses. High levels are not needed but grasses accumulate it anyway. After growth rates increase with added potassium, concentrations of potassium in the soil are seldom adequate. These need to be increased for maintenance of healthy turf.

- Sulfur was thought for years not to be a limiting factor in the growth of turfgrass.

- Sulfur availability is reduced at pH levels below 6. At that point the foliage looks like there is a nitrogen deficiency.

- Iron is the most likely micro-nutrient to become deficient. Zinc and copper are heavy metals that do not move much in the soil. Higher than normal concentrations can lead to toxicity. Iron is required in very small amounts. At pH above 7, there is reduced availability.

- Iron is important for root and shoot growth for drought hardiness and for dark green foliage.

- Intervening yellowing of the youngest leaves develops as iron becomes deficient.

- A foliar application of iron can produce a response in just 30 minutes.

- In turfgrass nutrition, nitrogen and potassium are the key.

- Nitrogen requirements of the turf are based on need indicators — pounds of nitrogen per growing month per 1000 square feet.

CONTINUED PAGE 22

NEWS RELEASE

Dr. James B. Beard, Professor of Turfgrass Science and Stress Physiology at Texas A & M University was honored by being elected a Fellow of the American Society for the Advancement of Science (AAAS), the country's leading general science organization. The designation goes to AAAS members "whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

GOLF COURSE IRRIGATION SYSTEMS:

The Design/Installation Team

By Austin J. Miller, PE, CID

Even with computer control of golf course irrigation systems, it is possible to build restrictions into the system which prevent a flexible watering program.

Small pipe size, too many sprinklers on one control circuit, wide variations in elevation without proper pumping plant control, extensive looping and improper sprinkler spacing leave the golf course superintendent with precise control, but control over an inefficient irrigation layout.

Several years ago the New Mexico GCSA published an "open letter" on "the Achilles' heel of our water crisis."

Most of the problems mentioned in the letter would not have occurred if the correct approach to the design/installation of a golf course irrigation system had been followed.

THE CORRECT APPROACH

Five individual inputs are needed to design/install a suitable golf course irrigation system: Owner, Board

of Directors, Greens Committee; Golf Course Superintendent; Engineer/Designer; Equipment Distributor; Installation Contractor.

If any of the above interests are not represented on the Design/Installation team, the final product will not be an ideal irrigation system.

The Owner

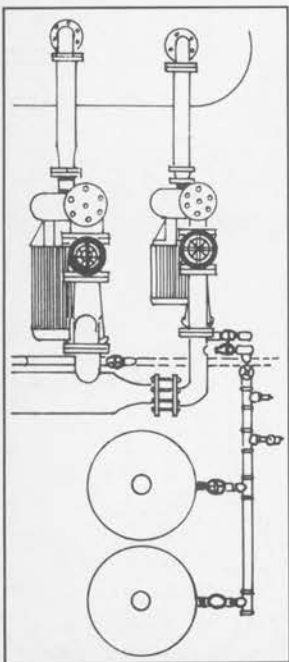
The owner's interest is paramount. Their input is knowledge of the financial resources available to the golf club, the long range plan or goal for the golf course regarding the property and the thinking of the members and players regarding the desired quality and status of the golf course.

The owner's input might come from the private club Board of Directors or Greens Committee. With a municipal club, it might be the parks department, golf commission, mayor, or other city official.

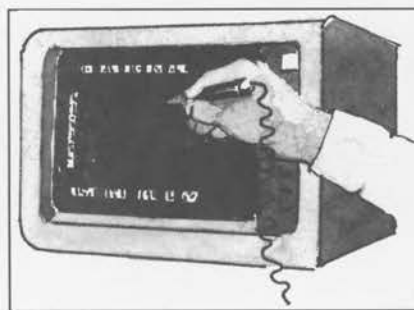
In some cases, the individual club owner or group of

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owners is the one involved in the design/installation process representing the ownership interest.

At any rate, the owner's input is important early in the project and repeated conferences are necessary to coordinate the design with the owner's goals.

Golf Course Superintendent

The golf course superintendent provides his/her input in knowledge of the climate, soils, turf, cultural practices required, skill level and availability of labor and water required for the level of course maintenance selected.

The superintendent is the coordinator of all those providing the inputs to the system design.

Without an aggressive superintendent, the design/installation process will not produce the best system.

Engineer/Designer

This input requires knowledge of hydraulics, irrigation system materials, sprinkler head performance, automatic control systems, pump theory, pumping plant control and computer analysis of the pipe grid and computer scheduling.

The engineer/designer provides performance analysis, plans, specifications, bidding and contract documents, contract administration, and field and final inspection.

Bids and contracts are based on what the course wants and needs in an irrigation system, and not on what particular products the material supplier is handling.

The bidding procedure then provides for the contractors and material suppliers to be evaluated fairly.

Computer analysis by the engineer/designer of each piping branch allows the "what if" game to be played.

"What if" a pipe size is reduced or enlarged? What Impact will this have on performance and cost? These analyses can be done manually, but no one today has the time.

When cost per pound of pipe and cost per kwh of electricity is inserted into the computer program, the lowest cost size of pipe will emerge based on amortization and pumping hours per year.

These parameters may be changed to suit a particular golf course, but an efficient design will result.

Computer programs also show a pattern of distribution plots for the actual sprinkler stakeout of greens, tees and fairways. The sprinkler layout can be changed as required to suit the superintendent's estimate of water required for that particular area.

This data allows the superintendent better control of watering during changing weather conditions.

Most state do not require that a registered engineer make the irrigation design. Designers provide the great majority of these services.

To raise the level of expertise in the industry, the Irrigation Association (IA) has established the Certifies Irrigation Designer (CID) Program.

Any irrigation designer showing the CID seal has demonstrated that he/she has passed a basic test in at least the following areas of knowledge: hydraulics,

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FACTS ABOUT UST INSURANCE FROM GCSAA!

Are golf courses required to demonstrate financial responsibility for underground storage tanks? Yes.

How much financial responsibility must a golf course be able to demonstrate? \$500,000 per incident and \$1,000,000 in the aggregate per year.

By what date is it required by law to demonstrate financial responsibility? October 26, 1990

Will a golf course's general liability policy cover the cost of a leak from an underground storage tank? No. Virtually all general liability policies exclude cleanup costs, third-party liability claims and legal defense costs resulting from pollution.

Will a state fund meet the EPA requirements and protect a golf course's liability in the event of a leak? Not necessarily. Most state trust funds do not include third-party liability, a crucial element in EPA requirements. In addition, state trust funds generally have very high deductibles — \$25,000 and higher. Finally, most state trust funds are undercapitalized, meaning it could be years (if ever) before you could receive payment.

For specific information about your state trust fund, contact the GCSAA Office of Government Relations

at 800/472-7878.

What factors affect the premium of a GCSAA underground storage tank policy?

Type, age and size of tank.

Type of piping.

Type of tank monitoring.

Environmental factors.

Are above-ground tanks available for coverage? Yes. Any above-ground or underground storage tank containing petroleum, diesel or heating oil could qualify for coverage.

Are tanks for the storage of pesticides, herbicides, propane or other hazardous materials eligible for the GCSAA program? No.

Are closed tanks eligible for the GCSAA program? Yes, if there is written documentation that they were closed according to EPA guidelines.

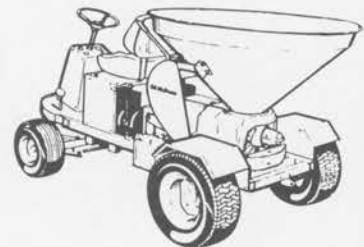
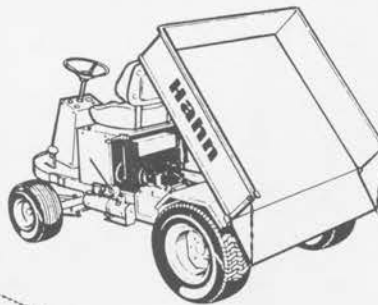
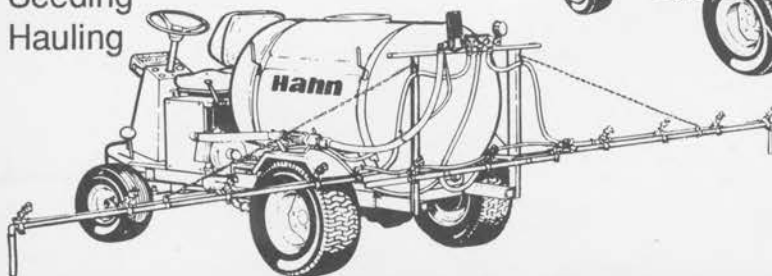
If a golf course has an incident, what type of costs are covered by the GCSAA program? Cleanup (both on-site and off-site), third-party (bodily injury and property damage) and legal defense, up to the limits specified in the policy.

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Can the agent currently writing coverage for a golf course handle the GCSAA program? Yes. The agent can place the GCSAA program within the Course's existing coverage. (Operations without a designated insurance agent can work directly with Financial Guardian.)

Why is the GCSAA sponsored program better for golf course than another type of coverage? The pollution liability market is very limited. Most companies that offer this type of coverage also insure gasoline retailers. Retailers produce a much greater pollution liability risk because of larger tanks, higher volume and more densely populated sites — resulting in higher cleanup costs and third-party liability exposure. The GCSAA program, on the other hand, is designed only for golf facilities. This factor - coverage tailored to the golf community - means lower premiums and smaller deductibles because of the lower risk generally associated with storage tanks located at golf facilities.

Are pre-inspection tests required before coverage can begin? Yes, depending on the type and age of tank. Costs for these tests range from around \$60 per tank for an inventory analysis (for newer tanks) to \$350 and up for tightness tests or soil boring.

If a golf course has an incident, what type of costs are covered by the GCSAA program? Cleanup (both on-site and off-site), third-party (bodily injury and property damage) and legal defense, up to the limits specified in the policy.

Can the agent currently writing coverage for a golf course handle the GCSAA program? Yes. The agent can place the GCSAA program within the course's existing coverage. (Operations without a designated insurance agent can work directly with Financial Guardian.)

If a golf course is fined by EPA for not upgrading a tank when required, does the GCSAA program cover the fine? No. Fines and penalties are rarely covered by liability insurance.

If a pollution incident occurred prior to the effective date of the GCSAA insurance coverage, will the policy cover the incident? No. Prior pollution is not covered.

Is today too early to begin filling out an application for the GCSAA program? Absolutely not. Insurance company requirements can take anywhere from 60 to 90 days. To meet the October deadline, proper planning is essential. In addition, the sooner coverage begins, the sooner a golf facility has the peace of mind that comes with having financial security in the event of a leak.

What is the application procedure? Simply complete the short form application and send it to: Financial Guardian, 1212 Merchants Bank Building, P.O. Box 3519, Topeka, Kansas 66601-3519. For further information, call 800/727-0250 and ask for the pollution coverage department.

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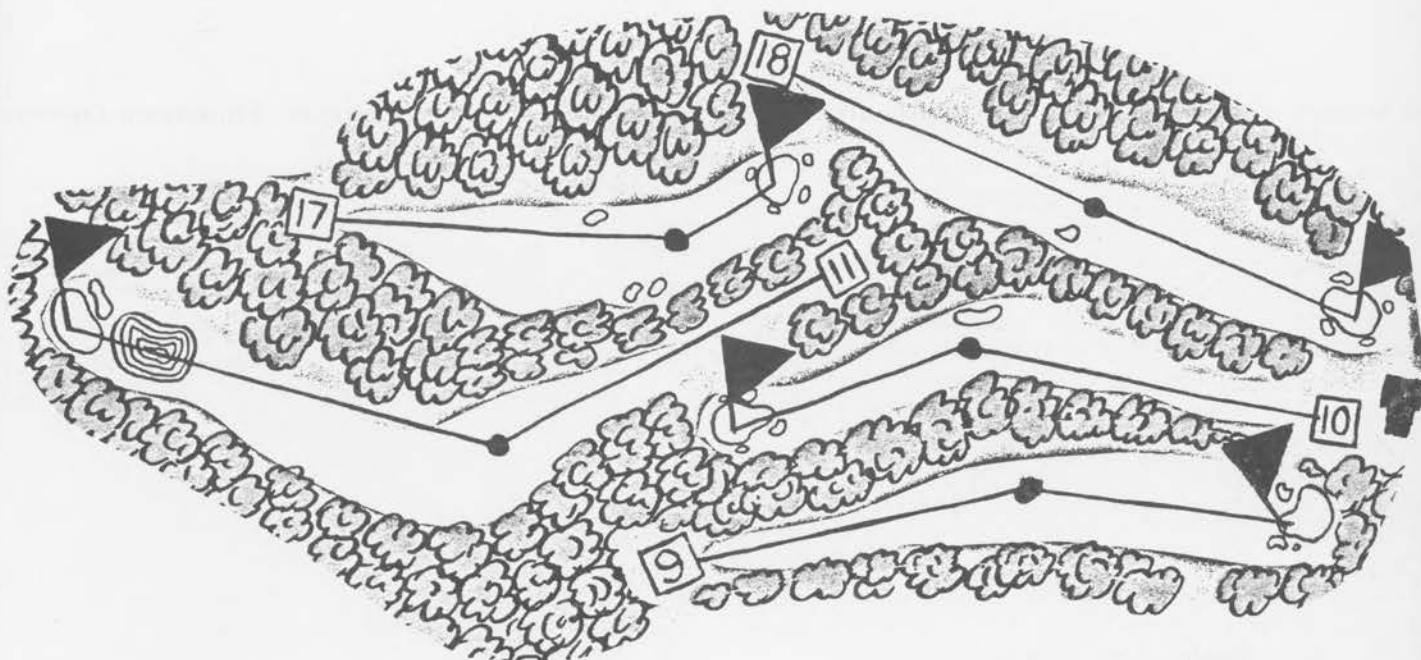
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- The objective of turfgrass management is to grow grass and maintain the existing quality of turf.
- There are timing guidelines for use of nitrogen: not during heat stress; not during drought stress; 30 to 40 days prior to winter where turf is subject to snow mold and winter kill, nitrogen should not be used; watch for disease proneness; and, watch for weed infestations.
- Use potassium in mid-summer where traffic is a problem.
- Use nitrogen after slicing and aerification.
- Use nitrogen after disease has run its course.
- Use phosphorus based on soil test results. Also, base potassium application on soil test results.
- Sixty-five to eighty-five percent of the nitrogen applied may be matched 1 to 1 with potassium.
- Iron can function as a part of the nitrogen requirement by substituting it for nitrogen. Use iron at 2 ounces per 1000 square feet.
- From day 1 to day 5 following mowing, there is a 40 percent increase in the water use rate as leaves grow.
- Eighty to ninety percent of the water lost by turf is through stomata. Most stomata close at mid-day and stay closed for a couple of hours. There is not much foliar absorptions of iron during this period.

From Northern Ohio "Turf"
January/February, 1990



Darin Lickfield, center, recipient of Michigan and Border Cities Golf Course Superintendents Association Scholarship. Presenting are: left, President Tom Mason; right, Ken DeBusscher.

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During the American Civil War, a number of Confederate prisoners were held at a Western military post under not too difficult conditions. Most of them appeared to appreciate the situation, but one fellow wasn't reconciled, and took every opportunity to express his view. He rubbed it in continually about the Battle of Chickamauga, which had resulted so disastrously for the Federal forces.

Finally it got under the skin of the Union men, and they complained to General Grant, who had the prisoner brought before him.

"Look here," Grant said, "you are being very insulting to the men here with constant references to the Battle of Chickamauga. Now you've either got to take the oath of allegiance to the United States, or you'll be sent to a Northern prison. Make up your mind."

The prisoner took some time to come to a decision. Finally he said, "I reckon, General, I'll take the oath."

The oath was duly administered. Then the subdued soldier asked if he might speak.

"Yes," said Grant, "what is it?"

"I was just thinking, General, those Rebels certainly did give us hell at Chickamauga, didn't they?"

From Bits & Pieces, November, 1984

electricity, soil/water/plant relationships, irrigation scheduling, irrigation terminology and pumps.

Additional testing is required in the specialty of golf course irrigation.

There is no guarantee that the successful completion of the tests makes the designer an expert, but it assures the client that the designer has at least a minimum level of competence.

CID's may work for irrigation suppliers or contractors and belong to the Contractor or Distributor Division of the IA. Some CID's are in private practice and belong to the Professional Consultants Division of the IA.

Professional Consulting Engineers/CID's are employed and paid by the golf course owner and thus work in the owner's interest. CID's in the employ of the distributor or contractor cannot spend the approximate 300 staff hours required for a professional irrigation design and thus their plans and specifications are quite often standard ones tailored to that particular golf course.

The cost of hiring a Professional Engineer/Designer is minimal compared to the cost of the installation, and this cost can generally be recovered several times over through a more efficient irrigation system and lowered bids.

Equipment Distributor

Many people believe that selection of an equipment distributor is more important than selecting a brand of equipment.

The distributor should be located in the trading area where the golf course is located and provide on time delivery of the material and equipment at reasonable prices. They should provide good service during the guarantee period, and must stock parts for equipment sold.

A good distributor provides replacement parts and is a liaison with the various manufacturers.

Today, the distributor often substitutes for the Engineer/Designer. This leaves the owner without technical or administrative representation.

The burden of evaluating the design, specification, and installation is then placed upon the golf course superintendent.

The superintendent is generally not trained thoroughly enough to replace the Engineer/Designer function in the modern complex irrigation system process.

Contractor

The contractor's job is to furnish the manpower, equipment and materials for the irrigation system installation and coordinate these into a finished installation that is commercially perfect.

It is particularly important that the contractor and his employees have the skills necessary to provide high quality workmanship.

A contractor is often able to suggest cost saving installation ideas.

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IRRIGATION SYSTEMS, CONT.

The plans and specifications should be reviewed with the successful contractor so his ideas for increasing the system's efficiency and reducing cost may be evaluated.

A contractor must be able to provide fast warranty service during the guarantee period.

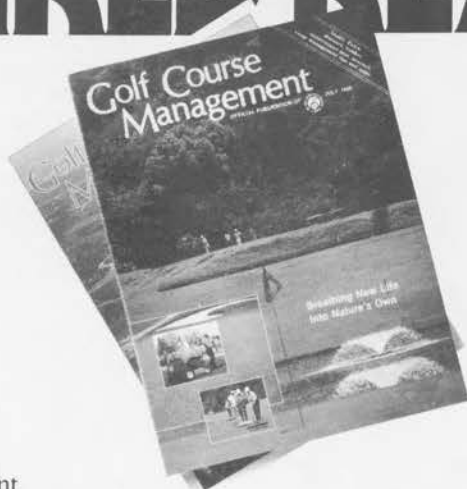
Summary

When any of five inputs required for a golf course irrigation system design/installation team are missing, the success of the project is jeopardized.

The golf course superintendent should be the coordinators of this process and make sure that all five groups are represented.

From **IRRIGATION NEWS**,
February, 1990 — Vol. IX, No.1

REQUIRED READING



Golf Course Management is more than a magazine, it's the bible of your industry, filled with case histories, valuable tips, informative advertising and news of technical breakthroughs.

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THOSE WERE THE GOOD OLD DAYS!

by Stanley Zontek, Director
Mid-Atlantic Region, USGA Green Section

Remembering how things were back in the "good old days" is a common pastime. Among golfers, a favorite and commonly heard sentiment is, "I remember how fast our greens were back in the good old days. I sure wish they were that fast today. I just don't understand why our superintendent can't get them that fast".

The fact is, putting green speeds were **not** faster years ago. Here's proof.

For one thing, it was not until the 1970's that greensmower bedknives could be purchased that were less than 3/16" thick. Since the thickness of a bedknife determines the minimum cutting height to which a putting green mower can be set, it is clear that a 3/16"-thick bedknife would drag on the ground if the height were set at anything less than 3/16". It was not until about a dozen years ago that thin, "tournament" bedknives became available to allow for cutting heights in the range of 1/8". Also, the practice of grinding or shaving bedknife edges to achieve even faster green speeds has been done only recently.

Times and conditions change, and this is as true with putting greens as with anything else. I am fortunate enough to have been exposed to stories about golf course maintenance from my father who has been associated with the game of golf and turfgrass management for more than 50 years. I also have had the pleasure to meet and spend time discussing the "good old days" with many golf course superintendents of yesteryear. They remember the way it really was — from a perspective of maintaining fast greens throughout two to three generations of golfers.

What is their story? Most putting greens 30 years ago were cut at 1/4"; fast greens for the time were shaved down to 3/16", and slow greens were cut at 5/16" (the height at which some fairways are cut today). Not exactly the stuff of which lightning-fast greens are made!

Finally, perhaps the best proof comes from the tool that has stirred much of the controversy about green speeds in recent years. When the Stimpmeter was introduced by the USGA in 1976, the agronomists of the Green Section staff checked the speed of several thousand greens on golf courses throughout the country. The average reading was 6'6" on the Stimpmeter. Such a slow speed is practically unheard of these days, yet there are plenty of golfers who claim that greens were faster in the mid-1970's than they are today.

Our perceptions of conditions in the good old days aren't so easy to reconcile with what we see today, are they?

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Jim Timmerman, left, presenting Ted Woehrle the Michigan Turfgrass Foundation's "Meritorious Service Award."



Ted's family - Rear, L to R, Sons Ted II, Cincinnati; Bruce, Walled Lake; Chris, Louisville. Front, Daughter Mary Beth, Atlanta; Ted; and Wife, Mary.

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GCSAA ELECTS 1990-91 BOARD OF DIRECTORS



Seated (l-r): Stephen G. Cadenelli, vice president; Gerald L. Faubel, president; William R. Robert, secretary/treasurer. Standing (l-r): Bary T. Grigg; Randall P. Zidlik; Charles T. Passios; Dennis D. Lyon, immediate past president; Joseph G. Baidy; Randy Nichols.

Gerald L. Faubel, CGCS, Saginaw Country Club, Saginaw, Michigan, was elected president of the Golf Course Superintendents Association of America (GCSAA) during the association's annual meeting in Orlando, Florida, on February 26. Faubel succeeds Dennis D. Lyon, CGCS, Aurora, Colorado, who as immediate past president will continued to serve for a year as director.

Stephen G. Cadenelli, CGCS, Metedeconk National Golf Club, Jackson, New Jersey, was elected vice president. Re-elected as a director and appointed secretary/treasurer was William R. Roberts, CGCS, Lochmoor Club, Grosse-Pointe Woods, Michigan.

Also re-elected as directors were Joseph G. Baidy, CGCS, Acacia Country Club, Lyndhurst, Ohio, and Randall P. Zidlik, CGCS, Rolling Hills Country Club, McMurray, Pennsylvania.

Charles T. Passios, CGCS, Hyannisport Club, Hyannisport, Massachusetts, was appointed to the board to fill Cadenelli's vacated director's position.

Gary T. Grigg, CGCS, Shadow Glen Golf Course, Overland Park, Kansas, and Randy Nichols, CGCS, Cherokee Town & Country Club, Dunwoody, Georgia, continue serving terms as directors.

Officers serve one-year terms, and directors are elected to two-year terms.



(l-r): Stephen G. Cadenelli, vice president; Gerald L. Faubel, president; William R. Robert, secretary/treasurer.

With more than 9,500 members, GCSAA is an international organization dedicated to promoting the principles and techniques of professional golf course management. Its members are the men and women who manage the playing fields of golf.



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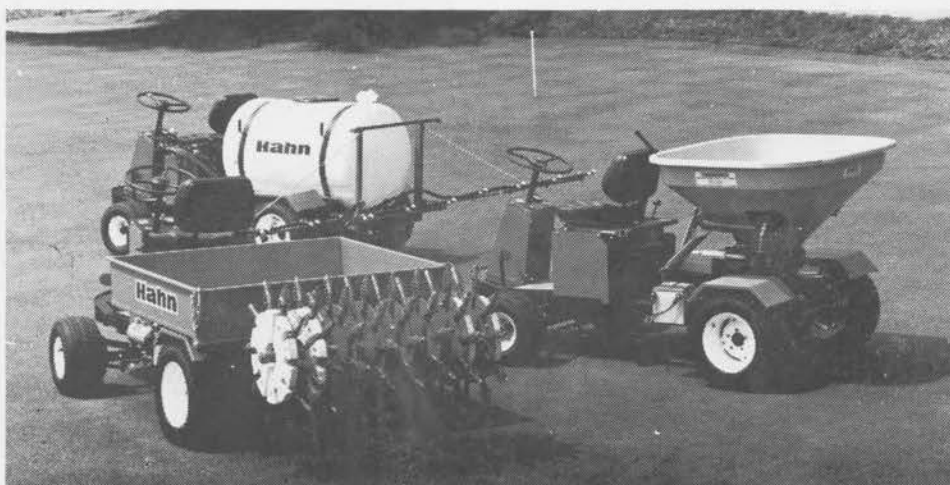
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Greens or fairways... the Spray-Pro 44 with its big high flotation tires to protect your turf, converts in minutes to a Sprayer, Spreader, Aerifier or Utility Bed. Designed for easy on, easy off switching and year 'round service.



This "crew" should be working for you

the aerifier...

Hydraulically controlled from operator's position. Cultivates a full 42 inch width. Cleanly penetrates to 3 inches, depending on soil conditions. Optional Slicing Blades to open the soil with a minimum of turf disturbance.

the sprayer...

160 gal. poly tank, 3-section boom for 18-1/2 ft. coverage. Spray with 1, 2, or all 3 booms. Fingertip control of all spray system functions.

the spreader...

Precise rate settings for a uniform pattern. Top dress sand in 12 to 20 ft. swath, apply seed, fertilizer and lime 20 to 40 ft. Up to 500 lbs. per minute.

the utility truck bed...

Reinforced steel, 1500 lbs. capacity. Converts to dump bed with addition of Hydraulic Package.

4-WHEEL STABILITY

Low center of gravity. For more stability and safety.

BIG HIGH FLOTATION TIRES

Reduce compaction. Drive on golf greens safely. About half the PSI of other utility trucks and sprayers.

Lawn Equipment Service & Sales

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Certain death for the dinosaurs.

The new Jacobsen Tri-King 1684D makes heavy cumbersome 84" mowers things of the past.

Jacobsen ushers in a new age in heavy-duty 84" triplex mowing with a truly lightweight, highly maneuverable package. So now you can say goodbye for good to those costly, one-ton monsters the competition turns out.

Lightweight and compact, this agile, rear-wheel steering machine maneuvers around trees and other obstacles in a hurry. A foot-controlled hydraulic lift with automatic reel shutoff makes cross-cutting fairways and striping sports fields quick and easy. Plus, the wide 10" overhang simplifies trimming around traps, while optional on-demand 3-wheel drive smoothes out tough hills. And the Jacobsen Tri-King maintains a productive mowing speed in 3-wheel drive, so it trims circles around bulky, sluggish would-be competitors.

Simple, cool-running hydraulics deliver exceptional control of cutting

frequency. This smooth, consistent power and a choice of 5- or 10-blade fixed or floating reels produce a uniform, carpet-like cut — even in dense, wet grass. Unlike heavier competitors, the 1684D's balanced, lightweight design and wide tires minimize turf compaction. And optional easy-on/easy-off grass catchers make clean-up a breeze.

A liquid-cooled 16.5 hp diesel provides plenty of power with longer life, simpler maintenance and better fuel economy.

Or choose the 1671D, a unique, durable 71" triplex with all the same quality features of the 1684D. Yet smaller reels cleanly cut tricky undulating terrain and those really tight spots.

Don't be saddled with a dinosaur of a triplex when you can have the advanced new 1684D. Ask your Jacobsen distributor for a demonstration today. Attractive lease and finance plans available.

Jacobsen Division of Textron Inc.,
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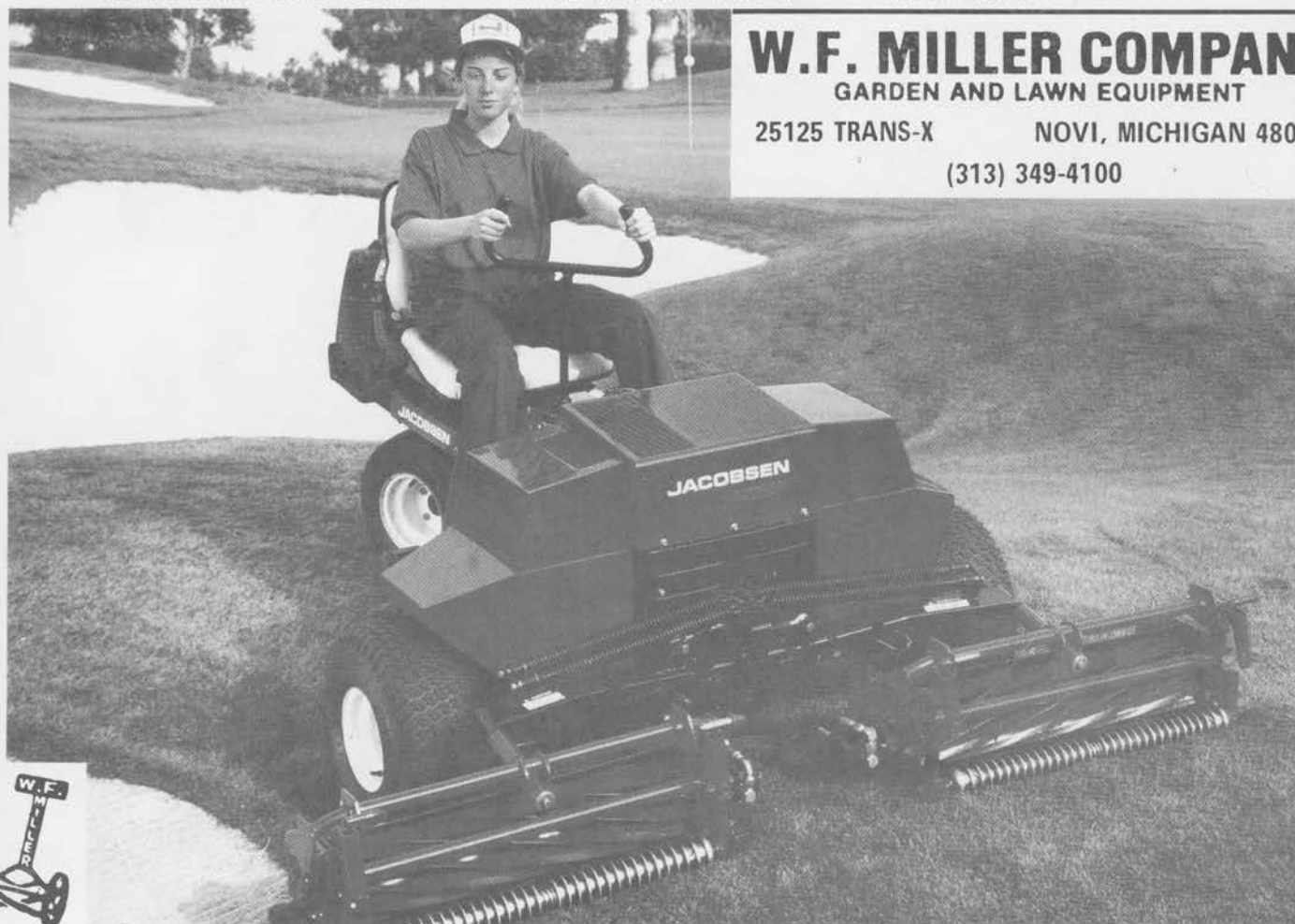
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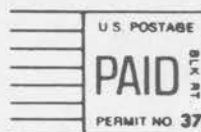
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