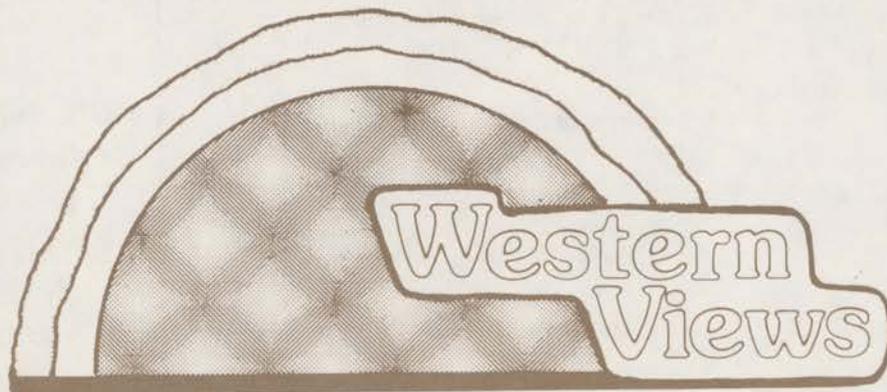




Official Publication of the  
W.M.G.C.S.A.



**MAY/JUNE 1985**

**PRESIDENT'S MESSAGE**  
Keith E. Paterson, C.G.C.S.

What do you, as a superintendent in the state of Michigan, have to be thankful for? Think about it for a minute. This question hit home with me last week. My answer - there are many things of course, but my top two answers are 1) fellow superintendents and 2) Michigan State University.

1985 had started like every other year, unusual. First everything broke at once and we started playing catch up right from the start. Then we hit an incredible dry spell for May and June. Overall, things had been about normal. In fact, the weather, other than the lack of rain, seemed to be cooperating a little. There had been no heat waves, the air had been dry, and the nights had been cool.

Everything was fine until last week when we discovered some of our greens were thinning out. We had run into a dilemma for which we had no answer. Enter 1 and 2. Jeff Gorney has a similar problem at the Elks and has been very helpful in trying to figure out a solution. Roger Barton and Bob Hope have both stopped over to see if they could help out. The willingness of a fellow professional to help, although not unique to our profession, seems to me to be especially strong within our group. For this, I am very thankful. I am also thankful for the presence of MSU. Dr. Vargas' crew think they have isolated the problem as "Cold Weather Anthracnose." Presently they have no recommended cure, but are working diligently to find one.

With the help of fellow superintendents, the staff at MSU, and communication to my membership, I feel we will somehow solve this problem. So to all of you, I say thanks. I am proud to be a superintendent in Michigan.

**UPCOMING EVENTS**

- |                           |  |  |
|---------------------------|--|--|
| Golf Day .....            |  | August 26<br>Walnut Hills                  |
| Mid Year Conference ..... |  | September 19 - 24<br>Indianapolis, Indiana |

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## MEETING DATES

August 26	Walnut Hills CC Golf Day
September 17	Apline GC
October 7	Blythefield CC Annual Meeting
November	Fall Party

## GCSAA NEWS

Theodore W. Woehrle, CGCS, golf course superintendent at the Oakland Hills Country Club, Birmingham, Michigan, received many accolades for his outstanding work in preparing the course for the 1985 U.S. Open Championship.

Woehrle, as other superintendents hosting a major golf tournament have experienced, was under pressure to keep the golf course in excellent playing condition despite uncooperative weather, huge crowds, and little time in which to complete his work.

"The pressure came from myself," said Woehrle. "I always strive to do the best job possible regardless of weather or other factors that affect course preparations."

Weather certainly was a factor. An all day rain on Tuesday; an all day rain on Saturday, which continued throughout the night into Sunday morning; intermitten showers on Thursday; and high winds several days did affect playing conditions.

The huge gallery, well over 100,000 for the Championship and almost 35,000 on Saturday, stamping over the wet grounds created mudholes on several areas on the course.

However, Woehrle and his staff were well organized and prepared to handle both the bad weather and the huge numbers of spectators. So well prepared were they, they were able to keep the course itself in almost perfect condition throughout the week.

Woehrle went on to say that Oakland Hills was fortunate to have two certified Class A superintendents, himself and Thomas Gray; and to have a good assistant superintendent, Mark Jackson. "Tom and Mark did an outstanding job for the Open," stated Woehrle.

Woehrle is a true professional and his outstanding work was recognized by USGA officials, tournament players, and the many members of the golf media covering this most memorable event.

"I have a good staff and much of the credit should go to them. They make my job easier," stated Woehrle.

Although the course and the weather took its toll on the scores, many players stated in interviews with the media that the course was in excellent condition — the fairways, the rough, the greens — all areas of the course were in excellent condition.

Golfer Lee Trevino, speaking to a huge audience attending the annual U.S. Open Golf Writers Awards Dinner, said, "The rough is about as fair as a rough can be, and the bunkers are raked as they should be, from the greens to the tees. The USGA and the golf course superintendent are to be commended on this and other course preparations."

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At the closing awards ceremony, USGA President James R. Hand recognized Woehrle and his staff for the outstanding work they accomplished during the 1985 U.S. Open Championship. Later, at the Toast the Champion reception, many others joined Hand in congratulating Woehrle for his excellent work.

## MID-YEAR CONFERENCE

### New Seminars

The Golf Course Superintendents Association of America (GCSAA) will offer five new seminars at its first Mid-Year Turfgrass Conference and Show scheduled September 19-24 at the Indiana Convention Center in Indianapolis.

Among the most popular new courses will be one designed especially for experienced assistant golf course superintendent and young golf course employees who will be assuming the position of assistant superintendent. The title of the seminar: "The Assistant Superintendent: Functions and Responsibilities."

Though many assistant golf course superintendents are training to be superintendents, a great number have assumed positions as permanent, full-time assistant superintendents.

The instructors — Mary T. Rau and Bruce R. Williams — will address such management concerns as delegating tasks, motivating employees, handling problem situations, making decisions and managing time.

The one-day seminar will begin at 8 a.m. Friday, September 20. Registration and check-in will begin at 7 a.m.

Rau, a management consultant from Lawrence, Kansas, will present theoretical principles of management. Williams, golf course superintendent at Bob O'Link GC, Highland Park, Illinois, will translate and apply Rau's management theories into practical terms applicable to golf course operations.

Williams says the seminar will cover "an area that needs to be addressed." Although most superintendents intend to train assistants, Williams observes that many times superintendents become too busy to offer them formal training. "The seminar will provide the basic tools to make the assistant a better liaison between the superintendent and his staff," he says.

Williams anticipates that the seminar will provide a greater understanding of the superintendent's job so that

the assistant can relieve some of his burdens. In his view, assistant superintendents should "bridge the gap" between labor and management.

The seminar will also be a rare opportunity for assistant superintendents to meet as a group and discuss ideas. "Assistant superintendents are the lifeblood of our association," Williams points out. "They are the superintendents of the future."

All new members who join GCSAA before August 19 will receive free admission to the Assistant Superintendent Seminar as well as to the entire Conference including a Luncheon Banquet keynoted by Bart Starr, former coach of the Green Bay Packers.

### Bart Starr to Appear

The Golf Course Superintendents Association of America (GCSAA) announces that Bart Starr is to appear at GCSAA's Mid-Year Turfgrass Conference and Show in Indianapolis, Indiana, September 19-24.

Starr, former quarterback and coach of the Green Bay Packers, will give the keynote address at the Luncheon Banquet on Friday, September 20, at 11:30 a.m.

The Luncheon Banquet will be attended by those in GCSAA seminars held in conjunction with the Conference and by others wishing to hear Starr's keynote.

This Mid-Year Turfgrass Conference and Show is GCSAA's newest event and will offer golf course managers and their staffs a unique educational opportunity. It will offer educational seminars, hands-on workshops, research seminars, a "buying and selling" equipment trade show, an outside equipment demonstration on live turfgrass, and a golf tournament to benefit turfgrass research.

This Mid-Year Turfgrass Conference and Show will be held at the Indiana Convention Center and Hoosier Dome.

"Bart Starr is a wonderful addition to our Mid-Year Conference," said GCSAA President Eugene D. Baston, CGCS. "Golf course superintendents are leaders, and Starr, who is a leader and motivational speaker, brings something special to this already outstanding conference."

Under Green Bay Packer coach Vince Lombardi, Starr became the winningest quarterback ever to play the game, and still holds several NFL records.

But Starr is more than just a football player. He is also a coach, a business executive and a family man. Few men have achieved all four goals.

Legendary coach Lombardi was so impressed by Starr, that he once said of him, "To me, Bart Starr stands for what the game of football stands for: courage, stamina, and coordinated efficiency. Also vitality and enterprise, for he is not only the Most Valuable Player in the NFL, but also a very fine man."

Starr is considered a warm and dignified human being who is keenly aware of his public role. He feels that he and all men in the public eye have a great deal of responsibility to society. He lives this role by dedicating many hours of his time and traveling thousands of miles to speak to audiences about a charity in which he is actively involved, Rawhide. Rawhide is a Wisconsin home for disadvantaged youngsters.

Starr's connection with golf and charity is sincere. He serves as Chairman of the Vince Lombardi Memorial Golf Tournament.

"You instill desire by creating a superlative example. The noblest form of leadership is by example and this is what Bart Starr is all about." — Vince Lombardi.

For more information concerning the Conference and for registration, call GCSAA toll-free 1-800-GSA-SUPT.

### IF LIGHTNING STRIKES ONCE — THAT'S ENOUGH

*Lightning killed two men and injured three in a New Jersey storm, a grim reminder that golfers should take cover at the first signs of danger.*

Labor Day in central New Jersey was a pleasant sort of day. The temperature was balmy, in the 80s, and the sun bore down most of the day. Toward late afternoon some thunderheads began to form, threatening showers. It was altogether a typical summer afternoon.

At the Sunset Valley Golf Course, the Blessed Andrew Kim Korean Catholic Mission of Orange, New Jersey, was holding an outing; as the day wore on the storm clouds grew until they blotted out the sky, and it was evident by then that the storm would break soon.

At about 6 o'clock the storm broke. The sound of crashing thunder broke the quiet of the day, and jagged bolts of lightning ripped across the sky.

Through the gloom golfers rushed toward the clubhouse, hoping to avoid both the rain and the threat of lightning. Not all of them made it. With rain falling in sheets, five men huddled together under a tree between the 16th and 17th fairways, about 400 yards from the shelter of the clubhouse.

As the rain poured down and one of the men opened his umbrella, Raymond Rim became concerned; he thought it was dangerous in the storm, but at the same time he realized they needed protection from the rain.

Suddenly a bolt of lightning streaked directly at them; in an instant all four were knocked to the ground. Rim lay unconscious for a time (nobody knows how long), and when he awoke, he couldn't move his hands and legs; he lay there for several minutes before he could move. Turning to his companions, he saw a hole burned through the shirt of Kuen Sup Dow, and began calling for help.

No one answered. Rim struggled to his feet, climbed into the golf cart, and raced to the clubhouse to summon help. When it arrived, Dow and Lee Sulm Yowg were pronounced dead at the scene. Rim was taken to a hospital and treated for shock, and Talk H. Jung, suffering from chest and shoulder pains, was held overnight. The fifth man, Jon Hong Yu, was treated for elevated blood pressure resulting from the incident.



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Lightning is dangerous, and because of the many deaths and injuries from lightning on golf courses, all players, caddies, and sponsors of golf tournaments are urged to take every precaution for the protection of persons against lightning.

The National Bureau of Standards points out:

"If golf clubs could be impressed with the necessity of calling off matches *before the storm is near enough to be hazardous*, the cases of multiple injury or death among players and spectators could be eliminated."

"*Raising golf clubs or umbrellas above the head adds to the element of personal hazard during electrical storms.*

*Metal spikes on golf shoes do little to increase the hazard, according to the Bureau.*

## WHAT TO DO WHEN LIGHTNING IS NEAR

### TAKING SHELTER

The following rules for personal safety during thunderstorms are based on material in the Lightning Protection Code, NFPA No. 78-1977; ANSI C5, 1-1975 available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, and the American National Standards Institute, 1430 Broadway, New York, New York 10018.

#### A. Types of Shelter

Do not go out of doors or remain out during thunderstorms unless it is necessary. Seek shelter in buildings, vehicles, or other structures or locations which offer protection from lightning such as:

1. Dwellings or other buildings protected against lightning.

2. Large metal-frame buildings.
3. Large unprotected buildings.
4. Automobiles with metal tops and bodies.
5. Trailers with metal bodies.
6. City streets shielded by nearby buildings.

When it is not possible to choose a location that offers better protection, seek shelter in:

1. Dense woods — avoid isolated trees.
2. Depressed areas — avoid hilltops and high places.
3. Small unprotected buildings, tents and shelters in LOW areas — avoid unprotected buildings and shelters in high areas.

#### B. What to Avoid

Certain locations are extremely hazardous during thunderstorms and should be avoided if at all possible.

Approaching thunderstorms should be anticipated and the following locations avoided when storms are in the immediate vicinity:

1. Open fields.
2. Athletic fields.
3. Golf courses.
4. Swimming pools, lakes and seashores.
5. Near wire fences, clotheslines, overhead wires and railroad tracks.
6. Isolated trees.
7. Hilltops and wide open spaces.

In the above locations, it is especially hazardous to be riding in or on any of the following during lightning storms:

1. Tractors and other farm machinery operated on the golf course for maintenance of same.
2. Golf carts, scooters, motorcycles, bicycles.



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**Discontinuing Play During Lightning**

Attention is called to Rules 6-8 and 33-2d in the Rules of Golf.

The USGA especially suggests that players be informed that they have the right to stop play if they think lightning threatens them, even though the Committee may not have specifically authorized it by signal.

The USGA generally uses the following signals and recommends that all local committees do similarly:

**DISCONTINUE PLAY:** Three consecutive notes of siren repeated.

**RESUME PLAY:** One prolonged note of siren, repeated.

**Lightning Protection for Shelters**

Shelters on golf courses may best be protected by standard lightning protection systems. Details on the installation of conductors, air terminals, and maintenance requirements are included in the Lightning Protection Code.

An alternative method of protection of such shelters is through what is known as providing a "cone of protection" with grounded rods or masts and overhead conductors as described in Section 31 of the Lightning Protection Code. Such a system is feasible for small structures, but probably would be more expensive than a standard lightning rod system.

Down conductors should be shielded with non-conductive material, resistant to impact and climatic conditions to a height of approximately 8 feet to protect persons from contact with down conductors. Shelters with

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## NGF-GCSAA STUDY: \$1.7 BILLION SPENT ANNUALLY ON GOLF COURSE MAINTENANCE

North Palm Beach, Florida — U.S. golf courses spend \$1.7 billion a year to maintain their facilities, according to a joint study conducted by the National Golf Foundation and the Golf Course Superintendents Association of America.

The study, called "The Golf Course Maintenance Report," is based on a national survey of golf courses conducted in the fall of 1984. Over 2,300 courses responded to the survey, the largest of its kind ever conducted.

According to the study, \$137 million is expended each year for new maintenance equipment and \$103 million is spent on projects to improve existing facilities. The remainder, almost \$1.5 billion, represents yearly maintenance operating costs.

"Personal costs constitute the largest single expense category for maintaining the nation's golf courses," stated Jim Prusa, associate executive director of the GCSAA. "On the average, 60 to 70 percent of a golf course maintenance budget is for personnel costs, including salaries and wages, payroll taxes and employee benefits. The maintenance industry is a people industry."

Another statistic uncovered by the study is that the nation's golf courses currently have a maintenance equipment inventory valued at over \$1.8 billion. "It takes a lot of equipment to maintain a golf course," Prusa explained. "Every course needs tractors, trucks, mowers, irrigation equipment, tools and implements . . . and the list goes on and on."

One of the reasons that the NGF and the GCSAA conducted this study was to try and identify maintenance costs and practices, a somewhat neglected, but very important part of the golf industry. "There has been a tremendous void in the amount of quality information available to golf course superintendents and managers," NGF President David B. Hueber said. "The NGF and GCSAA recognized this problem and we plan to replicate the study every two or three years to keep the industry up to date on the changing nature of their business."

Copies of the "The Golf Course Maintenance Report" can be obtained from the NGF office. Cost is \$30 for NGF sponsor members and \$40 for non-members.

## NEW LESCO REP

Dave Phillips is the new Lesco sales rep for West Michigan. Dave has worked in the area the past 3 seasons with the Benham Chemical Co. Prior to that he was with MacDonalds Nursery in Saginaw. Dave, his wife Kathy, and their 3 children live in Grand Rapids.

Dave is replacing Phil Brautigan who has been unable to operate the Lesco truck this spring because of persistent back problems. Phil was with Lesco in West Michigan for 3 seasons, and we are sorry to lose him as part of our sales team. Hopefully Phil will be able to stay on with Lesco in some other capacity. I hope you will join me in welcoming Dave and wishing Phil a complete recovery.

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## CIRCADIAN RHYTHM

### The Clock that Makes You Tick

If you know someone who seems to "march to the sound of a different drummer," maybe it's because he really does. For scientists are just beginning to uncover the secrets of circadian rhythms - body cycles that regulate everything from hormone production to heartbeats.

"Circadian" comes from the Latin "circa" (about) and "dies" (a day), because the rhythms correspond roughly to a 24-hour day. They should not be confused with "biorhythms", which claim to predict physical and emotional highs and lows from a person's birth date. Circadian rhythms are well-documented physiological cycles common to animals and plants as well as humans.

Researchers hope that by learning to monitor and adjust human rhythms, we will someday be able to reduce accidents, increase productivity, even abolish the Monday morning blues. They already know that when the rhythms are properly synchronized you feel good and can work well. But when the cycles are disrupted, look out.

### Ripple Effect

You've probably noticed that you "just aren't yourself" without a good night's sleep. That's not simply because you've missed out on much-needed rest but because you also may have missed essential hormone secretions, nerve repair and brain activity that take place during your normal sleeping hours. Experimenters at sleep research centers around the country theorize that even slight disruptions in circadian cycles can have a ripple effect for a day

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or two, upsetting all your mental and physical rhythms.

Under normal circumstances the body responds to a number of internal and external cues to keep everything in balance. Among these are: sunlight, food, drugs, body temperature and the activity of other people. Given the proper cues in the right sequence, circadian rhythms follow a fairly predictable pattern. For instance, the physiological processes that aid mental activity and skills are at their peak in early afternoon. Memory is sharpest in the morning, while pain can be best tolerated after 6 p.m. Taste and smell are most sensitive around dinner time when the body processes governing them are active. Steroid hormones, necessary for metabolism, surge just before waking, in preparation for the day.



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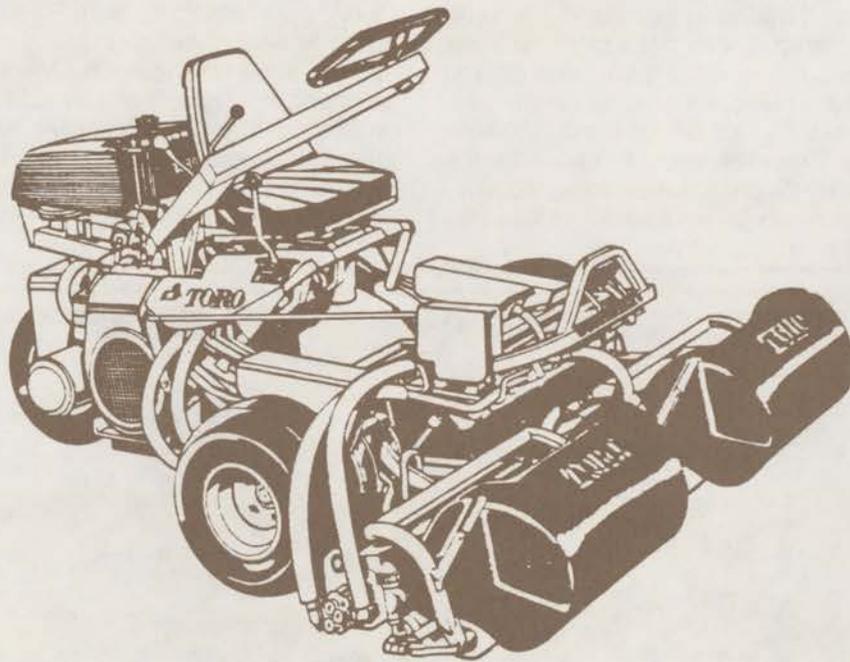
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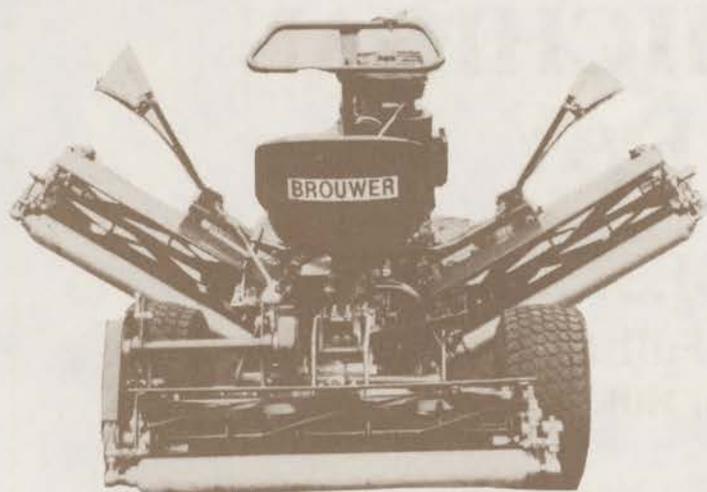
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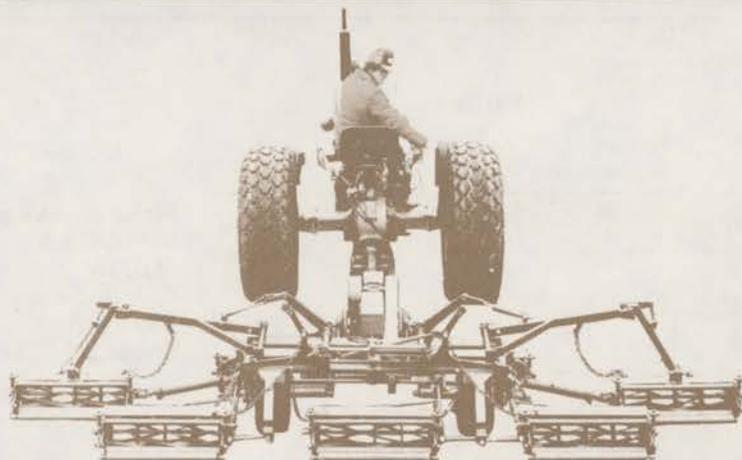
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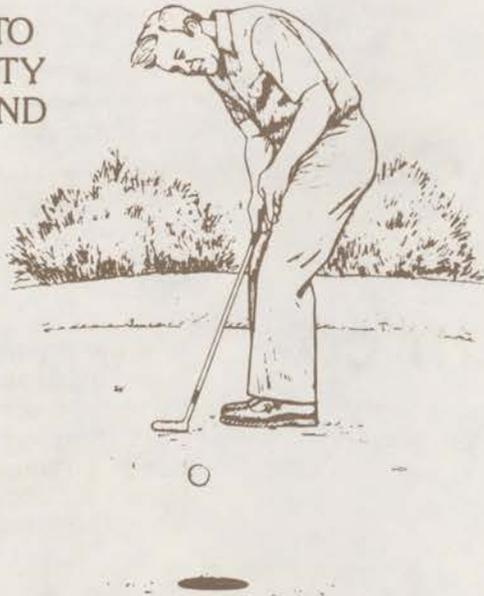
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\*Entry deadline is August 15, 1985 - Entries will be limited to the first fifty teams.  
In case of inclement golfing weather, the lunch and banquet will still be held.

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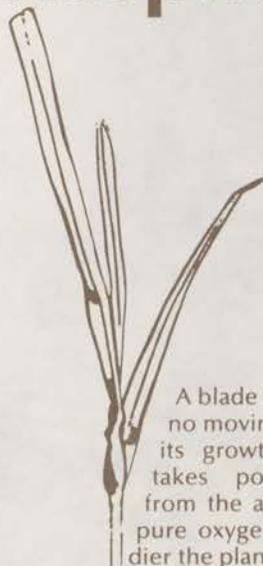
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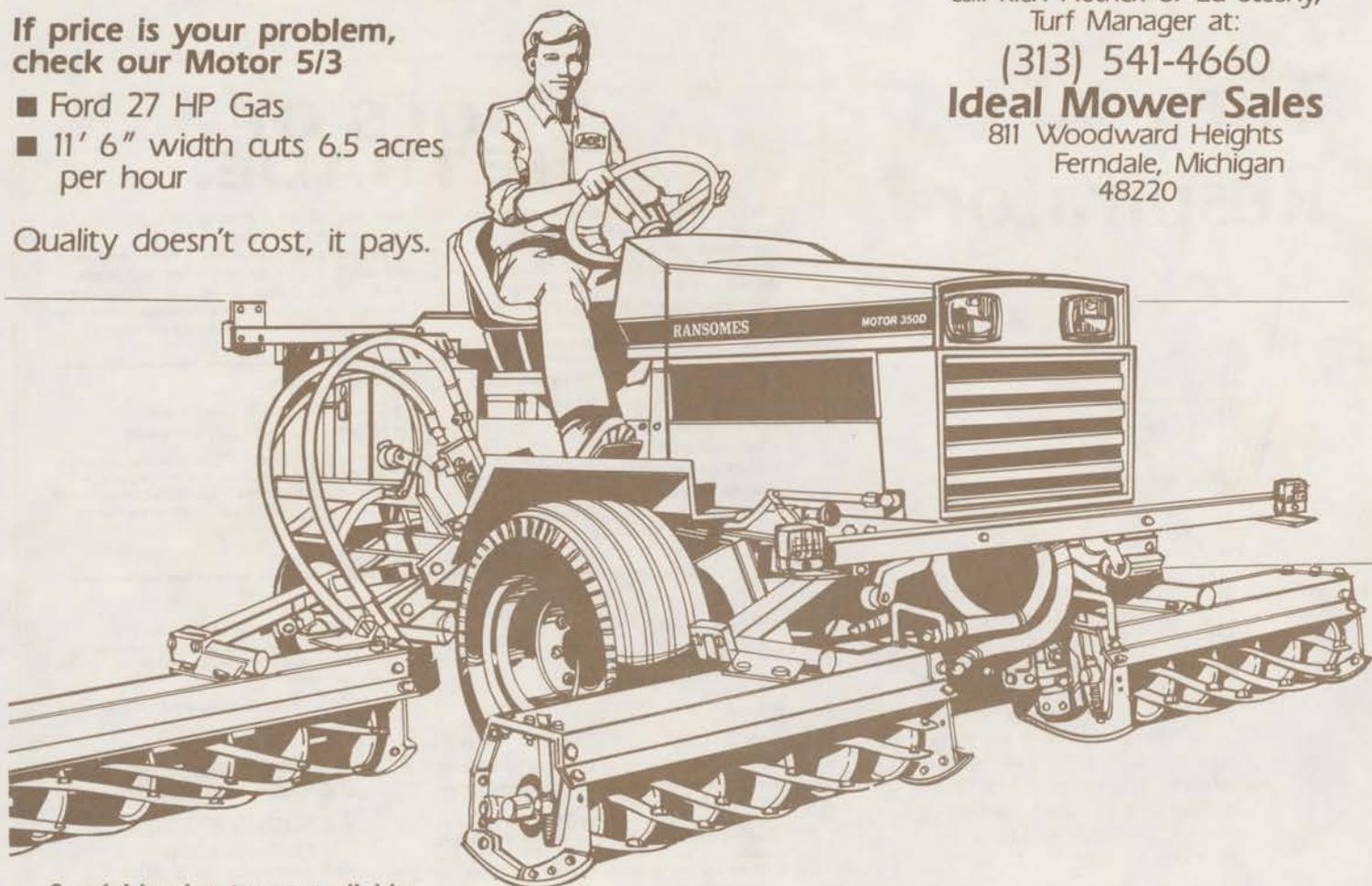
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### Jet Lag Woes

Nature's plan is an effective one and, as long as you follow her rules, you can stay happily in harmony with your circadian swings. But woe to the world traveler who arrives in Paris in time for a French breakfast but whose body is protesting that it's still 4 a.m. back home. Jet lag is no laughing matter. It's a classic example of rhythms "out of synch."

Jet lag results from a confusion of signals to the brain that trigger a number of circadian responses. Unfortunately the responses are out of sequence and leave you feeling out of sorts and even clumsy. Researchers refer to this state as "dischronia". Scientists haven't absolutely identified just which part of the brain "short-circuits" temporarily during dischronia, but they have some theories. Dr. Martin Moore-Ede, assistant professor of physiology at Harvard Medical School, has found a structure in the brain that might be the circadian synchronizer. This tiny bundle of nerves receives visual input directly from the eyes. It is, says Dr. Moore-Ede, the pacemaker that sends signals to other parts of the brain, which in turn move the body to sleep, wake, eat, secrete hormones and carry out hundreds of other functions.

When the eyes perceive sunlight the message travels to this nerve center, and it signals the body that it is time to get up. But if body temperature and hormones are still geared for sleep, everything gets thrown off temporarily.

### Unfortunate Shift Workers

On vacation you may be able to take a few days to adjust and "sleep off" the effects of dischronia. Shift workers aren't so fortunate. Dr. Elliot Weitzman and Dr. Charles P. Pollak are sleep researchers who head the



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Sleep-Wake Disorder Center at Montefiore Hospital in New York City. Their findings from experiments with shift workers underline some of the difficulties those people face trying to adjust to unusual schedules.

The work schedule may require the shift worker to be alert all night, but the wife, husband or children also expect some participation in their daytime activities," the doctors wrote in a recent article. "Shift workers often attempt to compromise between conflicting demands by sleeping at multiple or varying times during the day and reverting to the day-wake, night-sleep pattern on weekends and days off."

The doctors report that the resulting dischronia causes shift workers to suffer "gastrointestinal disturbances that include a dramatically increased rate of peptic ulcers," along with other physical and emotional problems.

Shift workers may also be less productive than day workers and even take "microsleeps" while at machine controls without realizing it. Situations like that can be dangerous for everyone.

For those of us who don't work shift or travel overseas, understanding circadian rhythms can still be beneficial. You might be careful to respect your rhythms, going to bed about the same time every night all week and waking up

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in time for work in the morning. But Mondays just seem to get you down. Take stock. Do you usually stay up late on the weekends, sleeping in on Saturday and Sunday to compensate? Or do cat naps tide you over during the weekend to prepare you for a Saturday night party?

Research is continuing to determine just what it is that makes our biological clocks tick. Understanding our circadian rhythms brings us one step closer to understanding ourselves.

Credit: National Secretary

### SOME (MORE) THOUGHTS ON PUTTING GREEN SPEED

By Dr. Ralph E. Engel, Research Professor,  
Rutgers University, New Jersey  
Credit: Green is Beautiful

The speed of putting greens is never settled to the satisfaction of the great assortment of golfers. Commonly, professionals and low handicap players request fast greens, and some high handicap players accept them as the style. Moderately fast greens are usually popular, but a few golfers prefer slow greens.

The demand for fast greens has increased greatly in recent years. Some of this change is due to the Stimpmeter, which is an inexpensive, simple, and quick tool. This device has become a standard measure, and it has led to frequent comparison of green speed on individual courses and between courses.

If anyone asks if greens on today's golf courses are faster than in recent years, the answer is yes. Twenty to

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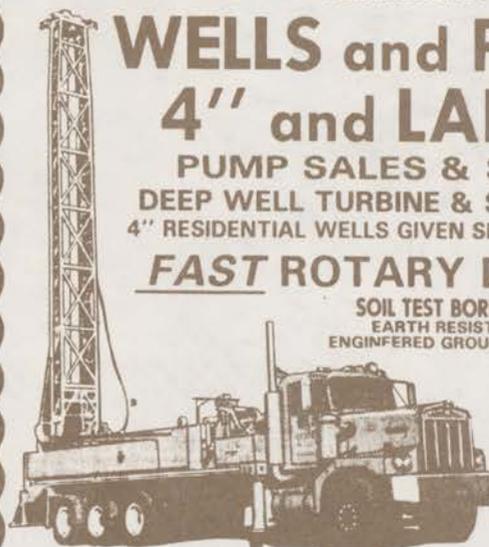
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twenty-five years ago, the mowing height was typically 1/4 inch. Presently, a majority of courses set their mowers at 3/16 inch or closer. In addition to this change, thinner bed-knives make 3/16 inch a closer cut than formerly. Along with these changes, double or triple mowing is practiced occasionally.

How do golfers react to speedier greens? Personally, I find moderately fast greens add interest to the game. A true roll with a gentle touch is a pleasure. There are those who say very fast greens put too much emphasis on putting. It becomes a question of what is too fast. Possibly greens are too fast when good putters develop anxiety over this phase of the game. When a putt falls out of its arc on a mild slope and increases speed in another direction, putting is scarcely fun. The USGA classification of green speeds by the Stimpmeter is considered good and seems realistic to me. The following table shows what the USGA considers reasonable for different types of courses.

### USGA Green Speed Test Comparison Table

	Regular Membership Play	Tournament Conditions
Fast	102"	126"
Medium Fast	90"	114"
Medium	78"	102"
Medium Slow	66"	90"
Slow	54"	78"

A seldom asked question is, "How has the shift to fast greens changed green maintenance?" It has narrowed the margin between green survival and failure. Closer mowing causes shorter roots, increases summer soil temperatures, and the thinner turf encourages more weed

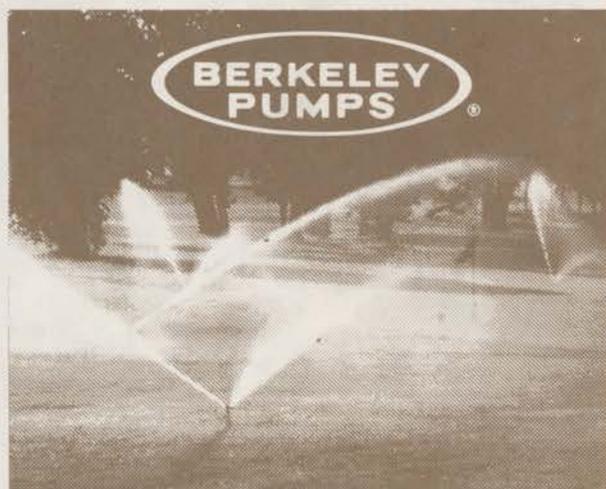
problems (which increases the need to risk herbicide use). It has caused a shift from moderate use to too much nitrogen in the past to very low rates of nitrogen. It seems a slight increase in growth causes a noticeable drop in the "bare floor" speeds of the faster greens. Some golf course superintendents are inclined to omit the minimal nitrogen needs rather than risk the wrath of the golfer. The major problems with low nitrogen are: 1) more weeds (including moss) and 2) more blemishes which show on the grass because they heal slowly. Without new growth that can be mowed into a smooth surface, the demand for closer cut increases.

It is possible that very close mowing has opened the door to some additional problems. Trouble with a bacterium has been suspected. A major turf failure occurred in another region recently that received little agreement from a series of turf experts. It is possible these problems are the result of new diagnostic facilities for discovering things that are new or were overlooked in the past. However, close mowing causes a weaker turf that is subject to more temperature stress and is likely to permit problems that did not occur in the past.

The golf course superintendent and other turf professionals are willing to provide whatever the golfer likes, if it is feasible without excessive failures. In the spring, next summer's turf loss is farthest from the golfer's mind, but late August always finds some clubs greatly distressed. Winter injury may seem far away, but extremely close mowing will increase this problem. Needless to say, no one suffers more than the golf course superintendent when turf fails.

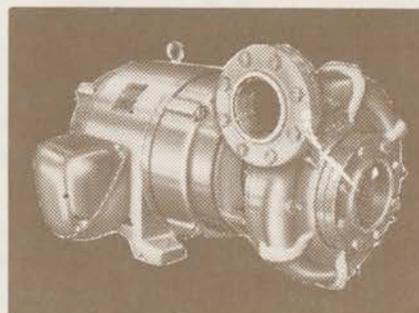
As with the song from *Oklahoma!* closer-cut has gone as far as it can go. There is a point of no return. Some of the courses with very heavy traffic, especially public courses, need growth on the greens for the turf to recover

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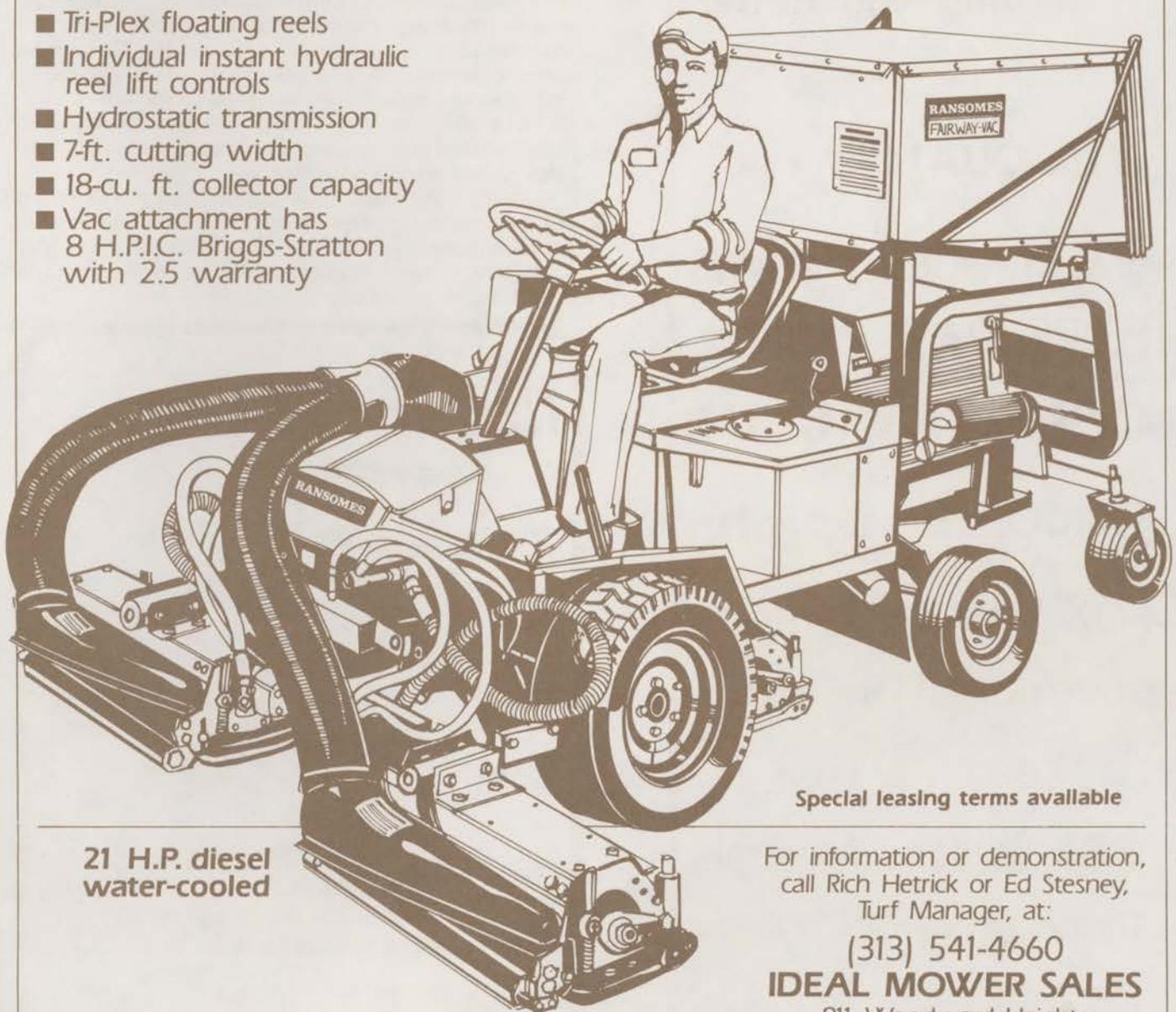
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and survive. Also, where is the point when an increase in green speed makes putting an experience in anxiety rather than a form of relaxation?

**NEWS RELEASE**

**Nor-Am Purchases Upjohn Plant Health Business**

Wilmington, Delaware — Leo Ekins, President of NOR-AM Chemical Company, Wilmington, Delaware, and David Phillipson, Vice President and General Manager, Agricultural Division of The Upjohn Company, Kalamazoo, Michigan, announced today the purchase by NOR-AM of Upjohn's Plant Health Business.

The purchase price of the transaction was not disclosed by either company.

The major products included in the purchase are the Acti-dione® line of fungicides for turfgrass, lawns and ornamentals; Banol™, turf fungicide; Proxol® , insecticide; Enide® , preemergence herbicide for tobacco, edible and ornamental crops; Botran® fungicide; Collego™, postemergent herbicide for rice; SOK® -BT, biological insecticide; and Botec® , peanut seed protectant.

The Upjohn products, announced Ekins, will be marketed and distributed immediately in accordance with NOR-AM's sales and marketing policies.

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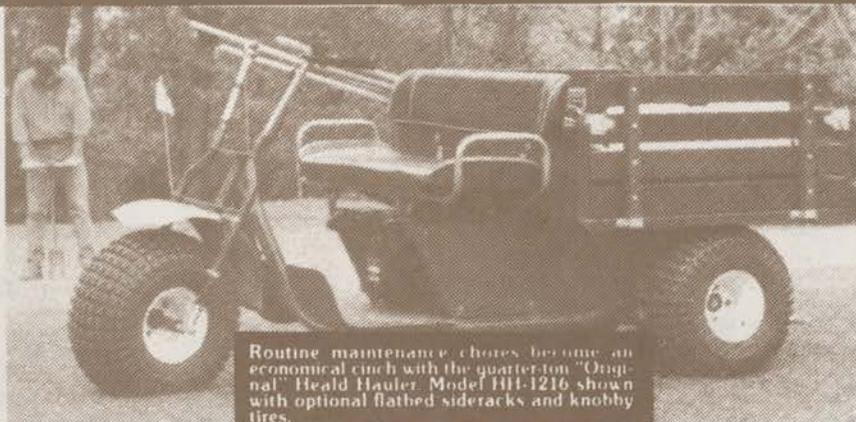
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