

September/October 1985

Our 60th Year

A PATCH of GREEN



GOLF DAY - OCT. 7

Annual Meeting - OCT. 23



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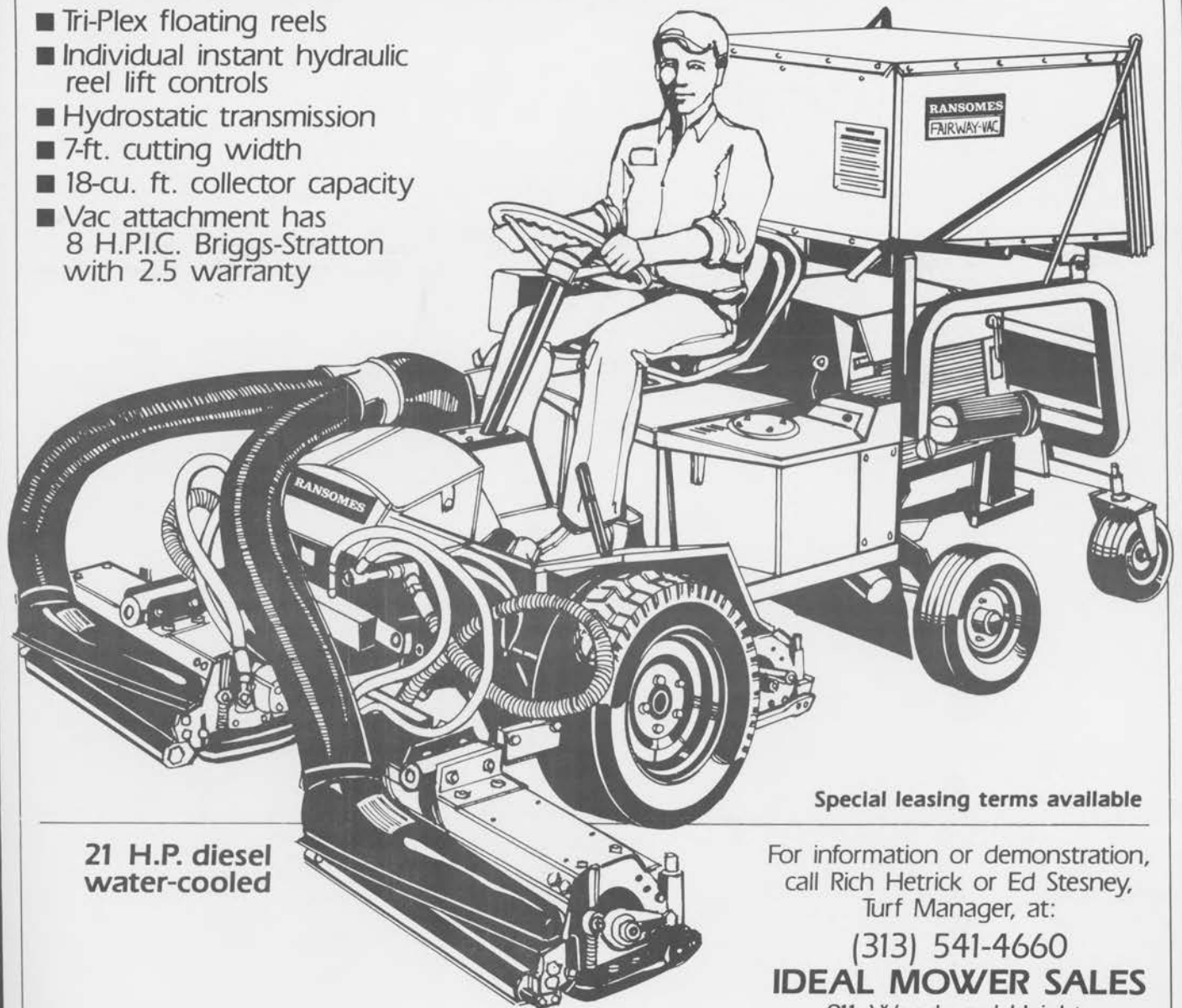
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PRESIDENT'S MESSAGE

October 23 is an important day for Michigan and Border Cities members to make note of. On that date Maple Lane Golf Club will host our Annual Meeting. This year, we have two positions to be filled on the Board of Directors. In the past we have always been able to count on good participation from our group 'A' members, but this year we would like more members to attend to ensure a representative election. If you are interested in serving a three year term as one of four Board Members please contact Bruce Wolfrom.

Those who have attended in the past know that the Annual Meeting is much more than just an election. This is

an opportunity for our membership to gather and exchange ideas, opinions and information on any subject from golf course management to the running of this organization. It serves as a forum for our various Committee Chairmen to report on the progress of their committees and also gives us a chance to deal with any issues that may arise during the course of the year. As an added bonus, hors d'oeuvres will be served.

Before our evening meeting we have our annual golf event to occupy the afternoon. Last year, Tom Mason walked away with the C. H. Wolfrom Trophy for first place. It should be a lot of fun to see who gets to take the prize home this year.

In order to make this a smooth running organization, input from the membership is extremely important. The more voters we have present the better the decisions made will reflect attitudes of the group as a whole. Please mark your calendar and plan to attend.

Sincerely,
Michael V. Edgerton
President, M&BCGCSA

COMING EVENTS

TURFGRASS RESEARCH DAY
October 7, 1985 - Bay Pointe Golf Club

The 20th annual Turfgrass Research Benefit Day will be held on October 7, 1985. The format will be the same as last year with golf at various prestigious clubs and dinner and prizes at Bay Pointe Golf Club.

Clubs, cost and other details are being finalized now and it is hoped that information will be out soon. If your Club has not responded to their letters asking for use of their facilities, please let one of the Committee people know as soon as this happens.

Committee Members:

Ed Heineman 675-0927
(Chairman) 753-4188

Jon Maddern 473-9516
349-0429

Fritz McMullen 332-8323
335-1410

Craig Roggeman 294-6170

See you October 7th!

MSU/MTF FIELD DAY
September 5, 1985 - MSU Hancock Research Center

The 1985 MSU/MTF sponsored Turfgrass Field Day promises to be the event for Turf in 1985. The day will feature the turfgrass field research program, trade show, lunch and equipment auction. Last year marked the inaugural of this event, which was a terrific success. The latest in research and equipment along with some fantastic deals at the auction made many people wish they had attended. If you are interested in donating or selling equipment at the auction please contact Jeff Gorney at (616) 453-0705 or Clem Wolfrom at (313) 345-4400 for details.

Don't miss the opportunities this year, reserve Thursday, September 5 and plan to attend the 1985 Field Day, Trade Show and Auction.

SCHEDULE OF EVENTS

8:30 - Registration and coffee
9:15 - Welcome
9:30 - Tour of the Plots
11:30 - Lunch and Trade Show
2:30 - Auction

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Concepts in Golf Course Design

By Dr. Michael J. Hurdzan, President
American Society of Golf Course Architects

Every talk on golf course design should begin with a reading of the following passage;

GOLF

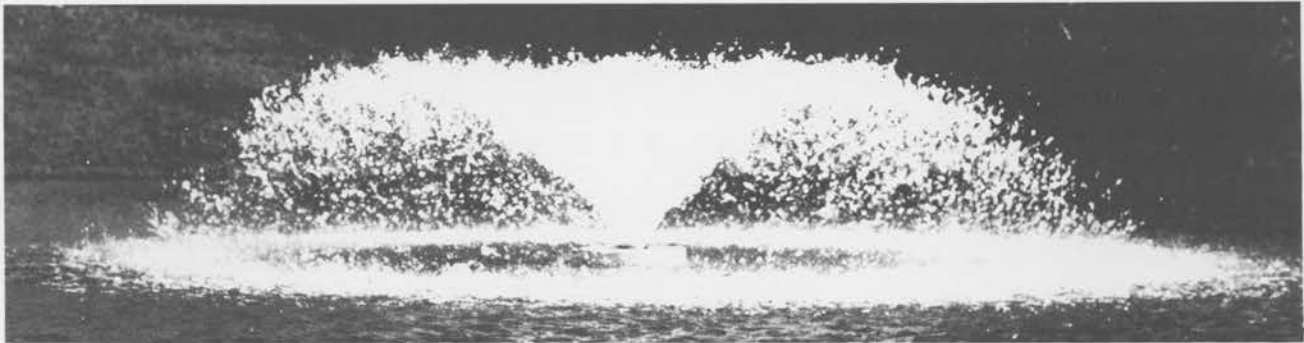
Golf is a science, the study of a lifetime, in which you may exhaust yourself but never your subject. It is a contest, a duel, or a melee, calling for courage, skill, strategy and self-control. It is a test of temper, a trial of honor, a revealer of character. It affords a chance to play the man and act the gentleman. It means going into God's out-of-doors, getting close to nature, fresh air, exercise, a sweeping away of mental cobwebs, genuine recreation of tired tissues. It is a cure and antidote to worry. It includes companionship with friends, social intercourse, opportunities for courtesy, kindness and generosity to an opponent. It promotes not only physical health but moral force.

D. R. Forgan

Notice that this was written by D. R. Forgan of the Forgan family who were famous club makers in Scotland since the middle 1800's. In fact, this passage of "Golf" was written about the turn of the century - 80 or 90 years ago. Much has changed in golf since 1900, including equipment the golf swing, the golf course and certainly standards of maintenance. But Forgan's description of this great game is as valid today as it was when he wrote it. The point is that the SPIRIT of golf is the same. It has not changed. And under close inspection, the spirit of golf course design has not really changed either. Some have tragically abused it, but this is more out of ignorance about the true concepts than it is a premeditated maliciousness. So the purpose of this paper is to discuss golf course design concepts in the time parameters of yesterday, today and tomorrow - and to give you some ideas that might apply to your golf course. But before I begin this discussion, we should restate some obvious facts for they are important and should be kept in mind.

First, it must be stressed that maintenance is more important to the golfer than is design. Given a choice between a well designed but poorly maintained golf

CONTINUED PAGE 17



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WELFARE

The Michigan and Border Cities chapter has delegated to the Secretary the responsibility of representing our Association in times of happiness, illness or loss to a member's family.

In an Association of almost 300 members it is nearly

impossible for the Secretary to be aware of all the occurrences. All members are encouraged to make the Secretary or any Board Member aware of situations that occur. It is important that our Association shares in the concerns of our Members.



NEWS RELEASE

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.

"Personnel 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 in-

dustry.

"There has been a tremendous void in the amount of quality information available to golf course superintendents and managers," NGF President David B. Huber 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 Golf Course Maintenance Report" can be obtained from the NGF office. Cost is \$30 for NGF sponsor members and \$40 for non-members.

TOOLS OF THE TRADE.

As a professional responsible for the successful operation of a golf facility, you know what a tough job it is to stay ahead of the game every step of the way. The National Golf Foundation would like to help by providing you with some essential tools of the trade.

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ence, they will help your facility profit, and assure the future growth of the game.

An annual contribution of only \$100 will enroll you in our special program designed to keep club presidents, general managers, club managers, golf professionals and superintendents updated with a continuous flow of information concerning the ever-changing golf industry.

The Membership Package includes:

- The Wedge (Monthly Market Report)
- NGF Information Hotline
- Business Research
- The Professional Golf Shop
- Junior Golf Programs
- Easy Way To Learn Golf Rules
- Clubhouse Planner (Limited Supply)
- Membership Certificate and decal
- Bonus Offer-Become a Sponsor Member and receive the NGF/GCSAA Golf Course Maintenance Survey, a \$75 value which cross-references maintenance and operational costs at over 2,300 golf courses around the country.

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Why do we plant trees on our golf courses? The reasons are many and varied. Trees can be used to accent a dog-leg on a certain hole, to produce shade by a tee or to screen an unsightly view such as the maintenance or storage areas. Trees are used as a protection against errant golf shots into players on other fairways or greens and trees also may be planted just for their beauty and aesthetic value.

Most golf courses are in need of trees for one or all of the above reasons, but sometimes funds are not available to purchase the number or size(s) needed. There may be an overlooked supply of these trees however, on your own course. Back in the 1950's many courses were devastated

by the appearance of Dutch Elm Disease. Key, large elms were lost and some courses changed drastically in appearance and play ability in a few short years. Many clubs, including Detroit Golf Club, began planting trees by the hundreds on their courses to try and make up for the lost elms. The size of the trees was limited so quantity was substituted and the smaller trees were planted in relatively close groupings.

Now, 25 years later, these emergency plantings are too compact to develop properly and have become a problem to maintain. This is the overlooked source of trees for your course. Equipment can be hired that can move very sizable trees quite economically today. Some equipment can dig an 88" ball - this could be up to a 10-12 inch tree in some varieties.

At Detroit Golf Club we have been doing this for the last three years at a very reasonable cost. We have relocated about seventy-five trees on our courses without any noticeable effect to the areas we took the trees from, yet having created new plantings where we needed them.

This summer when you are riding around your course, take a look at your tree plantings. You may be surprised at the number of trees that are of movable size that could be planted in more useful areas on your course. Another advantage of relocating trees on the same course is that in most cases the trees will do extremely well because of the identical soil type and exposure.

The costs for relocating needed sizable trees may not be as expensive as first thought. Check with some of the tree planters in the area, especially those that advertise in our own *Patch of Green* magazine. Have them come out and look at your problem - you may be pleasantly surprised.

Clem Wolfrom
Golf Course Superintendent
Detroit Golf Club



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EDUCATION

by Jon Maddern

The following article is a summary of the education topics dealt with at our meeting since the Special Olympic's Fund Raiser at Indianwood C.C.

On June 18 at Tyrone Hills Golf Course, we held a joint meeting with the Mid-American Turf Managers Association with Steve Murphy as our host to a great day. The scheduled speaker, Don Jucartz, was unable to attend. However, we were able to get two replacements as our guest speakers. The first being Jerry Faubel, CGCS Saginaw Golf Course and a member of the Board of Directors of GCSAA. Jerry updated us on what is going on with the National as far as research, scholarship, education and the Mid-Year Turf Conference in Indianapolis, Indiana on September 19 - 24. He explained that this Conference will be very good and is set up for Assistants, Mechanics, Irrigation Workers, as well as for Superintendents. Seminar programs dealing with golf cars, irrigation, mowers and more will join the education program and an equipment show will involve actual demonstrations. This is something very new to a National Turf Conference and equipment exhibitors will be ready to take orders at the Conference.

Our next speaker was Jim Latham of the USGA and Milorganite. Jim gave us some enlightening happenings that took place at the U.S. Open at Oakland Hills Country Club the week before. One very important topic that was brought up was that the USGA was trying to firm-up the



Director JON MADDERN and wife BEV, enjoying the GCSAA hospitality tent at the Open.

greens at Oakland Hills after the rain. They tried rolling, shatter rolling and numerous other tactics and were unable to firm them up to their specifications. It was Jim's observation that because Ted was on the sand topdressing

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program and was using the proper sand that the greens would not compact any more. This being great evidence that the sand topdressing program is doing what has always been said it would do, one of these being it will not compact easily. Jim then went on to tell us about a new meter that is used to measure compaction on greens. This was used to try and make sure that the compaction was the same around the cup. Jim gave us a lot of other little details that took place. We had a great turn-out of 72 members at the meeting. Golf followed and good time was enjoyed by all.



JOHN KOSMOLSKI (right), GCS at Travis Pointe
DAVE SCHWALL - John's Assistant

On July 1, we were hosted by Travis Pointe Golf Club and John Kosmolski. It has been 4 or 5 years since we had been at Travis Pointe. The golf course was in great shape. The Educational topic was "Annual Bedding Plants" by Dr. Will Carlson of Michigan State University Horticulture Department. Dr. Carlson explained how annuals are a focal point and how much they beautify everything. We were then told how to properly start and go about beautifying with annuals - You must have a plan to do this yourself or hire an architect and draw out what you want. Always use the right soil and prepare it properly. If you only have so much money to start with, you'll be better off building the beds using the proper soil and not planting than to plant and pay more in maintenance later by not using the right soil.

Through a slide show, Dr. Carlson was able to show us numerous ways annuals can and are being used. You will add more credibility and receive more compliments on bedding flowers than mowing 10 acres of grass. We were told that to use bedding plants you must be an exterior decorator. Dr. Carlson brought along a pamphlet *Bedding Plants* that is packed with information on planning, preparing, selecting, caring and much more which were passed out to the 80 members in attendance.



Dr. Will Carlson - MSU Staff, speaker at Travis Point



BILL HOOPES of Scotts - Guest Speaker on Stress, a very timely and enlightening presentation with humor.

Our next meeting was hosted at one of Oakland County Parks and Recreation's fine facilities - White Lake Oaks Golf Course. Mike Thibodeau was the host Superintendent and the course and weather were great. The Educational topic was "Lyrics For Living" by Bill Hoopes of O.M. Scotts, Inc. We were very very fortunate to have Bill share with us this enlightening, meaningful way of managing your life. Through song and flash cards he explained how only you can manage your life to deal with stress. Bill says that change, high-tech and identity can and will bring on stress. If you know your identity you will not be confused and will be able to handle stress easily. Sometimes you have to analyze the real you - You must like the person you are looking at in the mirror. By doing this you will have a practical life management form to handle stress. All 50 members enjoyed the 45 minute program. I would like to thank David Sapp for picking up and getting Bill back to the airport on time.

As a little side note, we have had a problem with people playing golf and not staying for dinner. It has been a policy of the Michigan and Border Cities Golf Course Superintendents Association that if you play golf you must stay and/or pay for dinner as your reservation is used by Clubs to figure out the number of meals to serve. If you play golf and do not show up for dinner, you will be billed for the cost of the dinner for that meeting.

Our next meeting will be September 23, at Riverview Highlands. Don't forget about the Michigan Turfgrass Field Day at Michigan State University on September 5 starting at 8:30 a.m. This will include tours of the turf plots, auctions and pig roast. Also, on November 4 - 5 will be the Golf Course Superintendents Association of America Seminar on "Business Communication and Assertiveness Techniques" in Lansing. This will be given by Dr. J. Stephen Hazel of the University of Kansas. The Midway Moter Lodge in Lansing will be the location. Classes run from 8:00 a.m. to 5:00 p.m. Any questions or to register contact Tom Mason.

See you at our next meeting.

Pianist Arthur Rubinstein, loquacious in eight languages, once told this story on himself:

Some years ago he was assailed by a stubborn case of hoarseness. The newspapers were full of reports about smoking and cancer; so he decided to consult a throat specialist. "I searched his face for a clue during the 30-minute examination," Rubinstein said, "but it was expressionless. He told me to come back the next day. I went home full of fears, and I didn't sleep that night."

The next day there was another long examination and again an ominous silence.

"Tell me," the pianist exclaimed. "I can stand the truth. I've lived a full, rich life. What's wrong with me?"

The physician said, "You talk too much."

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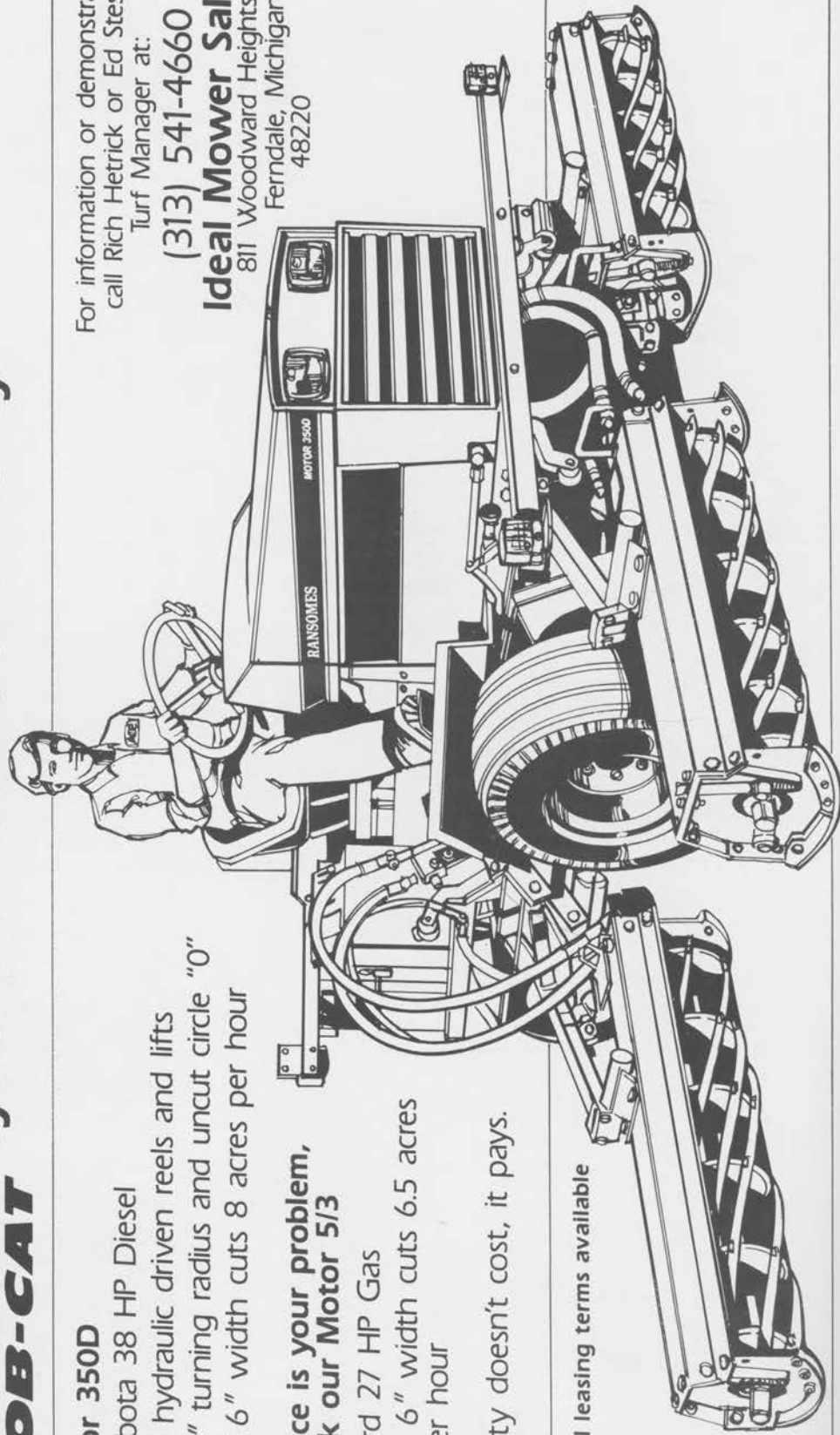
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Interview:



ROBERT TRENT JONES

Robert Trent Jones, probably the best known golf course architect of modern times, was in Detroit during the U.S. Open. He took time with the *Patch of Green* to give his views on golf and golf course design.

POG: Of all the golf courses that you have designed and built (over 200) which is your favorite?

RTJ: The next one.

POG: When you build a golf course do you have a preference for the northern climates or the southern?

RTJ: It doesn't make any difference to me. I like to build them anywhere. All I want is a good piece of terrain. If there is a gently rolling piece of terrain that is nicely wooded or a links land, then I'm happy. For example, we're just starting a new course in northern Michigan near Gaylord - This property is very rolling, very bold. With property like this you can do something spectacular.

POG: Will it be a championship golf course?

RTJ: Oh yes.

POG: It appears that bentgrass is becoming a more popular turf for fairways. Also, triplex mowing and clipping removal of fairways is becoming more popular. How do you feel about this?

RTJ: I think it's a good idea. I kind of like having less fairway area, but that what you have would be beautiful. Triplex mowing would allow you to do that. This would be more like target golf.

I think architects here in the U. S. are trying to get fairways more defined, with better grass. Strangely enough, we go to golf courses in Ireland and they don't care about the grass as long as they cut it once or twice a week and greens three times a week. The grass doesn't grow as rapidly but they don't demand the carpet-like perfection that American golfers do.

POG: Do you feel American golfers changed the develop-

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Robert Trent Jones, cont.

ment of golf course designing and the subsequent maintenance of the courses.

RTJ: Oh yes, and also the cost. They will maintain a golf course over in England for practically nothing. We spend 300, 400, even 500,000 dollars a year.

POG: You have been designing and building golf courses for quite a few years. How do you feel about today's golf course architects? Do you feel that some of the architects are getting a little ridiculous in the designs of some of the newer courses?

RTJ: Yes they are. They're getting a little ridiculous for a very unfortunate reason - they make the course tough for everybody. I try to relate my difficulty to the good player and let the average golfer get a break. Most clubs have average handicap golfers in the range of 18-20. These are the guys that pay the freight. Without them, there wouldn't be a golf club. I like to see them get a reasonable crack at a par. We call our courses hard pars and easy bogies. That is how I try to design them.

POG: When did you get started in golf course architecture?

RTJ: I took Agronomy 50 years ago at Cornell University from one of the best men in the country. But that was Farm Agronomy. So I had to adapt myself from farm agronomy to golf course agronomy - which is somewhat different.

POG: What factors play a big part in your building of a golf course?

RTJ: The soil is important. A farmer would never buy a sandy farm, but a sandy golf course, as long as you have water, is great. Then the agronomy has changed a lot;

because now we run into ecologists. They wonder what kind of chemicals, fertilizers, insecticides you are going to use or they won't pass the construction of the golf course.

POG: So the environment plays a big part in your construction.

RTJ: Oh yes, everywhere.

POG: You have built quite a few golf courses in Michigan and redesigned many others in Michigan. Is there any particular reason for this?

RTJ: Well, the state has good terrain and it's a good golfing state, too. We did Pointe of Woods, Boyne Highlands, Country Club of Detroit, Detroit Golf Club, Oakland Hills and others. Golf Digest picks the five best golf courses in each state and I believe we have all of them.

POG: What is your favorite non-Robert Trent Jones golf course?

RTJ: I like Pine Valley (New Jersey), Pinehurst #2 and a dozen or so more.

POG: Mr. Jones, thanks for your time. I enjoyed talking with you.

Some years ago a medicine show, passing through a rural area, was exhibiting what was purported to be the skull of Geronimo. A doctor, who happened to be in the audience one night, objected. "Geronimo was a large man with a good-sized head. That skull is too small to be his."

"Oh, I know all about that," replied the quick-thinking spieler, "but, you see, this was his skull when he was a child."



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NOTES FROM THE UNDERGROUND

by Harry Roote

Well, September is here and the days are getting shorter. Most everyone will be planning their Fall projects and preparing for the Winter. The first day of Fall is on September 23 at 9:08 p.m.

The seasons (Spring, Summer, Fall, Winter) are determined by the tilt of the Earth's axis with respect to the sun. The points at which the sun crosses the equator are the *vernal equinox* (Spring) and the *autumnal equinox* (Fall). These two days are when night and day are most nearly equal. Around June 22 the *summer solstice* occurs. This is when the north pole is tilted toward the sun and the longest day occurs. About the 22nd of December the north pole is tilted away from the sun and the *winter solstice* takes place. This will be the shortest day of the year in regards to the amount of daylight.

Fall is my favorite time of the year. The leaves on the trees will begin to change colors soon. The profusion of colors in a stand of Oaks, Maples, Hickories and Ashes is a beautiful sight. Do you know what I like best about Fall? The smell of burning leaves; the view of a greenhead mallard streaking across the sky on a foggy morning, watching a golfer searching for a golf ball in a pile of leaves; Halloween; the World Series; listening to those fantastic hunting stories told by Ward Swanson; white frost clinging to the fairways as the morning sun begins to melt it away; the first day of deer season; college; draining out the water system. Some things that I don't like about Autumn are - the last day of Fall; Canadian geese migrating south and stopping at the golf course to leave their calling cards; golfers playing before the frost disappears in the morning; golfing with a stocking cap on; Sweetest Day (Valentines Day is enough); squirrels burying acorns in the middle of greens; knowing the Lions are out of the playoffs before the end of October; losing my golf ball in a pile of leaves.

Golf Day is right around the corner. Ed Heineman is this year's chairman and he hopes to have a full field for this year's event. October 7 is the day and the format will be golf at your choice of 25 different clubs in the Detroit area with dinner to follow at Bay Pointe Golf Club. The money raised will benefit all of us as it will go towards turfgrass research at MSU. Last year over \$10,000 was donated to the Michigan Turf Foundation and we hope to top this amount in 1985. The Michigan and Border Cities GCSA started Golf Day 20 years ago and today it is one of the largest turfgrass research fund-raisers sponsored by a golf course superintendent associations in the country. Help make this year's Golf Day successful by participating in the festivities. Contact Ed Heineman today for further details.

Do you remember T. C. Chen? He led the U.S. Open at Oakland Hills for the first three rounds then faded at the end. His father is a golf course superintendent in Taiwan.

The next issue of the *Patch of Green* will be your last chance to write an article for our magazine and become eligible for the 1985 *John Walter Award*. This award is given to the member of our Association who composes the best manuscript as determined by the selected judges. If you did anything on your golf course or business this Summer that can be helpful to our membership, write about it and have it published in the *Patch of Green*. Send your articles to Ted Woehrle, Box 111, Birmingham, Michigan 48012.

Did you know that the Earth revolves around the sun at 18½ miles per second? That figures out to 66,600 mph. Even Walter Wilkie can't drive that fast.

The stork made a few deliveries to a couple of our members in July. Ken DeBusscher, super at Wabeek Country Club, and his wife Pam have a new addition to their family - a boy named Derek Raymond. Mark Jackson, Asst. Superintendent at Oakland Hills and his wife had a girl named Lyndsey.

Craig Roggeman's wife Cheryl, was in the hospital this summer for a very serious operation. I'm happy to report that Cheryl is back home and is doing exceptionally well. Way to bounce back Cheryl.

Have you noticed how intense and violent some the lightning storms have been this summer? I was never sure what caused lightning so I did some research and found some interesting facts about it. Lightning is caused by the attraction of unlike electrical charges within a thundercloud, or between it and the Earth. When electrical pressure becomes high enough, charges between parts of cloud or between cloud and Earth are released by lightning. 65% of all lightning discharges are within a cloud or between clouds. Lightning to the ground starts with a relatively thin "leader" stroke from the cloud, followed immediately by a heavy return stroke from the ground. A single lightning discharge strikes back and forth many times in less than 1/10 of a second. Most leaders start from the cloud, some from the ground. This is what really amazed me. I never knew lightning could go from the ground, up. A lightning discharge is incredibly powerful, up to 30 million volts at 100,000 amps. That would make your hair stand up if it hit you. The total energy of a major thunderstorm far exceeds that of an atomic bomb. The sudden tremendous heat from lightning causes compression or shock waves that is heard as thunder.

What word becomes shorter when you add two letters to it? Give up yet? The answer.....Short.

Have a nice Autumn.

Scientist Discovers Fungus

Washington

A Cornell University scientist has discovered that fungi in roots of many types of turfgrasses boost growth and could lead to better lawns in residential communities and improved greens for golf courses.

The fungus, called VA mycorrhiza, has a unique, symbiotic relationship with virtually all types of plants, including grasses grown in soil poor in fertilizer and moisture, the university said.

Just how the grass grows better is a scientific puzzle, the university said, but its finding raises the possibility that the organism can help homeowners keep their lawns greener and healthier with low maintenance.

CONTINUED PAGE 18

U. S. Open Pictures



L to R - BARBARA TIMMERMAN, JOHN KIRTLAND, MARY WOEHRLE, TED WOEHRLE - enjoying the Hospitality Tent at the Open



The GCSAA's Hospitality Tent



TOM GRAY - Assistant Golf Course Superintendent, Oakland Hills Country Club



L to R - JIM HAND, President USGA, TED WOEHRLE, Host Superintendent Oakland Hills, GENE BASTON, President GCSAA, PAUL LATSHAW, Supt. Oakmont C.C., Pittsburgh

Course Design Concepts, cont.

course, or a poorly designed but well maintained one, the golfer will nearly always choose the best maintained. Secondly, it should be remembered that maintenance has a greater influence on the difficultness and speed of play on a course than does design. When greens are kept fast, fairways lush, roughs long and sand bunkers soft, you can bet the golf course will play difficult and slow. Lastly, it is the subtleties or nuances of a golf course (such as flowers, shrubs, selected tree plantings, tee accessories, etc.) that make a golf course memorable and enjoyable. In summary this means that the golf course superintendent exercises far greater impact on the golf course and the golfer than does the designer. Hence, he should be aware of his power and responsibility and likewise be given full credit for making a round of golf an enjoyable experience. (By the way, these influences on the golf course superintendent are also 100 years old or more, for in researching old magazines for a history book on golf architecture I am writing, I continually find references made to the great condition of this course or that, with only occasional mention of the design.)

The place to start in examining golf course design is perhaps the oldest and, in my opinion, the greatest golf course in the world, the Old Course at St. Andrews, Scotland. This course is a product of 600 or 700 years of golfers trudging those sandy links and so rather than being designed, it evolved with the game itself and hence is the touchstone for design principles. At the Old Course the basic rule is that the hazards for the drive are on the right side of each hole and the hazards at the green are on the left or middle left. This means that if you risk the hazards on a drive down the right side, then you are rewarded by an easier approach to the green than the left side driver. Although this may be a bit too simple, it does illustrate that what makes St. Andrews so great a challenge, is a complete system of risks and rewards. This is the key element in all golf course design - a finely tuned balance of RISKS AND REWARDS. In addition, the penalty should match the crime while always recognizing the average golfer's margin of error with each particular golf shot. So the *spirit* of St. Andrews Old Course is a system of risks and rewards that demand strategic planning of your best golf shots. You must think ahead and not just hit the ball down the middle all the time.

"Well, how does this apply today?" you may ask. The answer is that the most enjoyable golf courses to play demand the golfer to be able to apply a precise balance of skill, strength and strategy. So all golf course design must provide the opportunities for this to occur by producing a system of hazards and safe areas that can be managed by all golfers.

This process begins by analyzing the green or green site, determining what margins of error are permitted around this green, selecting a fair distance to approach the green, then working backwards to determine where a fair approach shot might be played from and then defend or improve it. In short, it means laying a golf hole out from the green back to the tee, which was how the first golf course architects did it.

Since the golf green is the key element in this process, that is where this discussion should now focus. But here is where we must also remember those obvious facts I mentioned earlier -

- 1) Conditioning is more important than design.
 - 2) The superintendents control conditions.
 - 3) The superintendent should get the credit or blame.
- Thus, if condition is so important, the golf green must be designed with maintenance in mind; which means good surface and subsurface drainage, a compaction resisting soil mix, sufficient cupset space, enough collar area to accommodate maintenance equipment, maintainable slopes

outside the green and a design and placement of bunkers so they fairly protect the green but far enough away to reduce accumulations of blasted sand, confining of foot traffic and eliminate dry-out of putting surfaces through super-heater bunker faces.

Having been trained and worked as a golf course superintendent, I know these factors well and believe that a green can be designed which will meet all of these criteria. The general guidelines are as follows:

- 1) At least 4,200 sq. ft. of *usable* cupset area with a total green size of around 6,000 sq. ft.
- 2) A free-form design of the green with 75%-80% of it not seriously defended by hazards but 25%-30% of it strongly defended.
- 3) Surface drain the green in 3 or 4 different directions with interior slopes of 2%-4%.
- 4) Tile drain entire putting surface on 15'-18' centers and build with a high infiltration rate material (at least 8"/hour).
- 5) Mounds should "bleed" out into the putting surface and bunkers should be no closer than 12 feet to putting surface.

These are only general guidelines that can be occasionally modified. But where the skill of the golf course architect comes in is in knowing what a fair target area within a green is, how to defend it and how to present it to all golfers of all skills. This topic can not be explained in a paper and some golf course designers work an entire lifetime without ever understanding it. It is not magic either, but rather a process that requires knowing how all golfers react to a given shot, knowing their probability of hitting various targets with various clubs under varying condition and then adjusting risks and rewards in an artistic framework. This ability rests more in experience than on intellect.

This does mean that the golf course superintendent can ignore these intrinsic factors but rather it *requires* that the superintendent try to understand the design intent and adjust maintenance to enhance it. This means understanding speed and slope relationships within the putting surface and keeping putting a skillful pursuit - instead of just mowing short as possible and making it a test of luck. The same can be said of the width of fairway landing areas, the length of rough and collar grasses and the softness of bunker sand, etc. The goal of maintenance should be to make the game more fun not more difficult.

In the future I believe that golfers will place more emphasis on having a total outdoor environment rather than just a place to play golf. They will expect to see mini-landscapes integrated into the golf course such as flower beds, rocks, waterfalls, wooden walls, ornamental trees and shrubs, etc. In America we have normalized the golf car and golf car paths, so much so that the naturalness found in linksland would be foreign. This situation may be either good or bad, depending on your point of view. It may be good in that it allows the superintendent to be artistically expressive through the location of these landscapes and the materials he uses. It will force us to learn more about all plant materials and not just turf and trees so we become more multi-dimensional professionals. On the negative side it requires more work, study and money to meet these expectations. If you believe this trend is inevitable, as I do, you should begin now using and learning about these materials.

A basic rule that I follow is to use formal plants and devices in formal settings such as around tees, walks, signs,

CONTINUED NEXT PAGE

Fungus, cont.

A. Martin Petrovic, an assistant professor of turfgrass science in Cornell's New York State College of Agriculture and life sciences, investigated the beneficial effect of the root-dwelling fungus, which is formally known as vesicular arbuscular endomycorrhiza, meaning "fungi living within the root."

Petrovic has presented a paper on his research, supported in part by the U.S. Golf Association, the the Massachusetts Turf Conference. The fungi have been known to scientists since the late 1800's, but little research has been done on their effects on turfgrasses.

In experiments conducted over the past two years, Petrovic and graduate student James Frank found that the fungi are widespread in the roots of all types of cool-season turfgrass species.

"All the turfgrass species examined are colonized heavily by this fungi, with levels ranging from a low of 58% to a high of 77%," Petrovic said.

Petrovic said he also found that two widely used fungicides - triadimefon and benomyl - had little effect on the establishment of the fungus in grass roots.

Even more significant, the scientist said, is that the fungus in some ways stimulates the growth of grass dramatically, noting that "Citation" perennial ryegrass, in which this fungus thrives more than other grasses, grew better by about 40%, even in research plots extremely low in phosphorus.

"Apparently the fungus taps phosphorus and possibly other vital nutrients in the soil so efficiently that these nutrients are made readily available to the grass," Petrovic said.

The Cornell scientist believes the fungus will be important to future turfgrass management.

He said several maintenance trends in recent years for golf courses and residential properties make the presence of fungus important, especially with little phosphorus being applied to turfgrasses today.

United Press
San Francisco Chronicle

Course Design Concepts, cont.

ball washer, structures or bridges, etc. and informal plants on the golf course proper. Formal plants and devices are such things as flower beds, steps, garden or hybrid flowers, landscape shrubs and any kind of planting you commonly see around homes. Informal plants and devices refer to ornamental grasses, wildflowers, meadow grasses such as hard and sheep fescues, prairie grasses such as blue gramma, buffalo grass and wheat grass. Properly used these items can make your golf course distinctive and easier to care for.

In summary I would emphasize:

- 1) Condition is more important than design.
- 2) Make the golf course fun, not difficult.
- 3) Be fair to all skill levels of golfers.
- 4) Make the golf course a visual experience through landscape techniques.



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BY BILL SMART

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GRKP This machine has been a real problem, one problem after another.

OTG We oughta junk it, that's what.

REP Well really now, we have sold over 4000 of them in 40 states, and except for a few minor problems they are working satisfactory.

OTG Bull----.

GRKP How come the wheels make a gouge in the fairways every time we make a turn?

REP See those two trunnion brace vertical arm holding brackets? The ends must be adjusted every 14½ hours to exactly 62 and ½ inches for normal cut and 62 and ¼ inches for a heavy cut.

OTG For God's sake.

GRKP How do you get at them, with all those cables, housings and junk welded around them?

REP We can supply our TBV-47 special adjusting spanner for that, for \$87.35 FOB the factory . . . immediate delivery.

GRKP OK, look at these roller ends, the bearings are popping-out all over the fairways.

OTG Just like a steel eatin' rabbit . . . let's junk it.

REP Every 7½ hours of operating time you should grease

the A-47B shaft end collar retainer - with our 007 cavity grease.

GRKP How? There are no grease fittings and besides, the manual says the bearings are lifetime lubricated.

OTG Yeah, the lifetime of a monarch butterfly.

REP Well, we did goof on that one, but the new model has fittings. Just drill and tap the ends, but disassemble them so the drill chips won't get inside.

GRKP And what's with the seat? It joggles up and down so much that Old Will there is sexed-up all the time he is mowing.

OTG Makes me sexy just lookin' at it . . . only thing it's good for.

REP Yes. Well, we have a kit, U-69 that will make the seat more rigid and the driver less.

GRKP The rear end makes a humming noise. What's that?

REP Well, our synchro-mesh precision gears are made out of the finest Swedish steel and are so finely meshed that unfortunately they do hum a bit - we do not recommend it, but the factory found that a pound of sawdust in the rear end gearbox does help.

GRKP Excuse me, I'm going to get some sawdust.

REP You're going to put it in the Tractor's rear end?

GRKP NO, Yours!

OTG I'll help.....

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The water shortage is here again! (As if you need to be told). What can be done now to minimize turf loss where you cannot irrigate or must significantly reduce your water consumption? Not a whole lot - except to pray for rain and use wetting agents.

Wetting agents don't make water, but they do make the most out of what water is there. Wetting agents can maximize reduced water resources several ways.

First, they improve infiltration so less water runs off or sits on the surface to evaporate.

Second, wetting agents help water wet the soil profile more uniformly, preventing localized dry spots. This reduces stress and keeps these areas from going dormant. It also reduces hand-watering, which wastes water that is probably needed elsewhere.

Third, wetting agents allow a greater percentage of the soil moisture to be available to the roots of your turf. In other words, you can go longer between waterings which will help reduce your total water consumption.

All of this means you can get by with less water and less turf loss. That will be good for you, your course and your club. It will also be good for the whole turf industry as you show your state that you are doing everything in your power to conserve water by using it wisely.

Wetting agents are not *cure-alls* or *miracle products* - they do not create water. But they do stretch your water supplies so you and your course can survive restricted water use and drought.

Ag Tech Update

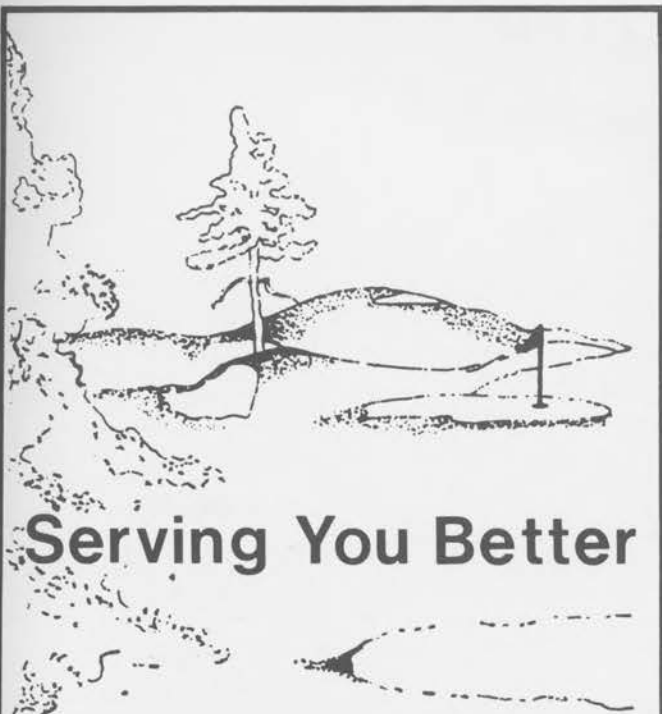
The Lawn Care and Maintenance industry interests will be foremost in the minds of students entering the Ag Tech Turfgrass and Landscape/Nursery programs this 1985 fall term. Many of the problems and concerns have been resolved and the faculty at Michigan State University are eagerly awaiting students that desire to enter this phase of the turfgrass industry.

For several years the lawn care and maintenance industry has encouraged officials at MSU to consider expanding the Turfgrass program to include instruction in this area. The faculty has prepared a draft curriculum for final consideration and all indications are this program emphasis will commence this fall.

Students will continue to enroll in the Turfgrass program but will indicate their desire to pursue more course work in the lawn care and maintenance field. The two-year program will still be four terms on campus and two terms on placement training with the industry. All students will be encouraged to secure work experience in the industry prior to enrolling at MSU.

If you need additional information, contact the Ag Tech Office at (517) 355-0190 or any of the Turfgrass or Landscape/Nursery personnel at Michigan State University.

Dr. Paul Rieke 355-0266 - 209A Soil Science Bldg.
Dr. Joe Vargas 353-9082 - 102 Pesticide Research Center
Dr. Bruce Branham 353-2033 - 322A Agriculture Hall
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GCSAA Presents

\$12,000 For Research

GCSAA President Eugene D. Baston, CGCS, presented a \$12,000 check for turfgrass research to USGA June 12 during the annual Golf Writers Dinner at the 1985 U.S. Open Championship at Oakland Hills in Birmingham, Michigan. USGA President James R. Hand accepted the check on behalf of that organization.

The contribution signifies GCSAA's commitment to the joint USGA/GCSAA Turfgrass Research Program, the objectives of which are to develop improved turfgrass that use 50% less water, require 50% less maintenance, yet are verdant and pleasing to the eye.

Hand said of the contribution, "We look forward to continued success on our working relationship with our good friends at the GCSAA. We have ahead of us some exciting opportunities, which I'm confident we can fulfill. On behalf of the USGA, I pledge our continued commitment to achieving the joint objectives of our Turfgrass Research Program."

The basic reasons for the joint research program are that potable water for irrigating fine turfgrass is rapidly becoming scarce, the demand for potable water is increasing and the cost of golf is rising.

The research is also expected to have direct applications in food and fiber crops, on other sports and on home lawns.

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INDIVIDUALIZE YOUR MANAGEMENT

by Ron Frame

In my introductory column I discussed the individualized nature of the management relationship between the *manager* and the *managed*.

This relationship does not emerge from the simple signing of new-employee tax forms, but is grown and developed over a period of time within a particular setting - the period of time is the span of employment and the setting is the environment of employment. Both are controlled by the manager and represent a Process important to productivity. We call it "*The Employment Process*".

The Employment Process can be seen as a continuum, beginning with the candidate's job application and ending with the employee's final pay check. The Process may have a life of 30 minutes or 30 years, will exist separately for each employee and has four definable stages: Selection, Induction, Retention and Termination. To understand the Process as a whole, let's look at its parts.

SELECTION: This is where candidate search, employee acquisition and commitment occur. In the business of growing plants, reasonable questions leading to Selection might include: What is the expected role of the plant? Ground cover, ornamental, playing surface, shade? Can it do what it's expected to do? Within a reasonable time frame? At what cost of support and maintenance? At what purchase cost?

These same kinds of investigative inquiries fit the employee selection effort too, and should in painful detail, be examined as part of the manager's responsibilities to the goals of the organization. What one does at the time of selection has a great deal of influence over what happens at times of production.

INDUCTION: I garden a bit and worry a lot about plants, soil preparation, fertilizer, trimming foliage, watering, depth of planting, drainage, plant proximity and other adherents that may effects health and productivity of the plant. Such an Induction Process has many parallels to the Induction of employees to the job, to the productive environment.

Both in the garden and on the job we have harvest in mind - productive results. The manner in which the new employee is prepared and Inducted (*introduced*) to the job has a lot to do with the potential productivity of that expensive, newly aquired asset . . . and a lot to do with the manager's personal career development.

RETENTION: You have now aquired and must retain an asset (an employee). Whether plant or employee you want whatever it is you selected to do that which it is supposed to do in its expected life. It is a resource for the achievement of goals, thus you expect it to make contributions to those goals. Should you assume that its mere presence is enough (plant-n-forget it) then you are doomed to disappointment. If you don't maintain it, care for it, nourish and nurture it over its productive life, it will fall short of expectations and become a liability rather than an asset.

This is all very applicable to the Retention and development of employees. With plants one operates at three levels of maintenance - preventative, routine and emergency - just as with mechanical equipment. Guess what? Effective employee Retention requires the same approach. One works to avoid problems, satisfies routine maintenance needs and deals with unanticipated, emer-

gent problems.

The point of active Retention programs is important - to justify payroll expense the value of productivity must exceed the cost of utility. Employee maintenance for Retention purposes makes *dollars-and-cents* sense, as well as personal career sense.

TERMINATION: I am always bothered by the need to terminate a plant of which productivity has waned. I could easily get two crops of lettuce and radishes if I didn't like those seed spires so much. My raspberries could produce so much better if I could bring myself to tear out the old canes and let the eager new growth mature to productivity.

With employees we often delay Termination decisions beyond the point dictated by Wisdom and let productivity value sink below a cost break-even point. Terminations play a very important role in crew productivity and can be positive acts rather than dreaded, negative ones. Managers often practice their finest *avoidance skills* to the benefit of no one and to great cost to the organization and personal effectiveness.

These four sub-processes make up The Employee Process. While briefly described in this text, the next few columns will deal with each sub-process in sufficient detail to demonstrate the importance of The Employee Process to successful and cost effective human resource management.



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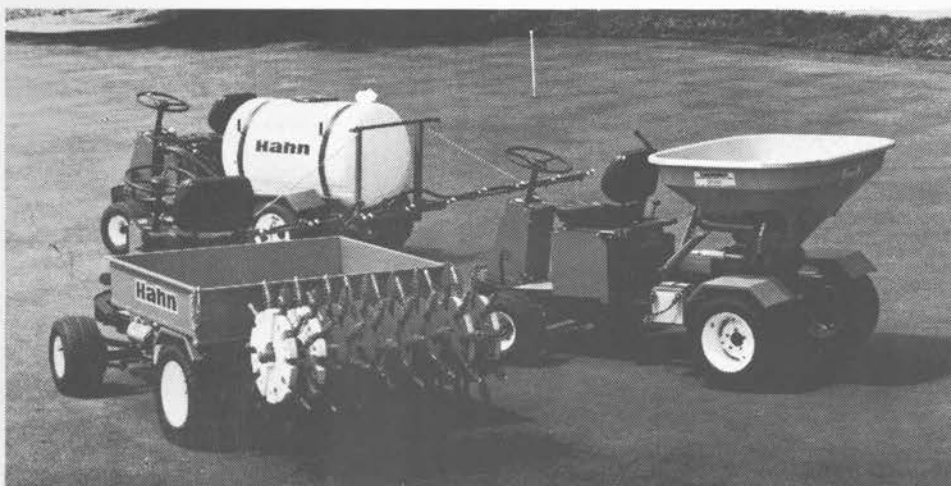
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- Temporary color is easily dissipated by rain or dew
- Environmentally safe

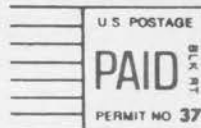


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