



The Florida Green

Spring 1989



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**Not all
fertilizers
are created
equal.**



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Gainesville Country Club, view from behind third green; Jeff Hayden, Golf Course Manager.

Cover photo by Daniel Zelazek.

The Florida Green

The Official Bulletin of the Florida Golf Course Superintendents Association
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NOTICE: All correspondence concerning business matters, circulation, editorial and advertising should be addressed to the Editor, P.O. Box 5958, Lake Worth, FL 33466. Opinions expressed by writers in by-lined editorials are not necessarily those of this publication. "The Florida Green" is published quarterly: Jan., April, July, Oct. Closing date for advertising and copy is 45 days prior to publication. Not copyrighted. Please credit the author and "The Florida Green." All advertising and circulation matters should be addressed to Irene Jones, Assistant to the Editor, at the above address or (407) 793-2497.

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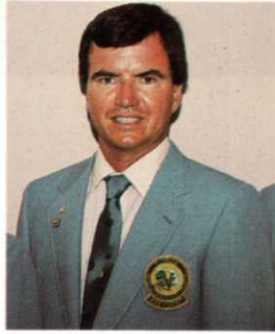


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President's Message

The 1989 GCSAA Conference and Show has past but the memories will last for a long while. The weather was not cooperative but, for me, this was the best show I have ever attended.

- I spent many hours on the show floor and I saw more equipment and talked to more suppliers than ever before. I heard superintendents, researchers, and other experts share their knowledge with thousands of our members.
- At the Golden/Platinum Tee Club reception I saw contributions recognized for over \$100,000 of contributions to the GCSA Scholarship & Research Fund. I accepted a plaque on behalf of the FGCSA for our \$5,000 gift.
- I met the eight GCSAA Scholarship recipients and, as a Scholarship and Research Committee member, I thoroughly enjoyed interviewing such fine students. I am also proud to announce that two of these students were from Florida. I attended banquets and receptions that honored some of the finest people in our industry.
- The Scholarship & Research Committee also discussed research projects and came up with some excellent recommendations for the Board of Directors. The projects favored most dealt with the effect of pesticides and fertilizer on the environment, a subject important to us all. I was able to study all of the annual committee reports and I am encouraged by their activity.
- The FGCSA held a regularly scheduled meeting that was very productive. We are making great strides in our publications, research, membership, education, government relations, and other committee work.
- I served as voting delegate for the FGCSA and I am confident that the 1989 GCSAA Board of Directors will continue to improve our Association. I also feel regret and pride for the worthy candidate who was not chosen.
- I was able to renew some old friendships and take a few hours off to touch the ocean and see some of the beautiful countryside of California. It was my best conference yet because I was more involved than ever before.

We in Florida have a special opportunity this coming year to get involved with the GCSAA. The next Conference and Show will be February 15 - 28, 1990, in Orlando. If you are a member of the GCSAA and have not attended a Conference and Show lately, I urge you to attend. You will be pleasantly surprised.

If you are not a member of the GCSAA, this is the year to join. All new members who join the GCSAA this year will be able to attend the Conference and Show free of charge. We will soon be supplying potential GCSAA members with an application and additional information about joining. If you have any questions, please feel free to call me or any of the other officers and directors listed on the contents page. See you in Orlando!

Cecil C. Johnston

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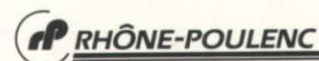
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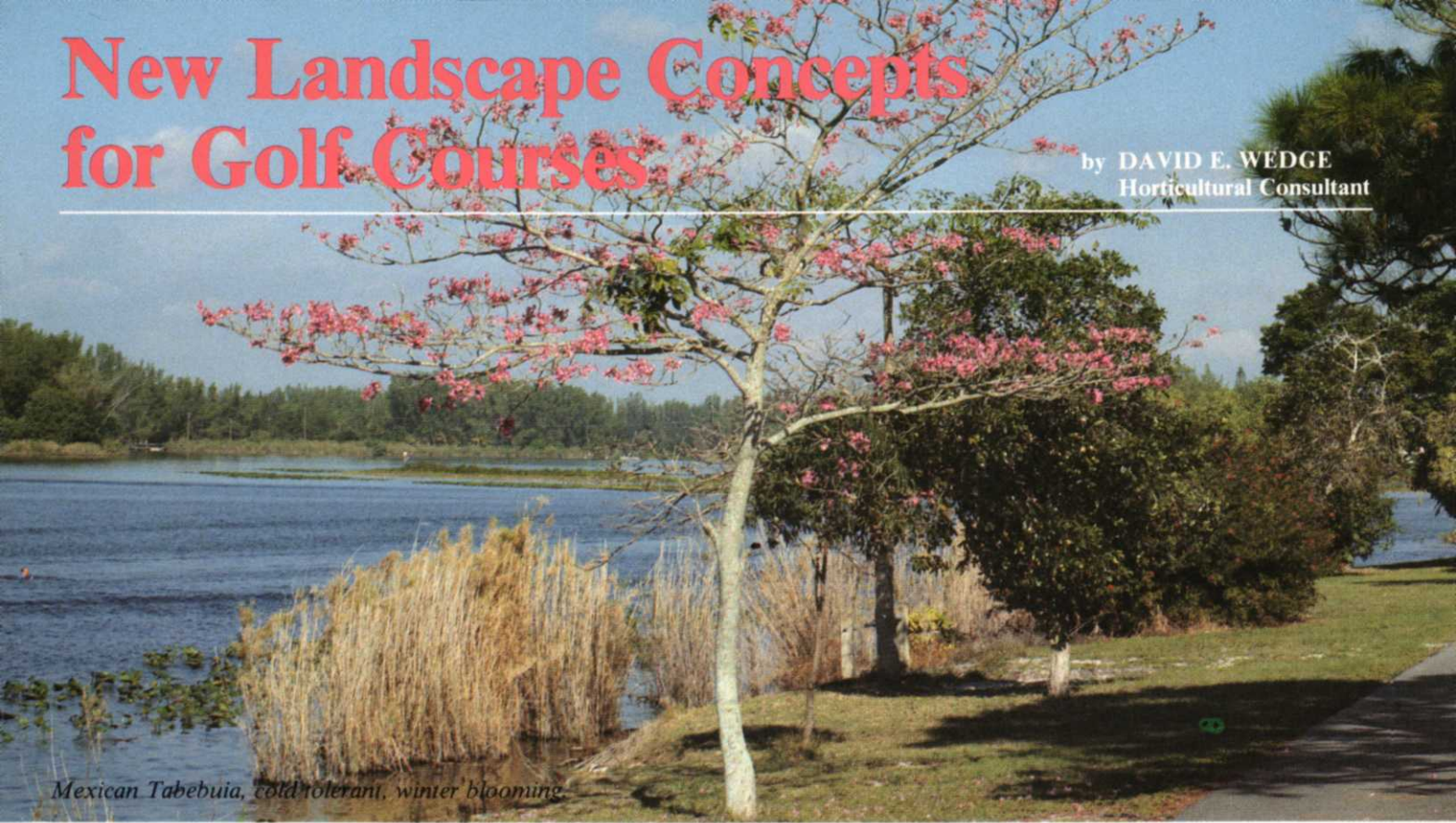
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New Landscape Concepts for Golf Courses

by DAVID E. WEDGE
Horticultural Consultant



Mexican Tabebuia, cold tolerant, winter blooming

EDITOR'S NOTE:

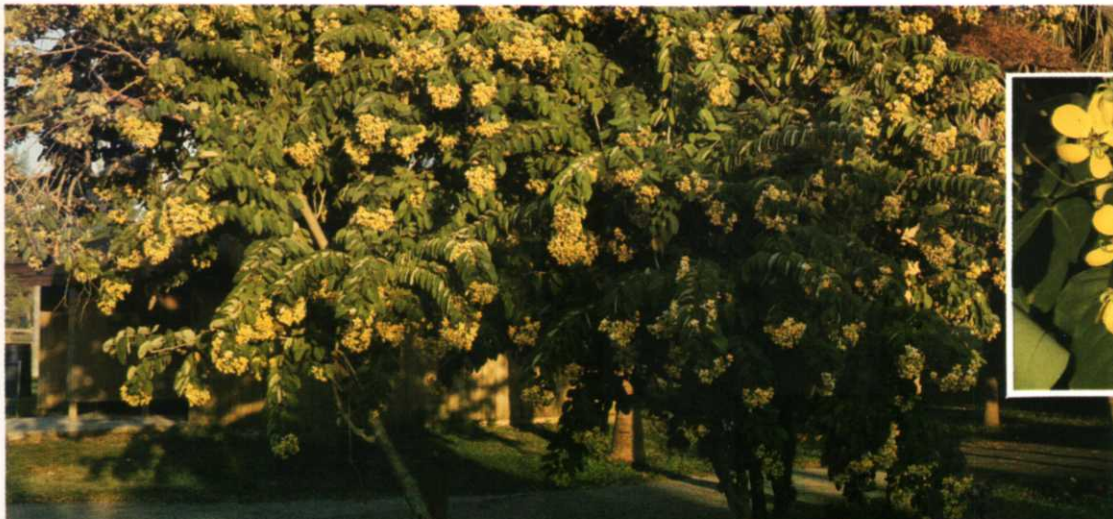
The horticultural consultant is the expert who is called upon for professional or technical advice. Horticulture is the art and science of growing flowers, fruits, shrubs, and trees for ornament and fancy. Incident to the growing of plants are all the questions of plant breeding, variation of plants under domestication, the bearings and applications of biological and physical sciences.

The horticultural consultant acts as a liaison between the landscape architect in the design phase and the landscape contractor in the installation phase. The horticultural consultant supplies the on-going expertise in the successful growing

of the plant material. After project completion, he assists the new owner in the early phases of critical maintenance and survival techniques. The addition of this professional to the development project staff can save thousands of dollars of dead plant material and expensive replanting costs.

Current trends in county and city governments in requiring more native plant material and the desires to have more colorful and spectacular landscapes have created a need for the horticultural consultant to work in an on-going relationship with municipal governments, land developers, and golf course superintendents. ■

As a horticultural consultant and president of David E. Wedge, Inc., a general practice consulting firm located in West Palm Beach, Florida, I have been involved in the reintroduction of flowering trees to south Florida on both state and a local level. From 1986 to 1988 I was fortunate to be one of the individuals involved in creating an environmental/landscape report for the City of West Palm Beach called Dynamic Visions. The areas in which I was most involved were the proper use of flowering trees in the landscape and the use of trees in focal areas to accomplish a specific landscape statement. Palm Beach County's proximity between Lake



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Okeechobee and the Atlantic Ocean, its prevailing 6 m.p.h. southeasterly breezes, and an average annual rainfall of 60 inches offers a climate unexcelled for the use of flowering trees in the landscape. The process of using trees and shrubs which produce a specific color at a specific time in a select location interwoven with elements of environmental landscaping, is a concept called Focal Point Design.

Each golf course superintendent usually asks the same type questions -- how can we get a more colorful landscape in the winter; how can we improve the aesthetics of the golf course and its surrounding landscape; how do we properly use flowering trees in the landscape; and which ones do we use? These are some of the major problems common not only to the golf course industry, but also to large commercial developments, institutions, and even our public park systems.

In traveling throughout Palm Beach County, the examples of poor horticulture are astounding. Many parking lots or shopping centers we pass have major problems in their landscaping. When a tree or shrub bed dies out in the entrance to the local drug store, who complains to the store manager? When that same tree or shrub bed dies out next to the restroom near the 5th green, much less next to the clubhouse, we all know the golf course superintendent is the one who hears about it. It is also this level of expectation that helps keep our golf courses in such fine condition. Within the past few years the appreciation of the aesthetic environment has come more to the forefront than ever before. Anyone who has worked with a golf course for several months begins to recognize familiar faces. Many of the "regulars" play the course several times a week, if not every day. Golf becomes their major source of recreation and enjoyment of the outdoor environment. These are the people who cast a critical eye on all that happens on the course. The average golfer plays not only for the challenge of the game, but also for the total enjoyment of the experience which takes place during the game. The total aesthetic environment is perceived primarily by sight, sound, and smell. As golf course professionals we need to address specific elements in our landscapes which will enhance these perceptions. This is done by designing focal areas on the course which are used to achieve a certain horticultural theme.



Burmese Crape Myrtle - blooms from August to November.

This theme can be targeted to accentuate those sensory perceptions we all enjoy. The color of a yellow Tabebuia against an azure blue Florida sky, the alluring scent of an unknown shrub, or the sound of the evening Whip-poor-will across the fairway are perceptions we have all experienced.

With the proper planning, use, and placement of trees, shrubs, woody vines, and ground covers, those areas of the course that have been looked upon as maintenance liabilities or eyesores become a resource -- one that we pursue actively to create spectacular focal areas of flowering trees, or passively to turn a perimeter planting into a wildlife habitat area to screen unwanted sights and sounds. The most important task we face as industry professionals is to develop the golf course, common grounds, and other areas to their highest and best aesthetic potential.

HORTICULTURE HINTS: Using flowering trees effectively requires more than the obvious of simply planting a tree. Always conduct a site analysis with soil samples, a common practice for greens, why not before landscaping? You should know the pH, organics, and elemental analysis of the soil before you attempt to amend it. The most important rule in landscape horticulture is to place the correct plant in the correct spot. Do some research and find where that plant grows naturally and then what it will tolerate. If you have a tree that you wish to place in a certain location, and that location is not the right one, DON'T DO IT! If you insist on that location, then change the site to fit landscape requirements. Nothing is more disheartening than to have a consultant come in and tell you that those large yellow tabebuias you planted in the wrong location died from temporary flooding after a four inch rain. Some trees and shrubs need dry, wet, sunny, shady, or acid conditions, and those requirements need to be met. If you take

time to find out about your plants, you will see many of those problem areas in the landscape begin to disappear.

RULES FOR USING FLOWERING TREES:

1. When using flowering trees that are deciduous (lose their leaves), use them in conjunction with evergreen trees. Why? When looking at a deciduous tree from a distance, you tend to look right through that leafless tree into the landscape behind it. If you have used evergreens, you won't even see that leafless tree. The evergreen also serves a second function in providing a dark green backdrop for the floral display.

2. Use flowering trees in groups not only to accentuate the effect of the color but also to extend the duration of the bloom. Since no two trees come into bloom at the same time, you can extend the time when there is color in the landscape simply by planting trees in groups, rather than as single specimens.

3. Deciduous trees also allow the use of many energy landscaping techniques. They provide winter sun and summer shade. Winter sun is always important when planting annuals below a tree, but it also allows for solar heating of free-standing restrooms which are normally damp and cold in shaded locations. That same tree will provide shade for the building in the summer, thus reducing cooling costs. Facilitating cleanup many trees drop their leaves at one time to prepare themselves for a breathtaking floral display. This major bloom is so spectacular the term has been coined, "The Big Bang Effect".

4. Design and develop landscapes using contrasting or harmonious colors. Lavender colors, such as that produced by the Jacaranda tree, contrasted with an underplanting of Aztec Gold daylilies makes a good combination. Combining harmonious colors such as the West Indian Shower trees in a curve-a-linear planting with the dark green pittosporum "Whellerii" and a border of multicolored pansies offers exceptional color for many winter months.

5. Create a color calendar. By learning about tropical flowering trees and how they bloom you can develop a landscape that changes every month. Winter or summer, South Florida has unexcelled potential for the use of color in the landscape. We are limited only by climatic extremes and our own imaginations.

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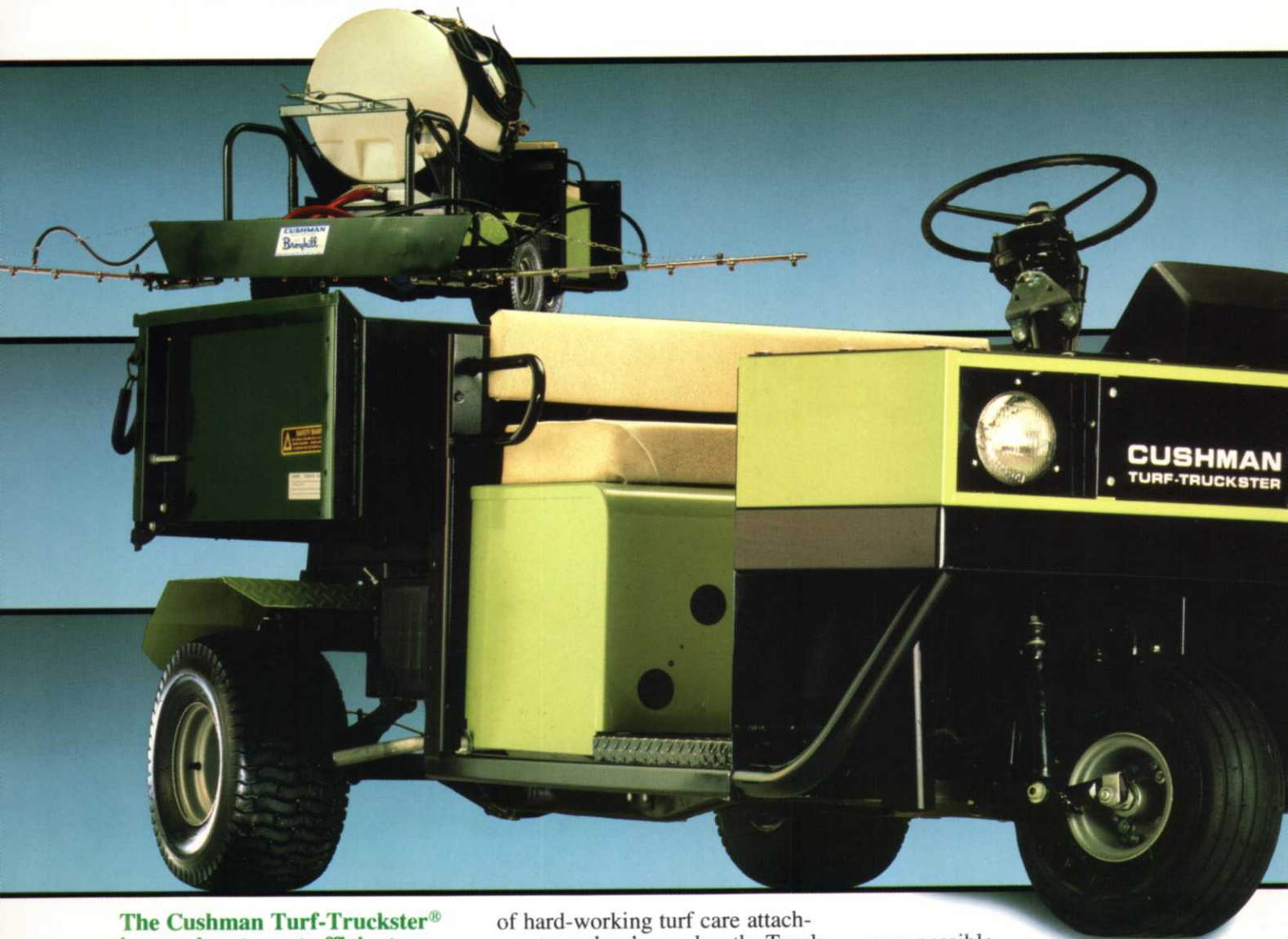
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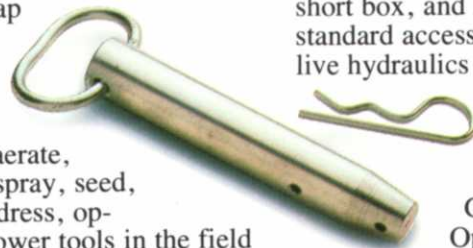
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Get Involved

by DAVID A. MEDA
Assistant Superintendent, Boca Woods C.C.

Paying your dues as an assistant superintendent serves an important part in the management of golf course maintenance.

The job description of an Assistant Superintendent according to Turf Management, by James Beard, states: "Under the general supervision of the Golf Course Superintendent, directs and participates in the construction and maintenance of a golf course; supervises the operation, maintenance and repair of motorized and mechanical equipment; and performs related tasks as required."

Job descriptions are the same for each assistant superintendent but the responsibilities are what distinguishes us from each other. Take my responsibilities for example: Scheduling and supervising of employees; pricing and purchasing of maintenance supplies; record keeping of rainfall, air and soil temperatures, chemical and fertilizer applications; interviewing, hiring and firing of employees. Training of

employees in equipment operation, irrigation installation and repair, drainage installation, carpentry and painting. Also, chemical and fertilizer calibrating. Some people may say I have my hands full, but remember through proper management and co-operation of employees, the job can be accomplished.

The job of the assistant superintendent is very demanding -- afternoon syringing, night calls and weekend shifts are some of the expected. Even though every job is different, each assistant superintendent is required to perform specific duties in assisting the superintendent.

Some of the things that frustrate me as an assistant are the times you want to make major decisions and you need approval. Other times you think a job should be done one way and its done another. But these small problems come with the job.

I have been fortunate enough to find someone with whom I feel confident in talking to about problems. That's my boss! With his interest, I'm able to express my thoughts and ideas without

being shot down. If my ideas contribute to solving problems, they are used, but if I've missed the concept, I'm not turned away. Discussions on related topics are explained so that I do understand. To me that's an advantage because it's an education not everyone is willing to give.

To those of you who want to proceed as superintendents, let's not forget that your boss is an indirect teacher. Take notes, ask questions, suggest new ideas, and do not be afraid to be turned away because it will happen. If you do have an idea, support it with facts and believe in what you have to present. With all this in mind, be discreet in your presentation.

In conclusion, there is no substitute for education. In today's era, people are more and more open and willing to talk about new ideas related to their profession. So do not stand around, visit your neighborhood superintendent, attend local seminars, join organizations promoting your interests -- get involved! 🍏



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Why Your Course Superintendent is Your Silent Playing Partner

by JERRY LEMONS, CGCS

Early in the morning, while the air is still calm and fresh, the dew still covering every blade of grass, and before the sun begins to peek from the horizon, a new day is beginning for the golf course superintendent. It is the golf course superintendent who knows that soon after the sun has risen, golfers will cover the course that he and his staff have meticulously groomed. The golf course superintendent is behind every golf round played. It is the superintendent who "lives" with his course to insure that the conditions will be the best that they can be, whether for that important tournament or for the "Tuesday afternoon ladies," the golf course superintendent's work reflects upon every round played.

The golf course superintendent has always been a vital part of the game of golf. Old Tom Morris, who was one of the most profound greenskeepers (taken from keeper of the green), not only was a superior golfer, but spent over forty years of his life during the late 19th and early 20th centuries, maintaining some of golf's most historic courses including Prestwick and St. Andrews. Old Tom's dedication to the game and to the importance of golf course maintenance began an era of professional golf course maintenance that has exploded with golf itself.

Although most golfers are familiar with the role of the golf professional, they should realize that the golf course superintendent is responsible for the care, playability and quality of the golf course, not the golf professional. The golf course superintendent's role has emerged from what used to be a "simple grass cutter" to a manager of a fine quality turfgrass. The reasons are quite evident. Golf course management has changed dramatically in the last two decades because the golfer is willing to pay for the quality of a golf course he wants. Fast greens, plush fairways and manicured turf are not just standards for major tournaments anymore. Golfers demand these conditions daily, and it is the golf course superintendent's expertise which makes these conditions possible.

Who is the golf course superintendent and what does he actually do?

As the demand for excellent golf course conditions have increased, so have the

demands on the knowledgeability of the golf course superintendent. Today's golf course superintendents are highly trained professionals, educated to prepare golf courses for today's golfer. The superintendent's desires are not unlike the golfers; to develop and maintain in a golf course the very best quality humanly possible.

Today's golf course superintendents are college educated. Local, regional and national seminars keep them informed and up-to-date on today's innovative ideas on golf course maintenance procedures.

THE GOLF COURSE SUPERINTENDENTS ASSOCIATION OF AMERICA IS THE GOLF COURSE SUPERINTENDENT'S LINK TO EDUCATION AND THE NEWEST RESEARCH.

The Golf Course Superintendents Association of America, based in Lawrence, Kansas, is the golf course superintendent's link to education and the newest research available. Not only does the association boast one of the largest national conferences and shows in the nation, the GCSAA also has several regional conferences to keep the superintendents up-to-date. The GCSAA also recognizes superintendents through a certification program. A certified golf course superintendent has been tested and proven through experience and education that they are highly qualified professionals.

The continued growth of the golf course superintendent's position is easily traced from year to year. Looking back 20 years and observing the condition of the courses and even in the design of courses compared to today's, it is apparent that the demand of today's golfer, on a daily basis, is similar to what the "pros asked for them." This has ignited a need for better management skills, better equipment, improved grass varieties and more efficient chemicals. The superintendent must put all of this together to provide the golfers with the ideal golfing conditions he has come to expect. Sometimes operating on shoestrings, without ideal conditions! More often than not, it is the superintendent who falls victim to the unpredictable and sometimes impossible

and suddenly his job is in jeopardy.

The golf course superintendent is always confronted by new problems such as "black layer", pythium, sand layering, chemical burn, and not enough or too much rainfall at the wrong time. By the way, have you seen some of the new designs in golf courses that have huge mounds and sloping greens that only the goats of St. Andrews could stand on much less be carefully manicured and maintained by mortal man??

Jack Kidwell, a longtime golf course architect, past superintendent and past golf professional, once said, "We can design the best golf course in the world, have the very finest building materials, but leave out the most important ingredient, a golf course superintendent who understands how the course is to be maintained, and the golf course will not be successful."

The superintendent has learned how to manage his course by living with it. All golf courses are different and must be treated as such. Even greens on the same golf course will need different management techniques. Ask the superintendent on any given course, and he will tell you of his "problem greens" whether the greens be new or old.

The golf course superintendent is not only involved in the game of golf, he is also often responsible for the tennis, pool and clubhouse grounds. The budgets that the superintendent must manage are reflected on the quality of course that he is expected to maintain. Many golf course budgets exceed one half a million dollars and some are in excess of one million. It is the superintendent and his staff that brightens up the entrance of the club, adds the extra color to the clubhouse grounds, and cares for the trees and shrubs that are unreplaceable in a single lifetime.

So it is the golf course superintendent who is dedicated to the game of golf and to the course that he is responsible for. Tom Watson once said, "In this day and age, a golf course superintendent has to be an educated scientist, agronomist, economist and a good people manager. If you put all this together, with a love for a piece of earth, then you've got a good golf course superintendent."

— EXECUTIVE GOLFER 

TEST FOR STRESS

Are you feeling "burned out" because of job-related stress? A simple way to tell if you have a stress-prone personality is to rate yourself on how you typically react to the situations listed below. Give yourself the following points: 4-always; 3-frequently; 2-sometimes; 1-never.

1. Do you try to do as much as possible in the least amount of time?
2. Do you become impatient with delays or interruptions?
3. Do you always have to win at games in order to enjoy yourself?
4. Do you tend to speed up your car to beat the red light?
5. Are you unlikely to ask for help with a problem?
6. Do you constantly seek the respect and admiration of others?
7. Are you overly critical of the way others do their work?
8. Do you look at your clock or watch often?
9. Do you spread yourself "too thin" in terms of your time?
10. Do you constantly strive to better your position?
11. Do you habitually do more than one thing at a time?
12. Do you get angry or irritable often?
13. Do you have little time for hobbies - or for yourself?
14. Do you talk quickly and hasten conversations?
15. Do you consider yourself hard-driving?
16. Do your friends or relatives consider you to be hard-driving?
17. Do you constantly get involved in multiple projects?
18. Do you have a lot of deadlines in your work?
19. Do you feel guilty if you relax and do nothing?
20. Do you take on too many responsibilities?

TEST FOR STRESS SCORING

- 20-30: Nonproductive or understimulated
 30-50: Good balance
 50-60: Stressed
 60 - Candidate for heart disease.

If you scored 50 points or more, ask yourself a question before you take on one more project: Is it worth dying for?

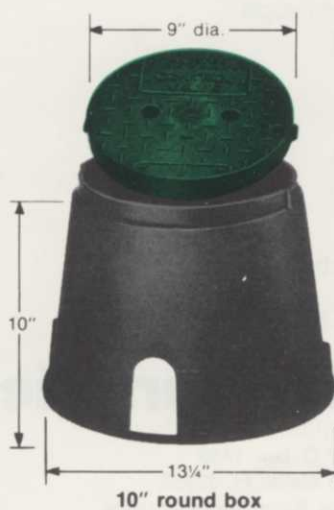
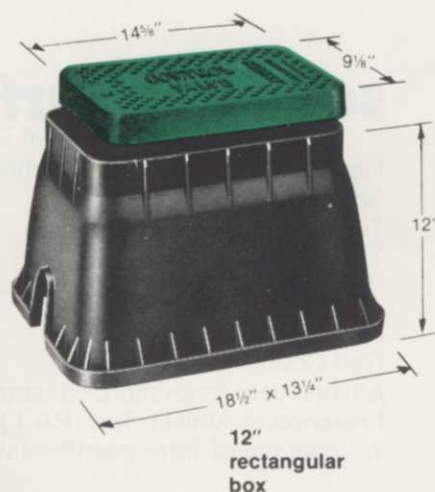
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Pesticides and Protective Clothing

by MARJORIE A. SOHN Associate Professor, University of Illinois at Urbana-Champaign *Reprinted from The Bull Sheet*

Exposing your skin to some pesticides presents a health hazard and clothing provides a vital protective barrier against the exposure.

Pesticide applicators can purchase chemical-resistant apparel, but recent surveys indicate the majority of pesticide users wear traditional work clothing when mixing, handling, and applying pesticides. They prefer ordinary work clothing because it is more comfortable, less expensive and easily available. They also doubt the need for protective clothing.

A non-punctured-type Tyvek is one of the disposable chemical-resistant garments on the market. It is made from spun-bonded olefin, a non-woven fabric that provides an effective barrier to many types of chemicals. Although you usually must dispose of non-woven garments after one use, Tyvek garments withstand up to four launderings. However, if your clothing is contaminated with a concentrated chemical, dispose of it rather than trying to clean it because of safety considerations.

Fabric studies

Testing is under way on Gore-Tex fabric to determine its ability to provide protection from pesticides. Gore-Tex is a microporous membrane that is laminated between a shell fabric and a fabric lining. As a result, Gore-Tex allows perspiration to pass through the fabric, but it keeps liquid from entering the outside of the garment and contacting the skin.

A North Central Region research project focused on the influence of the following characteristics in creating a protective barrier:

- Fiber content,
- Fabric construction,
- Functional finishes, and
- Laundering methods.

Choosing clothing

Absorbency and wicking are important considerations in determining chemical resistance. Tests conducted on cotton, polyester/cotton blends, polyester, nylon, acrylic and spun-bonded olefin fabrics yielded these results:

- Pure cotton fabric exhibits the highest rate of absorbency, which means it absorbs a large amount of pesticide solution. However, less pesticide

solution travels to under-clothing or skin.

- Cotton/polyester blends exhibited moderate absorbency and wicking.

- Lightweight fabric (broadcloth) demonstrated lower absorbency than poplin or twill in tests, but it also exhibited very rapid wicking. Broadcloth's tight weave appears to transport pesticide solution more rapidly and in greater quantities to under-clothing or skin.

- Synthetic fiber -- acrylic, nylon and polyester -- had low absorbency, but they had the highest wicking levels. Compared to other fabrics, the pesticide solution flowed rapidly from the garment to underclothing or skin.

- Spun-bonded olefin fabric showed the lowest rate of absorbency and wicking of the fabrics tested. It provides an excellent barrier against pesticide penetration and it offers extra protection when you wear it over work clothes.

- Clothing with a consumer-applied fluorocarbon soil-repellent finish gives the same protection as spun-bonded olefin, but it is more comfortable to wear. 🍏



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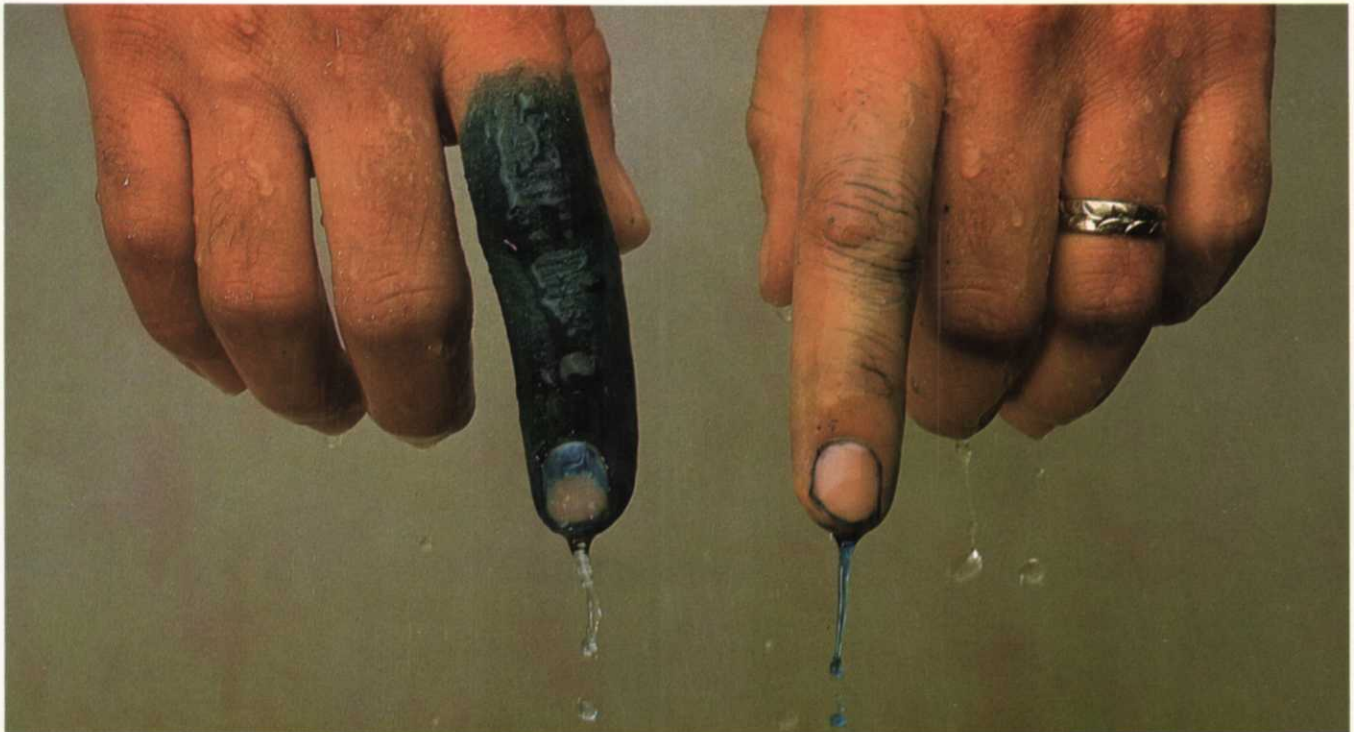
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Gainesville Country Club

by LARRY KIEFFER





What happens when a new face takes over at an old-line club? Particularly when the superintendent you are replacing has been a popular fixture and a respected professional, and you have no choice but to make some obvious changes?

"It can be a challenge," says Jeff Hayden, 38-year-old superintendent at 64-year-old Gainesville Golf and Country Club, a very old club by Florida standards.

Hayden became the superintendent at Gainesville last May, just as the club's current 25-year-old, George Cobb-designed golf course was beginning to wear out.

It's a beautiful, mature course with wide, rolling fairways lined with huge, old oaks, excellent routing and very little water. Except for small ponds on four holes, the course can be played on the ground all the way.

"It had been very well maintained," Hayden says. "But no improvements were made as new techniques were developed. This course was built in the early 1960s and that's exactly how it was maintained and that's how it looks today.

"That's no reflection on my predecessor," he quickly adds. "He did what the members asked him to do."

Hayden, who has been in the business for 30 years (he started helping out of the

family-run golf course in Michigan at age 8), is reluctant to talk about problems of any kind.

Ask him about drought, freezes, ball marks or nematodes and he is likely to preface his answer with the comment, "Let's see how we can phrase this in a positive light . . ."

Ask him about political problems and he doesn't have any.

"I work for the members," Hayden says. "If I don't make sure that my first priority is to make those members happy, then I'm not doing my job. My most important concern is to be concerned about the members' priorities, not mine.

Ask him about drainage and he'll concede there is a slight challenge.

"We have to be careful how we phrase this," Hayden says. "I wouldn't want to create the impression that the course is wet all the time.

And he's right. Gainesville G&CC is an excellent private golf course that

supports more than 35,000 rounds a year from 500 members who are quite proud of their facility. Discussion of problems should be put into that perspective: even the finest hand-crafted automobile needs overhauling from time to time.

Still, no matter how it is phrased, Gainesville G&CC has a drainage problem. Particularly in summer, the course occasionally must be closed because of wet conditions. Closing the course even one day is more than the members would like.

Because the course is built on clay and water can't percolate directly into the underground aquifer, surface runoff must be directed into a lake bordering the property. That lake, in turn, overflows into Payne's Prairie, the huge wetland south of Gainesville that once was Florida's second-largest lake.

Some of the water won't move fast enough and, from some places, it won't move at all.

One problem is the greens and tees; another is the design and construction of the system of ponds, swales and ditches

that is supposed to carry the water off the property.

"The greens are in pretty good shape for 25-year-old greens built the way they were," Hayden says, "but they do need renovation."

"I wouldn't be surprised if they weren't just a bunch of dirt piled up," say Chuck Brasington, Gainesville G&CC head professional for the past 22 years.

Construction is not quite that unsophisticated, but Hayden has found that the drain tiles on at least one green simply end beneath the surface, about 30 yards from the green. The water had no place to go except to work its way up through the sod, creating a quagmire.

He solved the problem temporarily by cutting a small ditch from tile's end to the nearest swale.

"It's amazing how quickly Jeff won over the membership just by doing little things," says member John Hoce.

"Won over" might be too strong a word. Still, Hayden's predecessor had

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been very popular, particularly with the older members. When he left to tackle new challenges, his successor -- no matter who he was -- was going to have a tough time filling his shoes.

The situation was aggravated by the increasing influence of a younger generation of members who were not particularly happy with 1960s-style golf. So long as they had to replace their superintendent, they wanted the maintenance level upgraded to the 1990s at the same time.

"I'm sure he could have done it," say Hayden, speaking of his predecessor. "It's just that they never asked him to."

But if ever there were a superintendent prepared to step into that potentially hazardous political situation, it was Jeffrey Paul Hayden, a man with an impeccable course-management pedigree, outstanding credentials . . . and the added advantage of having served many of the members at a different facility a decade earlier.

Jeffrey is the son of John Hayden, famed superintendent of Augusta National GC. It was he who teased the magnolias into bloom at just the right time as the Masters Tournament developed into golf's biggest television show in the 1970s.

In the late '50s, however, the senior Hayden leased the nine-hole Diamond Lake Golf Course in Cassopolis, Mich.

"specifically because he thought teaching his children how to run a golf course was the best way to bring them up. He leased it and my sister and I worked it."

By the time he was 16, young Jeff "was pretty much running it, although you couldn't have called me the superintendent or the manager or anything like that."

He entered the local community college, dropped out and got drafted, serving three years in the U.S. Army, including a stint in Vietnam.

When he got out in 1972, he went to work as a laborer at Inverrary CC in Lauderhill. His stay was brief, however, because his dad found room for him at August National as an irrigation technician.

While at Augusta, Hayden met Dr. Gene Nutter, then head of the school of golf course operations at Lake City Community College. He entered Lake City in the fall of 1972 and, less than two years later, found himself superintendent at Beau Clerc TGC in Jacksonville while still finishing up his coursework for his associate of science in golf course operations.

"Dr. Nutter wasn't exactly thrilled about the situation, but he also recognized that it was too good an opportunity to pass up," Hayden says. "There are a lot of us today who owe a lot to that man."



Jeff Hayden, superintendent.

In 1977, Hayden accepted the challenge of growing in the golf course for a new private club to be built north of Gainesville, Turkey Creek. He stayed five years before moving on to ultra-posh and private Avila G&CC in Tampa.

"After five years at Avila, I decided that I needed to test some other waters and, if I was ever going to do it, that was the time," Hayden says. He became turf equipment sales manager in Florida for Lesco, Inc. in 1987.

SUPERINTENDENT PROFILE

NAME: Jeffrey Paul Hayden

AGE: 38

EXPERIENCE:

Diamond Lake GC, Cassopolis, Mich. (9 holes, public) 1958-68; began as helper at family-leased golf course at age 8, was "pretty much running things" from age 16-18. Beau Clerc GC, Jacksonville (18, semi-private), superintendent 1974-77. Turkey Creek G&CC, Alachua (18, private), superintendent 1977-82. Avila CC, Tampa (18, private), superintendent 1982-87. Lesco Co. (turf maintenance

equipment), Tampa, Florida sales manager 1987-88. Gainesville G&CC, superintendent, 1988 - .

RESPONSIBILITIES:

Golf course, grounds maintenance and landscaping. Total staff of 9 full time and 5 part time.

PERSONAL:

Married (Sandra 1979) with one stepdaughter (Stephanie 16) and one son (Benjamin 8); hobbies are golf (12 handicap) and bass fishing.

EDUCATION:

Associate of Science, Golf Course Operations, Lake City Community College, 1974.

PROFESSIONAL:

Member of GCSAA, director Florida Turfgrass Association; member and past president of North Florida GCSA.

PHILOSOPHY:

You've got to remember that the only reason you have this great job is because those members have paid a lot of money to play golf. No matter who you report to, ultimately the members are your boss. 🍏



Photo by Larry Kieffer
 Jeff Hayden, left, and Chuck Brasington, head professional, discuss problems with spike marks on the green.

Interestingly enough, his assistant at Turkey Creek and successor at Avila was none other than current FGCSA President Cecil Johnston.

And it didn't take Hayden long to return to the profession of his breeding.

"I'm sure it was easier for me to come here than it would have been for almost anyone else because a lot of the members here were members at Turkey Creek when I was there. They knew what they were getting, and if they wanted me, well, I figured the situation would work out."

Hayden is the fourth member of the greens committee, which meets officially once every six weeks. He confers informally with one or both of the co-chairmen, John Darr and Bill Koons, at least once a week.

Gainesville G&CC has no general manager. Hayden, Brasington and Club Manager Betty Sauls each works directly

for a committee of members who serve at the pleasure of the club's president and board of directors. The three managers meet "at least to chat" two or three times a week.

"We are on the same team," Hayden says. "If we don't communicate, we won't know the signals."

The team concept is the way Hayden approaches management. He notes proudly that he had no turnover when he took over as superintendent "except for one person who was going to leave anyway."

"One of the first things I did was have a meeting with everybody and explain that we had to work as a team," he says. "I told them that I was the quarterback, but the quarterback can't do it without linemen, running backs, receivers and a defensive team. And they can't do it without the quarterback."

Hayden met with each of his full-time employees (now nine) and part-timers

GAINESVILLE GOLF & COUNTRY CLUB

FACTS & FIGURES

LOCATION:

Southwest of Gainesville at southwest corner of I-75 and SR121 intersection.

DEVELOPER:

Members

MANAGEMENT:

Member-owned. Betty Saula, club manager; Chuck Brasington, head professional; Jeff Hayden, superintendent. Each works for a separate committee of members; greens committee co-chairmen are John Darr and Bill Koons.

SIZE & SCOPE:

Golf course occupies 190 acres. Single-family housing surrounding the golf course is not connected with club membership.

PLAYING POLICIES:

Strictly private for 500 members and occasional guests; open all year, 35,000-plus rounds per year. Annual Gator Pro-Am is only outside event.

COURSE ARCHITECT:

George Cobb

CONTRACTORS:

Unknown

TERRAIN:

Rolling to moderately hilly.

SOIL:

Clay

HISTORY:

Club founded in 1924, moved to current site in 1962. Golf course completed in spring of 1963. No remodeling or renovation since.

COURSE LENGTH:

5303 (rating 69.5, Slope 110) to 6800 (rating 72.1, Slope 120) yards.

TEES:

Most holes have two tee boxes, each with two sets of markers. Turf: Ormond bermudagrass cut to 3/8 inch, overseeded in winter with rye.



Jeff Hayden checks the ball washer on No. 17 tee, as seen from the tree-shaded cart path from No. 16 green. Not many courses can claim oaks as mature as these.

Photo by Larry Kieffer

FAIRWAYS:

Wide, rolling and tree-lined. Turf: Ormond bermudagrass cut to 1/2 inch; not overseeded.

GREENS:

Average 5,500 square feet (range 3,500 - 7,500). Stimpmeter averages 7.5-8.0. Turf: Tifton 328 bermudagrass cut to 3/16 inch; overseeded in winter with a mixture of rye and saber.

ROUGHS:

Ormond bermudagrass cut to about 1-1/4 inches; bahiagrass in some natural areas.

TREES:

Oak (several varieties) and pine.

WATER:

Four small ponds created during construction, each coming into play on only one hole. All are linked to drainage system.

OTHER HAZARDS:

67 bunkers filled with DOT sand; no transitional grasses.

IRRIGATION:

From deep wells out of Florida Aquifer through single-row system with laterals in landing areas; 288 sprinkler heads.

DRAINAGE:

Surface runoff into lake between golf course and Payne's Prairie.

MAINTENANCE STAFF:

9 full time, including one assistant superintendent and one mechanic; five part-time interns, including one mechanic, from Lake City Community College School of Golf Course Operations and the University of Florida.

EQUIPMENT:

Toro hydraulic valve & head system; 4 Toro triplex greensmowers; 1 Toro Parkmaster five-plex mower, 2 John Deere utility tractors; 2 Jacobsen utility tractors; 1 Massey-Ferguson back hoe; 1 Olathe sweeper.



Azaleas in bloom shows natural beauty of Gainesville Country Club.

(now five) to determine their professional goals and make sure they understood how to fit their goals with the goals of his department: to make each round of golf the most enjoyable round the member has ever had.

"I have a great crew," he says. "Once there is trust on both sides and each has confidence that the other guys will do their part, there aren't any employee problems.

All part-timers are student interns, either from Lake City or from nearby University of Florida. In addition, his assistant, Tom Grover, is completing his course work at Lake City.

"I enjoy teaching," Hayden says. "It's one of the nicest parts of the job. And working with the students has an added bonus -- it keeps me current with the latest developments in the field. I learn from them, too."

The opportunity to teach and take advantage of the two educational institutions are two of the side attractions of his current post.

"I like the atmosphere of a university town and all it has to offer," he says. "I haven't missed a Gator game in eight years."

Hayden's principal hobbies are golf and fishing. He hasn't had time to play since coming to Gainesville, even though he and his family have full membership privileges. (He and wife Sandra have two children, Stephanie, 16 and Benjamin, 8). He puts his game at "nine to 12" when he plays as often as he likes, which is once a week.

As for fishing, he likes to go after bass in natural lakes (as opposed to phosphate pits). He's taken in a seven-pounder. "I'm still looking for my first big one," he says. He recently was introduced to tarpon fishing, an activity he says could become habit-forming.

But maintaining the golf course occupies most of his time.

"I was raised on a golf course," he says. "The work ethic on the golf course is the way I grew up. I learned early how to be my own boss and establish a good

working relationship with the crew. This is really what I enjoy doing."

How is he going to handle the delicate problems with members as he sets about upgrading the maintenance level at Gainesville G&CC.

"There aren't any problems, really," he says. "Just challenges and solutions."

"The important thing is just to show them what I can do . . . just solve some little problems here and there. They know that some of the greens have to be redone. I think if I show them what can be done with the greens and tees on a couple holes, I won't have any problems setting up a long-term program."

"These are very easy people to get along with. You just have to remember that they paid their money to join this club to be away from their jobs and be with people they like. And they want to do it playing golf. It's my job to make golf pleasant for them."

"Nobody is going to get mad at me for doing that." 🍏

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GOLF INDUSTRY NEWS

Dr. Kenneth Diesburg, an honors graduate of the Iowa State University horticultural department, has joined the research staff of International Seeds, Inc., Halsey, Oregon, according to Research Director Craig Edminster.

He will manage breeding and agronomic service programs in turf and forage grass seeds.

Dr. Diesburg earned a B.S. in botany, a M.S. in plant breeding and cytogenetics as well as a Ph.D. in horticulture turf science.

He was a research agronomist and assistant turfgrass breeder for Northrup King Co. at Stanton and Eden Prairie, Minnesota from 1978 - 1982.

International Seeds, Inc. breeds and markets forage and turfgrass seeds, cereal crops and protein legumes. 🍌

TYPOS

The typographical error is a slippery thing and sly; you can hunt it till you're dizzy. But it somehow will get by.

Till the forms are off the presses, it is strange how still it keeps;

It shrinks down into the corner, and it never stirs or peeps.

The typographical error is too small for human eyes

Till the ink is on the paper, when it grows to mountain size.

The boss just stares with horror, then he grabs his hair and groans;

And the copy reader drops her head upon her hands and moans.

The remainder of the issue may be clean as clean can be,

But the typographical error is the only thing you sea! 🍌

LOFTS PAYS \$176,000 IN ROYALTIES — ALL FOR BETTER TURFGRASS

"Royalties are the lifeblood of continuing turf programs." That statement was made recently by Rutgers University's Dr. Henry Indyk. And that's what one leading seed company, Lofts, has committed itself to support.

For many years Lofts Seed Inc. has contributed hefty royalties to Rutgers University. Each year the increased sales of Lofts' proprietary turfgrass seed varieties allow the company to give proportionally more generous royalty checks to Rutgers. This year's payment of \$176,000 represents a good share of the 3/4 million Rutgers hopes to receive during 1988.

Royalties, in turn, help to perpetuate turf research. Much of the money paid by Lofts directly funds programs conducted by Dr. C. Reed Funk; the balance goes to other Rutgers research projects. Ultimately, this process results in the sale of new and improved turfgrass varieties, beginning the cycle again. Lofts conducts some of its research programs jointly with Rutgers University. During the many years of their association, Lofts and Rutgers have together introduced many turfgrass varieties. Three of Lofts' current proprietary varieties, Palmer and Prelude Turf-Type Perennial Ryegrasses and Rebel II Turf-Type Tall Fescue, have offered significant benefits to professional grounds people. These varieties have been so successful that they made up the largest share of this year's sales and royalties.

This year's ample royalties result not only from increased domestic sales, but also from expanded foreign markets. Lofts has developed as the world's largest marketer of turfgrass varieties. The global network includes Canada, Japan, Europe, South Africa, New Zealand and Australia.

Domestic markets include golf course overseeding, sod, parks, retail and unused areas such as roadsides. When turf professionals in these markets buy certified seed, more funding is available to further academic research of better turfgrass varieties for the future. 🍌

GOLF COURSE RECONSTRUCTION

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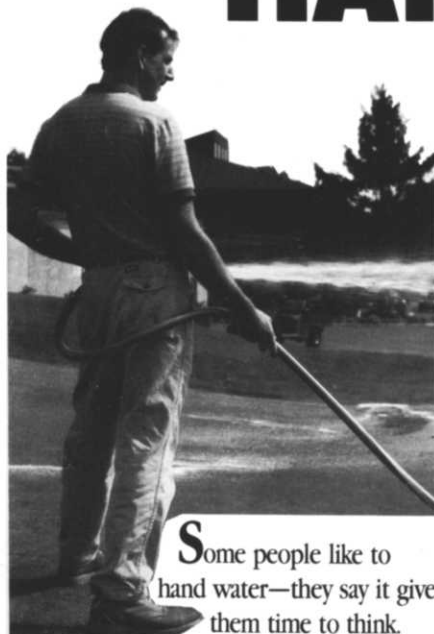
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DOES YOUR TURF PLAY HARD TO WET?



Some people like to hand water—they say it gives them time to think.

For most it's a necessary evil that takes valuable time away from more important things. Using AQUAGRO® soil wetting agents regularly will reduce hand watering, which will either cut into your daydreaming time, or free you and your crew to do other things...it depends on your perspective. *And that's not all AQUAGRO does for you.*

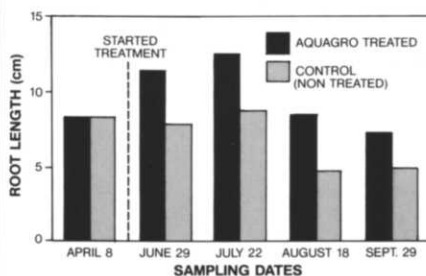
The Difference is Quality Turf

AQUAGRO helps you maintain peak turf quality all season long, while cutting irrigation time and costs. It's a fact that AQUAGRO makes the most efficient use of available water by allowing it to penetrate deep and uniformly into the rootzone, before it has a chance to run off or evaporate. AQUAGRO alleviates localized dry spots and quickly drains puddles. It moves water through both thatch and compacted soils. And it keeps berms and slopes from drying unevenly.

Getting More Water to the Root of the Problem

AQUAGRO doesn't work miracles, but used as part of a complete turf management program, AQUAGRO can solve water related problems and promote deep root growth. This means good playing surfaces that stand up better against traffic and stressful summers.

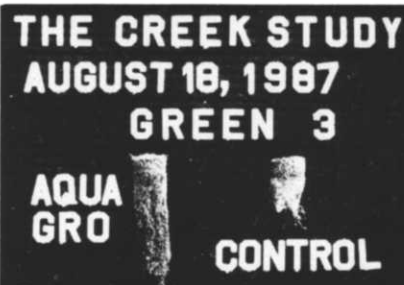
In trials on bentgrass greens treated with AQUAGRO, the recommended program helped maintain significantly deeper roots and better looking turf than the control, all summer long.



In addition to making more moisture available to roots, AQUAGRO improves the distribution and efficacy of water soluble fertilizers and pesticides. It helps move them through heavy thatch.

University research shows AQUAGRO can reduce the severity of fungus diseases by eliminating surface moisture conditions that promote fungal growth.

The photo shown here is part of a research field trial where AQUAGRO reduced water related problems caused by soil layering conditions. AQUAGRO allowed deep root penetration by promoting water movement through the layers.



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If you've got better things to do than spend your time hand watering and daydreaming, and need to get the most from available water, give your AQUAGRO distributor a call. If you don't know who they are, give us a call.

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To Your Health: Disease-Fighting Fiber

The message is loud and clear. "Eat foods with adequate fiber," say the USDA Dietary Guidelines. "Eat more high-fiber foods," urges the American Cancer Society.

What is fiber and why is everyone talking about it? Coming from plant sources only, dietary fiber is that portion of fruits, vegetables, whole grain cereals and other plant foods which is not broken down by the body during digestion.

Fiber is becoming one of the most important health and nutrition issues of the '80s simply because our convenience-oriented diet doesn't have much fiber left in it. But over the years, more refined foods, as well as more fats and sweets, have replaced many of the higher fiber foods our grandparents used to enjoy -- basic foods such as fruits, vegetables, whole grain breads, and whole grain cereals.

Although fiber doesn't supply any nutrients and we can live without it, diets without an adequate amount of fiber have been linked to a number of diseases. Among them are heart disease, stroke, diabetes, obesity, and cancer.

There are two types of dietary fiber: water-insoluble and water-soluble. The benefits of the former -- adding bulk, absorbing water, and decreasing the time it takes food to move through the digestive system -- are more well known. But it is the benefits of foods high in water-soluble fiber that are making the most recent news.

Studies show that water-soluble fibers may have a beneficial effect as a dietary component in the treatment of high cholesterol and certain kinds of

diabetes.

Dr. James W. Anderson, professor of medicine and clinical nutrition at the University of Kentucky College of Medicine, is among those who have found a favorable relationship between water-soluble fiber and cholesterol.

Dr. Anderson conducted a series of studies using his "HCF" diet, one high in complex carbohydrates and dietary fiber with an emphasis on whole grains, fresh fruits, and vegetables. Red meat, sugar, and fats are avoided when possible, with fish and poultry substituted.

A group of men between the ages of 35 and 62 with high cholesterol levels participated in the studies. Oat bran, a concentrated source of oat fiber and an excellent source of water-soluble fiber, was added daily to the HCF diet. On this oat bran-rich diet, cholesterol levels dropped 13%. When oat bran was continued, cholesterol levels dropped, totally, almost 20%.

Not all types of cholesterol perform the same function in the body. For this reason, it's important to note that the patients who participated in these studies experienced a significant drop in the type of cholesterol that is believed to deposit into body tissues, the low-density lipoprotein cholesterol that is believed to be more closely associated with heart disease.

The body's "good" cholesterol, high-density lipoprotein (or that which removes cholesterol from the tissues), was not adversely affected by the oat bran diet. For that reason, researchers believe that even a well-balanced "average" diet that includes foods high in water-soluble

fibers may help reduce "bad" cholesterol levels and, in turn, potentially reduce the risk of heart attacks.

"Our work has shown that water-soluble fiber lowers blood cholesterol levels. If you lower your blood cholesterol 10%, you're reducing your risk for heart attack by 20%", says Dr. Anderson.

Dr. Anderson also found that his HCF diet, which included generous amounts of oat bran, helped stabilize blood sugar levels, thereby lowering the insulin needs of many diabetics. When the HCF diet was used in the treatment of adult-onset diabetics, many were able to discontinue or reduce the amount of insulin needed.

Oats, barley, and dried beans are among the best sources of water-soluble fiber, followed by fruit and vegetables. Oats, in particular, are an excellent nutritional investment. In addition to the fiber, oats contain more protein than any other grain. They are also rich in vitamins and minerals, and contain no cholesterol or sodium.

Aside from hot cereal, here are some ways to use oats in everyday meals: instead of bread crumbs as a meat extender or in stuffings and fillings; as an ingredient in toppings for coffee cakes, fruit cobblers and crisps: ground into flours and substituted for one-third of all-purpose flour in muffins, breads, pastry, even cookies and cakes, or to thicken soups, stews, and sauces.

You can also use the oat flour as coating for poultry or fish.

--- HOME LIFE 

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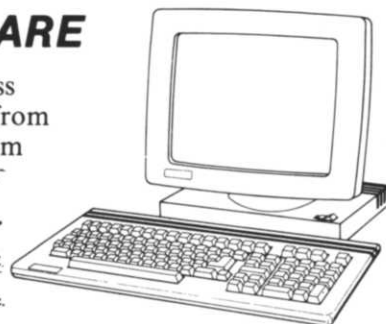
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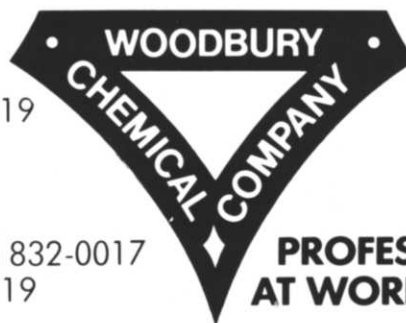
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**CHIPCO® MOCAP® 5G
REGISTERED FOR THE
CONTROL OF
MOLE CRICKETS
(Southeast Version)**

Rhone-Poulenc Ag Company announced the EPA registration of CHIPCO® MOCAP® brand 5G pesticide. The 5 percent granular product was registered for the control of mole crickets and other surface and sub-surface turfgrass pests on Home Lawns and on Commercial Turf such as Golf Courses and Sod Farms.

Andy Seckinger, Rhone-Poulenc Ag Company's Product Manager for CHIPCO® branded products, said "Years of testing by Universities and Rhone-Poulenc Ag Company of CHIPCO® MOCAP® 5G have consistently shown high levels of mole cricket control. The high efficacy levels are the result of the product's effectiveness and the increased ground coverage achieved by the 5 percent granule".

In addition to mole crickets, CHIPCO® MOCAP® 5G also was registered for the control of chinch bugs, black turfgrass Ataenais beetle, blue grass billbug, sod webworm, white grubs and nematodes.

To control mole crickets, CHIPCO® MOCAP® 5G should be applied by a Certified Applicator at the rate of 4.5 lb/1000 sq. ft. or 200 lb/acre. Irrigate immediately after application to increase safety and efficacy.

CHIPCO® MOCAP® 5G will be available January 1989 in 50 pound bags from the nationwide network of CHIPCO product distributors.

For more information, write to CHIPCO/Specialty Products, Rhone-Poulenc Ag Company, P. O. Box 12014, Research Triangle Park, NC 27709.

CHIPCO and MOCAP are registered trademarks of Rhone-Poulenc. ♣

**MANAGEMENT
FAILURES OR HOW TO
DEVELOP UNLIMITED
INCAPABILITIES**

by Gary Grigg, CGCS,
Heart of America GCSA

1. If a worker makes a mistake, chew him out real good, preferably in front of others.
2. Never accept responsibility for a decision if you can possibly avoid it.
3. Develop an ability to pass the buck.
4. Keep your nose to the grindstone; don't expose yourself to new ideas.
5. If a superior gives you advice, endear yourself to him forever by quickly letting him know you really don't need advice.
6. Keep your finger on every little detail of your job -- both past and present -- that way, you'll never have time to look ahead to future problems.
7. Never consult with others over problems.
8. Never teach a younger employee your job.
9. Never check up on your health, or if you do, pay no attention to your doctor's advice.
10. Be so impatient for advancement that you fail to learn your present job.
11. Be sparing of praise for a job well done.
12. Be sure to get involved in gripe sessions with your subordinates.
13. Always cover up your errors; it teaches your employees to do the same.
14. Get involved in company politics; if there aren't any, start some.
15. Develop a good management image to your employees. Always talk, but never listen.

---- THREE RIVERS GREEN ♣

**BROUWER TURF
EQUIPMENT DOUBLES
ITS SIZE**

Brouwer Turf Equipment has reached another milestone in its 17 year history.

After starting this business in a small building in 1972, it moved to the 50 acre site in Keswick in 1974, with a new 23,000 sq. ft. factory.

Since 1974, Brouwer has had three expansions resulting in a total of 66,000 sq. ft. by 1979.

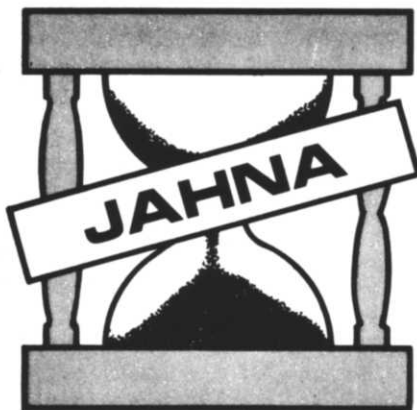
With the completion of their fourth expansion of the plant and offices, Brouwer has almost doubled their size to 124,000 sq. ft.

The company believes that this new expansion and other improvements, place Brouwer Turf Equipment Limited in an excellent position to compete and meet market demand for quality, innovative turf equipment world wide.

Over the years Brouwer has become a leader in the manufacturing of a complete line of equipment for both the sod production and turf maintenance markets. In a keen and competitive market, Brouwer's unique equipment is known worldwide for its economy, reliability and versatility.

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Bermudagrass Mite

by CLYDE S. GORSUCH, Extension Entomologist
Clemson University, Clemson, SC 29634-0365

Recently I have received reports of infestations of the bermudagrass mite from golf course superintendents. Conditions this summer have apparently right for this pest to reach damaging levels. This pest is best recognized by the damage.

The damage is caused by the feeding of the mites beneath the leaf sheaths. First signs are a slight yellowing of the leaf tips and a twisting of the leaves with the margins rolling upward and inward. As damage progresses, shortening of the stem internodes occurs producing tufts or rosettes. When populations of bermudagrass mites are very high and rosettes are numerous, clumps that resemble cabbage heads develop, and the grass appears to have no internodes. Even-

tually, the leaves, stems and stolons will die. This damage is believed to be caused by toxins injected into the plant tissue by the mite during feeding. Damage is most pronounced during dry weather when the grass is under stress. In Florida, golf course infestations are higher where close mowing was not practical. The edges of bunkers, the lips of sand traps and areas around trees were the worst. Large areas of turf may become thinned or killed.

The bermudagrass mite belongs to a group of mites known as eriophyids. This group of mites attack a wide variety of plants. In almost all cases, some type of distortion of the plant or gall formation occurs due to the feeding activity of the mites. The bermudagrass mite is very small, only about 0.1 - 0.2 mm in length. They are creamy-white and worm-shaped with only four legs at the front of the body. The adult mites are barely visible with a 10X to 20X lens. As many as 200 mites may be found in a single leaf sheath. This pest feeds only on bermudagrass.

Mites are active primarily during late spring and summer. Only 5 - 10 days are needed to complete development from egg to adult. Optimum temperatures for development are 80 - 100 degrees Fahrenheit. Bermudagrass mites are spread through normal cultural practices such as mowing that spreads clips, and by hitchhiking on insects present in the grass. Wind and rain are major means of dispersal.

There are definite differences in the susceptibility of various bermudagrass cultivars. Studies conducted in Florida and Arizona have shown that "Tifway" and FB-141 have moderate resistance, "Midiron," "Tifdwarf," "Tifgreen (328)," and "Tifway (419)" are highly resistant, while FB-119 showed no infestation during 6 years of study.

The final question is how to control this pest. Unfortunately, diazinon is no longer labeled for use on golf courses and sod farms. At this time, I would suggest using MARVIK or DURSBAN for control. Bermudagrass mites are on the MARVIK turf label and mites are listed on the DURSBAN turf label. Another material to think about is SEVIN. SEVIN lists eriophyid mites in the ornamental portion of the label. In any case, addition of a good spreader sticker would probably be advisable since the material must get into the leaf sheath to do any good. Use ample water to ensure thorough coverage. A second application should be made within 7 days. Cut the grass and remove the clippings prior to application if possible.

It is important to do everything possible to keep the grass in good vigor. Apply water and fertilizer to stimulate good growth. ■

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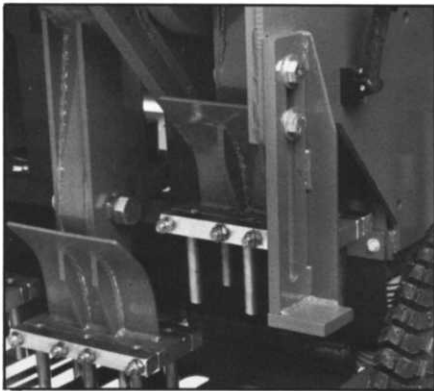
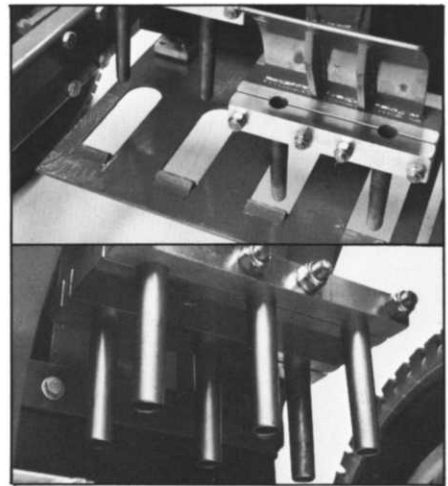
Maximum Width + Maximum Speed = Maximum Productivity

With its 63" coring swath, this powerful aerator is capable of aerating up to 61,000 sq. ft. an hour! That's about 4 times as fast as most other reciprocating aerators.

Versatility

Two coring options give you the versatility to satisfy your particular aerification needs.

- The 3.5" x 3" pattern up to 3" deep will reduce compaction and provide better control of thatch by bringing up soil that provides a topdressing to break down the thatch layer, along with reducing compaction.
- The 5.25" x 6" pattern up to 5" deep will increase drainage and reduce soil compaction for better root growth and healthier turf.



Professional Performance

With coring depths of up to 5", this machine allows you to efficiently give fairways and other large turf areas the same quality aeration care previously limited to greens.

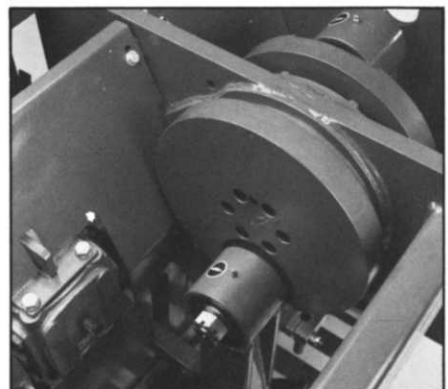
Adjustable Depth

Coring depth is controlled with adjustable brackets on each side of the unit. The coring unit depth can be easily adjusted up to 5" in depth with the two tine head (5" x 6" pattern) and, up to 3" in depth with the 6 tine head (3" x 3.5" pattern).

Maximum Durability

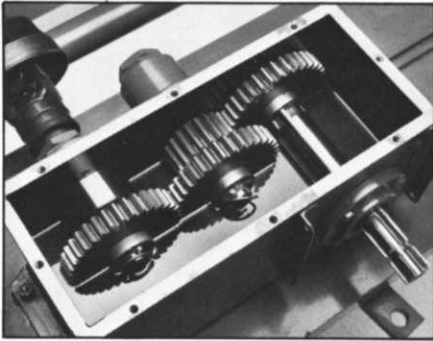
No belt or chains! With an all gear drive, this machine is built to withstand the punishment of high capacity aeration.

- All crank arms ride on heavy duty tapered roller bearings.
- All gears run in lubricated oil baths.
- Heavy duty, welded tubular and structural steel frame.
- Heavy duty, welded structural steel bar and plate coring head frame.



Operation Ease

- Front castor wheel provides easy maneuvering when backing or transporting.
- Hydraulic lift cylinder provides the operator the convenience to raise and lower the coring head from the tractor seat.



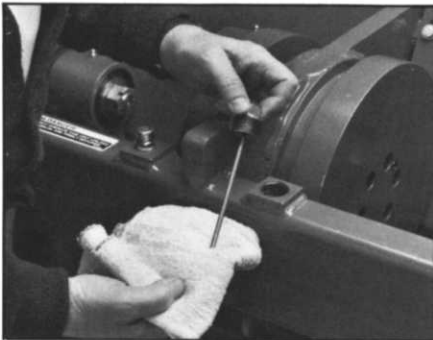
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The Toro Fairway Aerator is designed with large floatation tires to minimize compaction.



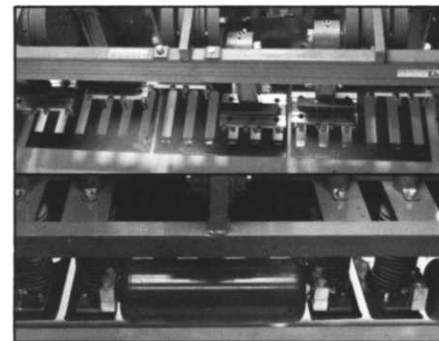
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Coring head stands are provided so you can secure the coring head during transport. While servicing or when changing tines.

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Fairway Aerator Specifications*

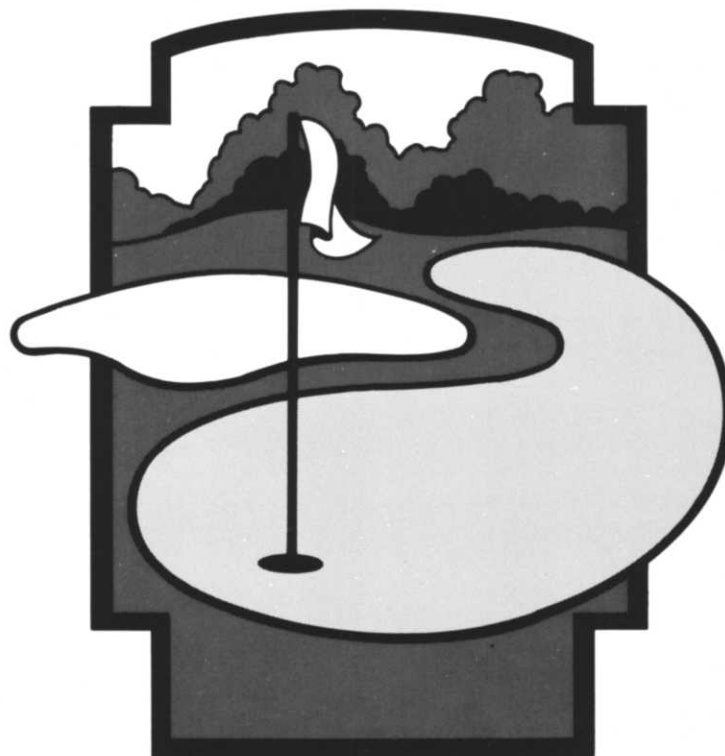
FAIRWAY AERATOR (MODEL NO. 09500)		
TYPE	Tow behind, PTO driven, deep coring turf/fairway aerator.	
TRACTOR SIZE REQUIRED	35–45 hp at standard 540 PTO rpm.	
GROUND SPEED	1.8–2.2 mph (2.9–3.5 km/h).	
CONSTRUCTION	Frame: welded tubular and structural steel. Coring Head: welded structural steel bar and plate. Hitch: Bolt-on welded tubular and structural steel w/2" (5cm) ball coupler. Welded structural steel bar and plate.	
CRANKS	3 sets with 6 arms.	
TIRES	One each front: 23 x 8.50-12; tubeless and 4-ply rated. Two each rear: 18 x 9.50-8; tubeless and 4-ply rated.	
LIFT CYLINDER	Single acting cylinder hydraulically raises and lowers coring head. Connects to tractor hydraulics with a 1/2" quick coupler.	
DIMENSIONS	Length: 110" (279.4 cm) to 124" (315 cm) Width: 90" (228.6 cm) Height: 44" (111.8 cm) Wheelbase: 44.5" (113 cm) Weight: 2975 lbs. (1350 kg)	
WARRANTY	One year limited warranty. Refer to the Operator's Manual for further details.	
CORING MODE OPTIONS		
	7/8" TINES	3/4" TINES
CORING WIDTH	63" (160 cm)	63" (160 cm)
TOTAL # OF TINES	1 row of 12 tines	2 rows of 18 = 36 tines
HOLE PATTERN	5.25" x 6" (13.3 cm x 15.2 cm)	3.5" x 3" (8.9 cm x 7.6 cm)
CORING DEPTH	Up to 5" (12.7 cm)	Up to 3" (7.6 cm)
CAPACITY	61,000 sq. ft./hour (5,666.9 sq. meters/hour)	61,000 sq. ft./hour (5,666.9 sq. meters/hour)

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Golf Course Mechanic: The Unsung Hero

by CHARLIE CROSS

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

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

Many golf courses today have equipment inventories that easily exceed \$300,000 in replacement cost. Included in the inventory are many specialized pieces of equipment which require altogether different preventative and daily maintenance. Mowers of varying types and styles, tractors, transport/utility vehicles, spray apparatus, aerators, trucks, trap rakes, weed eaters and sod cutters. The list could go on. Maintaining all the above mentioned

equipment in proper operating condition sounds like a large responsibility. It is.

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

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

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

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

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

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

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

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



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Golf Digest Names 1988's Best New Golf Courses

The Links at Spanish Bay, in Pebble Beach, California, Black Diamond Ranch Golf and Country Club in Lecanto, Florida, and Blackwolf Run Golf Course in Kohler, Wisconsin, have been named America's Best New Resort, Private and Public Courses, respectively, by GOLF DIGEST.

The sixth annual selections are announced in the January, 1989 issue.

Courses opened for play between July 1, 1987 and June 30, 1988, were eligible and voted on by a panel of 400 panelists. Seventy-seven courses were evaluated on the basis of five criteria: Shot values, playability, design balance, memorability and esthetics.

The Links at Spanish Bay was designed by the team of golf architect Robert Trent Jones Jr., golfer Tom Watson and Frank (Sandy) Tatum, former U. S. Golf Association president. The trio recreated the look, feel and playability of a grand old Scottish Links,

using several holes from St. Andrews, Muirfield and other famous U.K. courses as models.

Runners-up in the resort course category were The New Course at Grand Cypress in Orlando, Florida, designed by Jack Nicklaus, and Teton Pines Golf Club in Jackson, Wyoming, designed by Arnold Palmer and Ed Seay.

Designer Tom Fazio's Black Diamond course also includes reminders from other great courses, like Pinehurst and Jupiter Hills. But the heart of the course begins on the par-3 13th, where the first of two deep abandoned limestone quarries is encountered. The course then plays more like Pebble Beach, with holes over chasms, along clifftops and down an escarpment. Fazio has now won top honors two straight years. His Wade Hampton course was named Best Private Course in 1987, and his Barton Creek layout was third.

Indianwood Golf and Country Club

(New Course) in Lake Orion, Michigan, designed by Bob Cupp and Jerry Pate, and Metedeconk National Golf Club in Jackson, N. J., designed by Robert Trent Jones and Roger Rulewich, were runners-up in the private category.

Pete Dye's Blackwolf Run course has a diverse collection of holes that clearly resemble previous Dye designs. Though the course is located in the rolling meadowland and river bottom of eastern Wisconsin, the long, deep bunkers, towering mounds lining some holes and greens half hidden by ominous bunkers are an unmistakable reminder of PGA West. It also features one of the few double greens Dye has ever designed.

Second to Blackwolf Run was Page Belcher Golf Courses (Stone Creek Course) in Tulsa, Oklahoma, designed by Don Sechrest, while Michaywe Hills Golf Club (Lake Course) in Gaylord, Michigan, designed by Jerry Matthews, finished third. ♣

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Biological Pesticides Promise Opportunity to Florida Nursery Industry

by DARCY MEEKER, IFAS

A University of Florida foliage expert has a novel idea for diversifying Florida's billion-dollar nursery industry, which some experts say is close to being over built.

Lance Osborne, researcher with UF's Institute of Food and Agricultural Sciences in Apopka, sees business opportunities for growers of ornamentals and foliage plants in producing biological controls -- bugs, fungi, bacteria and other organisms which attack only harmful bugs, microbes, and weeds.

"The world's leading producers of biologicals started out in the nursery business, and now they're using their greenhouses to produce organisms for biological pest control," Osborne said. The companies got into producing beneficials for their own use, then started selling them locally.

Biologicals are a cottage industry in Czechoslovakia and other Eastern Bloc nations, Osborne said. "We're on hold here, in Florida, waiting for quality control, but many companies are interested in it."

"At the moment, we're at catch-22 -- how do you develop a product without a market or develop a market without a

product?"

Nurseries are a natural starting point, both as producers and as consumers of new commercial biocontrol products, Osborne said.

Chemicals are not as desirable an option as they once were. The number of chemicals that are available is shrinking daily. Pests develop resistance to chemicals very quickly. Environmental concern and concern for employee welfare are mounting.

A number of roadblocks to commercializing biocontrol do not pertain to greenhouse production of foliage plants.

For example, you can't build a company on a product you sell only once. The citrus black fly (and the white fly that used to plague camellias in Florida) is controlled by a handful of tiny beneficial wasps released in South Florida in 1976. A spectacular success, it saves the citrus industry \$9.3 million a year. It was a one-shot deal -- nobody needs any more of those wasps -- but biocontrol is not a one-time self-sustaining operation in the greenhouse environment.

Nurseries need repeated doses of

biocontrol organisms for several reasons:

- They find they can't avoid some use of chemicals, which can disturb biocontrol organisms.

- As populations of pests are reduced by release of beneficial insects, the beneficials starve and must be replaced by additional releases. "In the nursery business, we aren't looking for balance, we're looking for eradication, and we want zero damage to the final product," Osborne said.

Greenhouses also make good candidates for biocontrol because they are relatively closed environments, compared to open fields.

Many in the nursery industry also know how to create the controlled conditions necessary to produce biologicals, and they have expertise about plants, bugs, weeds, and plant pathogens, Osborne said.

In addition, product value is high, so investment in the new technology can be justified.

"Of course, biocontrol organisms will have to be cleared with various agencies before they are released or sold," Osborne said, "but there is every reason to be excited about the potential of biologicals for the nursery industry." 🍏

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New Lightweight Fairway Mower Draws Crowd at GCSAA Show



A new lightweight fairway mower from Jacobsen Division of Textron Inc. attracted a great deal of attention at this year's GCSAA Golf Course Conference and Show.

The LF-100 is a durable, out-front 5-gang reel mower that gives a greens-quality cut on fairways. It cuts a 100" swath at speeds up to 5mph, for higher productivity. The LF-100's heavy-duty design makes it more durable than triplex greens mowers, yet it has extremely low ground pressure for less soil compaction and healthier turf.

A new mower configuration puts the two outside reels in front of the operator, so the trimming edge is easily seen without looking back and away from the mowing path. This gives better control of overlap for increased productivity, as well as improved operator visibility and comfort. The mower configuration also provides a shorter uncut circle of grass on turns, and makes grass catcher removal and reel maintenance much easier.

The LF-100 uses Jacobsen's proven Greens King reel design, with new heavy-section blades and bedknives that give

extra strength and longer life for demanding fairway mowing applications. The fully floating reels follow ground contours closely for a precise cut, and pivot through turns to eliminate scuffing of turf on the clean-up pass.

Long life, fuel-efficient operation, and low maintenance are some of the benefits of the LF-100's 22 hp diesel power plant. The smooth-running three-cylinder engine is liquid-cooled for efficient operation in demanding conditions. A heavy-duty air cleaner keeps the engine running clean for longer life.

Foot pedal controlled hydraulic lift raises all five reels quickly, and two-wheel power steering gives easy maneuverability for quick turns and efficient cross-cutting. The four-wheel wide-track stance increases stability and makes it easier to hold a straight line, for accurate striping of fairways and athletic fields.

For more information, contact the Marketing Department, Jacobsen Division of Textron Inc., 1721 Packard Avenue, Racine, WI 53403.

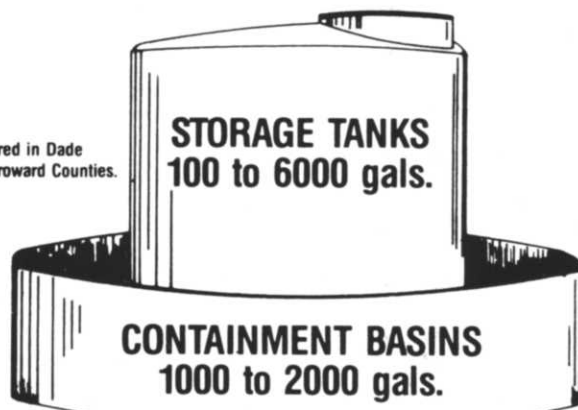
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Mobay Biochemistry Research Center to Expedite Product Registration Process

Bayer USA's Mobay Corporation has formally opened a new multi-million dollar Biochemistry Research Center near Stillwell, Kansas.

The 48,000-square-foot facility will be operated by Mobay's Agricultural Chemicals Division. The facility, situated on the 300-acre Mobay Research Park, is dedicated to the study of agricultural chemicals and their relationship to plants, animals and the environment. Bayer USA is the U.S. management holding company of Bayer AG, West Germany.*

Completion of this state-of-the-art facility enables Mobay and Bayer to evaluate experimental compounds, and to meet the Environmental Protection Agency's re-registration requirements for crop protection chemicals. It further provides Mobay with a modern laboratory complex that also meets current and anticipated requirements of Good Laboratory Practices. In addition, it allows Mobay to participate more extensively in an established cooperative program with Bayer and a Japanese affiliate, Nitokuno, to help facilitate the interchange and worldwide use of research data.

According to Dr. Don R. Flint, Biochemistry Manager for Mobay's Agricultural Chemicals Division, the facility houses nearly fifty research professionals, and the delicate instrumentation necessary to conduct thousands of hours of testing required before an experimental compound can receive federal registration for commercial use.

The Biochemistry Research Center is equipped to carefully trace the course, or fate, of a chemical compound through the food chain. Highly sophisticated instruments and procedures identify how plants and animals metabolize a given compound, how much of the material remains at each stage in the food chain, and how quickly it degrades. Biochemists also trace the fate of the material in the environment. Only those compounds which are proven safe to the user, to the consumer, and to the environment are ultimately cleared for commercial use.

The state-of-the-art complex features a unique modular design to accommodate the special needs of five separate research groups: three assigned to study the metabolism and environmental fate of insecticides, fungicides and herbicides; one group specializing in synthesis of test chemicals and analytical standards; and one group responsible for contract residue data and reporting.

Facility features include a comprehensive environmental management system which brings 55,000 cubic feet of fresh air into the complex every 60 seconds. Computers provide modular control of temperature, humidity and lighting. A central atrium design provides each laboratory module with natural light. And the complex is equipped with two back-up power systems to guard against surges or utility failure.

The intricate analytical research is accomplished with the help of highly sensitive electronic instruments. The centerpiece of that instrumentation is a high resolution gas chromatograph/mass spectrometer, a powerful instrument designed to analyze molecular structure in increments of parts per billion.

The new research facility is expected to help expedite the long and costly process which takes a new product from discovery through registration and approval for marketing. It is a process which today requires from seven to ten calendar years in time, and can cost between \$20 and \$50 million.

That process begins at Bayer's Agrochemicals Centre in Monheim, West Germany, where researchers synthesize approximately 25,000 new compounds each year. Of that number, some 5,000 of the most promising compounds are brought to the Mobay research facility in Vero Beach, Florida for testing in the laboratory and 'micro-field' plots to identify potential uses.

The best performing of these experimental materials are next evaluated on target crop plants under expanded test plot conditions on one or more of the six Mobay research farms across the nation. Some of those compounds will also be evaluated by university researchers under

carefully monitored application methods and rates.

"That's the stage at which the laboratory studies can either make or break a new compound," says Dr. Flint. "Even though a new compound may perform perfectly in field plots, it still has to successfully pass a great many biochemical and toxicological tests before it can be submitted for registration."

Specifically, EPA regulations list over 100 separate laboratory studies (plus scores of field studies) that must be completed in acceptable form before registration can be granted. According to Dr. Flint, many of these can only be performed meaningfully in certain sequences. In Biochemistry this translates to some three calendar years and some fifteen man years of investigational activity for each new compound.

*Bayer USA Inc. is the U.S. management holding company of Bayer AG, West Germany, and is a diversified group of companies with businesses in industrial and agricultural chemicals, health care and imaging systems. In addition to Mobay, other major Bayer companies in the U.S. include Miles Inc. and the members of the soon to be formed Agfa Corporation: Agfa-Gevaert, Inc., Compugraphic Corporation, and Matrix Corporation. Together, the Bayer USA companies had sales in 1987 of \$4.2 billion, or nearly 20 percent of Bayer's sales worldwide. ☛

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New Insect Growth Regulators Control Fleas Safe and Effectively

by NANCY E. DOHN
IFAS Information

Tis the season for fleas, but two new insect growth regulators developed by researchers at the University of Florida make future springs and summers look almost itchless for dogs, cats and owners. Soon to be released commercially, a dose of either product controls fleas up to six months, is 90 percent effective and safer than most pesticides currently available, say entomologist Phil Koehler with the Institute of Food and Agriculture Sciences (IFAS).

A result of a joint effort between IFAS and Richard Patterson of the USDA-Agricultural Research Service, the innovative products contain fenoxycarb and diflubenzuron, Koehler said. They will be initially marketed to the pest control industry under the trade names Torus and Dimilin.

"These chemicals have the potential to revolutionize the pest control industry.

Studies show they are a thousand times more effective than any flea pesticide used now, and they are the first to give long-lasting control outdoors," the IFAS Entomologist said.

While most flea products require monthly applications and break down quickly in the sun, those containing these new chemicals last up to four months indoors and up to five months outside, said Koehler. This long-term residual effect can help pest control companies provide an effective service and can save consumers money.

"And because they affect the insect's hormonal balance, they are potentially safer to humans and animals than many pesticides currently used," Koehler said.

Most flea controls work by affecting the insect's central nervous system. Insect growth regulators, however, influence the hormone production system

of the biting pest, which differs from the systems of all warm-blooded animals. The one chemical attacks insects in their juvenile stage of development and the other prevents the formation of an outer skeleton, Koehler said.

Over-the-counter foggers, hand-held sprays and yard products containing the growth regulators will be available in time for next spring's flea season, Koehler predicts. Incorporating the new products into pet shampoos and daily pills furthers the possibility of a flealess future.

"These two products are going to completely change flea control, but they're just the tip of the iceberg. Five years from now growth regulators are going to be the primary means of staying one step ahead of most household insects," Koehler said. 🍏

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Pestilence Unto the Pests

Biological Pesticide May Be in the Works for Sweet Potato Whitefly

by DARCY MEEKER
(904) 392-1771

A University of Florida researcher has found a fungus that kills an insect costing millions for two billion-dollar Florida industries -- vegetables and ornamental plants.

The sweet potato whitefly is resistant to most chemicals, inflicts heavy damage on plants by sucking juices, and leaves a honeydew that encourages sooty mold.

In summer 1987, Lance Osborne was rearing sweet potato whiteflies in his Institute of Food and Agricultural Sciences lab in Apopka so he could run pesticide tests. But a fungus named *Paecilomyces fumosoroseus* hit the colony and wiped it out before he had a chance.

Now, IFAS and USDA are sponsoring further research into the fungus as well as a small beetle that attacks whitefly eggs "like a vacuum cleaner," Osborne said.

In addition, two companies are negotiating with IFAS for the rights to develop the "unusually effective" strain

of the common fungus as a biological control for sweet potato whitefly, said Dr. James Tammen, IFAS director of technology transfer.

The whitefly is a bad bug. It appears to poison the plant, because the whole plant is affected, not just the spot where the whitefly is feeding. It whitens tomatoes worth half a billion to Florida, and silvers whole squash plants, fruit and all. Squash is worth about \$60 million to the Florida economy.

"When you remove whiteflies, squash that were silvered by whitefly damage turn green again," Osborne said.

He said that two years ago, nurseries had no whitefly problem. Now they have to spray for them one to three times per week.

"We had an outbreak of the fungus a couple years ago on another insect that was not a pest," said Osborne. "It didn't seem worth pursuing at the time, but when a pathogen wipes out a widespread

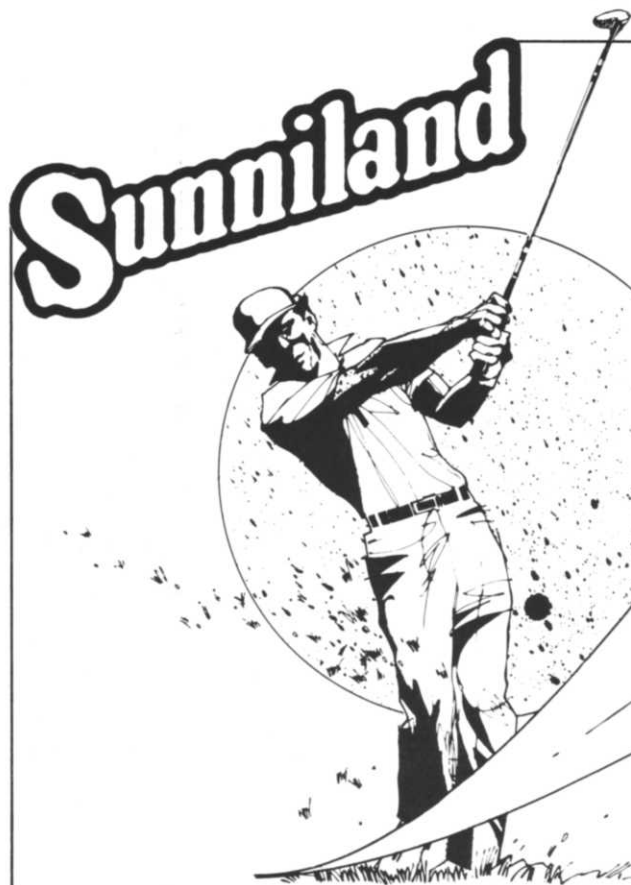
pest like sweet potato whitefly, you have to look into it."

A fungus that attacks fire ants and a microbe-sized worm that attacks mole crickets, also IFAS finds, are also being explored as potential commercial biocontrol products.

"The opportunity for commercial development of biocontrol is higher than ever before," said Tammen. "It's especially exciting because there's a whole new series of biotech companies specializing in niche markets."

Tammen said industry is especially interested in micropathogens such as fungi, viruses and bacteria to control plant diseases, weeds and insects.

Interest is great, Tammen said, because micropathogens can often be sprayed using existing pesticide equipment and often can be used in combination with other treatments including chemicals. Biologicals also promise a very high level of control, similar to chemical pesticides. 🍏



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Trade Secrets

by Paul Voykin, Briarwood C.C., Deerfield, IL

A few years ago I installed a "Phone-Mate" recorder in my office for those members who live in Chicago (30 miles south of Deerfield) and who wish to know, very early in the morning during an inclement weather situation, the golf course condition, and cart status. It's been a huge success!

I have now become a bit more creative in my weather report to them in the wee hours of the morning. For instance, instead of the usual . . . "Hi, this is Paul (or P.V.). The course is closed because of three inches of rain", or whatever. I now say something like this: "Good morning, this is P.V. You have a fragile environment here with billions of living plants called grass, and I am charged by you with their protection and well-being. The ugliness of cart damage does not go well with our wildflowers, trees, and beautiful turf mowed at different heights. So, for today, the course is open but **no carts all day**. Please give me your support." Sometimes my message goes like this: Good morning, this is P.V., your Conrad from 'The Heart of Darkness'. Every day it's the same . . . rain, more rain, and monsoons, and the jungle drums keep beating . . . 'Close the course, close the course', but not today. Everything goes; carts all over. Have a nice time." (Sad to say that afternoon I had to close the course again because it rained like everything.) Anyway, most of the members have been delighted by my P.R., but a small percentage, of course, are ready to shoot me.

CREDIT: The Bull Sheet

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Training for the Future

by MIKE BAILEY
The Falls Country Club



Photo by Mike Bailey.

Mike gives final instructions to Art and crew about day's assignments.

Have you sat down with your assistant and clearly stated your expectations of his role? Perhaps in the beginning, disagreements will arise and perhaps someone might even want to quit his job. In order to put to rest all disagreements, the superintendent and the assistant must see clearly eye to eye and mutually respect each other's world of responsibility.

First off, what is the definition of an assistant? The answer might be "to assist the immediate supervisor in a manner to effectively operate a business." We commonly refer to the assistant golf course superintendent as simply "the assistant." This is not a problem. Everyone within the department usually understands the assistant's responsibilities. I can say over the years my overall needs for an assistant have changed, but generally, the workload has remained the same and probably will remain the same for years to come.

I believe the following

questions and answers set down a guideline for the management of an 18 hole golf course. Sure, there can be modifications and different styles of managerial practices. But this has been my style for over ten years and I can proudly say I've been associated with some great assistants because, hopefully, I have set down guidelines and expectations.

- ***Who lines up the crew at the beginning of the morning?***

In order for me to command respect from the crew, I feel a need to be on time everyday. We are blessed with a competent crew where tardiness is a rarity. Because I arrive 25 to 30 minutes before work begins, I also find the entire crew arrives ready to go anywhere from 5 to 10 minutes before work actually begins. Socializing, teasing, and light

discussion about work creates a pleasant interaction.

Weekdays at 7:00 a.m., our work day begins. We congregate around the assignment board and erase yesterday's schedule and I write down the current days assignments. The assistant contributes by reporting yesterday's progress and confirms my assignments. This procedure allows the assistant to participate from a "second level of command." The crew realizes the assistant monitors the day's activities. The crew also realizes the assistant will be the "first level of command in the field." An understanding is established between my expectations and the crew's deadline of expectations.

Also I might note, the golf course equipment manager (commonly referred to as the head mechanic) stands at the assignment board along with the rest of the crew. This allows Mr. Terry Pratto to be advised on the equipment that will be out on the golf course for the day, so that he can plan accordingly. We

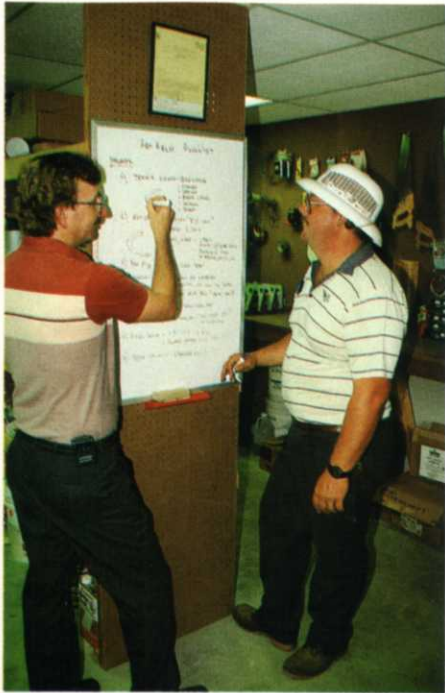


Photo by Mike Bailey.

Mike with assistant Art Helm.

also interact with employee responses on yesterday's mechanical problems and even discuss top-dressing or aerification for next week. This way, no surprises come about. All of the employees feel a part in the team concept. Here again, however, guidelines have been established. The equipment manager is third in command and reports to the assistant when the golf course superintendent is off the property.

• **Who manages the crew?**

I strongly encourage the assistant to manage the crew during the "middle" of the working day." What does this mean? Typically throughout the day, I find myself involved with other facets of managing a golf course where I will not be in tune with the performance of the work crew. This is where the assistant comes through. Our assistant is the person out on the golf course on an hourly basis, keenly monitoring the performance of the maintenance staff.

Yet the managerial assistant is not an executive. The assistant does not appear to the membership as being the golf course superintendent. The assistant is dressed in the same uniform attire as the rest of the crew, busily performing various daily responsibilities through out the golf course.

• **What do you expect from your assistant daily?**

I find a need for the assistant to be well diversified and knowledgeable about irrigation, pest management, cultural maintenance, not to mention helping to supervise the crew.

I prefer the assistant to inspect the irrigation system and the irrigation pumphouse daily. This includes the inspection of the pump motors, the pump station mechanisms, the irrigation central, setting up for appropriate irrigation needs, changing the pressure recorder and generally checking for any leaks, vandalism and any other problems associated with quality maintenance.

An assistant should review the golf course as another set of agronomic eyes. The assistant will look for disease, pest control, and review recent chemical applications. He will evaluate results and inspect the turf quality for future aerification needs, verti-cutting, top dressing, and even assist the mechanic on evaluating mowing quality performance.

• **Does an assistant need an office?**

Yes, but let's clarify what constitutes an office. Assuming the superintendent has an office complete with desk, file cabinets and a seating arrangement for meetings, does the assistant actually need such an office? I believe the answer is NO. Of course, the assistant requires a desk, file cabinet, and perhaps a few chairs for an impromptu meeting. But he needs "an office environment" appropriate to a worker, not an executive. It should have more of a storage room appearance where valuable

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items such as tools, irrigation parts and golf course supplies are kept under lock and key. A workbench for clock repairs and so on is also appropriate within the assistant's air conditioned storage/office room.

• ***When is the assistant not invited?***

In the past I have had the problem of an assistant simply walking into my office without reason. My office is not a place to socialize. I have since set up a policy to prevent these interruptions. Before anyone enters my office, he is expected to look in the window and pause. If I wave my hand to come in, please enter. If I hold up my hand with a pause, please wait. I could be in a meeting, on a phone call, or reviewing paperwork that should not be interrupted. This has greatly increased our respect for each other's sense of responsibility.

• ***Should an assistant attend meetings?***

Sometimes, it seems difficult to justify both the superintendent and the assistant attending various meetings together. While we are both off the property, who will supervise the crew? Because the assistant is employed to assist, he should stay home and "attend house."

Perhaps once or twice a year the assistant might attend a chapter meeting, an irrigation school or special seminars for CEU points for his pesticide license. The Palm Beach chapter successfully conducts the annual assistant's meeting when all assistants are urged to attend this special meeting. This way, the assistants feel they have a place within the organization.

• ***Should the assistant be salaried or paid hourly?***

I believe salaried. His job description is managerial, therefore a salaried position is more appropriate. If personal problems arise, the assistant can take time off and still receive pay, yet when the workload exceeds regular hours, all is clearly understood.

• ***Should the assistant work weekends?***

Of course! As much as we need time off, our assistant was hired with the understanding that he would work on one of the two weekend days. In our situation, the mechanic works Saturday and the assistant works Sunday. There is a reason for this particular schedule. Since Saturday follows immediately after Friday, it is hoped that all goes well for such a short time. The equipment manager feels comfortable with his role of supervising the crew. Sunday can be a different experience. Because another day has transpired and more serious problems may develop, the assistant is more qualified to handle the work load.

Exceptions do occur. Vacations, special occasions, and sickness often create a need to switch work days. Of course, I am only a phone call away to help when needed, but I find their sense of responsibility is best appreciated if they tackle the weekend problems on their own.

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• Does the assistant have the authority to hire and fire?

Yes. Years ago I received complaints about employee competency. I found myself with the responsibility of firing so-called incompetent employees because the assistant could not work with certain employees. Typically the new hires were no better than the previous so-called incompetent employees. I have authorized the assistant to become more involved with scrutinizing managerial needs. If an employee fails to perform, I now allow the assistant to get involved with the problems. If the problems are not resolved, the assistant will become burdened with the training of a new hire and try to improve the situations over the last employee. Sometimes this does not occur. In such cases, I now find the assistant has more patience and he works more closely with crew members. It's easy to fire, but it's not easy to hire, especially a better new hire.

• Are you managing an assistants training school?

In my case, no. My job description is quite extensive. Sometimes I believe my job description could best be stated as, "DO EVERYTHING." Yes, I enjoy the challenge and responsibility of my job. Because of this, I need a good assistant. The individual must be devoted to the industry, be honest, loyal and, most importantly, have a willingness to spend a few years with me. No, I can not afford to lose an assistant once a year. I then would have to step back, punt and retrain. Unfortunately, I do not have the time to train employees.

I have developed the "on deck circle program" within the maintenance staff. I always try to have a person on the crew that is looking for advancement. Hopefully this individual is interested in

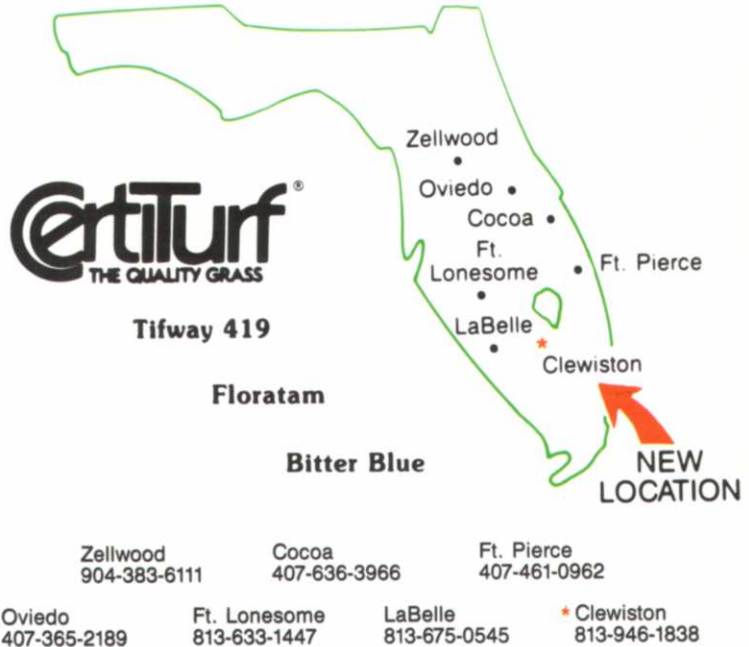


Photo by Mike Bailey.
Assistant golf course superintendent Art Helm watches over chemical mixture.

working his way up the ladder. Proper formal education is important along with practical field experience. By the time the assistant moves on, the "on deck circle" assistant is ready and willing.

The new assistant will come to bat having a full knowledge of the game plan and he will clearly see eye to eye with me on what is expected of him as assistant.

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The Toro Company has introduced its Greensmaster 3000-D Riding Greensmower. The new diesel-powered mower offers the same high quality of cut as the company's long-successful gas-powered Greensmaster 3000, equipped with a more durable, longer life, liquid cooled diesel engine, according to the company.

"The 3000 has been providing a superior quality of cut to golf courses for 18 years," said Helmut Ullrich, Toro Marketing Manager.

The Greensmaster 3000-D features a 17-horsepower, liquid-cooled diesel

engine. This powerful engine is designed for use on greens, aprons and fairways.

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The recently-introduced Toro grooming reel, lets golf course superintendents easily manage individual green conditions throughout the course. Toro's exclusive "quick up and quick down" adjustment allows the operator to raise or lower the grooming reel without losing the depth setting. In addition, no tools are necessary for depth adjustment, and the free-floating cutting unit design is not affected by the weight of the collection baskets.

For more information about the Greensmaster 3000-D, contact the Toro Company, Commercial Division/Marketing Services, 8111 Lyndale Avenue South, Minneapolis, Minnesota, 55420. 🍏



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New Insect Growth Regulator Helps Win the War Against Termites

by NANCY E. DOHN
IFAS Information

Subterranean termite soldiers have become an unlikely ally in winning the costly war against the wood-munching pests. An insect growth regulator tested by entomologist Nan-Yao Su, with the Institute of Food and Agricultural Sciences (IFAS), affects the insect's hormones, increasing the number of soldiers in a colony and causing its decline. Effective in small doses, the product is also non-toxic to humans and potentially can save Florida homeowners millions in property damage.

"This insect growth regulator is designed to supplement chemicals in use now. It provides another option, enabling us to develop an urban pest management program for Florida residents that effectively controls termites," Su said. Research on the growth regulator is being conducted at the Fort Lauderdale Research and Education Center.

Termites currently cost homeowners in the Sunshine State almost \$400

million each year in property damage. While most people assume rotting wood to be the attractant, that's not always the case, according to the University of Florida professor.

Every spring, swarms from established colonies, which contain as many as three million termites, forage randomly seeking new nest sites. This mass includes a king and queen for reproduction, soldiers for protection and workers who gather food, Su said. The new chemical targets specific hormones in the workers.

"It turns the workers into soldiers, disrupting the delicate balance of the worker/soldier ratio. Soldiers depend on workers for food, and increasing their number overburdens the workers' tasks and they quit feeding the soldiers," he said.


And because it's highly efficient, only a small amount of the growth regulator is needed. A wooden stake is baited with the chemical and inserted into

the ground in the path of the food-seeking workers who carry it back to the nest and infest the colony, he said. Su predicts the new product may be commercially available within five years.

"It takes between six months and a year to cause the colony to decline. This long-term action is what we want, however, because it prevents the workers from realizing the infested food source and abandoning it," Su said.

During this period of time, traditional chemicals are used as a barrier to prevent continued infestation of a home. As a prevention, current building codes often demand treating the soil for termites prior to construction, he said.

"However, this is done with chemicals that could potentially have negative effects on the soil," he said. "Insect growth regulators are environmentally safe and, when used in combination with these pesticides, can provide optimum termite control." 🍎



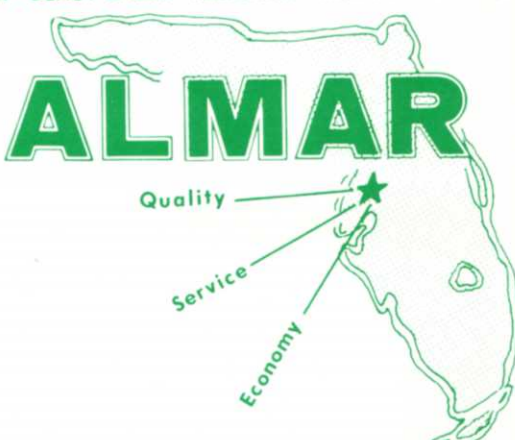
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eases in ornamentals, turf,, field crops, pasture grasses, vegetables and fruits and nuts. It also touches on general plant pathology and fungicides.

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by DONALD KOOYER, CGCS

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Back row, left to right: Eddie Snipes, External Vice President; Art Cape, Board Director; Gary Dahlberg, Treasurer; Mark Waldron, President. Front row, left to right: Bill Griffith, Secretary; Frank Sbarro, Board Director; Don Kooyer, Immediate Past President; Don Allen, Vice President.

As I took over the helm of the North Florida Golf Course Superintendent's chapter, I wondered how my tenure would proceed through the year. Being a chapter president for the first time, I was hoping for all the support I could get. With the support from all the professional members of the N.F.G.C.S.A., I can say that last year was one of commitment that was challenging and rewarding.

Now that the new president has taken over, I would like to take this opportunity to thank all the directors and board members for their professional contributions to our strong organization. I could not have succeeded and our association would not be as strong and viable as it is without their support. All presidents throughout our state chapters and state and national Golf Course Superintendents Association could not serve the needs of our members without their generous support.

Being an officer or director of a professional organization means commitment to your profession. Not only do you have to be willing to give of your knowledge, but also give a lot of

your time. Knowledge and experience are something you will always have once learned. But your time, once spent, is gone forever.

To give of something as precious as your time takes a certain kind of individual. I had these kind of generous people on the board as president last year. I can only say that our organization is stronger today because of their continued commitment to our profession through our chapter, state, and national associations.

This commitment to our profession is not just at arms length. The management structure of our chapter requires that we reach out to many parts of our nation. As officers, we have the responsibility to communicate with our Florida state association. By constant communications with the staff and officers of our state association we keep the knowledge and information we need flowing through to the heart center of our profession. Without our state organizations professional staff working with us, we could not reach out to the national networks that we have. By us giving of our time and efforts and by

being a part of the total turf picture, we will remain strong.

Not only did the leaders of our organization take time to organize and lead our members, but they also reached out to other areas in search of strength and knowledge. By continued contact with our state association through correspondence and telephone communications, the information between our organizations will remain current and up to date. These networks are kept open because of the willingness of the board of directors, the secretaries and treasurers to give of their time and talents unselfishly. We can count on these people to furnish us with information at all times. Not only do these people have to keep the communication lines open, they must also attend special events well away from their work place and homes. We must thank the families for their willingness to give of this time toward our continued success. Our respective companies understand the need of education and ongoing professionalism and we thank them for their support.

Our industry is not only strong in

our communities but reach out to the nation and other parts of the world. To be able to be a motivating force we need the people that are willing to give of their time and expertise. By participating in business decisions and meeting with all areas of industry such as manufacturing, legislation, education and public relations, just to name a few, we will remain a strong organization.

As I saw the staff of our chapter and state in action I can see why our association remains strong. When the turf industry seeks help in education and new ways to advance, our people are at the ready. These dedicated people are always ready to give of their time and knowledge so we can move forward.

Working with and for the Florida Turfgrass Association we have once again gone toward the front in providing educational opportunities to our members and non-members alike. Our education

committees are committed to the development of programs that will not only stop the abuse of our land and water, but will set the standards to use these natural resources so they will be protected far into the future. By giving of their time for research to bring us educational seminars not only at local and state levels, they also reach out nationally so we can all reap the benefits of knowledge through continued education.

On the national level, let's not forget the people from our state that gave their time to organize, prepare and present their professional seminars at our National Golf Course Superintendent's Conference. It should make us all proud to have these people share their knowledge to a group of professionals from all over the world. We have one of the best news magazines in our industry, the *Florida Green*. Continuing to

distribute knowledge and information through an award-winning editor and staff is their goal. Throughout the ongoing effort of giving of their time and knowledge, we will all continue to benefit. Our state association and our satellite chapters have to be acknowledged and thanked for their efforts and time to keep us as leaders in our respective professions. I would especially like to take this opportunity to thank my professional board of directors and officers for their help and support in keeping our organization one that we can all be proud of. I will take pride in watching and helping one of the most professional golf course organizations in the country grow through giving of time, effort, and knowledge. We will all be wiser and better people for making our environment a better place for all things. This is my goal. 🍏

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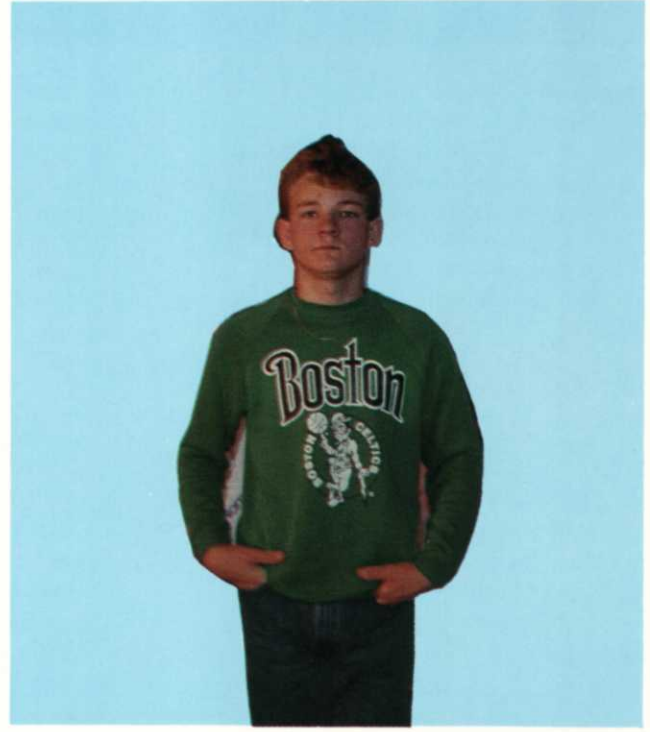


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How Precious a

by MAUREEN KOOYER



B.J. Kooyer

The crash echoed above the vibration of the stereo and hum of the air conditioner. I was out of the front door faster than I have ever moved — my mind screaming at me to hurry. I know it was B.J. before I ever saw him.

I cannot describe the horror of the evening of August 23rd, 1987. One of my biggest fears for our children had come true — our oldest son was hit by a car.

It started as a normal Saturday evening. Don, Daniel and I were listening to Saturday night at the oldies on the stereo. B.J. said he was going to a friend's house to spend the night. Mike's bike was broken but B.J. rode his bike over. They walked back — at least to the corner where they met another friend and stopped to talk. B.J. leaned up against the stop sign on the corner.

Not unusual for teenagers to be out on a corner at night — especially so close to home, Certainly none of us had any idea of what the night held.

As they were talking, they heard a car squeal around the corner and race down the street. They saw another car coming in the opposite direction and were joking about who would slam on their brakes first. No one sensed the danger — at least not then.

It soon became apparent that neither car had spotted the other. The stop sign was not slowing the person who had peeled around the corner. Then with a deafening CRASH, they hit. At that split second the boys knew they were in danger. The other boys got away quickly enough — our son, who had to ditch his bike and run — did not.

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Red-Eyed Fly Lives, Eats Mole Crickets



Photo by James Castner

Red-eyed fly, *Euphasiopterox depleta*.

The red-eyed Brazilian fly is alive and well . . . and pregnant! This is bad news for mole crickets and a blessing to Floridians, say University of Florida scientists. About 500 of the flies were released in April and June into an Alachua County test pasture by UF's Institute of Food and Agricultural Sciences (IFAS).

"We were a little worried until we finally found several pregnant flies in our traps in late August," says entomologist Tom Walker. "But now it looks like we've established a new enemy of the mole cricket."

Mole cricket munching and burrowing does at least \$46 million worth of damage each year to Florida golf courses, commercial turf operations, pastures and fields of vegetables. Coordinator Howard Frank, says the goal of the IFAS project is similar to most biological control efforts. "We're working toward reducing the mole cricket population to a point where it is no longer damaging."

The Brazilian fly, with its distinct red eyes, is about the size of a house fly.

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by DAVID MORRIS, IFAS

Females come to the male mole cricket's mating call and lay living larvae on or near the male mole cricket. These larvae then burrow into the male or mates and emerge from the killed host about 10 days later.

The next obstacle for the project is winter. Mole crickets will be less active then, and flies may not survive the winter, but Walker remains optimistic. "We're 90 percent sure we'll have flies next spring. The fly comes from a climate like Gainesville's."

More fly pupae are scheduled for release this fall in Bradenton at the IFAS Gulf Coast Research and Education Center. The mole cricket population has been monitored in Bradenton for years, so the situation seems ideal for evaluating the effects of the fly's marauding on mole cricket populations.

Scientists have introduced other natural enemies of the mole cricket in the past with varying results. More recently a kind of microscopic worm has proven quite successful, but the difficulty and expense are delaying breeding and

distribution of the nematode.

With further success this nematode is likely to be a commercial proposition, while the red-eyed fly would probably be distributed by the Florida Department of Agriculture for free, according to Frank. Savings from reduced pesticide use and the resulting benefit to the environment make both alternatives attractive, said Frank, who has already received a number of inquiries.

Frank attributes part of the project's success to the support of the Institute of Food and Agricultural Sciences and its cooperative agreements with four Brazilian institutions for biological control research.

Though the project is still in the evaluation stage, the researchers have good reason to believe the red-eyed Brazilian fly will help control mole crickets. "We've reached step one, and so far the project has progressed just as we'd hoped," says Frank.

"We'll have to measure changes in mole cricket populations over several years to quantify the effects." 🍏

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Hahn, Inc. has introduced a more powerful, smoother running version of its Multi-Pro turf utility vehicle. The new Multi-Pro 418 is now equipped with an 18 HP twin cylinder Kohler magnum engine. Other new features include a larger, quieter muffler system, louvered engine compartment panels, and a redesigned smoother clutch. The seat tilts forward for easy access to all major drive components. Attachments include a 160-gallon spray system, computerized sprayer controller, a 17-cubic foot capacity pendulum action spreader, and a 1500 lb. capacity utility bed. For more information and product literature, contact the company at 1-800-457-4246, or write HAHN, INC. at 1625 North Garvin, Evansville, Indiana 47711-4596. 🍏

Douglas hires Shook

Douglas Fertilizer & Chemical, Inc. with plants in Zellwood and Lake Placid, Florida, recently hired Matt Shook as Territory Manager. He will be responsible for sales to golf courses, lawn spray businesses, and nurseries. Matt has a degree in Agronomy from the University of Florida. He has held sales positions with Wheeler Fertilizer and Lesco, Inc. 🍏

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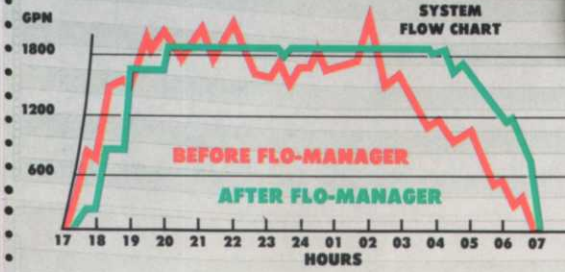
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**ANNOUNCING!
MAXI® System IV WITH
EXCLUSIVE FLO-MANAGER™
AND "CYCLE+SOAK".**



Gary Myers



NEW! FLO-MANAGER

Rain Bird introduces Flo-Manager, a new technology that automatically manages the flow demand placed on the pumping system for maximum efficiency and lower energy costs and operating times.

"Flo-Manager gave the Desert Inn an 18% energy savings. Our charts have proven its everyday value."

—Gary Myers

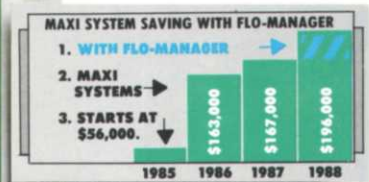
Golf Course Superintendent
Desert Inn Hotel & Casino
Las Vegas, Nevada



NEW! "CYCLE+SOAK"

Rain Bird's solution to water run-off. "Cycle+Soak" controls water output to poor drainage areas and prevents costly overwatering, flooding, pooling, and evaporation-*automatically*.

All this, using less water for a healthier golf course.



NEW! MAXI System IV

Everything earlier MAXI systems had, with even more potential for saving water, power, time and lots of money. Linking thousands of rotors, valves and sensors, it comes complete with ET sensitive response capability, optional weather station and the ability to control lights, gates, fountains, and more.



Ask your distributor about convenient Rain Bird financing.

**Rain Bird Sales, Inc.,
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MAXI System IV
Computer Control System

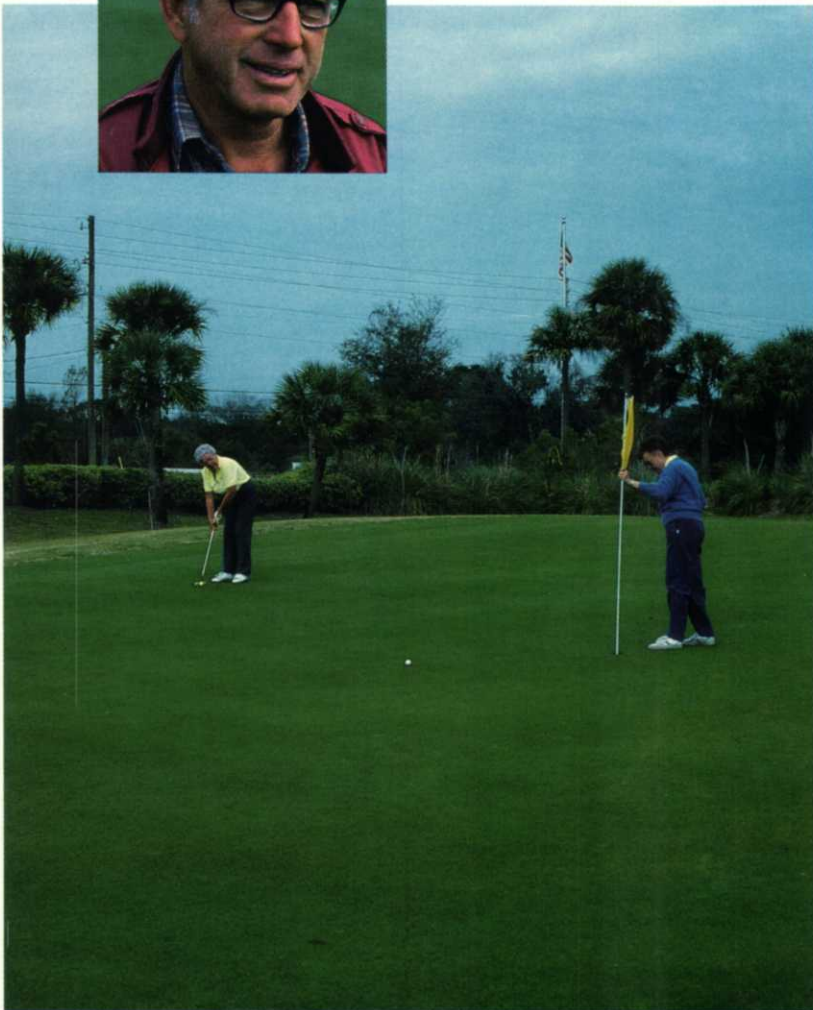


Winter Frost?

Fear not...if you've sown
Derby and Gator



Lee Todd, Superintendent
Seven Springs Country Club
Seven Springs, Florida



It may not happen often, but on occasion frost invades the sunny South.

When it does, Derby and Gator are the two turf-type perennial ryegrasses a Superintendent can count on, to not just survive, but to prosper.

Lee Todd, Superintendent at Seven Springs Country Club in Seven Springs, Florida, will testify to that fact.

In mid-winter, following a long, warm sunny spell, a sudden, severe frost hit the area, but Lee had nothing to fear.

Derby ryegrass (mowed at 1/4 inch) was on his tees and Gator ryegrass (mowed at 3/16ths inch) was on the greens and they were unfazed.

They held their deep green color and excellent quality and required no special attention despite a sudden weather change that could have given lesser grasses a bad time, indeed.



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Tees 3" x 2½" Spacing



Fairways 4" x 2½" Spacing

Now you can deliver "greens-quality" aeration to your entire course with a single piece of equipment. Variable core spacing makes the GA 30™ aerator as good on fairways as it is on greens. Simply move the spacing adjustment control from 1"-5" or anywhere in between, lock it in place, and you're ready to go without leaving your seat.

Spacing 2.50 in. x () in.	Production sq. ft. per hr.	Yield holes/sq. ft.
1.00	5,625	57.6
1.50	8,440	38.4
2.00	11,250	28.8
2.50	14,060	23.0
3.00	16,875	19.2
3.50	19,690	16.5
4.00	22,500	14.4
4.50	25,310	12.8
5.00	28,125	11.5

The GA 30 aerator also helps you get on and off the course more quickly. Its 18 hp engine with a six mph transport speed is two-three times faster than other aerators. So why waste time walking when you can ride to work?

Ryan's crank drive penetrates straight in at a depth of up to 3-3/4 inches. The tine-ram, ground-driven, reversing gear box pulls cores straight out to better protect your turf from damage—no matter what the spacing.

For a feel of the most cost-efficient aerator money can buy, contact the Ryan dealer nearest you for a free demonstration. Or call toll free: **1-800-228-4444**.

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BUILT TO LAST

K-POWER™

potassium nitrate KNO₃

for the superintendent



SAFE-NO BURN. EASY TO APPLY: LIQUID OR DRY.

"We **fertilize with potassium nitrate** in liquid and dry blends **over the entire course** to feed our turf a **safe, chlorine-free** source of potassium and additional nitrogen. We spray it as part of our cooler season nutritional program on overseeded areas to supply developing plants a **readily available source of nutrients**. As temperatures heat up, the prilled form of potassium nitrate makes up the major portion of our dry blend fertility program."

Chuck Rogers, Saddlebrook, Tampa, FL



GREENER GREENS, IMPROVED RESISTANCE, PRILLS NOT PICKED-UP BY MOWER.

"Potassium nitrate is a large part of our fertilizer program on bentgrass greens. Its high potassium to low nitrogen ratio lets us grow **healthier, greener greens** without excessive top growth. KNO₃ provides an excellent source of chlorine-free potassium that is essential to **grow strong hardy plants with increased resistance to stresses** like heat and drought. The prills are easy to apply and their high solubility and round shape allows them to **move to the soil surface** so mowers don't pick them up. Potassium nitrate **works fast** to give us the deepest, richest greens."

David Lowe, The Plantation at Ponte Vedra, Jacksonville, FL



SAVES TIME & LABOR, DISSOLVES EASILY, GOOD BALL SPEED.

"Potassium nitrate plays an important role in our nutritional program on greens and tees. It **dissolves easily in water** and **mixes well with our regular** pesticide and micronutrient **sprays** so we can do several jobs at once, **saving application and labor costs**. Potassium nitrate has the ideal ratio of potassium to nitrogen for **good green color with no excessive growth** that might slow the ball."

Steve Kuhn, Doral Country Club, Miami, FL

Add K-POWER to your golf course fertilization program. Apply as a dry blend, straight or dissolve in water for spray application or fertigation. Specify K-POWER from your fertilizer supplier.

Trans-Resources Chemical Division (TRC), brings you two reliable sources of K-POWER.



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Cedar Chemical Corporation
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Haifa, Israel

K-POWER

When Quality is The Priority



COME SEE OUR TRIPLE FEATURE

Now showing. The new and improved Ransomes Motor 180 TR15B. Built with star quality. 150 years of reel-mowing expertise. And three great new ideas that make it the most versatile, compact triplex rider today.

Standard hydraulic cutter lifts. A smooth, powerful Vanguard V-twin engine, for easier-than-ever power up long grades. Optional three-wheel drive, for greater traction.

Plus the usual Motor 180 turn-ons: Low, ground-hugging design. Maneuverability in and out of tight spots. Hydrostatic single-foot drive.

And Ransomes famous durability. The new Motor 180 TR15B. It just might be the most entertaining triplex rider on the big green.

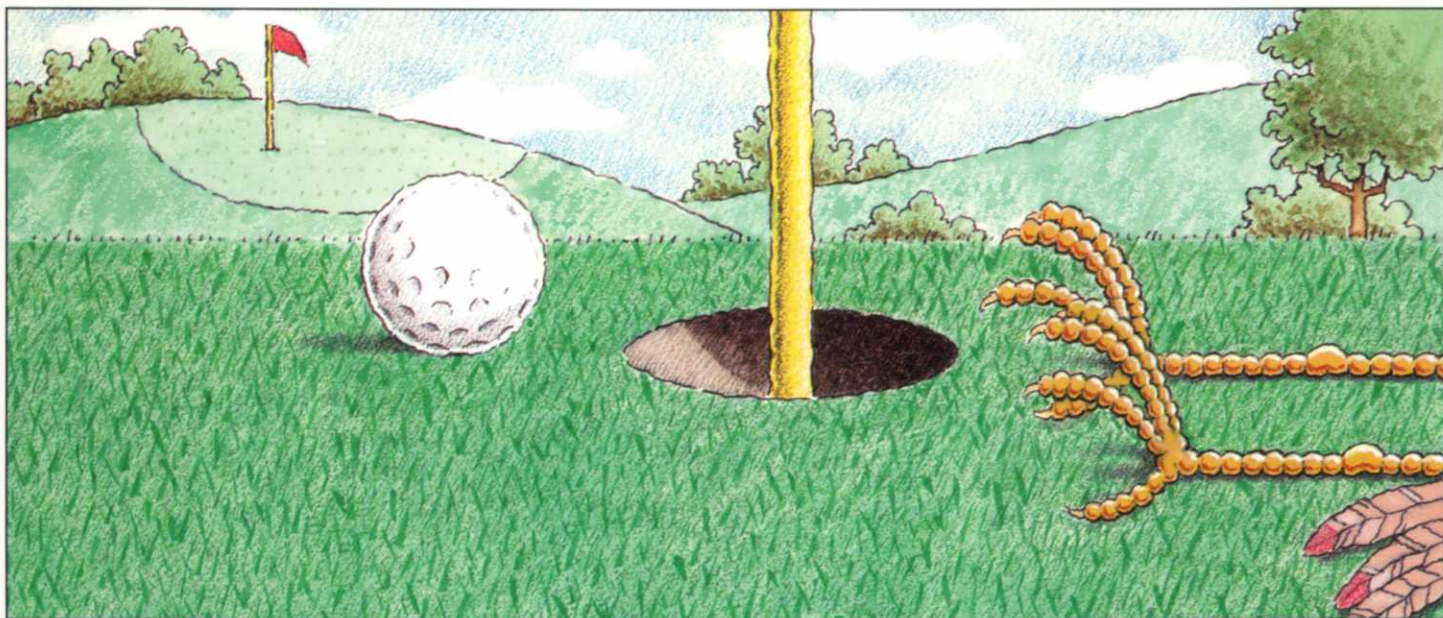
To get the big picture, see your Ransomes distributor. Or call Ransomes, Inc., One Bob Cat Lane, Johnson Creek, WI 53038 (414) 699-2000.

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Studies show GAMMA-MEAN contains a "high degree of bird repellency." Even if birds do ingest some, it tends to pass

through the system without leaving a trace.

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Still, GAMMA-MEAN is just as tough on over 35 of your most damaging turf and ornamental insect pests — without your needing to

use nearly as much product per acre.

And, because it requires less product per application and fewer applications per year, GAMMA-MEAN is easier on the environment and on your budget.

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...the fine print.

Net Weight 61 7/8 lbs

CAUTION: PLEASE KEEP OUT OF THE REACH OF CHILDREN. EYE CONTACT WITH CONTENTS MAY CAUSE IRRITATION. FLUSH EYES WITH WATER AS SOON AS POSSIBLE.

ProTurf Fairway Fertilizer 32-3-10 643-8408

Guaranteed Analysis	
Total nitrogen (N)	32%
0.8% ammoniacal nitrogen	
24.5% urea, methylene urea nitrogen	
6.7% water insoluble nitrogen	
Available phosphoric acid (P ₂ O ₅)	8%

Scott's ProTurf

GUARANTEED ANALYSIS	
Total Nitrogen (N)	15%
5.5% Water Insoluble Nitrogen	
9% Ammoniacal Nitrogen	
3.5% Urea Nitrogen	
Available Phosphoric Acid (P ₂ O ₅)	5%
Soluble Potash (K ₂ O)	9%
Magnesium (Mg)	10%
Sulfur (S)	8.0%
Iron (Fe)	1.0%
Manganese (Mn)	0.8%
Nutrient Sources: Urea, Methylene Ureas, Ammonium Phosphate, Ammonium Sulfate, Ammoniated Superphosphate, Sulfate of Potash, Oxides, Ferrous Sulfate, Sulfates.	
Potential Acidity Equivalent 1300 lbs. Calcium Carbonate per Ton.	

Lebanon Country Club

GUARANTEED ANALYSIS	
TOTAL NITROGEN (N)	24.0%
1.6% Ammoniacal Nitrogen	
11.6% Urea Nitrogen	
10.8% Water Insoluble Nitrogen	
AVAILABLE PHOSPHORIC ACID (P ₂ O ₅)	4.0%
SOLUBLE POTASH (K ₂ O)	12.0%
Magnesium (Mg)	0.7%
Sulfur (S)	5.0%
Iron (Fe)	0.4%
Derived from ammonium phosphate, isobutylidene diurea, urea, sulfate of potash, sulfate of potash-magnesia and iron sulfate. Potential Acidity 1000 lbs. Calcium Carbonate Equivalent per ton.	
Manufactured by Vigoro Industries, Inc. Fairview Heights, Illinois 62208.	

Par Ex

Down in the analysis area on every fertilizer bag, you'll find the "fine print" that tells you what the big print doesn't. Read all of it. Carefully. But most importantly, look at the percentage of Water Insoluble Nitrogen.

Water Insoluble Nitrogen (WIN)... the key to superior turf.

The higher the WIN percentage, the longer your turf will remain green. And the less often you will have to fertilize. That's because WIN is the percentage of total Nitrogen that is truly slow release. Freeing small amounts of Nitrogen each time it's touched by water (Par Ex® with IBDU®) or activated by temperature or bacterial action (competitive products).

No competitor can deliver as much usable WIN as Par Ex.

Only Par Ex contains IBDU—a unique Water Insoluble Nitrogen source that is 100% available to your turf in a single growing season. Consider that urea formaldehyde products (bacteria and temperature released) contain about one third of their WIN in the form of plastic polymers. Its long-term Nitrogen

release is so slow, it's almost useless, and will most likely occur during the hottest periods, just when you don't want it.

For Sulfur Coated Urea (SCU), research has shown that by the time it is spread, about 50% is immediately soluble, effectively doubling your cost of controlled-release Nitrogen and cutting the benefit in half!

Be sure to read your bag.

If the percentage of Water Insoluble Nitrogen isn't listed, there isn't any slow-release Nitrogen. If it is listed, chances are it won't be as high as the WIN percentage in Par Ex. Even if it is, we guarantee you that 100% of what we list as WIN is available to your turf every growing season. That means for every six months of growing, you'll receive an additional 46-53% more usable WIN than our competitors can deliver.

So start building your WIN percentage today. Talk to your local Par Ex Representative or call 813/294-2567. And get all the WIN you've been reading about.



par ex
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Introducing the LESCO 500D Fairway Mower. It's the new diesel mower that makes the grade in light-weight fairway mowing.

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The unique versatility of the 500D permits simple conversion from five-gang to three-gang operation. And the mower's new heavy-duty reels and bedknives are engineered for day-in and day-out precision cutting.



The LESCO 500D features a new heavy-duty cutting unit.

The result is smooth, close-cut fairways with the look and character of the finest putting greens.

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500D Fairway mower to work on your course. It's backed by factory-direct parts and service and LESCO offers convenient leasing and finance plans.

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