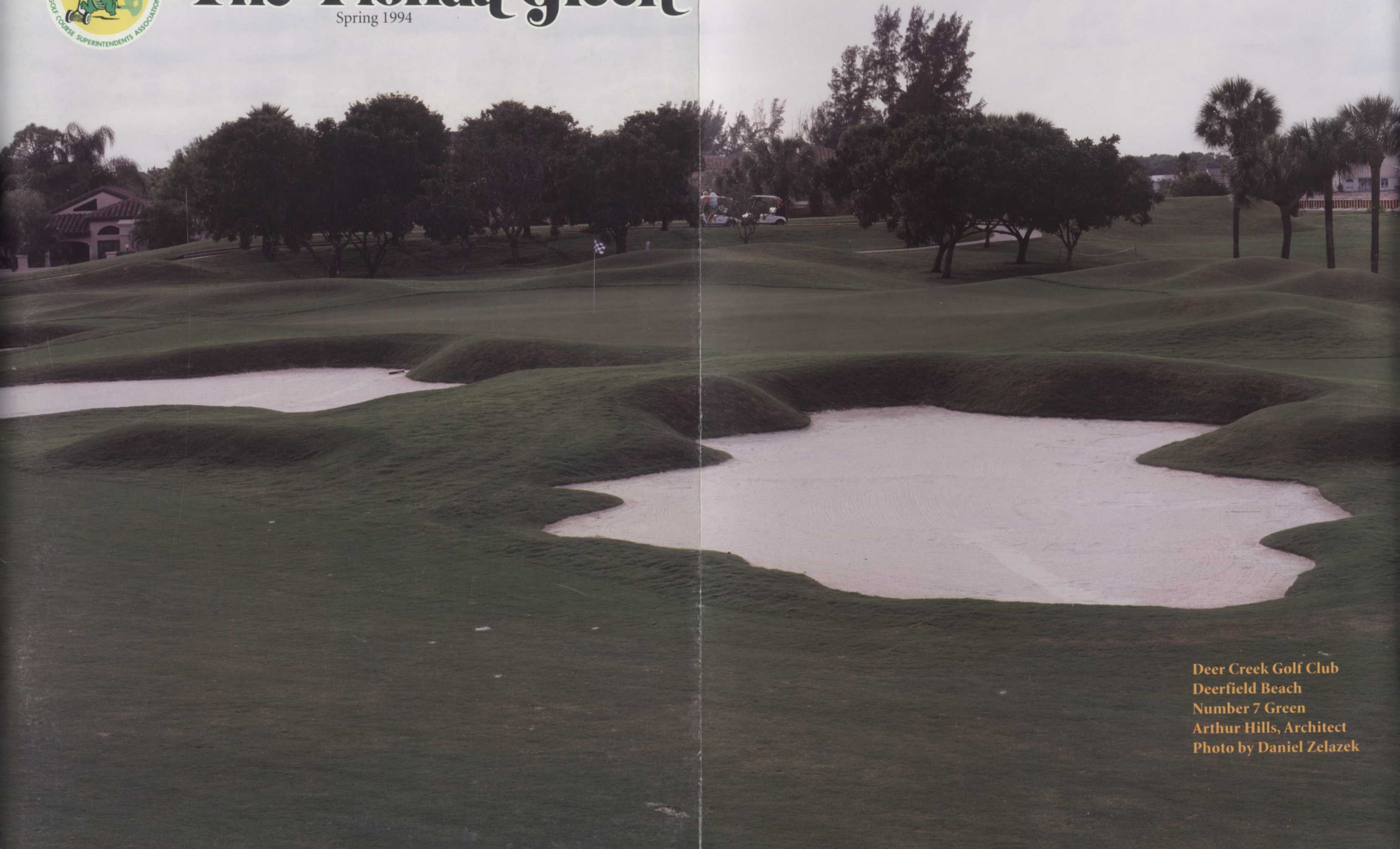




The Florida Green

Spring 1994



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Deerfield Beach
Number 7 Green
Arthur Hills, Architect
Photo by Daniel Zelazek

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Vice President **Scott Bell, CGCS**
Bent Pine GC
6001 Clubhouse Drive
Vero Beach, FL 32967
(407) 567-9422

Secretary/Treasurer **Greg Plotner, CGCS**
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Staff

Secretary **Marie Roberts**
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1994

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editor/publisher emeritus Dan Jones, CGCS
Banyan GC
West Palm Beach

editor Tom Benefield, CGCS
PO Box 1783
Hobe Sound, FL 33455
(407) 546-8033

assistant editor Joel D. Jackson, CGCS
Osprey Ridge G.C.
Address Florida Green business to:
6780 Tamarind Circle, Orlando, FL 32819
(407) 351-3729
(407) 824-2687 Work

business manager Paul Crawford
Palm Beach Country Club
P.O. Box 997
Palm Beach, FL 33480
(407) 845-2395

publications chairman Scott Bell, CGCS
Bent Pine GC
6001 Clubhouse Drive
Vero Beach, FL 32967
(407) 567-9422

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EDITORIAL: All inquiries should be directed to the editor, Tom Benefield, CGCS. Unsolicited manuscripts and photographs cannot be returned.

Contributors to this issue

Cover Photographer: Dan Zelazek

Cover Story Writer: Joel Jackson, CGCS

ACSP: Shelley Foy, Peter Leuzinger, Jean Mackay

Transition Package: Coordinator and photographer, Tom Benefield, CGCS; Greg Plotner, CGCS; Lou Conzelman, CGCS; Troy Smith; Tom Alex; Steve Wright, CGCS; Tom Cowan, CGCS; Joel Jackson, CGCS; Marshall Edgren, CGCS.

Underground Storage Tanks: Scott Bell.

Research Report: Monica Elliott, Ph.D.; Marcus Prevatte

Presidents' Awards: Joel Jackson, CGCS

GCSSA Show: Tom Benefield, CGCS

Columnists: Scott Wahlin, CGCS; Mark Jarrell, CGCS; Joel Jackson, CGCS

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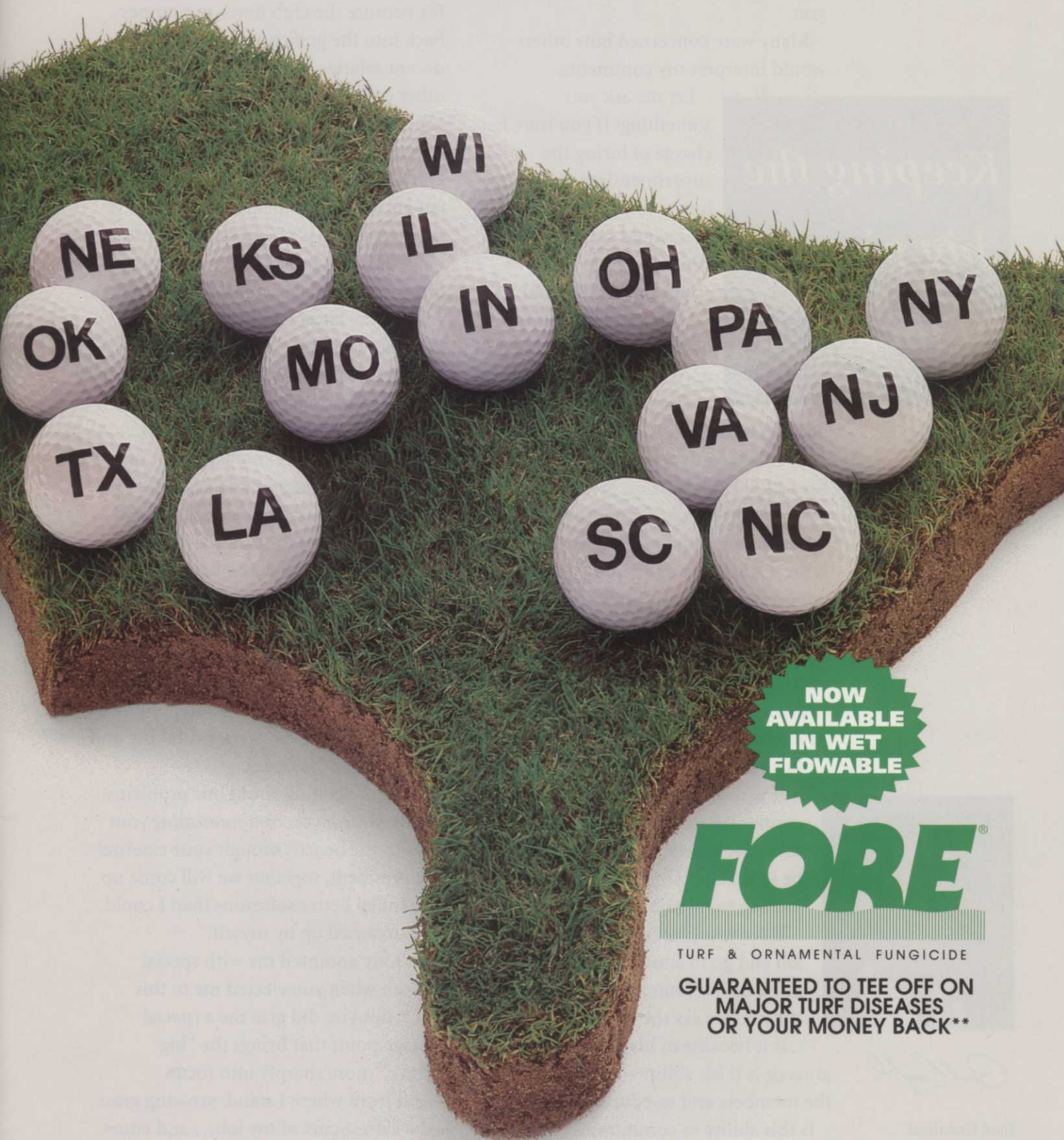
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I received a lot of comments on my last column in the *Florida Green*. I must say, it was great to hear from you.

Many were concerned how others would interpret my comments.

Keeping the 'big picture' in focus

Let me ask you something: If you were in charge of hiring the superintendent at a club, how many do you think you would seriously consider out of those 75 applicants for the job?

I was involved in the hiring process at a club and narrowed the choices down to eight candidates for the

board to consider.

Ironically, only a small percentage of the criteria for selection involved the candidate's ability to grow grass.

I tell many people that "growing grass is the easiest part of my job." I will not go through the litany — we have all seen the list of duties we must perform.

I think the one duty that we often overlook is the ability to communicate with our members and with the board. As a friend says, "We are in the people business."

If you cannot effectively communicate with your members and your greens chairman, you will be in that long line of 75 candidates seeking to fill one vacancy.

Have you ever had a friend leave his job and go to another club where you think he has found the perfect fit? Why do we say the "fit" is perfect?

Is it because of his ability to grow grass or is it his ability to straighten out the members and re-educate them?

Is this ability to communicate innate, or is it something we learn as we go

along... or is it both?

I know of a superintendent who went into a club that nobody wanted to work for because the club never put money back into the golf course, didn't pay decent salaries and generally had all the other qualities that turn professional superintendents off.

Two years later, the club is spending all kinds of money to fix up the course, is paying the superintendent an attractive salary. The job is one of the best in town.

Did this just happen? How many of those 75 candidates are staying current with all the latest environmental information? How many are taking seminars and keeping themselves on top of the latest science and technology in agronomy? How many have taken courses in personnel management or budgeting and fiscal management?

If you were to lay out an educational program for superintendents, do you think we should start emphasizing communication more?

Some of you complained that my last column did not offer any solutions to the problems I raised. I realize that defining the problem is only the first step but it is the first step. At least we are thinking and talking about the issues.

If you are talking about our problems among yourselves, *communicating* your ideas to the board through your external vice president, together we will come up with much better solutions than I could have dreamed up by myself.

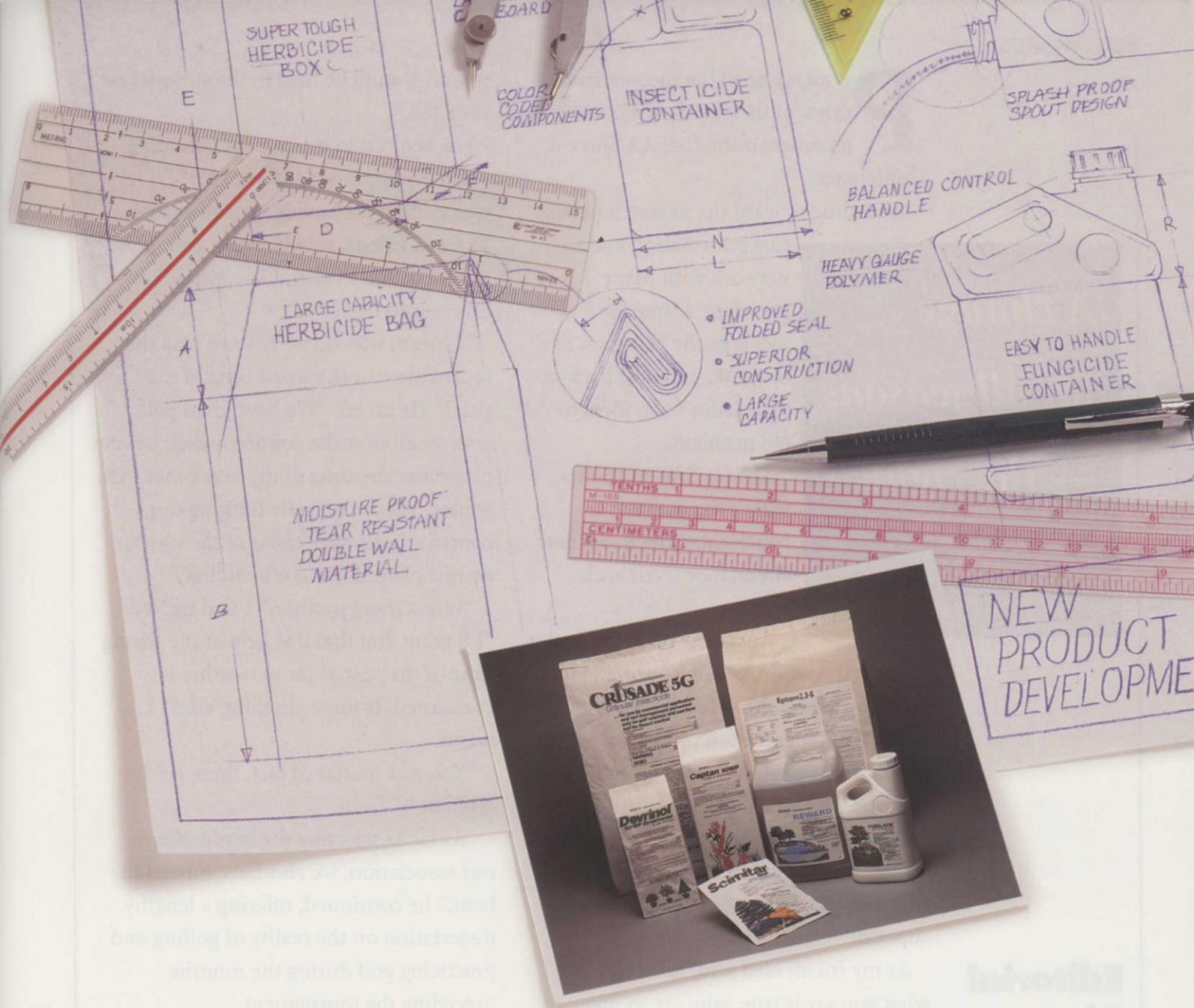
Nobody anointed me with special wisdom when you elected me to this office; but you did give me a special vantage point that brings the "big picture" more sharply into focus.

And from where I stand, growing grass is the easiest part of my job... and yours.



Paul Crawford

Paul Crawford
President, FGCSA



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Perhaps one of the most relished times of the year for GCSAA members is the GCSAA Show & Conference.

It's a time to learn the newest and best

turf information and to network with many friends... a time to recharge the batteries, so to speak, and take back to their clubs fresh ideas to old problems.

The GCSAA puts on a truly progressive conference which sets new attendance levels each year.

An aspect of the annual event is the GCSAA Golf Tournament.

From around the world aspiring golf enthusiasts spend good money to participate and showcase their golfing expertise. It is a well-attended and well-run event which offers not only golf but also a social program and atmosphere that is appealing to the golfing superintendent.

As my friend Ned said, however, "If what you say is true, why are so many of our members wanting a change?"

You see Ned and I go way back and he is the type of person to tell you what's really on his mind. And after you take into account that Ned has played in the last 10 GCSAA tournaments with varying degrees of success, you have to lend some credence to what he's got to say.

"So what's wrong with the tournament?" I ask Ned.

In his deep, Georgian drawl he answered, "It's at the wrong time of the

year. It should be held in the summer or early fall."

He went on to explain his reasoning.

The winter time is a very "iffy" proposition for having decent weather. The conditions, weatherwise, are normally fairly miserable... especially this year in Dallas.

"I mean, why do we have to play the tournament at the worst time of the year?" He asked. "We have great golf courses all over the country which we can play most any time of the year other than winter. We are unfairly limiting our course selections because of the way we do our planning and scheduling."

"Whoa there partner," I said to Ned. "I'll grant you that it is held at the wrong time of the year as far as weather is concerned. Is there anything else?" I asked.

"Yes, as a matter of fact, there is," he replied.

"As far as selecting the best golfer of our association, we also have missed the boat," he continued, offering a lengthy dissertation on the reality of golfing and practicing golf during the months preceding the tournament.

"None of this time period is a period when a superintendent can practice and hone his skills to his best level for competition. Only during the summer and fall months are superintendents actually playing decent golf."

By this time Ned was really starting to open up.

"However, I think the entire tournament format should be changed," he said.

"Well pray tell, Ned, what should we change it to?" I asked.

A change for all seasons — the right reasons

Editorial License



Tom Benefield, CGCS
Editor



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This was just what Ned had been waiting on as he charged straight ahead with his new ideas on the tournament format.

The heart of his proposal is to run competitions around the country in chapter or local events. The next step was to take local winners — both teams and individuals — to regional events for qualifying to the nationals. The regionals would send (x) number of teams as well as (x) number of individual players based on a percentage of the number of total participants.

"The beauty of this format also," says Ned, "is that it does not present a major financial burden to individual members as does the tournament we play now. The people who do not move up to the next level of competition will have participated in their GCSAA-sponsored tournament without having incurred a huge expense."

"This would stimulate more involvement by the members: too many people are shut out of the process the way it presently stands."

I thought to myself a minute.

"Hmmm, ole Ned might be on to something here. What he says sure makes a lot sense."

I can remember wanting to participate every year myself, but due to time and financial constraints, I have been able to do so only twice. The format and schedule Ned is talking about would definitely allow people like myself to be a part of this event.

The complement of courses available for the tournament, from the first round to the championship, would be tenfold the number now used... or more. The format and qualifying rounds would bring out the best in our member golfers. By the time of the championship, we would have participants who exemplify the best golfers our profession has available: the cream will have been allowed to rise to the top.

The local and regional tournaments could also double as excellent public relations events by generating funds for local charities, addressing local needs and helping the communities. The possibility of success for this type of tournament is tremendous.

From speaking with Ned and other members of the GCSAA — both local and in other states — I know support is out there for this type of event... an event that can spank some life and excitement into an otherwise dismal affair.

Too many of the rank and file feel shut out of this the premier golfing event of their organization. Many of the participants in this event are looking for something different, something progressive and innovative.

Many say it is time for new blood on the tournament committee with fresh ideas. Many say it is time for a "can-do" attitude from the board, tournament committee and, most of all, staff to find a way to do the things the membership wants.

The time has come for a change.

Let's hope the GCSAA officers and directors can understand the need, the desires of their members and the potential for success on several fronts. For it is only through this type of foresight that the association can progress on all fronts.

Until next "May God Bless one and all".

Paul Harvey report draws strong response

Reporter Paul Harvey:

Two years ago you and I talked about the pesticides which were poisoning so many birds that our golf courses faced a silent spring.

I received some indignant responses from greenskeepers and their association and from pesticide manufacturers. They were adamant in their insistence that the stuff they were spraying on fairways and greens were not toxic.

It was and it still is!

Today the Golf Course Superintendent's Association of America is holding its annual meeting in Dallas. And a study commissioned by that organization of superintendents is reporting that not only are golf course pesticides killing the birds, but they're killing golf course superintendents also.

Golf course superintendents have a higher incidence of cancer.

The association has to know that this is going to open the door to lawsuits by

golf course workers against their employers for exposing themselves to cancer causing chemicals. A statistical mortality study found among golf course superintendents: more lung cancer, more brain cancer, more cancers of the large intestine and the prostate, especially however, lung cancer.

Doctor Burton Kross, University of Iowa, one of the researchers on this project, recommends further studies and recommends, meanwhile, that golf course workers minimize, however possible, their exposure to pesticides.

There's a moral here which demands to be underscored, "We and the beautiful wild things live in harmony together or we perish together."

*Lord, Sullivan & Yoder
Radio News Transcript
Columbus, Ohio
WTVN 610 AM
2/9/94 11:30 a.m.*

February 10, 1994

Mr. Paul Harvey
333 North Michigan Avenue
Chicago, Illinois 60601

Dear Mr. Harvey:

Last evening I received a telephone call from my brother-in-law, a farmer in western Iowa. He heard your radio report this week describing our mortality study of golf course superintendents. He asked me how did our study determine that pesticides were killing birds and humans on golf courses. I knew something was wrong, so I obtained a transcript of your commentary.

Your commentary is inaccurate and misleading with respect to our study. Our study did not collect any data about pesticides and birds. Moreover, as clearly stated in our press release (copy

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Audubon Cooperative Sanctuary Program criteria categories

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Public Involvement

Wildlife Cover Enhancement

Wildlife Food Enhancement

Integrated Pest Management

Water Conservation

Water Enhancement

ACSP, Part 1...

Nature's guardians

This is the first in a series of articles about the Audubon Cooperative Sanctuary Program for Golf Courses, which we refer to as ACSP.

These articles are intended as teaching and educational sources to help those golf courses signed up for the program to successfully complete the program criteria and become certified. They are the result of a cooperative effort of the FGCSA and the USGA Florida office in Hobe Sound.

To become certified, participating courses must complete programs in seven different categories:

- Environmental planning
- Public Involvement
- Wildlife Cover Enhancement
- Wildlife Food Enhancement
- Integrated Pest Management
- Water Conservation
- Water Enhancement

We presently have more than 100 golf courses in the state signed up but only a small fraction of them have complete the program.

This series is an excellent avenue to help those attempting to become certified to overcome hurdles presently in their way.

"Public Involvement," the category covered by the first article, is probably the most difficult to complete. We think you will find the information very useful. Future issues of *The Florida Green* will contain articles on the other categories.

We encourage our industry affiliates to send in positive information. Anyone wishing to contribute helpful ideas on any of these categories should send that information to FGCSA headquarters or to the USGA office in Hobe Sound.

Enjoy!

Shelley Foy, Tom Benefield



Sign announces a no-hunt area as part of wildlife protection program at Gateway GC in Fort Myers is part of a "public involvement" project.

Have the public become involved and enjoy it!

BY PETER LEUZINGER

St. Charles (Ill.) CC

JEAN MACKAY

Audubon Society of New York

Many participants in the Audubon Cooperative Sanctuary program for Golf Courses look upon public involvement with mixed feelings.

On the one hand, they are desperate for golfers to support their management efforts and for the public to know that they are not dumping chemicals and wantonly destroying the environment. On the other, they are reluctant to approach members to invite their input, and worried about losing their status as a private club by involving "the public."

"Public Involvement" was not meant to be a road block. Rather, its intent is to help superintendents get the recognition



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Members of Martin County Cub Scout Pack 888 took part in a nest box project at Summerfield GC in Stuart.

and support they deserve, increase golfer understanding of wildlife and environmental quality on the golf course, and let the public know that golf courses can be valuable community resources — whether or not the public ever gets to step on the course.

If thoughts about how to achieve “public involvement” are more than a little unsettling to you, then read on. There are plenty of ways to increase public understanding, educate members, and involve people in your environmental efforts without losing your status as a private club.

Remember, achieving public input does not mean you have to have an open

Tour groups might be made up of grade school children, young adults, biology clubs, Cub Scouts, senior golfers, women’s golf leagues, college students, local golf course superintendents, and don’t forget the “press.”

house for your community or base decisions on what your neighbors want. Think of “the public” as members of the local community who can help you with publicity, habitat enhancement, water monitoring, native plant selection, or other

environmental programs.

Also, don’t forget your members!

Informing your members of your involvement in the ACSP and inviting their participation is crucial to the long-term success of your program. If your club

A resource committee can be made up of fellow employees, golfers, and even people outside the golf course who bring expertise to the group. There are many people out there who are willing to donate their time and add their names to a project like the ACSP.



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Do you have an opportunity to write an article for your state superintendent's association newsletter or a golf publication? Tell others about your commitment to environmental quality and describe the things you've done on your course.

reluctant to invite public participation, focus on educating members or regular golfers.

How do you reach members and the public?

Try any or all of these ideas. All have been successfully tested on a number of ACSP golf courses.

• **Resource committee.** A resource committee can be made up of fellow

employees, golfers, and even people outside the golf course who bring expertise to the group. There are many people out there who are willing to donate their time and add their names to a project like the ACSP.

The resource committee at St. Charles CC consists of a writer/promoter, a bird watcher, a handyman who builds and repairs birdhouses and feeders, a craftsman, one outdoor lover, and a local landscape architect and folklore expert.

Combine these talents with a golf course superintendent, who is used to wearing many hats, and you will be surprised how fast your programs take shape.

• **Clubhouse Display.** Don't forget to tell your members that you're involved in the ACSP. The easiest way to do this is to

Hiers receives first Audubon Steward Award

NAPLES — The world's first John James Audubon Steward Award was presented to William Timothy Hiers, CGCS, golf course manager of Collier's Reserve, a residential country club community here.

In making the presentation, Ronald Dodson, president of the Audubon Society of New York State, explained that the concept for the award had been developed several years ago as the highest recognition of leadership in the field of environmental responsibility.

"Tim's personal dedication and un-failing commitment to excellence made it clear to us that he should be the first to receive this important award," Dodson said.

Dodson and Hiers have worked together on several projects, most recently the design and construction of the Collier's Reserve golf course, the first ever to be awarded the Audubon Cooperative Sanctuary Signature designation. This rigorous process has made the Collier's Reserve course the international model for others to follow.

"Also to be commended is Collier Enterprises, the developer of Collier's Reserve," said Dodson. "It was their commitment to environmental excellence and the Signature program that not only gave Tim the opportunity to become involved, but also provided the necessary resources



Tim Hiers, right, golf course manager at Collier's Reserve in Naples, was the first recipient of the John James Audubon Steward Award. From left are Ron Dodson, president of the Audubon Society of New York State; architect Arthur Hills; and Jeffrey M. Birr, head of Collier Enterprises Real Estate operation.

to complete the project."

A family-owned company with roots that trace to the creation of Collier County in Southwest Florida, Collier Enterprises has significant interests in commercial and residential real estate, agriculture, financial services and oil and energy interests.

Hiers is an expert on "Integrated Plant Management," a holistic philosophy

which views the golf course as a complete entity. Featured by the United States Golf Association as environmental steward, he has assisted in the development of a national Environmental Management Policy for GCSAA.

Before joining Collier Reserve, Hiers — a former president of the FGCSA — had been golf course manager of the 56-hole St. John's Island Club in Vero Beach.

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A simple trail through woods or grasslands can be enjoyed by members, staff and the public if you wish. A trail will also add to what your course has to offer members and guests.

post your registration art print and certificate in the clubhouse. You could also expand your display to include photographs of wildlife, plants, or natural areas of the course, your wildlife inventory, and information about the projects you've done.

- **Press Releases.** The ACSP will help you reach local papers with announcements about your environmental programs. You may strike up some friendships and develop some very positive reaction from the press. There is nothing like a front-page picture to bring positive attention to your golf course.

- **Brochure.** Make some simple pamphlets that detail your ACSP work. Leave the pamphlets at the reception desk, pro shop and lounge. Make your pamphlet available at career day in schools and the local garden club. Toot your horn a little!

- **Newsletter articles** at your golf course are a natural. You need new subject material anyway. How many times can you talk about defending your green speed? Fee free to use information from ACSP fact sheets or newsletters for your newsletter.

- **Wildlife reports.** Have golfers get involved in reporting and monitoring wildlife. Provide golfers with maps of the course and let them help you take inventory of the varied wildlife on the property.

You can also invite a local bird club to conduct a bird survey. A wildlife inventory will be valuable evidence that your course is hospitable to wildlife.

- **Adopt-A-School.** Sponsor a local school in the Audubon Cooperative Sanctuary Program for Schools. This is a sure way to let the community know you care about the environment. You might also offer one field trip to your course as part of your involvement with the school. To receive a school program brochure, just write or call New York Audubon Society.

- **Speaking engagements.** We all need to develop our communication skills. One wonderful way to do this is to begin talk-

ing to small groups, develop a slide presentation, and go on from there. You might speak with a local school class, garden club, home owners association, or superintendents' association.

Choose a topic you're comfortable with such as tree or shrub care, integrated pest management, environmental quality on your golf course, or your involvement with the ACSP. New York Audubon can make slides or a video available to help you present information to your members or to the public.

- **Wildlife walk.** Ask members who are interested in — or knowledgeable about — birds to host an early-morning walk to look for birds and other wildlife species on the course. Members who attend can add their sightings to the club's wildlife inventory. Providing coffee and doughnuts is a nice way to conclude the walk.

- **Journal articles.** Do you have an opportunity to write an article for your state superintendent's association newsletter or a golf publication? Tell others about your commitment to environmental quality and describe the things you've done on your course.

- **Tours.** Very basic golf course tours have a great impact on public perception. A successful outing demonstrates goodwill and will spread by word of mouth.

Tour groups might be made up of grade school children, young adults, biology clubs, Cub Scouts, senior golfers, women's golf leagues, college students, local golf course superintendents, and don't forget the "press." Not only will you spread the word about the ACSP, you may even recruit a future horticulture student.

- **Nesting Boxes.** These can be used as a tool for reaching out to the community. Make a few extra bluebird houses every year. Nest box giveaways to golfers, schools or the local cemetery association are greatly appreciated and stimulate interest in your ACSP.

You can also invite a local scout troop

or Eagle Scout to make and monitor your next boxes. St. Charles CC has 44 next boxes on the golf course and roadway along the course. This subtle statement along the roadside is sending a message to local traffic around the course.

- **Establish a library.** Books on natural habitat, building nest boxes, butterflies, bird identification, and environmental issues are a worthwhile service to your golfers, and can be checked out at the club.

- **Outreach programs.** Give the public an opportunity to use your grounds for something other than golf; i.e., local photography club, group art classes, and bird clubs can all benefit from the golf course.

- **Craft projects.** These projects may help provide funding for supplies needed for the ACSP. Wreaths made from wild grapevine and bittersweet are unique and popular. Just make sure to tag these as ACSP promotions.

- **Projects for kids.** Get kids involved in making bird feeders or houses for the course or their own backyards.

- **Nature Guide to the course.** Create a simple, hole-by-hole environmental guide for golfers. At each stop, you can point out interesting natural features or environmental projects. This can include native plants, nest boxes, unique trees, habitat areas, common wildlife, IPM practices, and/or water conservation measures.

- **Nature trail.** Are your natural areas large enough for you to create a nature trail? A simple trail through woods or grasslands can be enjoyed by members, staff and the public if you wish. A trail will also add to what your course has to offer members and guests.

- **Tournaments.** If you are hosting a tournament, use the opportunity to educate people about the environmental quality of your course. For example, highlight your ACSP involvement through the media or put up a simple display to show some of the environmental projects you've undertaken.

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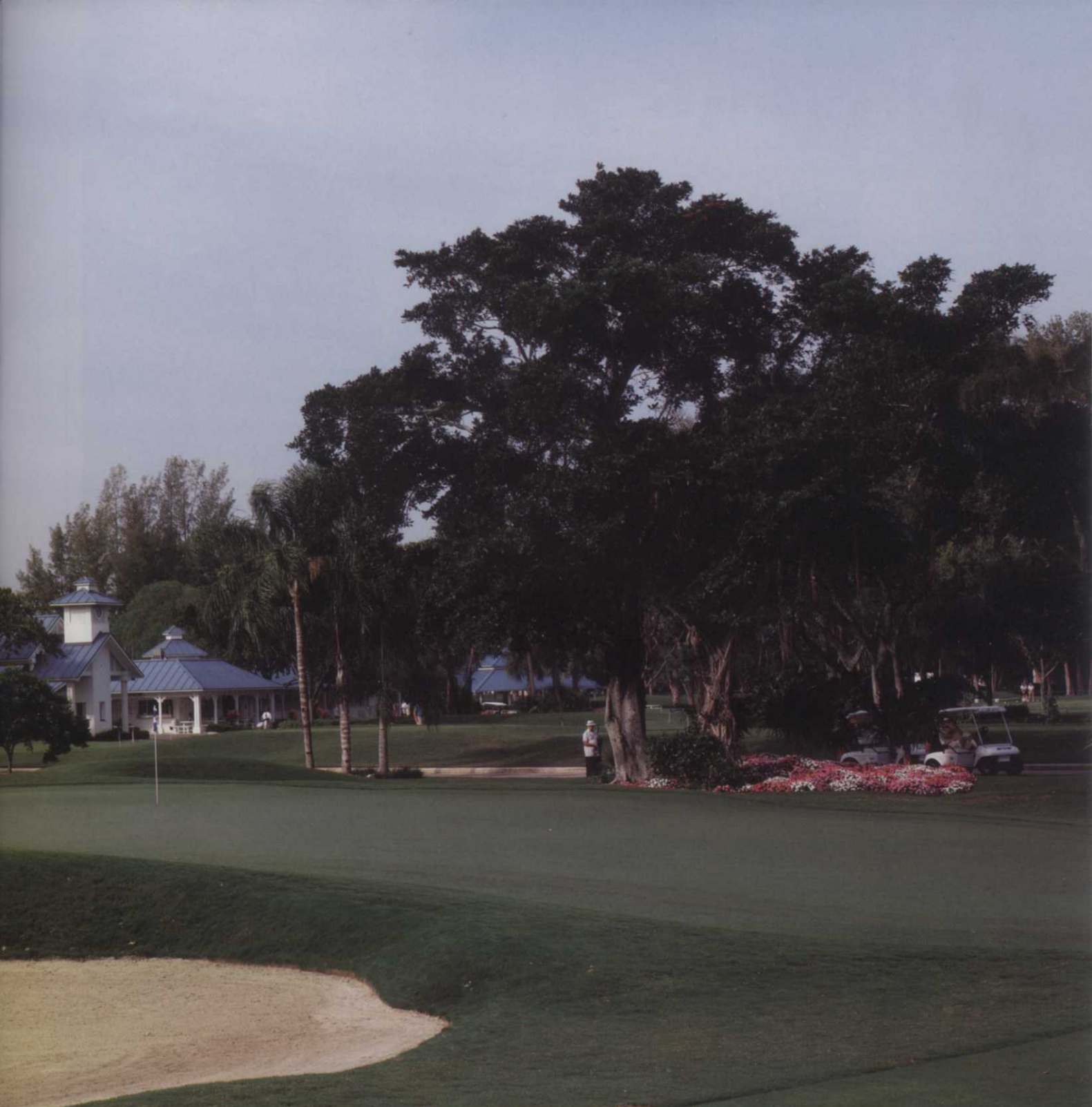


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Challenges, changes, and new beginnings

Deer Creek Golf Club





BY JOEL JACKSON, CGCS

Deer Creek Golf Club opened in 1971, and in the early 1980's played host to the PGA Mazda Classic. Current owner George Valassis made a decision in 1993 to upgrade the golf course using the design skills of longtime friend and old high school classmate, Arthur Hills.

Nearby canal excavation work provided Hills with additional soil to use in creating elevation changes seldom found on courses in western Broward County.

Initially the project was to be limited to a renovation of the greens and tees. After several discussions with the architect, Mr. Valassis seized the opportunity to modernize the drainage system and create a unique design to replace the old layout.

The excitement and anticipation of the project received a crushing blow when the



Native Florida specimen trees are complemented with the artistic mounding on the eighteenth green.

young superintendent, Andy Clark, was killed in a plane crash just days before the construction was to start.

Deer Creek turned to another young superintendent to help make the dream of a new Deer Creek become a reality.

Robert Klitz had been a part of Inverrary Country Club history for 11 years. Bob served his first three years

under superintendent Brad Kocher and his assistant, David Demmery. Bob was promoted to assistant superintendent under David Oliver and remained in that capacity for three and one half years. Then, five and one half years ago, Bob was named superintendent of the 54-hole complex.

"In this business, 11 years in one place

is rare," Bob explained. "The goals and expectations of people and places change. I left Inverrary on good terms. It was just time for me to make a change. The only regret I have is the tragic circumstances which afforded me the opportunity to come to Deer Creek.

"I was very impressed with the commitment of Mr. Valassis to build and

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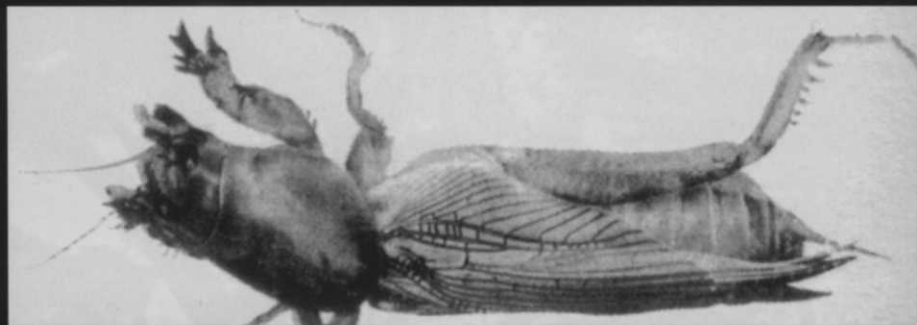
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Primary influence was placed on utilizing native trees in the remodeling of the golf course.

“There is a look and a level of excellence that we are trying to achieve and maintain. Right now we are cutting the greens at 11/64ths, which is yielding speeds of between eight and nine consistently.”

operate a first class club. I think the thing that really sold me on this position was the sincerity and reputation of Dean Horn, president of Franklin Golf Properties.

“Dean came up through the ranks here at Deer Creek, and he has always been demanding in his expectations, and that’s the way I like to run my operation.

“I came on board in August of ’93 and had the challenge of getting the course ready for a Nov. 1 opening. I can’t say enough about the job that Alan MacCurrach of MacCurrach Golf Construction did in holding the project together during the difficult times before I arrived. I brought three people with me from Inverrary.

“We joined a veteran staff that has service ranging from three to nine years. They are all doing a great job.”

At the present time, the club is using a 1 & 10 tee start at 7:30 a.m. to accommodate the heavy play from December through April. They calculated that the

double-tee start permits at least 20-30 more players per day.

“We hand-mow the greens with five walking mowers daily so the 7:30 start is manageable. We also blow off all the cart paths and wipe down all the tee signs and ball washers daily.

“There is a look and a level of excellence that we are trying to achieve and maintain. Right now we are cutting the greens at 11/64ths, which is yielding speeds of between eight and nine consistently.

“Heights of cut and green speeds can be a very controversial topic. Low heights of cut are not necessarily the only way to produce acceptable or desirable green speeds.

“Grooved or solid rollers can make a difference as well as verticutting, vertigrooming, top dressing and speed rolling programs. So, comparing only heights of cut becomes pretty academic.

“Our goal is to maintain ‘fast’ greens to satisfy our clientele. We’re being a little



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conservative as we nurse these new greens through their first winter, but it will pay dividends down the road. It will be interesting to see how we do as we progress into our first full growing season this summer."

Every course has its own set of unique management challenges. Bob's biggest concern right now on the young turf is wear from traffic.

"My assistant and I are kept pretty busy right now doing some creative traffic control. Fifty percent of the problem comes from the play and the other 50 percent is self-inflicted by our own equipment's routine travel patterns."

Deer Creek shares a typical soil profile with many south Florida courses - a few feet of muck on top of limestone bedrock.

The new design helps to drain the course better, but presents another consideration when using pesticides.

"I have always been a proponent of the theory that 'less is better' when it comes to using chemicals. Because water tables are kept high by Broward County to suppress saltwater intrusion through the canal systems, I am very careful about what, when, and where we apply products.

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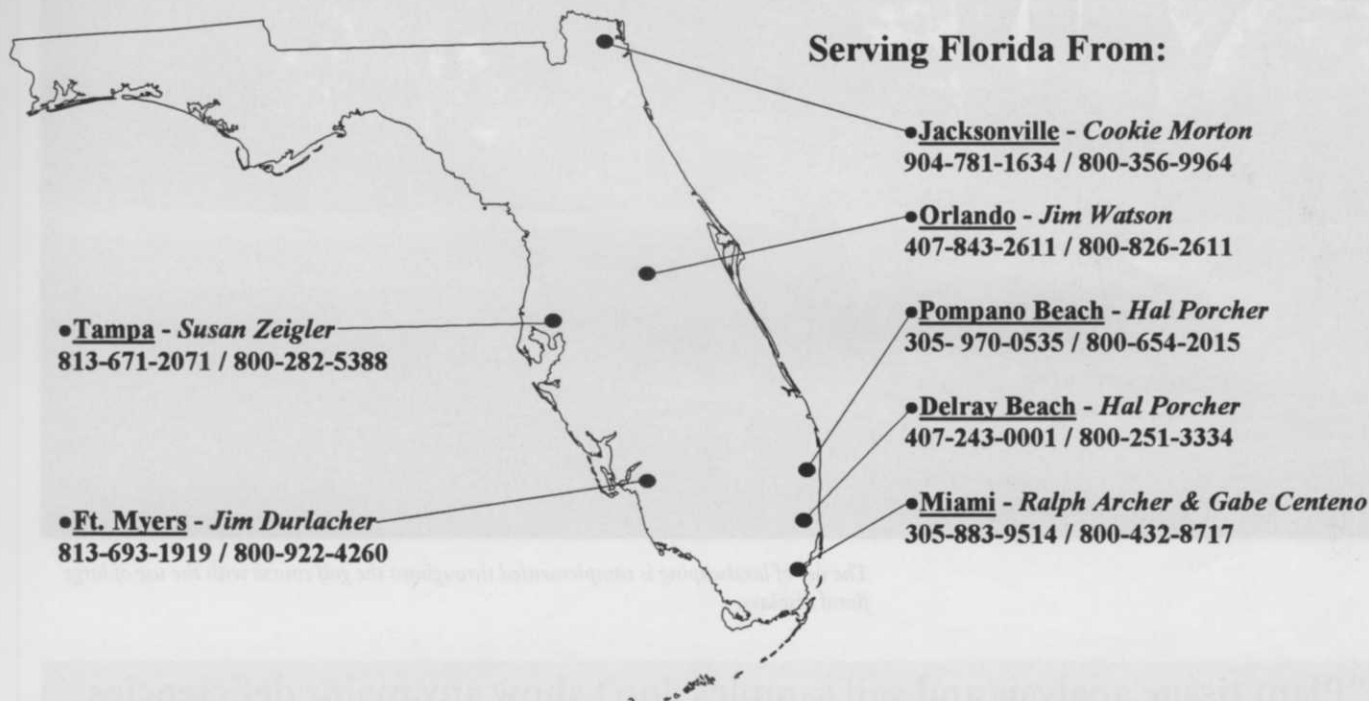
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The use of landscaping is complemented throughout the golf course with the use of large floral displays.

“Plant tissue analysis and soil samples don’t show any major deficiencies compared to surrounding areas. These areas did yield some high nematode counts. However, because of our excellent fairway drainage, I avoid using any nematocides on the fairways.”

“All boom spraying is done either by me or my assistant. I do train a couple of other responsible people to apply products with back sprayers to treat severe weedy areas.

“A conscientious operator can do a good job of keeping problem areas under control. It can be a little labor intensive, but we use less chemicals which is cost effective and more environmentally responsible.”

In keeping with Bob’s desire to use the minimum amount of chemicals on the golf course, he has been pleased with the results of one of the new biological mole cricket control products called Proact. Proact is a liquid suspension containing a patented nematode, *Steinernema scapterisci*. The nematode can survive

for up to 13 weeks even without finding a host mole cricket. When the nematode does infect a mole cricket, death occurs usually within 24 to 48 hours.

“I was involved in some of the research and development of the product when I was at Inverrary,” Bob explained. “We were able to clean up some chronic areas that usually had to be sodded each year to repair the damage.

“Oddly enough, they could only find one or two infected mole crickets in their traps after the application. We have applied the product here to about 30 acres. We made applications on the tee tops, around the greens and bunkers, and we striped some of the problem fairways.

“There are a couple of isolated areas on the course that have not responded to

grow - in as well as we would have liked. The turf in these areas seems to thin out and get chlorotic very easily. They appear to be areas that were cut lower than original grade during the re-contouring of the holes.

“Plant tissue analysis and soil samples don’t show any major deficiencies compared to surrounding areas. These areas did yield some high nematode counts. However, because of our excellent fairway drainage, I avoid using any nematocides on the fairways.

“We should be able to outgrow that type of damage with our cutting heights and fertility levels. It is still a mystery we are trying to solve.”

“Whenever you make a job or career change, you face a lot of new challenges.

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Suggestions to improve golf course superintendent's image at the local level

Editor's Note: At a recent South Florida chapter meeting, Bob was asked to play devil's advocate to Tom Mascaro's presentation about what GCSAA does for the superintendent. Bob came up with six suggestions about what superintendents can do for their image at the local level.

BY BOB KLITZ, CGCS

1. Offer area high schools and vocational schools your services to provide information regarding job opportunities in the golf course management industry. This information can be provided through job fairs, career days, or other school sponsored activities.
2. Area community groups are frequently looking for guest speakers for luncheons, meetings and various functions. Check newspapers or local Chamber of Commerce for listings of groups that do meet on a regular basis. Offer your time to speak about the golf industry, home lawn and landscape care, or other environmental issues.
3. Handle your interactions with golfers, members, clubhouse staff, management, and employees with a professional attitude and manner.
4. Establish an interactive relationship with someone in the media. Sportswriters, television reporters, local newspaper editors or columnists, environmental writers for area papers all would be worthwhile contacts to provide with interesting and helpful information..
5. Continue to operate your maintenance facility in a clean, organized, safe, and environmentally beneficial manner.
6. Continue to provide your employees with the latest safety equipment and training available. Be sure they realize how to operate and use all of their equipment in a professional manner. Remember that their actions are a direct reflection of their training.

These suggestions come from a superintendent who is very busy nurturing the new turf at Deer Creek. But he is also working on long range projects for the complete modernization of the golf course which includes grading and repaving of the maintenance compound. There are also plans for new storage bins, equipment wash down area, pesticide fill station, and a separate pesticide storage area. Bob Klitz and Deer Creek - a man and a golf course both facing the challenges and adapting to the changes of their new beginnings.

Working with Dean, Mr. Valassis, and a good crew has made the change easier, but I also have to thank my fellow superintendents for their help.

"Since we have been open, I have hosted three groups of different superintendents to come and play Deer Creek. Without exception, I have come away from those outings with tips and suggestions that have helped make a difference in the course.

"Some are very dramatic like the tip from Bill McKee, who noticed scalping of the tops of the new mounds.

"Bill told me that Dick Gray had solved the same problem on his course by replacing the grooved rollers on his slope - and rough - mowers with solid rollers. I tried it, and that equipment change raised the height of cut just enough to eliminate the scalping.

"Other ideas may have had a smaller

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Management: Dean Horn, president of Franklin Golf Properties; Steve Oa, golf professional; Robert Klitz, CGCS.

Playing policies: Semi-private. Memberships and public play.

Original design by: Billy Watts. Opened 1971. Redesign by Arthur Hills and reopened November 1993 as an Arthur Hills signature golf course. New construction by Alan MacCurrach of MacCurrach Golf Construction, Inc. Tifdwarf from Quality Grassing, Inc.; Tifway 419 from Southern Turf Nurseries, Inc. 18 holes. 138 acres under maintenance.

Greens: Total 3 acres. Average size-6,200 sq. ft. ; turf: Tifdwarf; height of cut: 9/64; green speed: 8.5; overseeding: none.

Tees: 3.8 acres; turf: Tifway 419; height of cut: 7/16; overseeding: None,

Fairways: 34 acres; turf: Tifway 419; height of cut: 1/2 11/16; overseeding: none.

Roughs: 97.2 acres; turf: Tifway 419; height of cut: 1 3/4. Irrigation System: Toro Osmac controls with 20 field units. Side by side Toro 670 and 650 heads on greens. 865 heads on remainder of course.

Pumping system: 2 - 75 hp & 1-35 hp vertical turbine pumps with Liquid Ag fertigation system and Phairway Acid Injection.

Water source: Hillsboro Canal.

Staff: 23 including Bob Klitz, CGCS; Ted Hile, asst. supt.; Tom Seaman, foreman; Robert Manssen, head mechanic; Chris Mauser, irrigation technician.

Wildlife: Alligators, Anhingas, Blue Herons, Green Herons, Egrets, Fox, Ibis, Otter, Swans, Wood Storks.

"The friendships I have made and the sharing of information are some of the best rewards I have received from my service on the board of directors of the South Florida Chapter."

impact, but they all alter and improve our techniques which ultimately results in a better product or less cost.

"One of my own ideas or inventions was to design a more user-friendly sand bucket for the tees. The old styles were always too heavy to move easily to new tee positions.

"I had our mechanic fabricate a circular bracket which would hold a one-gallon pot. The bracket is mounted on a waist-high spike. No bending, no heavy lifting. My wife says I should get it patented, but I would rather consider it my tip or idea to the industry."

"The friendships I have made and the sharing of information are some of the best rewards I have received from my service on the board of directors of the South Florida Chapter. I am currently the vice president.

"Next year I hope to improve the attendance and participation of our members. Attendance of monthly meetings is only the beginning of being a successful superintendent.

"Service on the board of directors provides an opportunity to form lasting personal and professional bonds. My own experience has shown me that my fellow superintendents are allies and not competitors for the next job.

"One of our goals next year is to have a more successful Palm Beach-South Florida joint chapter meeting. This has been a traditional and meaningful event over the years. We have been meeting in August, but it seems that vacations and summer maintenance routines have been reducing the participation. We will move the meeting to October after the FTGA Conference to see if that will improve the attendance."

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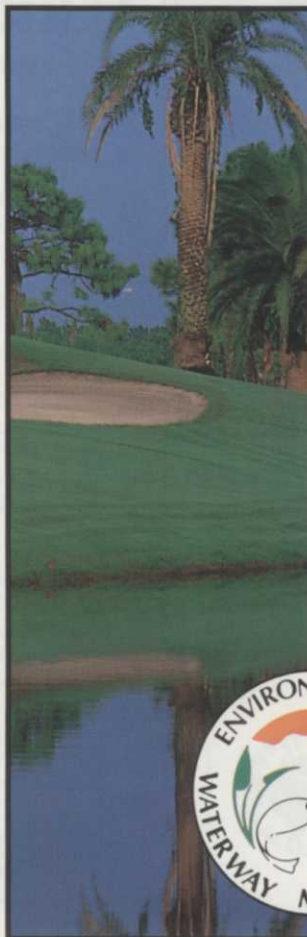
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Robert Klitz, cgc's

Ridgewood, N.J.

Family: Wife, Lisa; son, Robert, 3 1/2. The Klitzes are expecting in May.

Education: A.A. Degree. Course work done at the U. of Fla. and Broward Community College.

Previous employment: Ridgewood CC, Paramus, NJ; Inverrary CC, Lauderhill, FL, 11 years (laborer, equipment operator, spray technician, foreman, 3 years; assistant superintendent - 3 1/2 years; superintendent - 5 1/2 years).

Hobbies and Interests: Music, particularly the blues and reggae, working on the house, drawing and painting, golf.

Professional affiliations: FGCSA South Florida Chapter - 6 years, currently vice president; Adam Walsh Golf Tournament Committee - 6 years; Broward County Schools Agri-Business Advisory Committee - 2 years; GCSSA speaker on Underground Storage Tanks at the 1991 Conference and Show in Las Vegas; 1993 GCSAA Environmental Steward Award.



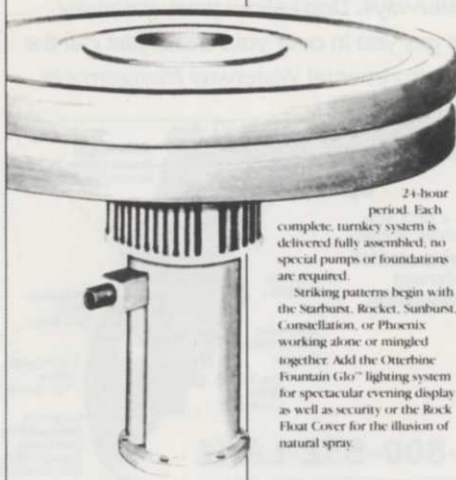
Bob confers with his assistant, Ted Hile, on the special project of the day.

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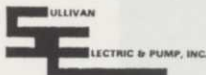
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Many superintendents choose to subcontract the job of verticutting and aerifying to companies that specialize in the process

Transition: boom or bust?

BY TOM BENEFIELD, CGCS

There is perhaps no aspect of a superintendent's job performance as caretaker of the golf facility that carries more importance than how they handle the transition periods.

Taking your golf course from warm-

season turf to cool-season turf and then back to warm-season turf has become the most important program for superintendents all over the state.

Often job performance evaluation is centered around this segment of the total turf program.

With the exception of golf courses in the southernmost part of the state, all superintendents must deal with this critical issue each year.

The members expect good playing conditions year round. Yet often due to their demands and expectations, an unfair burden is placed on the people managing the facilities.

It used to be the word transition was applied only to the greens and tee surfaces. However with the increasing competition among clubs for members and revenue, we see many clubs overseeding fairways and roughs. The old saying, "green brings in more green" has never been more true.

In the effort to bring in more green by

It will soon be that time of the year. When all the talk of how great the golf course is turns to, "What did you do to the golf course, I can't recall when I have seen it this bad!"

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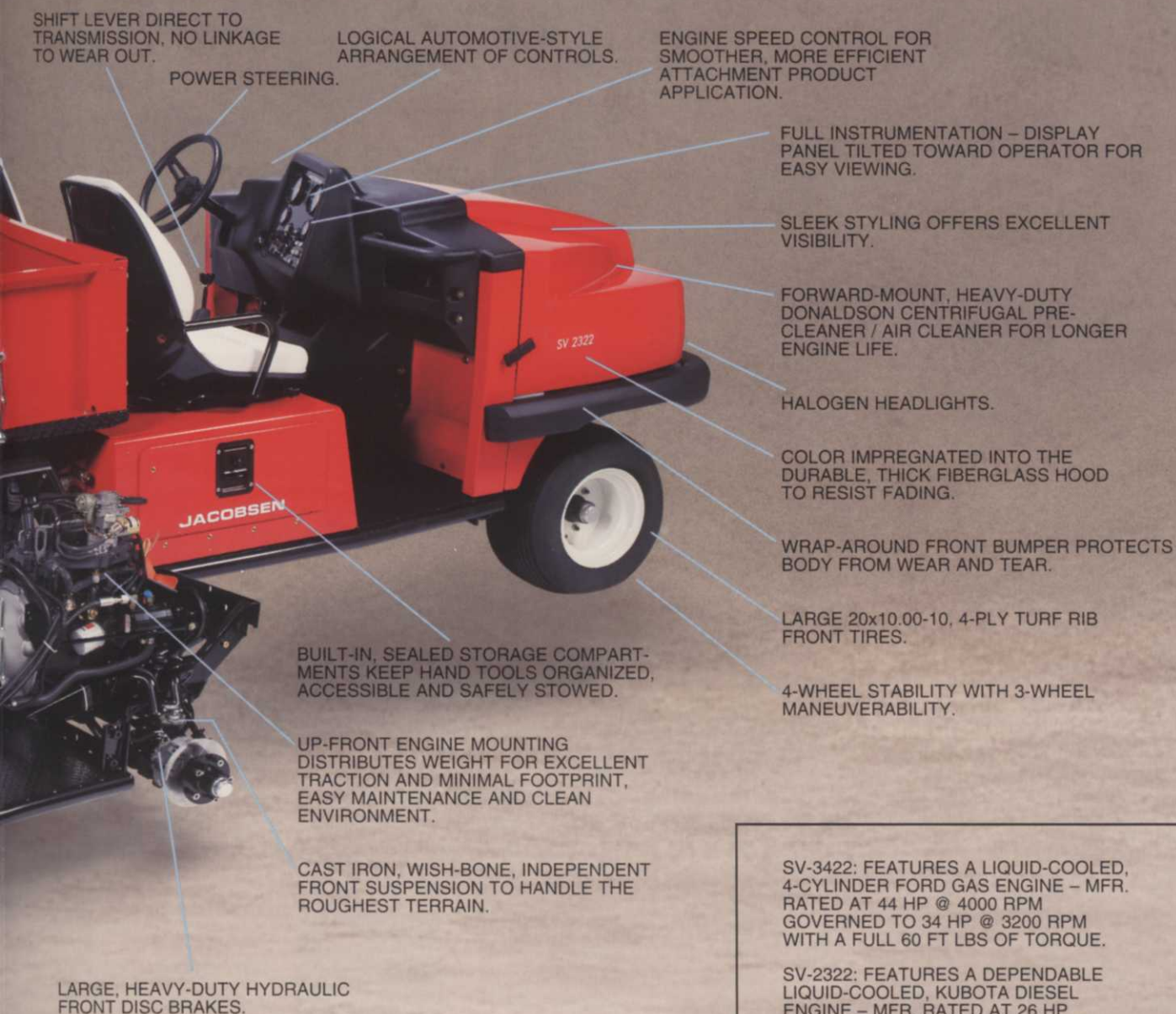
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(It's about time.)



Slight alterations in irrigation scheduling over a period of time should help ease transition woes.

overseeding larger and larger areas, there has been an increased burden on the superintendent and his cultural programs. When you throw the fickle whims of Mother Nature into the equation, you can end up with disastrous results.

Sometimes the result is top-quality superintendents looking for new positions.

It seems appropriate that we utilize this subject of fall and spring transition as

the editorial focus of this the Spring issue. It is a timely topic for which there is a wealth of information.

To find out how different superintendents from across the state handle this cultural and political issue, we have gathered information throughout our ranks and will share it with you.

Take a month off

It will soon be that time of the year.

A lowering of the mowing height is also in order, and to stimulate the bermudagrass base, we apply ammonium sulfate as needed. After we see the response we are looking for, we will re-adjust our cutting heights for the summer maintenance program.

This program seems to work well for us most of the time.

When all the talk of how great the golf course is turns to, "What did you do to the golf course, I can't recall when I have seen it this bad!"

That kind of talk will be my clue to remind the members that the last time they saw the golf course this bad was last year.

It's that dreaded time of the year again: Transition Time!

It's the time of the year when this superintendent would like to take about a month off.

Our technique at Tampa Palms G&CC to help speed along the transition period is to first cut back on the irrigation of the overseeded areas. Once we see some stress on the overseeded grass, we begin to verticut and aerify to help mechanically remove some of the overseeding.

A lowering of the mowing height is also in order, and to stimulate the bermudagrass base, we apply ammonium sulfate as needed. After we see the re-

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sponse we are looking for, we will re-adjust our cutting heights for the summer maintenance program.

This program seems to work well for us most of the time.

In some areas of the golf course however, especially the tee boxes which are Tifgreen 328 bermudagrass, severe thinning can occur.

These areas require additional irrigation and fertilizer to achieve the response we are looking for. Wetting agents are helpful in certain areas where the soils are hard to wet and have become weak from the transition experience.

Education of our membership is important during the transition period.

I believe it is in your best interest to inform the members what is occurring and when they can reasonably expect conditions to return to what they consider normal condition.

If you are fortunate, your course will come out of transition in good shape and be perfect at just about the time to start the process all over again.

*Greg Plotner, CGCS
Tampa Palms Golf Club*



Thinning of turf is the greatest problem during the transition period.

The advantages for Venice G&CC with this approach is that we have fewer closed days for renovations, fewer complaints about “tearing up the course,” and have more effective utilization of irrigation by watering in the fertilizer, sand topdressing and insecticide all in one night.

Interseed with seaside

Our overseeding program consists of bentgrass on greens and ryegrass on the tees.

The process of transition is begun as soon as springtime soil and air temperatures are warm enough to support consistent growth of the base bermudagrass.

At this time we initiate cultural practices to favor the growth of the bermudagrass. These practices include turf grooming, verticutting, fertilization and irrigation timing and amounts.

These programs are continually ad-

justed as conditions require.

Like everyone else, we want to take out the cool-season grasses without experiencing periods of thinned turf on greens and tees.

Our greens are interseeded with seaside bentgrass. By using the interseeding method and seaside bent, the transition becomes easier. Seaside is less heat-tolerant than the “Penns” and other improved bents.

Logically, when temperatures increase, the bentgrass can be taken out without sacrificing turf quality.

Perennial ryegrasses have improved to the point where it is much more difficult to eliminate them from teeing areas in spring.

We follow the same general procedures that are used on the greens. Normally, when the ryegrass finally leaves, there is some recovery time until the bermudagrass can fill the voids.

We have done some experimenting with poa trivialis and will consider using it on tees for an easier transition.

*Lou Conzelman, CGCS
Fiddlesticks CC, Fort Myers*

One wild day a year

At the Venice G&CC, we begin to slowly implement cultural practices during May. We have overseeded tees, par-three approaches, collars and greens.

On the tees, collars and approaches, we verticut with a triplex in two directions once a week.

On the greens we use grooming reels three times a week and verticut once a week. In addition, we apply our spring

During this week we will aerify tees, fairways, and light rough areas. Then on June 2, we deep-tine aerify the greens, verticut tees, verticut fairways and light roughs, topdress greens and tees, fertilize wall to wall and, finally, spray for mole cricket control.

fertilizer to stimulate bermudagrass growth and we minimize irrigation as much as possible.

A new factor we're trying this year is to use the Primo growth regulator. We apply Primo on tees and par three approaches to regulate the ryegrass growth.

Since the growth regulator is foliar uptake, we anticipate very little effect on the 419 bermudagrass as the regulator was applied while the bermuda was shielded by the ryegrass.

We hope this will reduce the competition to determine the dominant turf desired during this transition period.

Our spring cultural practices go beyond the overseeded areas and we also work on fairways and roughs to recover from 200-plus rounds of golf per day we have during the winter season.

The first week in June becomes very busy and this year June 2 is the big day.

During this week we will aerify tees, fairways, and light rough areas. Then on June 2, we deep-tine aerify the greens, verticut tees, verticut fairways and light roughs, topdress greens and tees, fertilize wall to wall and, finally, spray for mole cricket control.

This "wild day" is successful because the work gets done all in one day, result-



Mechanical removal of winter grass by means of aerification will help the bermuda base recover quickly.

ing in the golf course being closed only one day.

About half of the work (the deep-tine aerification, fairway verticutting and custom spraying) is contracted out to the

professionals to make this all possible.

The advantages for Venice G&CC with this approach is that we have fewer closed days for renovations, fewer complaints about "tearing up the course," and have



Light verticutting is an excellent cultural practice which should be done often to open up the overseeding turf canopy for sunlight to reach the summer grass.

more effective utilization of irrigation by watering in the fertilizer, sand topdressing and insecticide all in one night.

We have many factors here at Venice G&CC that make this day successful and hope other clubs weigh all factors if considering such an undertaking in one day. Remember, this will not work for everyone and Plan B is on standby!

*Troy Smith
Venice G&CC*

Problems in the rough

A handful of golf courses in the state

have the unfortunate pleasure of overseeding the entire golf course. Our transition problems occur mostly in the roughs so we will focus on that.

In the rough areas, we lower heights in April to help open up the canopy (1 inch or less) of the perennial ryegrass.

We aerify in mid-May and decrease water enough to stress the ryegrass, but not so much as to stress the bermudagrass.

When temperatures begin to remain in the mid 60s to low 70s at night, we begin to push the bermuda with fertility in hopes that it will out-compete the rye.

With a little luck and a few truckloads of sod, we try to be in decent shape by Aug. 1.

This year we have also purchased an older type of ryegrass. By using a first-generation variety, we hope it will have less tolerance for heat, insect and water so it will check out faster. In recent years the second-generation ryegrasses we utilized were so good that they were not "transitioning" until early July.

Call me this coming July and I'll let you know if this idea has worked!

*Tom Alex
Grand Cypress GC, Orlando*

Generally speaking, transition should coincide with your aerification. Treat it like a grow-in: lots of soluble nitrogen ... lots of water... stick to your daily mowing schedule.

Transition begins in February

I believe the transition actually begins for most of us in February.

Think about it: our grooming practices actually begin to thin the overseeding and expose some bermuda. If the weather is warmer, more grooming or — in some

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**We must prepare the bermuda base
So we can make the change with grace
We can't delay for time is pressing
To verticut and apply topdressing.
So, when we play this dreaded date.
Don't force the turf too long to wait.
Mother Nature will give no quarter.
Grass needs food, and air, and water.**

Taking a position on the act of transition or ... It's not nice to fool Mother Nature

I find myself in an awkward position, Trying to write about "Spring Transition."

For Spring has sprung a month ago, And change began as well you know.

Beneath the soil the roots are sluffing. Green blades above their weakness bluffing.

The time to act is now, says I. Please Mr. chairman, let me aerify!

You ask if I must start so soon?
I cannot hold back spring 'til June!
New roots and shoots will come calling,
While, with tournaments, you are stalling.

We must prepare the bermuda base
So we can make the change with grace.
We can't delay for time is pressing
To verticut and apply topdressing.

So, when we play this dreaded date,
Don't force the turf too long to wait.
Mother Nature will give no quarter.
Grass needs food, and air, and water.

I know the greens won't putt the same,
But if we wait, whom will you blame?
When one hot day before your eyes,
The sun cooks all our bents and ryes.

*Joel D. Jackson, CGCS
Disney's Magnolia GC*

No set solution

Like many of you, each year I hope for a smooth transition from winter overseeding to base bermudagrass.

Again, like many of you, I do what I can to contribute to this changeover and encourage the type of growth that I desire.

cases — brushing is necessary.

Most of us reduce our fungicide rates, slightly increase fertilization and continue to lower the height of cut. So, let's face it, if we didn't aggressively do these simple things, the overseeded grass would dominate.

When it's time to really force transition, I find it necessary to verticut in four directions: two ways with the triplex and two ways with 22-inch walking greensmowers.

I'll follow up with aerification using $\frac{1}{2}$ -inch or $\frac{5}{8}$ -inch tines and simplex-brush the sand from the plugs back in. This does leave some debris (rhizomes, stolons, thatch and grass) on the surface.

However, I'm convinced that the sand in these plugs is an important greensmix or topdressing. Why haul it away when we've already paid for it at least once?

We also apply any soil amendments at this time. Routinely I will adjust the pH, alter hydrophobic spots with water-holding polymers and fertilize with natural organic fertilizers.

The result to all of this effort is usually a stronger, more prevalent bermudagrass plant.

However, the bentgrass certainly responds well to these programs too! So...we continue to groom, verticut, fertilize, dry out and lower the height of cut until we overseed again.

What a vicious cycle.

*Steve Wright, CGCS
Alaqua CC, Longwood*

Weather is the controlling factor

Making the transition from cool-sea-

son playing surfaces to warm-season playing surfaces is an annual guessing game in North Florida. There are things that can be done culturally to speed up or slow down the process, but weather is the controlling factor.

Ideally, the nighttime temperatures need to be in the 50- to 60-degree range, with daytime highs in the 80- to 90-degree range.

"Consistently" is the key word. It is not uncommon in North Florida to experience nighttime lows in the 40s in May.

Keeping this in mind, most superintendents in the area schedule their aerification in early June. This event, preceded by several weeks of low mowing, light vertical mowing, and increased fertility usually speeds up the transition from cool-season to warm-season grass.

Generally speaking, transition should coincide with your aerification. Treat it like a grow-in: lots of soluble nitrogen ... lots of water... stick to your daily mowing schedule.

And, oh yeah — eat your lunch in your office for a couple of weeks.

*Tom Cowan, CGCS
Deerwood Club, Jacksonville*

To make a long story short, there is not set solution or answer. You must do what you feel best suits your needs and situation, whether it is cutting height, verticutting, fertilization, water or even chemical application to force a species out.

What we fail to remember from time to time is that we often contribute to our own transition headaches by being forced to overlook some of the basic cultural practices mentioned above. For instance, heavy play forces you to take steps that can't help but make the transition more difficult. When you play 95,000 to 100,000 round per year on 18 holes, your turf is undoubtedly under stress!

Naturally, decreased cutting heights, verticutting, increased fertilization rates and decreased irrigation levels encourage the decline of the overseeded cool-season grass and encourage takeover by the warm-season bermudagrass.

This process, in combination with cultivars that naturally have a tendency to exit more gradually, makes our jobs somewhat easier.

What we fail to remember from time to time is that we often contribute to our own transition headaches by being forced to overlook some of the basic cultural practices mentioned above.

For instance, heavy play forces you to take steps that can't help but make the transition more difficult. When you play 95,000 to 100,000 round per year on 18 holes, your turf is undoubtedly under stress!

To overcome this stress, two methods utilized are increased height-of-cut and elevated fertility levels. These practices make transition more difficult, but may be necessary evils.

More than likely my transition will be slower unless continued heavy play in combination with increased temperatures force out the overseeding.

To make a long story short, there is not set solution or answer. You must do what you feel best suits your needs and situation, whether it is cutting height, verticutting, fertilization, water or even chemical application to force a species out.

Not every golf course can be treated the same. The transition cultural practices you choose to utilize must be dic-

tated by your experience and expertise in your particular situation not by Simon Says!

*Marshall Edgren, CGCS
City of St. Petersburg*

As you can see from the testimonials of the previous writers, transition can be a very testy time of the year. The most consistent aspect of the practices of these superintendents is the subject of "less than perfect conditions."

Everyone who goes through spring transition will somewhere on his golf course experience turf conditions which are unacceptable to the golfing membership. In certain instances these problems can be relatively minor occurrences while at other times they can seem like a runaway train with conditions spiraling out of control.

And sometimes the bad conditions are not related to how well a superintendent is handling the transition period.

The most influential factor in a smooth transition is out of the hands of the superintendents; it is of course, Mother Nature.

If the winter is too warm and the spring too cool, the overseeding will be heavily entrenched in the base grass. Under conditions as these, the warm-season grass is not able to overcome the virulent winter grass naturally with the aid of cultural practices normally utilized

for the transition period

The result in this scenario can be uncontrollable thinning of the turf accompanied by a sharp tongue from the greens chairman.

This situation is where the ability to speak and relate to your members concerns will come in handy.

Superintendents must reach out to the members and educate them. It is most important, particularly when the chips are down.

When events have overtaken your programs and have forced you into alternate programs, you must walk the pro shop floor daily, seek out and confront your detractors in a professional manner. Take time to educate them on what the true story is.

Remember, innuendo can bury you.

Remember also that the darkest hour is just before the dawn, and transition is no exception.

The spring transition time also marks the time when the fun starts: it leads into summer and fall, when you do all your cultural practices. It kicks off the summer months when your special projects will be accomplished. It gets you ready for the catcalls from the members which will come later in June as the mole crickets devour your turf and turn once-brilliant stands of fairway turf into mushy, roll-the-ball-to-a-green, spotted turf.

Spring is an eternal event — an event that offers hope of a better tomorrow, hope of sunny days with a fair breeze and quenching evening thunderstorms.

It is the springboard to the rest of the year, it is the most beautiful time of year with trees and plants of all varieties coming forth with new life and to put away the old. It is inspiration and unfortunately short-lived but never forgotten.

Remember this the next time your members castigate you for the unfortunate spring transition of the turf.

Speak to them kindly, educate them humbly and then ask them to walk with you in one of the world's greatest parks, stopping along the way and smell the roses.

The spring transition time also marks the time when the fun starts

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On December 10th, 1993, the EPA published its final rule to regulate methyl bromide as an ozone depleting chemical under the Clean Air Act. This rule schedules a complete phase-out of methyl bromide production and consumption on January 1, 2001.

The methyl bromide industry is challenging the EPA's rule on the basis that the science of ozone chemistry, as it applies to methyl bromide, is not well established and that suitable substitutes for many of its uses do not exist.

The immediate effect of the final rule during 1994-1995 will be felt on the pricing of methyl bromide products for the following reasons:

- Producers will need to increase their prices to cover the cost of methyl bromide's defense.
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- Methyl bromide products may be levied an excise tax because of formal listing as an ozone depletion substance.

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They didn't teach me this in turf school!

BY SCOTT BELL

A few years ago, Florida law mandated that I have monitoring wells installed around my fuel tanks in order to watch for groundwater contamination from the underground fuel storage tanks that we used to fuel the equipment.

Immediately after installation, our monitoring wells showed evidence of fuel in the samples. Upon notifying the local DER/HRS representative, my fears were quickly confirmed by him.

After discussing the matter with the club officials, the decision was made to convert to an above-ground system as quickly as possible.

We decided to install the Convault double-walled, concrete-enclosed tanks because of the obvious durability of the tanks and our desire to never be in this situation again. We were given a fair period of time to remove the suspect underground tanks which helped to spread these large expenses over a longer period of time.

The DER representative that I worked with was fair and reasonable and I responded by affording him the same consideration. I'm sure that my being cooperative with the DER official helped the situation and it helped get us a reasonable amount of time to remove the tanks.

In retrospect, I think he knew better than I the large expenses we would be incurring to remove the tanks, so I think he gave us time between the installation of the new tanks and the removal of the old tanks.

When we finally had the fuel tanks removed, contaminated soil and groundwater were found.

Little did I know that morning what a long and hard road that I had in front of me.

In retrospect, I think he knew better than I the large expenses we would be incurring to remove the tanks, so I think he gave us time between the installation of the new tanks and the removal of the old tanks.

The staff from Brevard Oil Equipment showed up to remove the tanks and, shortly after breaking through the concrete, they found that the soil was contaminated.

Little did I know that morning what a long and hard road that I had in front of me.

They started digging on Tuesday and they did not stop until Thursday night.

We had to go to Scotty's to buy plastic to line the ground so we could stockpile the soil.

As the hole was being dug, the boundaries had to be defined. Six-foot squares were dug to a seven-foot depth; soil samples were taken just below the surface, at about the midway depth and a third sample was taken just above the water table.

The soil samples were measured with an organic vapor analyzer (OVA) and those reading between 10 and 500 ppm represent contaminated soil. Our samples almost always read above 500 ppm.

OVA readings above 500 ppm represent excessively contaminated soil and usually both soils have to be remediated in some way.

By the time the four boundaries were determined, three days had passed, two backhoes were being used simultaneously, four large piles of contaminated fill sat covered up within my maintenance complex, and a hole approximately 60 feet by 50 feet by 7 feet deep existed in the parking lot.

The situation was extremely stressful, and anxious thoughts about very costly cleanups filled my mind.

I began to call other superintendents whom I knew had gone through this for advice and support. I read all of the ma-

terial that I could find pertaining to fuel spills. The contractor, Drew Bently of Brevard Oil, was very helpful in guiding me through the first process and educating me about soil remediation.

Ultimately Bently's knowledge and guidance saved me \$30,000.

The tanks were removed and inspected by Drew and by me and no holes were found in the tanks. The main pollutant was found to be gasoline.

One theory of how the soil became so polluted is that the piping may have leaked over the years.

Another idea is that the large trucks that used to fill the tanks by the gravity method would often overfill the tanks and cause large amounts of fuel to spill onto the ground. This practice caused the state to adopt overfill guidelines that now require overfill protection devices on all tanks. Years of overfill may have accumulated in the soil to cause this situation.

Once the tanks were removed, the next step was to develop a plan to deal with the soil, which sat in four huge piles at our complex. Large sheets of plastic covered the soil to protect it from the rain.

Since I had a large amount of undeveloped, uninhabited and unused land available, "landfarming" of the contaminated soil was a real possibility. Drew encouraged me to pursue the landfarming method because of the great savings versus incinerating the soil in Kissimmee and paying the trucking fees.

At this point I was tired of looking at the stinking soil but I knew that landfarming the soil was for me. We began to develop a plan to deal with the 800 tons of contaminated fill.



This pit, which once housed underground storage tanks, became known as "the swimming pool" during the decontamination process.

I still had a huge hole in my shop complex that was a constant liability. Every night before we went home, we parked all of large equipment around the hole and wrapped the site in yellow warning tape in case someone were to get within our fenced shop area.

The time frame between the initial discovery and the time that we landfarmed the soil and filled in the hole was over two months. In that time the plastic used to cover the contaminated soil had to be replaced once because the weather had destroyed it.

Analysis of the groundwater revealed that it also was highly contaminated. Of course this was bad news because now not only did the soil need treatment, so did the groundwater.

During the two months that the hole

was open, the hot Florida sun and rains helped to clean the site. The groundwater contamination numbers reduced significantly during this time and algae, insects and weeds began to live in the bottom of the hole.

Finally we received authorization to go ahead with the plan to landfarm the contaminated soil.

I contacted a local fill contractor, Ed Hall, to arrange the transport of the polluted soil to the landfarm site and the hauling in of soil to fill our hole — or "swimming pool" as it was called by us and some of my friends.

The "swimming pool" was filled in first, and because the soil for filling was located close to the shop, the hole was filled in quickly.

The landfarm site was cleared by my

staff and the landfarm was prepared by Brevard Oil and my staff. Construction of the landfarm was done by clearing the site and grading it smooth.

We chose a flat site in the middle of one of our parcels about an acre to an acre in a half in size. Once cleared, 10 mil plastic "visqueen" was used to line the bottom. The soil was hauled in and spread out to a depth of about four to six inches.

Fumes could be seen rising into the air as the soil was spread.

After a day of trucking and working the soil, the landfarm was complete. The sides of the farm had to be bermed up and covered to prevent any rain water from leaving the site during storms.

The farm was turned five to six times a week with a disc to help the soil release



Contaminated groundwater requires special equipment like this stripping tower to remove residual material.

The landfarm was plowed five or six days per week for many months. The financial savings made the work worthwhile and I would recommend the technique to anyone who has the acreage, the labor pool and the time. As I said earlier, landfarming saved us at least \$30,000 over the cost of trucking the soil to an incinerator.

the gas. The hot sun also helped to deplete the gas from the soil.

The first couple of months saw a large decline in the OVA readings in the soil tests, but after the readings got very low, the decline seemed to flatten out and it took more time to degrade the gas.

For instance, the initial readings when the soil was removed from the ground were 500 ppm to over 1000. After about six weeks, the readings were generally below 200 ppm — a large decline.

However, it then took more than six weeks to get the readings below 60 ppm and then below 10 ppm, the final target.

After months of testing and plowing, contaminated soil does clean up. Samples have to be taken for a series of expensive

tests to prove that the soil is clean so it can be taken out of the landfarm if you so desire.

The soil remediation was very labor intensive. The landfarm set-up, hauling, spreading of the soil, and the plowing

took many man-hours.

The landfarm was plowed five or six days per week for many months. The financial savings made the work worthwhile and I would recommend the technique to anyone who has the acreage, the labor pool and the time. As I said earlier, landfarming saved us at least \$30,000 over the cost of trucking the soil to an incinerator.

After all the time and effort that we devoted to the landfarm and soil remediation, we were still only three quarters of the way home.

Now for the groundwater

We had removed the tanks, excavated the soil, remediated the soil and now we had to deal with the groundwater.

When the tanks and the soil were removed, a water sample was taken from the bottom of the hole and tested. The results indicated that more testing and possible remediation were necessary.

While the hole was open, we ran a stripper for a week and that helped to cleanse the water. The fact that the hole was open for two months also helped to clean the water as the air, sun and naturally-occurring microbes attacked the contamination.

In order to comply with the law, we were required to file a Contamination Assessment Report, or CAR, to the Florida Department of Environmental Regulation. The CAR explains that we did have contaminated soil and that we are correcting the problem.

The CAR mainly deals with the contaminated groundwater and is another expensive report, usually costing between \$11,000 and \$20,000 depending on the extent of the contamination and the number of wells and tests needed.

In order to complete the CAR, you must show how the groundwater is flow-

In order to comply with the law, we were required to file a Contamination Assessment Report, or CAR, to the Florida Department of Environmental Regulation. The CAR explains that we did have contaminated soil and that we are correcting the problem.

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*Occurs when stresses such as Rhizoctonia and Pythium species combine with heat, traffic and other factors. This results in reduced turfgrass vigor.



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Contaminated soil must be stored on site until lab results determine the best disposal method. Extremely contaminated soil must be hauled to an approved burn center — a very expensive proposition.

ing underground so that you can establish a perimeter for the plume of contaminated water.

At this point American Environmental Group entered and began doing the work. The groundwater flow direction was established and test wells were installed to test the water on the perimeter of the plume.

Test wells were installed in the area where the tanks had been, and a deep well was also installed to see if the contamination had moved down through the water. The other wells were drilled mainly downstream to see how far the plume had moved.

The test wells were well placed because once the perimeter was established, only one additional well was needed to

prove its boundary. With the tests all complete and the plume defined, the CAR can be submitted.

Our water tests came back with an 81 percent reduction in contamination since the first test. If the contamination continues to decline at that rate, we may be able to avoid remediation entirely.

This has been an experience that I will not forget and it is one that I hope that I will not have to repeat.

The tremendous size of the spill and the excessive costs for the cleanup, report filing and testing can ruin a budget and, if large enough, a business.

What have I learned from all of this?

- First, if you have underground tanks, get insurance.

- My experience has been that the DER is not out to make your life miserable as

long as you comply with the rules and meet the deadlines. Good communication is the key.

- Get a good, reputable, tank-removal company... one that does this type of work every day. Drew Bentley had the experience to guide me through soil remediation, thus saving us money.

- Finally, take it one day at a time. I wanted the whole thing cleaned up and out of sight overnight. Things like this take time: Tests take time, DER approvals and/or decisions take time. Remediation takes a long time.

Once the contaminated soil is removed, then time is your friend.

I hope that no one else has to go through this, but I'm sure that others will. I wish you lots of luck and patience.

Poa trivialis

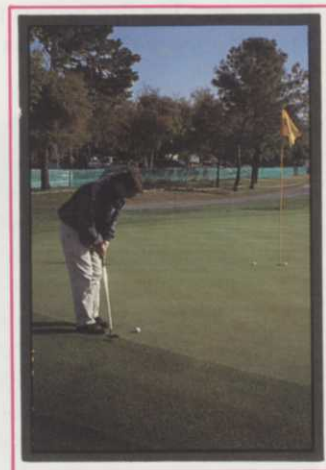
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During the summer of 1990, the Florida Golf Course Superintendents Association (in cooperation with the University of Florida) built a golf course putting green (20,000 sq. ft.) at the Fort Lauderdale Research and Education Center.

The purpose was to develop a field laboratory to be used by turf researchers for their research projects and to conduct independent field testing of products that the superintendents wished to evaluate on bermudagrass maintained as a putting green. The first project initiated in May 1991 for the FGCSA was an evalua-

Acknowledgments

This project was supported by the following companies: Sinnamon Brothers/Eco, Inc.; Ringer Corporation; Milorganite Division - MMSD; Sustane Corporation; Emerald Isle, Ltd. (PanaSea Plus); Environmental Supplies, Ltd./Arbor Groves, Inc. (Kelpak); and American Colloid (Enersol).

We would also like to take this opportunity to thank the following suppliers for their donations of equipment and materials for the basic maintenance of the FGCSA Research Green in 1993. Without their generosity, we would be unable to conduct research!

- **Golf Agronomics** (topdressing material)
- **Googe Trucking** (trucking services)
- **Harrell's Inc.** (fertilizer)
- **La Gorce Country Club** (used triplex mower)
- **NuCrane Machinery** (equipment)
- **Regal Chemical Company** (weather station)
- **RSI Holdings of Florida, Inc.** (equipment)
- **Vigoro Industries** (fertilizer)

Table 1

Natural organic fertilizers and cytokinin-like products evaluated on the FGCSA Research Green from May 1992 through April 1993.

Treatment Number	Treatment	Rate per 1000 sq. ft.*	Application Application Interval
1	Enersol**	16 fl oz	Once per week for 3 weeks with 8 weeks between the multiple applications
	IBDU mix***	0.5 lb N	2 weeks
2	PanaSea Plus	4 fl oz	2 weeks
	IBDU mix	0.5 lb N	2 weeks
3	PanaSea Plus	4 fl oz	4 weeks
	IBDU mix	0.5 lb N	2 weeks
4	Kelpak	4.5 fl oz	First application only
		1 fl oz	6 weeks
	IBDU mix	0.5 lb N	2 weeks
5	Eco 7-1-5	0.5 lb N	2 weeks
6	Sustane 5-2-4	0.5 lb N	2 weeks
7	Ringer 8-2-8	0.5 lb N	2 weeks
8	Milorganite 6-2-0	0.5 lb N	2 weeks
	sulpomag (0-0-22)	0.5 lb K	2 weeks
9	Eco 7-1-5	0.25 lb N	2 weeks
	IBDU mix	0.25 lb N	2 weeks
10	Sustane 5-2-4	0.25 lb N	2 weeks
	IBDU mix	0.25 lb N	2 weeks
11	Ringer 8-2-8	0.25 lb N	2 weeks
	IBDU mix	0.25 lb N	2 weeks
12	Milorganite 6-2-0	0.25 lb N	2 weeks
	IBDU mix	0.25 lb N	2 weeks
13	IBDU™ mix only	0.5 lb N	2 weeks

*Fertilizer rate was increased 2X from November 1992 through April 1993 to a total of 1.0 pounds N per 1000 sq. ft. every 2 weeks.

**Treatment was terminated November 1992, but area continued to be fertilized.

***The IBDU mix is a blend of 8% N (as IBDU™), 8% K (potassium magnesium sulfate=sulpomag), 4% Mg, 0.5% Fe (iron oxide and iron sulfate), and 0.4% manganese sulfate.

A major concern of the golf course superintendents, however, is the root loss that seems to occur during the long summer season in southern Florida.

tion of nitrogen sources, primarily slow-release nitrogen sources.

A major concern of the golf course superintendents, however, is the root loss that seems to occur during the long summer season in southern Florida. Part of this root loss may be due to soilborne pathogens. However, most bermudagrass putting greens are maintained at a cut-

ting height of $\frac{3}{16}$ inch or less. This places a natural stress on the root system by virtue of the fact that there is very little leaf tissue to support photosynthesis. Thus, a second project was initiated in May 1992 to evaluate natural organic fertilizers and cytokinin-like hormonal products derived from sea plants (kelp) as potential products to help minimize

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Table 2

Pesticides applied to research study area on the FGCSA Research Green from May 1992 through April 1993.

Pesticide	Application Date	Application Area
Herbicides		
MSMA	12 January 1993	Spot Treatment
Basagran	28 January 1993	Entire Green
MSMA	9 February 1993	Spot Treatment
Basagran	9 February 1993	Spot Treatment
Insecticides		
Amdro Bait	8 May 1992	Spot Treatment
Dursban Bait	10 July 1992	Spot Treatment
Dursban Bait	25 July 1992	Spot Treatment
Dursban Bait	12 August 1992	Spot Treatment
Amdro Bait	12 August 1992	Spot Treatment
Di-Pel	22 September 1992	Entire Green
Oftanol	15 January 1993	Spot Treatment
Dursban Bait	22 February 1993	Spot Treatment
Dursban Bait	10 March 1993	Spot Treatment
Oftanol	29 March 1993	Spot Treatment
Oftanol	14 April 1993	Spot Treatment
Fungicides		
Daconil 2787	22 January 1993	Entire Green
Daconil 2787	13 February 1993	Entire Green

this root loss. The following is a summary report of the first year of the study. The products evaluated are listed in Table 1.

The Eco, Sustane, Ringer and Milorganite products are described as natural organic fertilizers because they conform to the Association of American Plant Fertilizer Control Officials definition of "materials derived from either plant or animal products containing one or more elements (other than carbon, hydrogen and oxygen) that are essential for plant growth." In other words, they are derived from natural organic materials such as turkey litter, sewage sludge, alfalfa, bloodmeal, wheat germ, etc. This

is in contrast to the synthetic organic fertilizers which are composed of urea. Urea is also an organic material but the slow-release urea fertilizers commonly used in the golf industry are derived via a chemical process. For more information, please refer to an article on "Natural Organic Nitrogen Sources" in the March 1992 issue of *Golf Course Management*.

The natural organic fertilizers were evaluated two ways. First, they were used as the only source of fertilizer. For Eco, Sustane and Ringer, these fertilizers were the only products applied to those particular treatment plots. All plots would receive the same amount of nitrogen, but

IBDU™ was used as the standard for synthetic organic nitrogen sources. Therefore, this treatment is considered the "check" treatment in this study. We formulated a fertilizer using IBDU, sulpomag, iron sulfate and manganese sulfate to obtain a blend containing 8% nitrogen and 8% potassium. We did not use Vigoro Industries standard 8-0-8 blend because part of the nitrogen in that blend is derived from sewage sludge.

Table 3

Quality scores resulting from evaluation of natural organic fertilizers on the FGCSA Research Green from May through October 1992 at the summerfertility rate. *

Treatment	June 2	July 17	July 30	Aug. 13	Aug. 28	Sept. 11	Oct. 12	Oct. 22
Eco	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	5.7 a	5.6 a
Sustane	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.1 a	6.1 a
Ringer	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.1 a	6.0 a
Milorganite	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	5.8 a	5.5 a
Eco + IBDU	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	5.9 a	5.9 a
Sustane + IBDU	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	5.9 a	5.9 a
Ringer + IBDU	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.0 a	5.9 a
Milorganite + IBDU	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	5.9 a	5.9 a
IBDU™ only	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.0 a	6.1 a
F Value	0	0	0	0	0	0	1.03	1.19
MSD	----	----	----	----	----	----	----	0.8

* Quality scores (color and density) are based on a scale of 1 to 10 with 10 equal to a perfect score. Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different ($P=0.05$), according to Waller-Duncan k-ratio t test.

** F value too small to determine mean significant difference (MSD).

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Table 4

Quality scores resulting from evaluation of natural organic fertilizers on the FGCSA Research Green from November 1992 through April 1993 at the winter fertility rate.*

Treatment	Nov. 3	Dec. 18	Dec. 30	Jan. 12	Jan. 27	Feb. 10	Feb. 24	Mar. 20	Mar. 24	Apr. 7	Apr. 21
Eco	5.3 b	5.0 a	5.6 b	4.0 a	5.5 a	4.9 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Sustane	6.1 a	5.0 a	5.6 b	4.0 a	5.5 a	5.0 a	6.0 a	6.5 a	7.5 a	7.5 a	7.4 b
Ringer	5.8 ab	5.0 a	5.6 b	4.0 a	5.5 a	5.0 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Milorganite	5.0 ab	5.0 a	5.8 ab	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.0 b	6.5 c
Eco + IBDU	5.5 ab	5.0 a	5.8 ab	4.0 a	5.5 a	5.2 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Sustane + IBDU	6.1 a	5.0 a	6.0 a	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Ringer + IBDU	5.4 ab	5.0 a	6.0 a	4.0 a	5.5 a	5.6 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Milorganite + IBDU	5.8 ab	5.0 a	6.0 a	4.0 a	5.5 a	5.6 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
IBDU_TMi only	6.1 a	5.0 a	6.0 a	4.0 a	5.5 a	5.2 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
F Value	2.46	0	3.22	0	0	0.74	0	0	0	999.99	253.0
MSD	0.9	----**	0.3	----	----	----	----	----	----	0	0.05

* Quality scores (color and density) are based on scale of 1 to 10 with 10 equal to a perfect score. Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different ($P=0.05$) according to Waller-Duncan k-ratio t test.

** F value too small to determine mean significant difference (MSD).

The natural organic fertilizers were also evaluated as individual mixtures with the synthetic organic nitrogen source IBDU™. For these treatments, one half of the nitrogen was derived from the natural organic fertilizer and one half from the IBDU blend.

the amount of phosphorus, potassium and other nutrients would vary depending on the fertilizer source. Milorganite contains no potassium. Since potassium is essential for turfgrass growth, plots fertilized with Milorganite as the sole nitrogen source were supplemented with potassium magnesium sulfate (sulpomag) (0-0-22). However, the

amount of Milorganite applied provided an equivalent amount of nitrogen as for the other natural organic fertilizers.

IBDU™ was used as the standard for synthetic organic nitrogen sources. Therefore, this treatment is considered the "check" treatment in this study. We formulated a fertilizer using IBDU, sulpomag, iron sulfate and manganese

sulfate to obtain a blend containing 8% nitrogen and 8% potassium. We did not use Vigoro Industries standard 8-0-8 blend because part of the nitrogen in that blend is derived from sewage sludge.

The natural organic fertilizers were also evaluated as individual mixtures with the synthetic organic nitrogen source IBDU™. For these treatments, one half

Table 5

Quality scores resulting from evaluation of cytokinin-like products on the FGCSA Research Green from May through October 1992 at the summer fertility rate. *

Treatment	June 2	July 17	July 30	Aug. 13	Aug. 28	Sept. 11	Oct. 12	Oct. 22
Enersol	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.1 a	6.1 a
PanaSea Plus @ 2 weeks	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	5.9 a	5.8 a
PanaSea Plus @ 4 weeks	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.1 a	6.1 a
Kelpak	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.1 a	6.3 a
IBDU™ only	6.5 a	6.0 a	6.5 a	7.0 a	7.5 a	7.0 a	6.0 a	6.1 a
F Value	0	0	0	0	0	0	0.61	0.77
MSD	----**	----	----	----	----	----	0.3	0.6

* Quality scores (color and density) are based on a scale of 1 to 10 with 10 equal to a perfect score. Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different ($P=0.05$) according to Waller-Duncan k-ratio t test.

**_F value too small to determine mean significant difference (MSD).

The cytokinin-like...
products are not
intended to be used
as fertilizers but
rather as
biostimulants for
plant growth.

of the nitrogen was derived from the natural organic fertilizer and one half from the IBDU blend. Phosphorus was applied twice each year at 2.5 pounds P per 1000 sq. ft. to all plots, except those receiving only the Eco, Sustane, Ringer and Milorganite fertilizers.

The cytokinin-like products were evaluated as supplements to the normal

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Table 6

Quality scores resulting from evaluation of cytokinin-like products on the FGCSA Research Green from November 1992 through April 1993 at the winter fertility rate. *

Treatment	Nov. 3	Dec. 18	Dec. 30	Jan. 12	Jan. 27	Feb. 10	Feb. 24	Mar. 20	Mar. 24	Apr. 7	Apr. 21
Enersol	6.1 a	5.0 a	6.0 a	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Pana Sea Plus @ 2 weeks	5.8 a	5.0 a	6.0 a	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Pana Sea Plus @ 4 weeks	6.3 a	5.0 a	5.9 a	4.0 a	5.5 a	5.6 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Kelpak	6.2 a	5.0 a	6.0 a	4.0 a	5.5 a	5.1 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
IBDU™ only	6.1 a	5.0 a	6.0 a	4.0 a	5.5 a	5.2 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
F Value	0.55	0	1.00	0	0	0.40	0	0	0	0	0
MSD	----	----	----	----	----	----	----	----	----	----	----

* Quality scores (color and density) are based on a scale of 1 to 10 with 10 equal to a perfect score. Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different (P=0.05) according to Waller-Duncan k-ratio t test.

** F value too small to determine mean significant difference (MSD).

Table 7

Clipping weights (grams) resulting from evaluation of natural organic fertilizers on the FGCSA Research Green from May through October 1992 at the summer fertility rate and November 1992 through April 1993 at the winter fertility rate. *

Treatment	July 29	Aug. 27	Sept. 23	Oct. 28	Nov. 27	Dec. 30	Jan. 27	Feb. 24		
Eco	6.811 a	3.307 b	4.237 a	1.330 a	2.888 ef	2.941 c	2.094 b	2.369 a	5.042 b	3.310 bc
Sustane	6.277 a	4.293 ab	4.846 a	1.505 a	3.285 cde	3.251 c	2.013 b	2.540 a	4.868 b	3.104 bc
Ringer	7.736 a	4.930 ab	5.297 a	1.457 a	3.028 def	2.868 c	2.001 b	2.647 a	4.430 b	2.817 cd
Milorganite	7.740 a	3.724 b	4.185 a	1.404 a	2.535 f	2.954 c	2.855 a	2.895 a	5.120 b	2.081 d
Eco + IBDU	7.337 a	4.703 ab	5.092 a	1.503 a	3.532 bcd	3.488 abc	2.564 ab	3.126 a	5.754 ab	3.459 bc
Sustane + IBDU	7.311 a	4.566 ab	5.621 a	1.729 a	3.988 ab	3.844 ab	2.297 ab	2.678 a	5.752 ab	3.460 bc
Ringer + IBDU	7.641 a	5.463 a	5.315 a	1.565 a	3.659 abc	4.078 a	2.976 a	2.707 a	5.875 ab	3.970 ab
Milorganite + IBDU	6.883 a	4.217 ab	5.495 a	1.661 a	3.766 abc	3.920 ab	2.895 a	2.812 a	6.896 a	3.562 bc
IBDU™ only	7.276 a	5.466 a	5.228 a	1.591 a	4.192 a	3.960 ab	2.647 ab	3.278 a	6.620 a	4.580 a
F Value	0.61	2.42	1.45	0.45	7.56	4.20	2.94	1.11	3.19	5.30
MSD	----**	1.633	1.735	----	0.557	0.728	0.756	---	1.476	0.893

* Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different (P=0.05) according to Waller-Duncan k-ratio t test.

** F value too small to determine mean significant difference (MSD).

Studies on cool-season turfgrass sod in Virginia have indicated a potential role for these products to enhance root growth and strength and, more importantly, to enhance the plant's ability to survive during stress periods.

Table 8

Clipping weights (grams) resulting from evaluation of cytokinin-like products on the FGCSA Research Green from May through October 1992 at the summer fertility rate and November 1992 through April 1993 at the winter fertility rate. *

Treatment	July 29	Aug. 27	Sept. 23	Oct. 28	Nov. 27	Dec. 30	Jan. 27	Feb. 24	Apr. 7	Apr. 21
Enersol	9.268 a	6.316 a	5.434 a	2.044 a	5.014 a	3.651 a	2.537 a	3.305 a	6.556 a	4.206 a
PanaSea Plus @ 2 weeks	7.471 a	5.201 a	5.070 a	1.837 a	4.095 a	4.249 a	2.707 a	3.179 a	6.419 a	4.650 a
PanaSea Plus @ 4 weeks	8.091 a	5.445 a	4.996 a	1.713 a	4.217 a	3.474 a	2.741 a	3.173 a	6.051 a	4.079 a
Kelpak	7.585 a	6.182 a	5.793 a	1.633 a	4.000 a	3.777 a	2.280 a	2.836 a	6.267 a	4.304 a
IBDU™ only	7.276 a	5.466 a	5.228 a	1.591 a	4.192 a	3.960 a	2.647 a	3.278 a	6.620 a	4.580 a
F Value	1.19	1.52	0.70	0.86	0.93	1.52	1.52	0.26	0.20	0.27
MSD	----	----	----	----	----	----	----	----	----	----

* Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different (P=0.05) according to Waller-Duncan k-ratio t test.

** F value too small to calculate mean significant difference (MSD).

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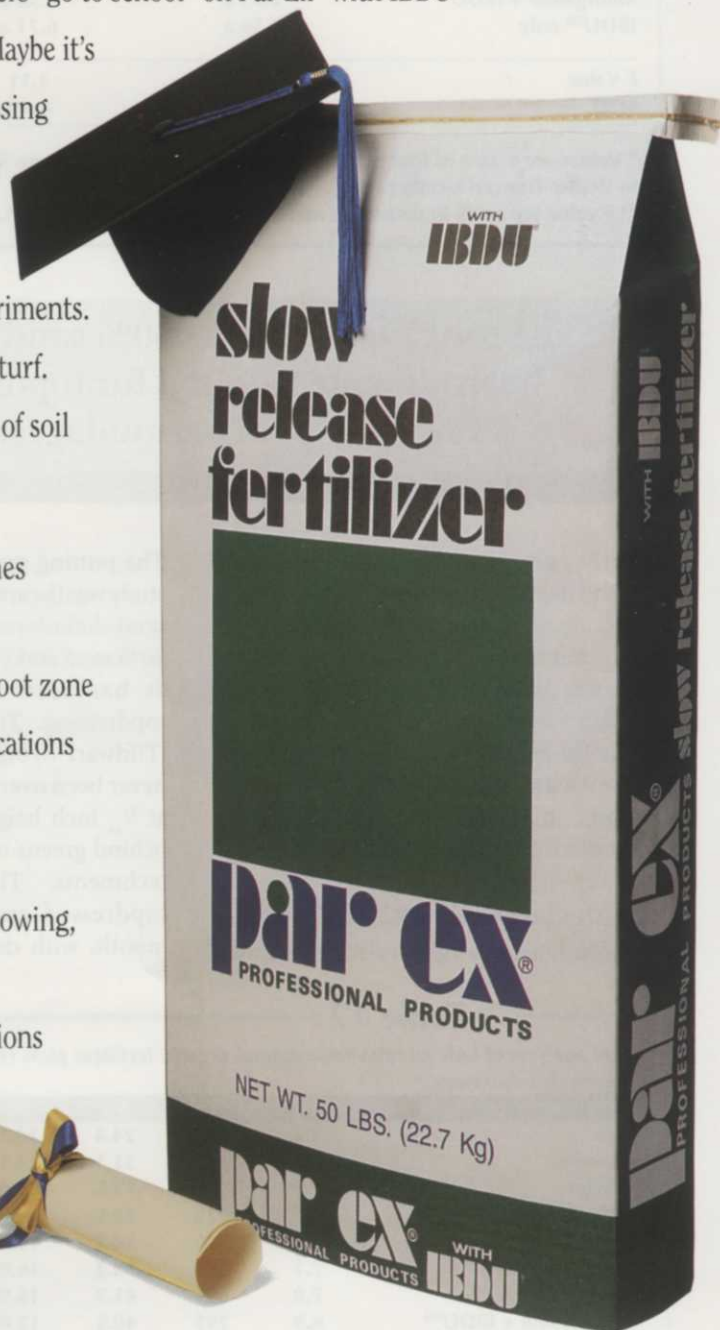
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Table 9

Percentage of disease (Bipolaris leaf spot), soil pH and root weights resulting from evaluation of natural organic fertilizers on the FGCSA Research Green from May 1992 through April 1993. *

Treatment	% Disease	pH			Root Weight (grams)		
	10 Feb 93	6 Nov 92	3 May 93	16 Aug 92	30 Nov 93	1 Mar 93	
Eco	16.25 a	6.84 a	6.86 ab	14.733 a	12.433 a	16.885 a	
Sustane	23.75 a	6.80 a	6.91 a	22.272 a	14.284 a	29.030 a	
Ringer	16.25 a	6.73 a	6.81 ab	19.478 a	14.926 a	24.151 a	
Milorganite	7.50 a	6.82 a	6.63 ab	17.393 a	14.093 a	22.830 a	
Eco + IBDU	16.25 a	6.66 a	6.49 ab	23.869 a	15.058 a	23.721 a	
Sustane + IBDU	10.00 a	6.78 a	6.55 ab	20.075 a	17.539 a	24.809 a	
Ringer + IBDU	8.75 a	6.81 a	6.85 ab	21.419 a	14.481 a	28.128 a	
Milorganite + IBDU	8.75 a	6.56 a	6.67 ab	14.454 a	13.631 a	28.171 a	
IBDU™ only	7.50 a	6.71 a	6.40 b	20.700 a	13.834 a	24.038 a	
F Value	1.74	1.11	1.88	0.92	0.61	0.89	
MSD	16.37	-----**	0.50	----	----	----	

* Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different ($P=0.05$) according to Waller-Duncan k-ratio t test.

** F value too small to determine mean significant difference (MSD).

The root zone mix was 80% sand and 20% Canadian peat moss, as has been all material used for topdressing. The area was planted with Tifdwarf hybrid bermudagrass and has never been overseeded.

fertility program which used the IBDU™ blend described previously. These products are not intended to be used as fertilizers but rather as biostimulants for plant growth. Studies on cool-season turfgrass sod in Virginia have indicated a potential role for these products to enhance root growth and strength and, more importantly, to enhance the plant's ability to survive during stress periods.

Materials and methods

Study area and general maintenance:

The putting green section used for this study was the area built without the coarse sand choke layer. The root zone mix was 80% sand and 20% Canadian peat moss, as has been all material used for topdressing. The area was planted with 'Tifdwarf' hybrid bermudagrass and has never been overseeded. It is maintained at $\frac{3}{16}$ inch height of cut using a walk-behind greens mower with groomer attachments. The area is verticut and topdressed approximately once per month, with depth of verticutting de-

pendent on thatch layer thickness. Pesticides used, date of application and application area are listed in Table 2. Every effort is made to spot treat pest problems rather than use a blanket treatment in order to minimize any potential damaging effects to the soil microbial populations by the pesticides.

Experimental plan: Each plot was 6.5 feet by 10 feet (65 sq. ft.) with four replicate plots per treatment. The experimental design was a randomized complete block. The treatments are listed in

Table 12

Soil analyses of bulk samples from natural organic fertilizer plots (15 June 1993) as conducted by the University of Florida Analytical Research Laboratory. *

Treatment	pH	Ca	Mg	K	P	Zn	Cu	Mn	Fe	Na	Cl
Eco	7.2	322	24.4	14.1	24.0	7.76	1.09	9.12	18.98	7.3	0.0
Sustane	7.0	392	31.1	14.4	47.5	9.26	1.22	12.54	24.59	7.4	0.0
Ringer	7.1	334	19.6	12.4	34.6	5.64	1.02	10.13	24.72	7.3	0.0
Milorganite	6.9	236	50.5	16.9	19.6	9.61	2.26	10.27	19.81	6.7	0.0
Eco + IBDU™	6.9	356	54.2	19.7	43.3	7.55	1.24	13.13	22.84	7.9	0.0
Sustane + IBDU™	7.1	398	53.2	16.0	49.7	10.14	2.44	14.07	22.58	7.0	0.0
Ringer + IBDU™	7.0	309	41.3	15.9	33.9	7.77	1.09	11.36	19.14	6.2	0.0
Milorganite + IBDU™	6.9	295	40.5	12.8	34.9	9.13	1.44	10.51	24.78	7.0	0.0
IBDU™ only	6.9	225	40.9	9.7	26.2	5.06	0.93	7.24	18.72	6.5	2.0

* The water extractable ions and Mehlich-I extractable elements were determined according to standard laboratory procedures. Elements are listed as mg per kg soil (ppm).

Table 10

Percentage of disease (Bipolaris leaf spot), soil pH and root weights resulting from evaluation of cytokinin-like products on the FGCSA Research Green from May 1992 through April 1993. *

Treatment	% Disease	pH		Root Weight (grams)		
	10 Feb 93	6 Nov 92	3 May 93	16 Aug 92	30 Nov 92	1 Mar 93
Enersol	5.00 b	6.65 a	6.66 ab	18.577 a	12.635 a	27.435 a
Pana Sea Plus @ 2 weeks	8.75 b	6.61 a	6.43 ab	21.987 a	15.559 a	26.129 a
Pana Sea Plus @ 4 weeks	5.00 b	6.61 a	6.71 a	21.873 a	16.162 a	25.971 a
Kelpak	17.50 a	6.64 a	6.25 b	22.164 a	14.264 a	33.026 a
IBDU TM only	7.50 b	6.71 a	6.40 ab	20.700 a	13.834 a	24.038 a
F Value	3.81	0.26	2.40	0.22	0.56	1.21
MSD	8.67	----**	0.44	----	----	----

* Values are means of four replicate plots. Means within a column followed by the same letter are not significantly different (P=0.05) according to Waller-Duncan k-ratio t test.

** F value too small to determine mean significant difference (MSD).

For each application date, the fertilizers were applied first, by hand, and then immediately irrigated with ... water.

Table 1. Nitrogen was applied at the rate of 18 pounds per 1000 sq. ft. per year, with 1 pound per month applied during the summer (May through October) and 2 pounds applied per month during the winter (November through April). This is the average nitrogen rate used in south-eastern Florida (see July/August 1992 issue of *The Florida Green*). The summer nitrogen rate was applied at 0.5 pound

every two weeks and the winter nitrogen rate at 1.0 pound every two weeks. For each application date, the fertilizers were applied first, by hand, and then immediately irrigated with 0.12 to 0.14 inches of water. Those treatments that were mixtures of natural and synthetic fertilizers were mixed in the laboratory before applying to the field plots.

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Table 11

Soil analyses, from check plots, conducted by University of Florida Analytical Research Laboratory in Gainesville. *

Sample	pH	Ca	Mg	K	P	Zn	Cu	Mn	Fe	Na	Cl
1 May 1992											
1-3 inches	7.2	288	64.9	37.1	27.6	6.88	0.86	21.52	16.89	9.4	NT
4-6 inches	7.3	118	36.8	16.3	12.0	0.90	0.20	1.92	12.12	4.1	NT
22 July 1992											
1-4 inches	6.6	214	29.0	11.4	27.9	1.64	0.47	3.94	7.39	4.3	4.0
30 October 1992											
1-4 inches	7.2	246	38.5	14.6	24.9	4.16	0.76	6.48	20.67	4.7	2.0
15 June 1993											
1-4 inches	6.9	225	40.9	9.7	26.2	5.06	0.93	7.24	18.72	6.5	2.0

* The water extractable ions and Mehlich-I extractable elements were determined according to standard laboratory procedures. Elements are listed as mg per kg soil (ppm).

During the first year of this project, the only disease observed was a leaf spot caused by a *Bipolaris* species which is one of the "Helminthosporium" group of fungi. Percentage of each plot affected by the leaf spot was determined. Blue-green algae were also prevalent during the winter months. The quality scores during the 1992-93 winter reflect the presence of algae. Symptoms of the root rot disease Bermudagrass Decline, caused by the fungus *Gaeumannomyces graminis* var. *graminis*, were not observed during this twelve-month period.

products were applied according to schedule (see Table 1) using a backpack CO₂ boom sprayer with 40 p.s.i. at the handle. These products were applied in an appropriate amount of deionized water. If a product was scheduled to be applied the same day as the fertilizers, they were instead applied the following day so they would not be affected by the irrigation cycle. These treatment plots and the check plots were fertilized with the IBDU fertilizer blend at the same nitrogen rate and using the same schedule as the natu-

ral organic fertilizer treatments.

Evaluation - quality scores: Quality scores were determined based on grass color and density using a scale of 1 to 10 with 10 being a perfect score. On each date, two persons rated the plots. Those scores were then averaged together for statistical analysis. The plots were rated one week after each nitrogen application. Some scores are missing, usually due to cultural practices (for example, heavy topdressing) that interfered with the rating procedure.

Evaluation - clipping weights: Clippings, from plots that had not been cut for 48 hours, were collected from each plot once each month from a 22 in. (mower-width) by 9 ft. area (16.5 sq. ft.) for July and August 1992 and from a 22 in. by 6 ft. area (11 sq. ft.) for the remaining months. Sample size was reduced beginning September 1992 due to initiation of root sampling. Clippings were dried at 60 C and then weighed. When possible, we tried to rate and collect clippings on the same day or subsequent days.

Quality scores were determined based on grass color and density using a scale of 1 to 10 with 10 being a perfect score. On each date, two persons rated the plots. Those scores were then averaged together for statistical analysis. The plots were rated one week after each nitrogen application. Some scores are missing, usually due to cultural practices (for example, heavy topdressing) that interfered with the rating procedure.



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Quality Scores for All Products at the Winter Fertility Rate

Treatment	Nov. 3	Dec. 30	Jan. 12	Jan. 27	Feb. 10	Feb. 24	Mar. 20	Mar. 24	Apr. 7	Apr. 21
Enersol	6.1 a-d	6.0 a	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Pana Sea Plus @ 2 weeks	5.8 a-e	6.0 a	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Pana Sea Plus @ 4 weeks	6.3 ab	5.9 ab	4.0 a	5.5 a	5.6 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Kelpak	6.2 abc	6.0 a	4.0 a	5.5 a	5.1 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Eco	5.3 de	5.6 b	4.0 a	5.5 a	4.9 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Sustane	6.1 a-d	5.6 b	4.0 a	5.5 a	5.0 a	6.0 a	6.5 a	7.5 a	7.5 a	7.4 b
Ringer	5.8 a-e	5.6 b	4.0 a	5.5 a	5.0 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Milorganite	5.0 e	5.8 ab	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.0 b	6.5 c
Eco + IBDU™	5.5 b-e	5.8 ab	4.0 a	5.5 a	5.2 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Sustane + IBDU™	6.1 a-d	6.0 a	4.0 a	5.5 a	5.4 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Ringer + IBDU™	5.4 cde	6.0 a	4.0 a	5.5 a	5.6 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
Milorganite + IBDU™	5.8 a-e	6.0 a	4.0 a	5.5 a	5.6 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
IBDU™ only	6.1 a-d	6.0 a	4.0 a	5.5 a	5.2 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a
IBDU™ only	6.6 a	6.0 a	4.0 a	5.5 a	5.3 a	6.0 a	6.5 a	7.5 a	7.5 a	7.5 a

Evaluation - root weights: Root weights were obtained every three months beginning in August 1992. At each sampling date, two 6-inch diameter by 4-inch deep samples were obtained from each end of each plot for a total of four sub-samples per plot. A 0.5 inch cap was cut from the top to remove leaf tissue and the majority of the thatch layer. Samples were then processed with the Gillison Hydropneumatic Elutriation System.

The accumulated material was dried at 80 C for 36-48 hours and then weighed. Weights from the four sub-samples of each plot are added together to obtain the total weight per plot. Resulting "holes" from sampling were filled with the 80/20 mix used for topdressing.

Evaluation - disease ratings and soil pH: During the first year of this project, the only disease observed was a leaf spot caused by a *Bipolaris* species which is one

of the "Helminthosporium" group of fungi. Percentage of each plot affected by the leaf spot was determined. Blue-green algae were also prevalent during the winter months. The quality scores during the 1992-93 winter reflect the presence of algae. Symptoms of the root rot disease Bermudagrass Decline, caused by the fungus *Gaeumannomyces graminis* var. *graminis*, were not observed during this twelve-month period.

Soil pH values were determined for all plots at six month intervals to determine if the products were affecting bulk soil pH, especially the natural organic fertilizers. The average pH of the Eco, Sustane and Ringer products was 9.0-9.5, whereas the Milorganite product was 4.0. Soil pH was determined by obtaining cores that were 4-inches deep and 1-inch in diameter. The top 0.5 inch was removed. A 1:1 (v:v) suspension of soil and deionized water was made and shaken for 30 minutes. After filtering, the pH of the resulting solution was determined.

Soil analyses: A complete soil analysis was conducted by the University of Florida Analytical Research Laboratory at 6-month intervals. These analyses were conducted on soil obtained from the check IBDU fertilizer blend treatment plots. Results are presented in Table 11. A complete soil analysis was also conducted in June 1993 on the natural organic fertilizer treatment plots and the plots receiving a mixture of natural and synthetic fertilizers. These results are presented in Table 12. For each treatment, soil samples from each replicate

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**Some
significant
differences
in
clipping
weights
were
observed
for the
natural
organic
fertilizers
but not
the
cytokinin-
like
products.**

Few differences were observed in quality, the characteristic of most concern to golf course superintendents, for either the natural organic fertilizers or the cytokinin-like products. For the natural organic fertilizers, differences were observed on seven of the nineteen rating dates but only four of those dates resulted in significant differences between treatments.

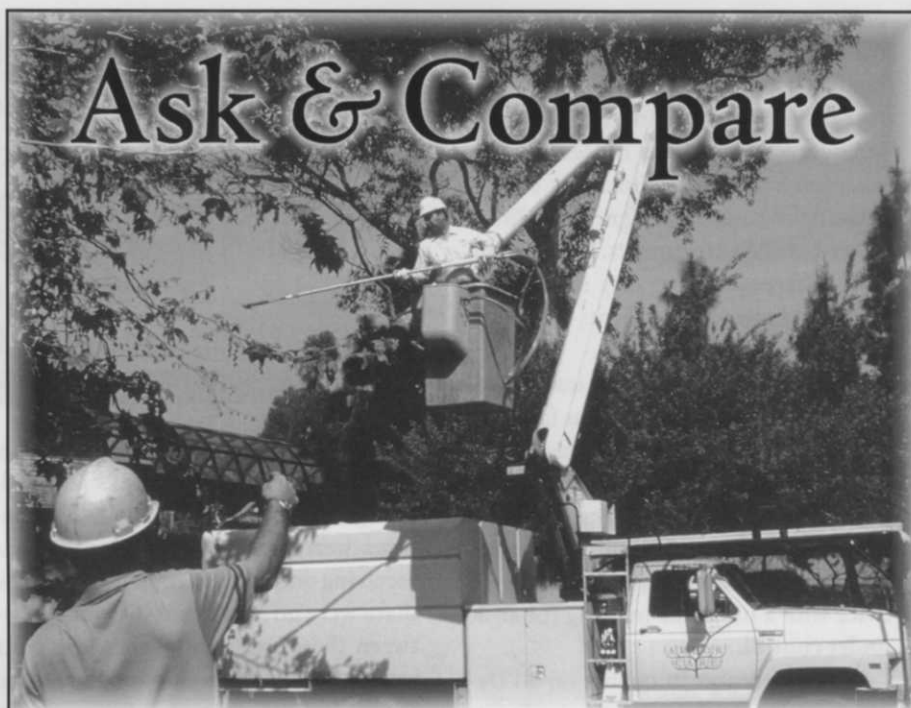
plot were bulked for analysis. Therefore, no statistical analysis was performed on the data obtained.

Results and discussion

Tables 3 and 4 list the quality scores obtained for the natural organic fertilizer treatments. Tables 5 and 6 list the quality scores obtained for the cytokinin-like hormonal products. Table 7 lists the clipping weights and Table 9 lists the disease rating, root weights and soil pH values obtained for the natural organic fertilizers. Tables 8 and 10 list the same for the cytokinin-like products.

Few differences were observed in quality, the characteristic of most concern to

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Clipping Weights for All Products at the Winter Fertility Rates

Treatment	Nov. 27	Dec. 30	Jan. 27	Feb. 24	Apr. 7	Apr. 21
Enersol	5.014 a	3.651 a-d	2.537 abc	3.305 a	6.556 ab	4.206 abc
Pana Sea Plus @ 2 weeks	4.095 abc	4.249 a	2.707 abc	3.179 ab	6.419 ab	4.650 a
Pana Sea Plus @ 4 weeks	4.217 abc	3.474 a-d	2.741 ab	3.173 ab	6.051 abc	4.079 abc
Kelpak	4.000 a-d	3.777 abc	2.280 abc	2.836 ab	6.267 ab	4.304 ab
Eco	2.888 ef	2.941 d	2.094 bc	2.369 b	5.042 bc	3.310 bcd
Sustane	3.285 c-f	3.251 cd	2.013 c	2.540 ab	4.868 bc	3.104 cde
Ringer	3.028 def	2.868 d	2.001 c	2.647 ab	4.430 c	2.817 de
Milorganite	2.535 f	2.954 d	2.855 a	2.895 ab	5.120 abc	2.081 e
Eco + IBDU™	3.532 b-f	3.488 a-d	2.564 abc	3.126 ab	5.754 abc	3.459 bcd
Sustane + IBDU™	3.988 bcd	3.844	abc 2.297 abc	2.678 ab	5.752 abc	3.460 bcd
Ringer + IBDU™	3.659 b-e	4.078 ab	2.976 a	2.707 ab	5.875 abc	3.970 abc
Milorganite + IBDU™	3.766 b-e	3.920 abc	2.895 a	2.812 ab	6.896 a	3.562 a-d
IBDU™ only	4.192 abd	3.960 abc	2.647 abc	3.278 a	6.620 ab	4.580 a
IBDU™ only	4.427 ab	3.415 bcd	2.411 abc	2.990 ab	5.746 abc	3.818 a-d

golf course superintendents, for either the natural organic fertilizers or the cytokinin-like products.

For the natural organic fertilizers, differences were observed on seven of the nineteen rating dates but only four of those dates resulted in significant differences between treatments. No significant differences in quality scores were observed between treatments for the cytokinin-like products.

The primary reason for quality decline in the winter months was from development of blue-green algae as a result of the unusually rainy 1992-93 winter we experienced in southern Florida. In fact, it was so severe and uniform by mid-January, that the entire green was sprayed twice with a fungicide to bring the algae under control.

The differences in quality on 30 December 1992 for the natural organic fertilizers were due to differences in the amount of algae on the plots. In general, the algae was initiated first on the plots treated with natural organic fertilizers, but the algae built up so quickly across

Some significant differences in clipping weights were observed for the natural organic fertilizers but not the cytokinin-like products. In general, the largest clipping weights were associated with the IBDU check treatment or mixtures of the natural organic fertilizers with the IBDU blend.

the remaining plots that these differences were not apparent two weeks later. Although the initial *Bipolaris* leaf symptoms were first observed on the plots receiving only natural organic fertilizers, there were no significant differences between these treatments when the plots were evaluated for disease incidence. There were significant differences between the cytokinin-like product treatments. However, since disease incidence was low, there was minimal effect on quality.

Some significant differences in clip-

ping weights were observed for the natural organic fertilizers but not the cytokinin-like products. In general, the largest clipping weights were associated with the IBDU check treatment or mixtures of the natural organic fertilizers with the IBDU blend. There did not appear to be a consistent correlation between clipping weights and quality scores.

While there appears to be a large difference between treatments for root weights, none are significantly different from each other - primarily due to the variability between replicates within a

While there appears to be a large difference between treatments for root weights, none are significantly different from each other - primarily due to the variability between replicates within a treatment. This was not totally unexpected. The primary reason for obtaining so many sub-samples from each plot was in an effort to reduce variability. However, it is important to note the substantial difference between root weights over time across all treatments.

treatment. This was not totally unexpected. The primary reason for obtaining so many sub-samples from each plot was in an effort to reduce variability. However, it is important to note the substantial difference between root weights over time across all treatments. Over the two year study period, this could confirm the general opinion that turfgrass on putting greens in southern Florida, especially those that have not been overseeded, is at its optimum health and quality in the late spring and early summer. This is primarily due to the substantial root system that is present during this time period. The root system then declines as the summer progresses. This would be in contrast to the spring root die-off observed in Texas.

This study will be continued for another year at which time a final report will be presented. In addition to the above evaluations, we are also conducting a microbial ecology study to determine the effects of the fertilizer treatments on the bacterial and fungal populations present in the top 3-4 inches of soil. That information will also be presented after the study has been completed.

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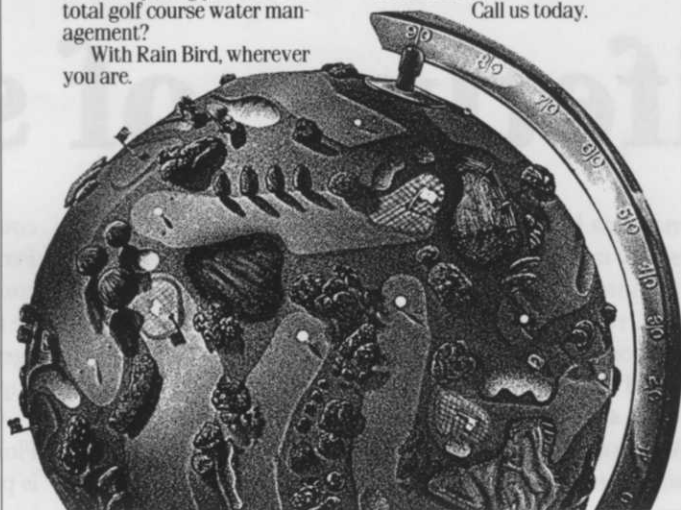
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Thanks for a lifetime of service

Fernandina Municipal Golf Course was the site of the January meeting of the North Florida Golf Course Superintendents Association to honor Ed Mattson. Mattson, 87, received the NFGCS lifetime achievement award for excellence in golf course operations.

He started working as a caddie at age 9 and then began to work in a pro shop. In 1927 he turned pro and he joined the PGA of America in 1929. He received his Class A card in 1933.

Mattson is responsible for the construction of 33 golf

courses, including Fernandina Municipal. He moved to Fernandina Beach in 1957 to oversee the construction of the course. In addition to duties as the superintendent of grounds, he took on responsibilities of teaching pro and general manager. He is one of the original members of the Golf Course Superintendent's Association of America.

On hand to observe the presentation was his wife Mary, the Florida state amateur champion in 1933, 1935 and 1936. She is presently teaching golf in Folkston, Ga.



Ed Mattson, seated, was given a lifetime achievement award by the North Florida Golf Course Superintendents Association in January. He is flanked by his wife, Mary, and Jim Ellis, left, and Lewis Chaff, right.



2nd Annual Lake City Community College Tournament is huge success

One hundred thirty Superintendents, Suppliers, and Friends converged on the new Riverwood Golf club in El Jobean for the second annual Lake City Community Endowment Tournament at Riverwood.

With the completion of the back nine only thirteen days earlier, the format was an 18 hole, two man scramble. The Tournament raised \$5,001.00 needed for the Endowment Fund. \$500.00 was set aside for the Andrew Clarke memorial Scholarship Fund. Lake City Community College Staff was on hand to see all the students from the past.

Tournament chairman David Fry states that there should be more of these type of tournaments to help the school. We have already got a tentative date for early next year.

I would like to give a special thanks to all the sponsors

for their generous support, because without them, this couldn't be possible. Here are the results:

A FLIGHT

- 1st. Glenn Zakany and Jim Osburn
- 2nd. Eddie Freeland and Chip Neptune
- 3rd. Larry (Craig) Nelson and Paul (Jed) Azinger
- 4th. Johnny V. and Chris McGill
- 5th. Troy Smith and Chris Pond

B FLIGHT

- 1st. Kevin Powers and Dave Leichtman
- 2nd. Troy Futch and Darren Demmic
- 3rd. Bill Itachner and Paul Goff
- 4th. Taylor Ell and Bill Brooks
- 5th. Brad Foran and Jim Leech

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tion**



1993 FGCSA President's Awards

Hugh Bebout

Dick Blake

Don Delaney

Karl Jacob

Ed Ramey

The FGCSA has its own 'Papa Bear'

Though not a media legend, Hugh Bebout is the FGCSA's version of Norman Schwartzkopf

BY JOEL JACKSON, CGCS

Operation Desert Storm made General Norman Schwartzkopf a media legend. We learned the big, burly general's nickname was "The Bear" or "Papa Bear." Meanwhile, the FGCSA has its own version of "Papa Bear" in the person of big, burly Hugh Bebout. He may not be a media legend, but he certainly is a man to look up to in our business.

There are several parallels between the two men besides their imposing size:

- They lead by example.
- They display devotion to duty and attention to detail.
- They show genuine concern for the people who work with them.
- They understand the mission and they know how to accomplish results.
- They are consummate professionals.

The FGCSA President's Award for Lifetime Service was established in 1990 to honor those superintendent pioneers who were instrumental in state and local affairs but who may no longer be actively involved in the FGCSA. Qualifications include 20 years or more of service to the turfgrass industry, 10 of which were as a superintendent.

After 47 years in the business, Hugh Bebout still goes to the golf course seven days a week.

"Sometimes, it's just a ride-through on days off. I feel better the rest of the day if I've seen what's going on," he said

during a recent interview. "I'm still a hands-on type of superintendent. I guess that's a holdover from my beginnings in the '40s and '50s. The equipment and the procedures were all manual in those days."



Hugh Bebout has the grip of a grizzly bear and the demeanor of Gentle Ben — and he earned The President's Award the old fashioned way . . . he earned it.

"Best overseeded grasses on the putting green were Sabre and Cypress cultivars of *Poa trivialis*"

1992 University of Florida Dormant Bermudagrass Overseeding Trial - Gainesville, FL.

We're not surprised that Cypress *Poa trivialis* is getting high marks from professionals throughout the South.

Private and university trials have shown Cypress to be a premier overseeding grass that's driving the competition to distraction!

Cypress *Poa trivialis* establishes fast and can be cut close immediately, even after overseeding. As your Bermudagrass goes dormant, Cypress will provide the finest dark green putting surface with no interruption in play. You won't have to raise mowing heights or stop play to let the grass become established.

Cypress is tolerant to shade and damp soils. This unique prostrate growing variety thrives in cool weather and will survive cold weather that will damage turf-type ryegrasses. But most important, Cypress will maintain its dark green color all winter long.



As the weather turns hot in the spring, Cypress will die out naturally as your Bermudagrass begins to grow. Cypress will not choke out your Bermudagrass in the spring as some heat tolerant perennial ryegrasses do.

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Table 2. Monthly and seasonal months for turf quality of winter overseeded grasses 'Tifdwarf' bermudagrass putting green from December 1991 to April 1992 at Gainesville, FL.

Turfgrass	Dec.	Jan.	Month Feb.	Mar.	Apr.	Mean
Sabre	7.8	8.2	8.4	8.0	5.5	7.8
Cypress	7.2	7.4	8.4	8.0	6.0	7.5
Pinnacle	7.5	7.8	7.3	6.6	5.3	7.0
Premier	7.8	7.7	7.4	6.8	5.5	7.0
Blend #1	7.4	7.7	7.1	6.9	5.0	6.8
Mix #2	7.2	7.4	7.6	6.5	5.3	6.8
GH-89	7.2	7.8	7.5	6.8	5.5	6.8
Southern Select	7.1	7.5	7.9	6.8	5.8	6.0
Mix #1	7.4	7.6	7.0	6.5	5.3	6.0
Leader Board	7.2	7.4	7.0	6.5	5.8	6.0
Medalist	7.3	7.6	7.0	6.5	5.3	6.0
Repell II	7.2	7.4	7.0	6.5	5.8	6.0
Essence	7.5	7.7	7.0	6.5	5.3	6.0
Cowboy II	7.2	7.4	7.0	6.5	5.8	6.0
Evening Shade	7.3	7.6	7.0	6.5	5.3	6.0
CBS II	7.2	7.4	7.0	6.5	5.8	6.0
Pennant	7.2	7.4	7.0	6.5	5.3	6.0
Mulligan	7.2	7.4	7.0	6.5	5.8	6.0
Ph.D.	7.2	7.4	7.0	6.5	5.3	6.0
Pebble Beach	7.2	7.4	7.0	6.5	5.8	6.0
Surprise Primo	7.2	7.4	7.0	6.5	5.3	6.0
Prelude II	7.2	7.4	7.0	6.5	5.8	6.0
Alliance	7.2	7.4	7.0	6.5	5.3	6.0
Patriot II	7.2	7.4	7.0	6.5	5.8	6.0
Turf Seed Blend #1	7.2	7.4	7.0	6.5	5.3	6.0
Competitor	7.2	7.4	7.0	6.5	5.8	6.0
WX-1	7.2	7.4	7.0	6.5	5.3	6.0
WX-115	7.2	7.4	7.0	6.5	5.8	6.0
WXP-83	7.2	7.4	7.0	6.5	5.3	6.0
Turf Seed Blend #2	7.2	7.4	7.0	6.5	5.8	6.0
Palmer II	7.2	7.4	7.0	6.5	5.3	6.0
Essence	7.2	7.4	7.0	6.5	5.8	6.0
Penneagle	7.2	7.4	7.0	6.5	5.3	6.0
CEO Blend	7.2	7.4	7.0	6.5	5.8	6.0
cross	7.2	7.4	7.0	6.5	5.3	6.0

Manual labor was no stranger to this farm lad from Decatur, Ind., including his bag-toting days as a caddie at the Willow Bend CC in Van Wert, Ohio, where his family had moved when he was 11 years old. After a couple of years of begging the superintendent for a maintenance position, he finally got his wish in 1946.

Hugh recalled, "I love the outdoors. After life on the farm, and seeing the work on the golf course, I knew this was what I wanted to do the rest of my life! I worked on the course for the next four summers and graduated from Van Wert High School in 1950."

"I wanted to move to either California or Florida to escape the ice and snow so I could work year-round on the golf course. The owner of Willow Bend, Mr. Gaylord Leslie, just happened to be friends with Mr. Bernie Powell, owner of the Bellevue Biltmore hotel in Bellair.

"Mr. Powell visited Willow Bend during the summer of 1950, and we talked about the possibility of my coming to Florida. That December, I reported to Harvey Meeks, the superintendent and worked with him for two seasons.

"I will never forget Harvey. He was a soft-spoken man who stood at the door of the maintenance building each morning and greeted every employee as he arrived."

"After two seasons at the Bellevue Biltmore, I entered the Army and spent a year and a half in Korea. In 1955, I returned to Willow Bend CC and became the superintendent in 1956. That same year I met and married my wife, Iola. We have four children, two boys and two girls, all golfers.

"Our eldest son, Shane, is my assistant superintendent here at Sunrise. Our other son, Duke, is a veteran of Desert Storm. He is currently in his second year at Shawnee State in Portsmouth, Ohio. He is also on the golf team.

"Our oldest daughter Pamela has given us a granddaughter, Feather. Pamela owns and operates a curio shop in Portsmouth. Our youngest daughter, Michelle, is a 10-handicap golfer. She is a professional waitress, and she had the pleasure of serving Jack Nicklaus during a visit to White Sulphur Springs in West Virginia.

"From 1956 to 1960 I attended several

"Hugh had a knack for getting the most out of a crew. He could bring the best out in each person and help them find their niche where they helped the team the most."

turf seminars at Purdue University under the direction of Dr. Bill Daniels. During these seminars, I met Dr. Burt Musser, director of agronomy at Penn State University.

"Dr. Musser once told me, 'Young man if you stay in this business for the next 10 years, you'll be able to name your own price!' Well, I stayed in the business, but let's just say the ladder of success has always seemed quite steep."

"In 1960 we moved to Largo and I worked another season at the Biltmore, this time under Harvey "Red" Phillips. Well his hair used to be red!

"Coincidentally, Harvey and I started at the Biltmore at the same time under Harvey Meeks. Red was the kind of guy who didn't believe in idle time during work hours. If it was raining, Red would have the crew re-stack the fertilizer. Red and I have been great friends through the years."

"In the spring of '61, I grew-in the East Bay CC in Largo. The following year, the PGA moved from Dunedin to their new headquarters in Palm Beach. I took over the Dunedin CC and spent the next six years there.

"It was during my tenure at Dunedin that I joined the Board of the West Coast GCSA. That was an exciting year. I became the secretary/treasurer of the West Coast and also won the annual FTGA golf tournament. I eventually served as vice president and finally president in 1967.

"I spent two years at the Pine Crest GC in St. Petersburg and then moved down to the Sara Bay CC in Sarasota in October 1970. I was there for some 17-plus years."

During his stay at Sara Bay, Hugh helped found the Suncoast Chapter of the FGCSA. He has been an active member ever since, serving on the golf committee for over 15 years. After he left Sara Bay, he grew in the Serenoa GC and then in 1990 he began his current position at

the Sunrise GC.

Besides conditioning golf courses, one of the things that makes Hugh proud is the number of people who have worked for him that have gone on to become Class A superintendents.

Bill Profit, who just recently retired, took over Willow Bend when Hugh headed south. Suncoast superintendents Gary Mull and John Roxburgh learned their craft under the tutelage of Royce Stewart at El Conquistador and Hugh Bebout at Sara Bay.

Gary recalls, "Sara Bay was a great traditional Donald Ross course, and I think Hugh was just the right type of person to bring it along. He always had a great attitude. He was a super teacher. He always took the time to answer your questions and show you things."

John echoed Gary's comments and credited Hugh with showing him the do's and don'ts of southern turf management.

"Hugh had a knack for getting the most out of a crew. He could bring the best out in each person and help them find their niche where they helped the team the most. He knew the value of surrounding himself with good people and he sought them out and trained them accordingly.

"I never felt like I was working for Hugh... I was working with him. He was always on the course doing something."

Bob Allen, superintendent of the Hibiscus GC in Naples, worked with Hugh at Sara Bay and Sunrise for 10 years. Bob said, "I can sum up Hugh Bebout in four words: Tough, Fair, Friend, and Professional."

Others who passed through the doors of a Hugh Bebout golf course include Mike Schroeder, Jim Sullivan, and one David Barnes. David is a former superintendent and is now with Agronomic Resources and a director of the Florida Turfgrass Association.

"I was a third-year Ag student at Gainesville in 1971," Dave recalled. "I was getting married and I needed work that summer. Hugh gave me a job, and he really put all that book learning into perspective for me. He was a no-nonsense, class act. He was always a gentleman. He was always upbeat. I can't ever recall seeing him get down over work problems."

From students of their craft to peers, Hugh has earned their respect over the years for his service to the profession and his willingness to share his knowledge and inventiveness with others.

Jim Miller, external vice president of the Suncoast Chapter and superintendent at the Waterford CC remembers his early days in Sarasota.

"I had just come to Foxfire CC from Gator Creek, which had been my only other southern golf course experience. Gator Creek had never overseeded and I didn't have any practical experience in overseeding a southern course.

"Sara Bay had the reputation for the best overseeded greens every year, so I gave Hugh a call. He didn't hesitate to share his whole program with me telling me the pros and cons of every step.

"My rookie overseeding year was proclaimed the finest ever at Foxfire by the members. That's the type of person we have all come to respect over the years."

Jim Svabek, superintendent of the Bradenton CC, had this perspective of Hugh and what he has accomplished, "Forget for a moment that he developed the mower-mounted, plug-pusher blade that helped revolutionize aerifying core removal. What Hugh Bebout did for superintendents in this part of the state is to elevate us from the old straw-hat image to that of a respected businessman.

"Hugh's physical stature and well-dressed appearance commanded notice and attention. With his neat appearance, good manners, and gentlemanly conduct, Hugh became a goodwill ambassador for the profession.

"To top it all off, he always had superbly manicured golf courses. I think he was the best overseeder I've ever seen. I know that he was one the first people in our area to join the GCSAA and set an example for the rest of us. And you know what? He's just a plain, nice guy to boot."

Reflecting on his own career, Hugh credits growing up in the '40s and '50s with learning the virtue of hard work. "I guess besides seeing some of my co-workers succeed in the business," he said, "I like to bring a golf course up to its full potential.

"This past year we have completely renovated 14 greens to replace the turf and re-graded and re-contoured 6 fairways to solve a severe chronic drainage problem. We did it all in-house which saved us a lot of money, and gave us a lot of satisfaction."

When asked about the challenges of managing people in today's workforce, Hugh doesn't encounter many problems. "I turned over maybe 15 people in 18 years, and only one person in the last three years," he remarked. His formula is simple, "I treat people who work with me like human beings. I show them what I want done and I don't stand over them while they do it. If the results are not what I want, I show them again in more detail if needed. One thing that I think helps

our crew to be successful is that they are all golfers. We all play the game, and I think that helps instill pride in our work."

Hugh shared another of his secrets to success: communication. Hugh believes that communication must be one of the most important skills that a superintendent possesses.

Once again, he leads by example.

He takes his general manager and golf pro for a ride every day to point out any problems or unusual conditions on the course. He also accepts any comments about the course that may have passed through the pro shop.

When asked about receiving the President's Award, Hugh said, "It is a humbling experience to receive this award and have the honor to be mentioned alongside the other recipients."

Hugh, you have received this honor the old fashioned way... you earned it. Hugh Bebout, the man with a handshake grip of a grizzly bear and the demeanor of a Gentle Ben. He's our own "Papa Bear."



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LPGA star Nancy Lopez was one of many celebrities on the show floor.



Jim McCumber of McCumber Golf in Jacksonville strolls by the USGA booth, which was busy throughout the show.

GCSAA Show continues to grow

BY TOM BENEFIELD, CGCS

The much-awaited GCSAA International Golf Course Conference and Show of 1994 got started with a big bang in the Big D. From the opening session, which featured motivational speaker Zig Ziegler to the elections at the annual meeting, this conference and show had plenty to offer the attendees.

The GCSAA golf championships started all of the events off, being played on superb courses with miserable weather. Some golfers at this event took



The Dallas Cowboy Cheerleaders are always a big hit with visiting conventioners... and Florida golf course superintendents were no exception.

shelter from the brutal weather during their rounds by using the covers for the greens to stay warm.

From Austin they migrated to Dallas, home of the defending Super Bowl champions and NFL rushing champion and former Florida Gator Emmitt Smith.

Here the attendees took a record number of seminars to polish up on the newest and best information in the turfgrass industry. The environmental session was standing room only and has become one of the premier events at the conference.

The major news item of the week was the release of the GCSAA Mortality Study.

The first phase of the study yielded more questions than it did answers. The one aspect that is not in dispute, however, is the conclusion that cigarette smoking causes lung cancer and that this was the largest single reason for deaths among GCSAA members looked at in this first phase.

One of the highlights for the Florida members was the reception on Friday evening. A record turnout was on hand to feast on Mexican cuisine and their favorite refreshments.

This event was well attended by guests from around the world. The new director and officers from GCSAA as well as new CEO and COO were on hand to see what these Florida members were all about.

The show was spectacular as usual. All



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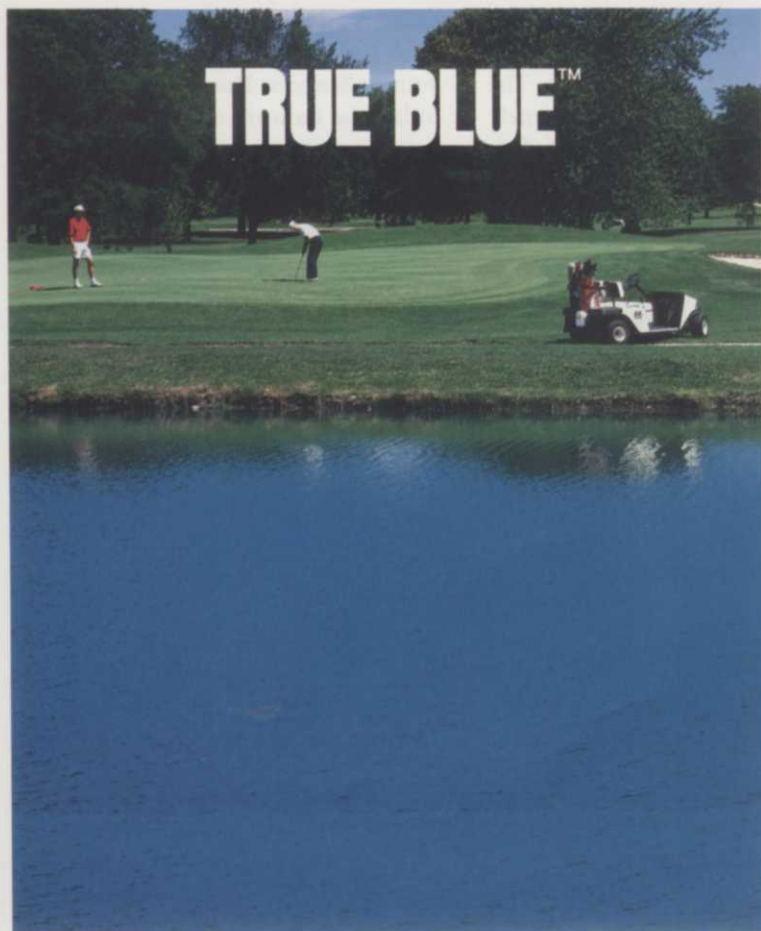
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Randy Waldron stopped by Lake City Community College's booth to chat with John Piersol.

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FGCSA Executive Secretary Marie Roberts had no trouble finding takers of the latest issue of the Florida Green. She also talked to many new advertisers.

of the suppliers for the turf industry were on hand with their newest innovations and fresh ideas to help solve old problems. Lots of old friends met and chatted and many new friends were made along the way. It was a truly wonderful experience.

The annual meeting this year seemed to be one of the better-run annual meetings of the GCSAA in some time. The bylaw issues were disposed of in a timely manner with only two proposals failing

to get the two-thirds majority needed for passage. The new president is Joe Baidy of Pennsylvania, and our own favorite son, Gary Grigg from Naples, was elected vice president.

All in all, it was a great learning experience by all. If you are not a member of GCSAA and do not attend this conference and show, you are falling behind your colleagues. Don't hesitate to join today; the industry and you will be the better for it.



No visit to Dallas would be complete without the welcome sight of a police cruiser.

our statistical mortality study was not capable of supporting or refuting a cause-and-effect relationship between pesticides and cancer. Indeed, my recommendations about smoking cessation and minimizing pesticide exposures are prudent public health strategies for golf superintendents and the general public.

Mr. Harvey, I am very concerned about your misrepresentation of our study. The public does need to be informed about important environmental and occupational health issues. The media are important partners in disseminating accurate results of research studies. I request that you broadcast a corrected version of your commentary about our study. Thank you.

Sincerely,

Burton C. Kross, PhD, PE
Principal Investigator
and Associate Professor

cc: Dr. Leon Burmeister, Co-Investigator

FTGA appreciates FGCSA's support

Paul Crawford
President, FGCSA
Palm Beach CC

Dear Paul:

I just received a copy of the *Green Sheet* from Carol Thomas and, much to my surprise, I was on the cover.

I appreciate and thank you for positioning me there and also wish to take a moment to thank you and all your members for their support of FTGA in the past. The hard work of FGCSA members does not go without notice and garners great respect from the green industry throughout the country.

The extra effort is like working a second job, and if one has never done it, it can be hard to understand. I have, and I appreciate the effort of your group and the membership.

I know I speak for everyone when I say thank you for your past and continued support and for placing me on the cover.

Sincerely,

Nick Dennis
FTGA President

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Transition in the tropical region

I remember one winter as an assistant superintendent in South Florida taking messages for my boss from other superintendents in our area who were having problems with their greens.

I told them that I would be happy to have my superintendent call them back but he has told everyone else the same thing so far — let your overseeding go and grow bermudagrass.

It seems to me that overseeding in a tropical region is more of an insurance policy than anything else. If we do get the cold weather that seems to visit us about once every 20 years, you'll be in good shape. If it turns out to be a warm winter, grow the bermudagrass.

Other reasons that come to mind for overseeding this far south include masking contaminated putting surfaces, maintaining a very green color and having the status associated with bentgrass overseeding.

I do not like the whole idea of cultivating the current bentgrasses anytime anywhere in Florida, but the last time I wrote about this, it seemed rather controversial so I will avoid further discussion of the matter here and get to the point of this article.

When it was announced at our last chapter meeting that the topic of this issue of *The Florida Green* was transition, another form of transition came to mind.

Transition by definition is change and if any profession has been through

transition in recent years, it is ours.

The president of our chapter asked the floor for suggestions as to how we could get more superintendent involvement at our meetings.

"Figure out a way to do this job in less than 60 hours per week," I thought.

"At the same time, figure out how we can sleep at night facing the alphabet soup of regulatory agencies with many regulators who seem to take pleasure in disrupting our day, and still find the time and achieve a state of mind conducive to the proper development of our families.

"If you can show superintendents how to do this they will come with bells on."

I personally have attended our chapter meetings religiously and sought to be involved and active in our chapter only because I perceived this use of my time as a valuable investment.

There is no doubt in my mind that I was able to negotiate better deals with suppliers and obtain the help and counsel of my peers at a higher level than my counterparts who chose not to attend meetings or get involved.

But I must admit, it was very difficult at times to get the SFGCSA to the top of my priority list while facing a mountain of minutia.

There is no doubt in my mind that all of our superintendent members who chose not to attend the meeting were busily addressing concerns that seemed major. There is also no doubt in my mind that most of them will forget, in time, how they used their time that day.

On the other hand, I feel sure that as long as I am breathing I will not forget Tom Mascaro's talk, the interaction I had with people in my field whom I admire and respect and I know my club and



Scott Wahlin
By Scott Wahlin, CGCS

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I have worked diligently to assure that my operation meets or exceeds the expectations and requirements of the various regulators who come to call. But the time required and the worries associated with compliance are all in addition to what was considered the scope of a superintendent's responsibilities 10 years ago.

profession will benefit as a result of this meeting. Our profession and the demands placed upon us are changing daily and involvement in our associations is as critical now as it ever was.

I would like to give one example of how quickly change has been occurring in the environmental compliance arena over previous years.

When I started applying pesticides to golf courses 19 years ago there was little concern for environmental safety.

Even though I considered myself to be conscientious, I know now that I was ignorant of many areas that needed consideration. Most of the chemicals I remember using have been removed from the market and replaced with better ones with less potential for negative environmental impact.

There is no doubt that these developments are very positive for everyone. But I sense that the pendulum has passed the bottom of its axis and is again moving away from a balanced state.

I have worked diligently to assure that my operation meets or exceeds the expectations and requirements of the various regulators who come to call. But the time required and the worries associated with compliance are all in addition to what was considered the scope of a superintendent's responsibilities 10 years ago.

For example, when I started as a superintendent, I had a notebook to document chemical applications and maintain inventory lists, and a label book that I kept up to date using the labels off the containers I used each day.

I now have a two-drawer filing cabinet filled to the gills with permit applications, correspondence and all the other necessary information to help assure compliance.

I was visited by a regulator the other

day who told me that I had to get another permit from his agency because I had obtained more than one permit from them in the past year!

I have one file that contains all the environmental compliance information I had compiled from 1987 to 1991. I have a file of equal size in April 1992! What was I doing with my time from '87-'91?!

Many people who view our profession from the outside have extremely romantic visions of what it is to be a superintendent. I have heard people say that being responsible for a golf course must be like having a jealous mate.

If I were going to personify a golf course, I would choose to visualize an intensive-care unit filled with 18 individuals who would not have the luxury or inclination to be concerned with jealousy. The rising expectations of the people who pay the bills is adding to the critical status of these 18 individuals, bringing additional stresses to the superintendent.

It seems to me that expectations continued to increase every year. There is no doubt that we have accepted and, for the most part, met these expectations. But ladies and gentlemen, we are dealing with a hybrid of greens grass that was released in 1965!

When you hit the wall of limitation on this grass, there is nothing on the other side but dirt, embarrassment, hard feelings and very little golf.

To give a non-superintendent some idea of how close greens can come to becoming bare overnight, I have found I can grow very acceptable greens at my club at a height only $2/100$ s of an inch over a height where they decline and die rapidly. To most people, $2/100$ s of an inch is not much, but to a superintendent, this can make the difference between sleep and restlessness.

It should be noted that when Tifdwarf was released in 1965 we used a ruler to measure mowing heights. Now we use a micrometer.


So is the transition being experienced by the golf course manager/superintendent all bad?

I don't think so.

Certainly I know and have known many top professionals in our industry who have been fired unfairly and I feel bad for them... but adversity brings opportunity.

As Tom Mascaro pointed out in our meeting the other day, the best way to increase your compensation and security is to assume more responsibility.

I believe the profession of golf course management will take major strides in terms of stature in the next five to seven years, and it will become a much more lucrative and secure profession.

But this profession is in transition and transition, by definition, is change. 

I believe the profession of golf course management will take major strides in terms of stature in the next five to seven years, and it will become a much more lucrative and secure profession.



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In the last issue of *The Florida Green*, I wrote an article about the dark side of the environmental movement which was well received. I'd like to follow up that article with a few more comments.

First I urge all superintendents attending this year's Poa Annua weekend in Naples to sign up for the FGCSA's

educational program by Dr. Michael Coffman. I believe you will receive no more important information for the preservation of your job and the welfare of this country than the message you get from Dr. Coffman.

Copies of Dr.

Coffman's first bok, *Environmentalism: The Dawn of Aquarius or the Twilight of a New Age*, and his new one, *Saviors of the Earth?* will be available to those wishing to purchase it.

By now, most superintendents have heard about the preliminary results of the GCSAA-sponsored, superintendent-mortality study released at the conference and show in Dallas this past February.

Based on this study, using statistical analysis of death certificates of 618 former GCSAA members, it appears that *those* superintendents actually *did* have higher rates of certain types of cancer than the population at large. No conclusions can be drawn regarding cause and effect.

The study is based on superintendents who practiced their "art" — as opposed to "science" — in the infancy stages of

pesticide use, during the 1930s through 1960s.

Little regard was paid to proper training or safety, and many of the products used then are no longer available because of their dangerous nature.

We have all heard the stories from our older superintendents about mixing lead arsenate with mercury in poorly ventilated rooms wearing no protective clothing or respirators, or how these materials or similar ones were applied in a cloud of dust by similarly unprotected persons. Older superintendents have commented that they are surprised that more of them haven't contracted cancer, given the unsafe practices of 20 years ago and more.

Considering these past unsafe practices, any of us could logically conclude that superintendents should have a higher incidence of pesticide-exposure-induced cancers, but this is not what has yet been determined.

As Dr. Burton Kross, head researcher of this study, says, "Because this is a statistical study, you can't establish any cause-and-effect relationship from the data".

In other words, nothing from this study so far implicates pesticide exposure as the cause of cancer.

Lung cancer was identified as the major concern and was the cause of death in 59 of the 818 cases studied. But we have no way of knowing how many of these former GCSAA members were smokers.

Statistically significant excess mortality from non-Hodgkin's lymphoma and brain cancer were also discovered, but toxicological data and epidemiological

*And
furthermore,
I'd like
to say...*

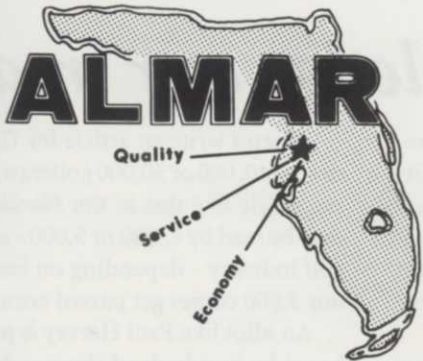
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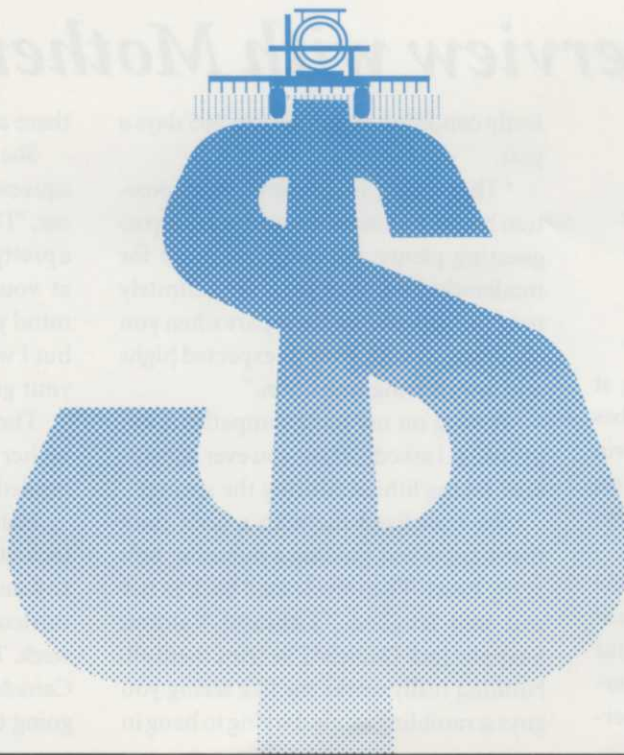
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Jarrell: We'd better acknowledge our image

evidence linking these cancers to pesticide exposure are inconclusive.

Large intestine and prostate cancer mortality rates were also higher than the general population of white males.

All these statistics really mean is that further research is warranted, which is exactly what is going to happen in the second phase of this study. Information may be developed which proves conclusively that pesticide exposure contributed to the early deaths of some superintendents in the past and, perhaps, some useful safety precautions will be recommended for those of us using pesticides today.

And maybe not... which brings me to the point of this article: the golf industry had better wake up and acknowledge the fact that 90% of the population of the U.S. does not play golf, and that golf is perceived as elitist, non-essential, polluting, resource-wasting despoiler of the environment by a large percentage of non-golfers.

Things will never change until our positive environmental message is taken to the mainstream media. We need to quit preaching to the choir.

Within one day of release of the preliminary report on the GCSAA mortality study, syndicated radio moron Paul Harvey "reported" that "not only are golf course pesticides killing the birds, but they're killing golf course superintendents also."

You may recall that about a year ago, Mr. Harvey was taken to task by GCSAA and individuals for his broadcast claiming that golf course pesticides were responsible for the lack of songbirds at his home course, so this latest invective is obviously an immature reprisal.

Mr. Harvey's irresponsibility is especially disheartening because he is a golfer, but he is far from alone in his unfounded attacks on golf courses and their maintenance practices. FGCSA director Mike Mongoven recently faxed me an anti-golf diatribe from the Gannett News Service detailing "the hazards of golf," and golf architect Jan Beljan has collected dozens of similar articles from various sources over the past couple of years.

We think we are doing a good job of educating people to golf's positive environmental impact, but we are living in a very insulated world.

When I write an article for *Golfweek*, maybe 40,000 or 50,000 golfers will see it. An article like this in the *Florida Green* may be read by 4,000 or 5,000 - all in the golf industry - depending on how often our 3,000 copies get passed around.

An idiot like Paul Harvey is probably heard by hundreds of thousands, if not millions, and Gannett News Service stories are definitely read by millions.

Vice President Al Gore and EPA Director Carol Browner are still lacing up their boots, but I fear a heavy footprint will yet be tread upon the golf industry by these two before they leave office.

Our message needs to be heard by the general public.

How this is best accomplished, I haven't a clue. Perhaps the GCSAA, the USGA, the NGF, and all local golf and turfgrass associations need to pool resources to buy space in *USA Today* or other national newspapers, or even television time, to extol the valuable environmental contributions of turfgrass and golf courses.

Something needs to be done to reverse our negative image before it's too late.

Jackson: Interview with Mother Nature

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pleasing average temperatures for the tourism brochures? Listen Boobie, to get averages I have to create many highs and lows, and that goes for temperature, humidity, and rainfall."

Everybody in the cafe was staring at us. I could feel my neck and my ear lobes getting hot. I knew I wasn't going to win this argument. I counted slowly to 10 on an imaginary Stimpmeter to cool off before I spoke.

"Listen MN, we know you make the rules and you can break or bend them at will. Unfortunately, our bosses and our customers want us to follow a predetermined set of rules so they can sell a per-

fectly conditioned golf course 365 days a year.

"They don't understand your position half as well as we do, and you keep us guessing plenty. Although we hope for moderation on your part, we definitely pray for patience on their part when you challenge us with your unexpected highs and lows during transition."

Putting on my most sympathetic expression, I asked, "Have you ever considered taking lithium during the spring?"

She transfixed me with a laser stare that I knew was guiding a lightning bolt at my heart. Then she leaned back in her seat and laughed, "Lithium! Valium! Snapple! Jack Daniels! I've tried them all. Nothing really works me like seeing you guys scrambling around trying to hang in

there after I've gone crazy."

She put her hand on my arm and squeezed gently as she whispered in my ear, "Don't worry so much. You guys do a pretty good job of catching what I throw at you. I'm not making any promises mind you. I do have my responsibilities; but I will try to get the message across to your golfers."

The interview was over. She gathered up her belongings, slid off the stool, and headed for the door.

Halfway to the entrance she stopped, looked over her shoulder at me, winked and said, "You might want to cancel that verticutting you had planned for next week. There's a cold front coming out of Canada that's not on the maps yet and it's going to be a real stinker!"



FOR BROWN PATCH, "A PROGRAM CENTERED ON DACONIL 2787® ... HAS NEVER FAILED ME."



*Mark Hoban,
Superintendent,
The Standard Club,
Duluth, Georgia*

This summer, Mark Hoban, certified golf course superintendent at The Standard Club in the Atlanta suburb of Duluth, will return to what he knows is his most dependable approach to Brown patch control: a preventive schedule of Daconil 2787® Flowable Fungicide from ISK Biotech Corporation. That's because, last year, he learned a valuable lesson. When temperatures soared to 100° and humidity hovered in the 90% range, he suffered severe yellowing on several of his bentgrass greens. This he blames on a combination of liquid fertilizers and systemic fungicides.

The Standard Club's course offers golfers a dramatic look through all four seasons. Making extensive use of native grasses like bluestem, broomsedge and indiagrass, it incorporates a variety of turfgrasses, too. There's bermudagrass in the fairways, tall fescue and bluegrass in the roughs, zoysiagrass bunker faces, and of course, bentgrass on the greens.

The challenge of bentgrass.

Maintaining bentgrass greens through Georgia summers can be a challenge. "Our critical time is mid-June through September," Mark says. "During the heat stress of summer, we pay particular attention to Pythium and Brown patch on the greens."

After the problems he had last summer, Mark will avoid mixing nutrients and systemic fungicides and return to Daconil 2787 as the cornerstone of a preventive program he's used successfully before. "My intention is to go with Daconil 2787 on a preventive basis," he says. "When I spray every seven days, even using the light label rates, I never have Brown patch. And then I'll rotate a systemic into the program once in a while."

Daconil 2787 for algae prevention too!

Besides the Brown patch control he gets, Mark likes Daconil 2787 because it also prevents algae. Even though algal scum was only just added to the label, he recalls that courses using a regular schedule of Daconil 2787 for Brown patch "had little or no algae."

The Atlanta superintendent sums it up candidly. "I've been in this business since 1971, and a superintendent since '76," he says. "I feel I learned a lot last year, and I'm excited about 1994 and returning to a program centered on Daconil 2787, which has never failed me."

Have you learned a valuable lesson? Tell us your Daconil 2787 success story. If we use your story in an ad, we'll donate \$100 to your favorite charity. Write Jackie Tengler, ISK Biotech Success Stories, 5885 Landerbrook Dr., Suite 215, Cleveland, OH 44124.

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An Interview with Mother Nature

Green Side Up



Joel D. Jackson

Joel Jackson, CGCS

I finally caught up with Mother Nature down at the Vernal Equinox Cafe the other day. She was sipping a cappuccino and watching the Weather Channel on the TV over the bar.

I couldn't tell by her expression if she was pleased or disturbed over her handiwork as the radar images and weather maps flashed across the screen.

I pulled up a stool next to her, motioning to the bartender that I would

have whatever she was drinking. Without taking her eyes off the TV, she said rather coolly, "You Florida boys have had a mild winter haven't you?"

"Well, yes!" I said, "And we all thank you from the bottom of our budgets."

"Don't be too quick to thank me," she said, "I don't know what happened to the jet stream this winter. Sometimes it's tricky to handle, even for me! I had planned for some of that Georgia and North Carolina ice and snow to dip down and get rid of some of your insect problems even if I had to scare the bejeebers out of the citrus growers in Sebring."

I sensed she wasn't in the best of moods, but I had some questions I needed to ask.

Tom Benefield knew that I had met Mother Nature before and he wanted me to get an interview with her to find out what we could expect during this year's transition. I took a deep breath and began, "We were wondering if you have

something planned for this spring that we should know about?"

Ignoring the question, she turned slowly towards me. I couldn't be sure, but I thought I saw a hint of a smile.

"How did you like those record high temperatures in February?"

She was baiting me. I thought about the overseeding we had lost prematurely to the heat.

I tried to remain composed as I answered, "Nothing you do surprises us anymore!"

"Oh really!" Her eyebrows arched and her eyelids closed down to mere slits as she spoke. "That almost sounds like a challenge!"

I knew I was in deep Milorganite. Headlines about killer ice storms that devastate Florida on April Fool's Day flashed before my eyes. I tried to retreat gracefully.

"We would never think of challenging you. In fact, we try to work with you as best we can to keep our courses playable through transition. Sometimes your — ah — how shall I say — 'surprises' can be devastating to our programs."

"Surprises!" she exploded. "You call my March heat waves and April frosts surprises! I've been doing that stuff for centuries! Don't you read the weather records?"

"Haven't you people learned how to cope, yet?"

"I can't be concerned with your precious transition programs and spring tournaments. Don't you understand the immense pressure I'm under from the Chamber of Commerce to produce

Continued on Page 86



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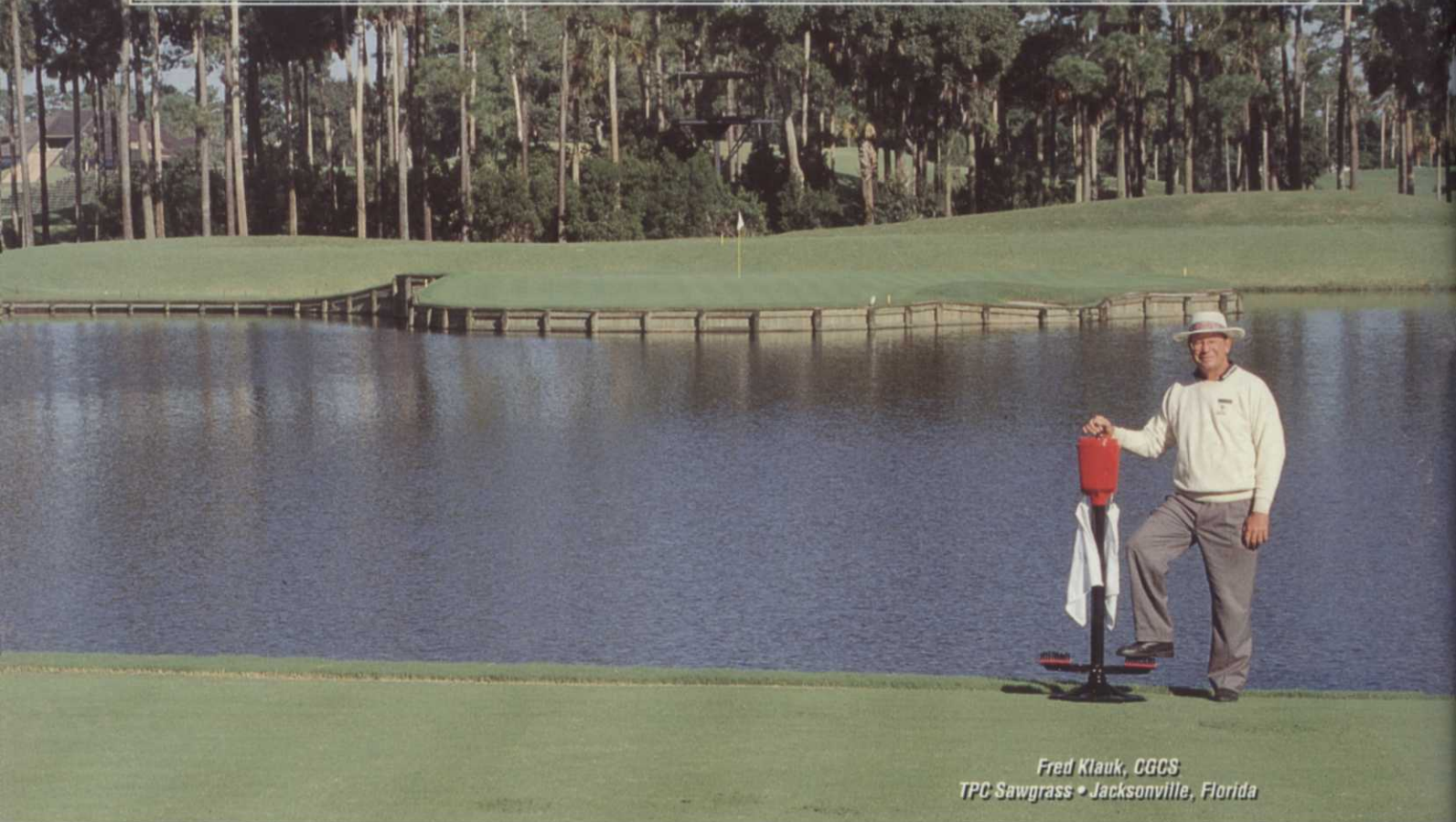
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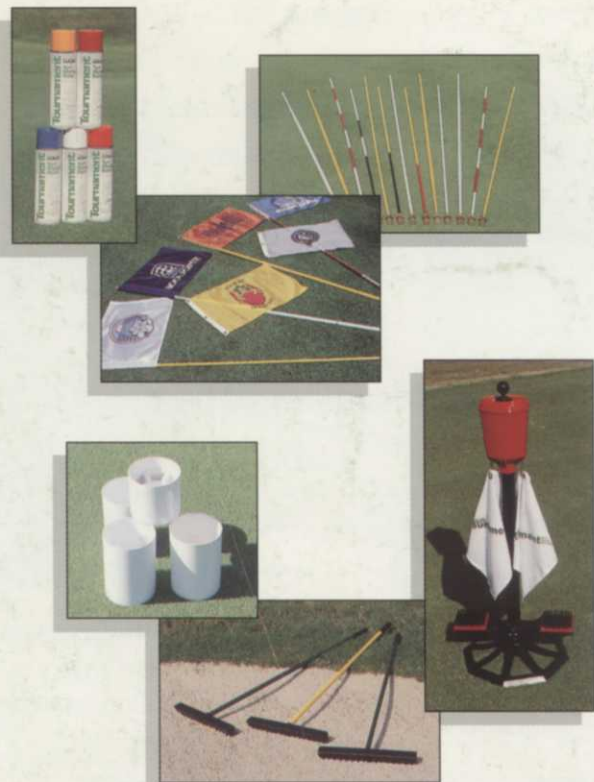
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