



# The Florida Green


Summer 1993

*Osprey Cove Golf Club  
Saint Marys, Georgia  
Number 11, 137-yard par three  
Designed by McCumber Golf*



# CHOOSE YOUR WEAPON!

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*Mainstay<sup>™</sup> 2G*  
*insecticide*





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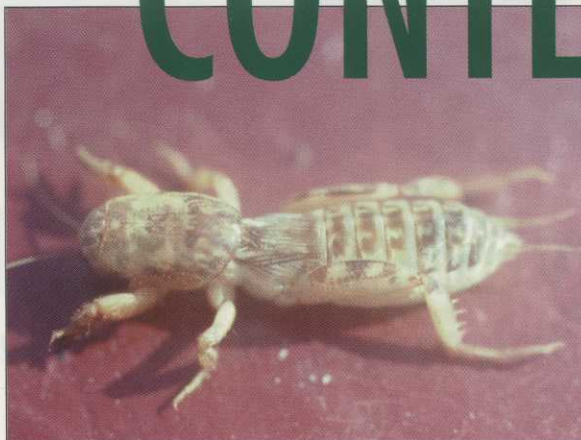
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WHEN IT COMES TO EVEN NUTRIENT DISTRIBUTION, CONSISTENT RESULTS AND PREDICTABLE GROWTH WITH EACH AND EVERY APPLICATION, BLENDS JUST CAN'T EQUAL THE PERFORMANCE OF HOMOGENEOUS GREENS GRADES FERTILIZERS. ■ IN FACT, USING A BLENDED PRODUCT ON YOUR GREENS IS KIND OF LIKE USING A ROTARY MOWER WALL-TO-WALL. IT'S JUST NOT THE MOST EFFICIENT TOOL FOR THE JOB. ■ THAT BEING SAID, WE'D LIKE TO BUILD A CASE FOR OUR LINE OF GREENS GRADES. BECAUSE DESPITE WHAT YOU MIGHT HAVE HEARD, THERE IS A DIFFERENCE. ■ FOR STARTERS WE'VE GOT FIVE PREMIUM FORMULATIONS. COUNTRY CLUB® 18-4-10, 18-3-12, 18-0-18, 8-4-24 AND 10-18-18. ALL ARE IDEAL FOR GREENS, BUT ALSO A SOUND VALUE FOR FAIRWAY APPLICATIONS. ■ AND OUR DISTRIBUTION NETWORK IS LARGER. SO YOU CAN BUY JUST WHAT YOU NEED, WHEN YOU NEED IT. ALL FOR ABOUT THE SAME PRICE AS WHAT YOU'D PAY FOR BLENDS. ■ SO WHY NOT CALL YOUR LOCAL LEBANON DISTRIBUTOR OR 1-800-233-0628 FOR MORE INFORMATION. BECAUSE WHEN IT COMES TO GREENS GRADES, THERE'S NO MATCH FOR COUNTRY CLUB.





UNFORTUNATELY, BLENDS JUST CAN'T MATCH OUR GREENS GRADES.

No time  
to  
on lawns



Where did the year ago? This is my final President's Message for the Florida Green. Next issue you'll see Paul Crawford's smiling face in this space.

I won't bore you with a farewell

## *No time to rest on laurels*

address enumerating the past year's many accomplishments and thanking everyone who contributed to our successes — it just doesn't seem appropriate. We have too many projects in the working stages to rest on any laurels. I do, however, feel satisfied that we are

moving in the right directions.

I suppose everyone that serves a professional association such as the FGCSA discovers some truths, or develops an agenda or set of guiding principles. I am no exception.

I truly believe that we must maintain and amplify our activism on behalf of the golf industry. Sure it gets discouraging when others within our industry seem oblivious to our common problems. But does that mean we should also stick our heads in the sand? Think of us as the Marines of golf, hitting the beaches and leading the way.

Does anyone doubt our worst battles are still ahead of us? A former employee now working for DER tells me that Carol Browner absolutely hates golf courses. Does anyone doubt the need for the research we sponsor, or the research soon to be conducted at the

Envirotron? Or the need for a lobbyist to look after our interests in Tallahassee? Does anyone doubt that South Florida golf courses would have gotten the shaft from the utility companies and the South Florida Water Management District if Tom Benefield hadn't effectively represented us in the rules-making workshops and made our concerns known?

I also truly believe that we must marshal our forces to have a chance of winning the coming battles. This means more superintendents need to get involved. It means let's not make the mistake of the Native Americans and get defeated tribe by tribe because we won't extend a hand to those who offer to help. Strength lies in numbers. Though I am stepping down as president, I still expect to stay very active, following the lead of many of our former presidents who still make significant contributions. Activism on behalf of the profession that sustains you should be thought of as a lifelong commitment and not a short-term promissory note.

Finally, let's not forget that it takes money to accomplish anything. We have developed some fund-raising programs which require some effort on your part to be successful. We will continue to streamline and expand these programs. Please take the time to participate and get your neighbors to participate — the results can be significant if substantial numbers of us cooperate.

Thanks for this opportunity — it really has been a privilege and a pleasure.



*Mark Jarrell*

Mark Jarrell, CGCS  
President  
FGCSA



## GOOSEGRASS

### R • E • C • I • P • E

Take one infestation of goosegrass (1-leaf to 2-tiller stage).  
Apply Illoxan® 3EC Herbicide for Turf at recommended rates.  
Spray well for good coverage.  
Yield: one goosegrass-free golf course.

It's a simple recipe and one that's keeping many of the South's best bermudagrass courses free of goosegrass (silver crabgrass, crowfootgrass) all season long.



Superintendents like the way Illoxan works without the ugly brown spots other herbicides can cause. In fact, they swear by it.

So this year, follow the proven recipe for great results: Illoxan for goosegrass.

Illoxan is a restricted use pesticide. Read and follow label directions carefully. Illoxan 3EC Herbicide is for distribution and use only within the states of AL, FL, GA, MS, NC, SC and TX under Special Local Need Authorization under FIFRA Section 24 (c). Illoxan and the name and logo HOECHST are registered trademarks of Hoechst AG. The name and logo ROUSSEL are registered trademarks of Roussel Uclaf S.A. Marketed by Hoechst-Roussel Agri-Vet Company, Somerville, NJ 08876-1258. ©1992

# THE FAVORITE SOUTHERN RECIPE FOR COOKING GOOSEGRASS.



KEEPS YOUR TURF IN TOP FORM.

Hoechst  
Roussel



Have you called any of your fellow superintendents lately? I have and most are too busy to talk for any length of time. It seems that all of them are like me... knee

deep in their summer cultural programs.

Aerifying, topdressing, verticutting, spraying for weeds and, of course, treating for that scourge, the filthy mole cricket.

It is fitting that we dedicate this issue to the dreaded mole cricket which wreaks havoc on the golf course community. Mr. Mole Cricket is a mindless imbecile whose sole purpose in life is to keep golf course

superintendents awake at

night and keep the chemical manufacturers busy peddling their wares.

Not only are the chemical companies busy, but also those chemical application companies are working night and day doing jobs most of us used to do. Their big spray tanks and slit applicators are rolling up and down the highways but how does their service really affect the golf course industry?

I believe that these companies can — and in some instances, do — hurt as much as they help. There are companies out there which put their profit margins ahead of the proper application of the product. I have heard more than one company representative boast that he can do an entire 18-hole, 125-acre golf course in one night.

"Wow," I say to myself. "That golf course must have one hell of an irrigation system to water in all 125 acres immediately with half an inch of water as the label requires!"

I have never had the pleasure of operating a golf course which had such irrigation capacity. When I spray my chemicals which need one-half inch of water immediately, I always do six holes per night spread evenly throughout the golf course. It takes me three nights but I perform the application according to the label. As we all know, the label is the law.

Besides, there is a practical side to this.

To follow the label on the irrigation regimen requires so much time that when the system gets less than one quarter through the irrigation schedule, the remainder of the product yet to be irrigated has already dried on the leaf surface. So now you have reduced significantly the effect you will get from the chemical application you have just paid more than \$200 per acre for. But that matters little to the companies on the move, for they have another 125 acres to do down the road tonight.

I guess what really bothers me about the whole process is that we as a group are becoming contractors of our maintenance activities rather than operators of them. It is easy to go this route; anyone can contract out maintenance tasks. Hell's bells, guys, your average club member can set up contracts to do this work! I personally like to do my own spraying, fertilizing, verticutting and aerifying. I take great pride in performing the jobs that are vital to the success of our maintenance operations. It is a disturbing trend which one day will take its toll on our profession.

Speaking of people making their living at our expense, what about that famous bird lover with the talk show on the radio?

You know, sometimes you earn great respect for people you have seen on TV or heard over the radio through the years. And

Please see MR. HARVEY, Page 14 ➔

# How can you water 125 acres at once?

## Editorial License



Tom Benefield, CGCS  
Editor



According to university tests in Florida, BAYLETON fungicide controls bermudagrass decline. In fact, it's the only fungicide registered for control.

For more information, contact Miles Inc., Specialty Products, Box 4913, Kansas City, MO 64120. (800) 842-8020. Then get all the protection you can get. Get BAYLETON.



**A complete inventory of all products on the market registered to control bermudagrass decline.**



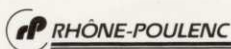




# PYTHIUM. YOU CAN'T HEAR IT. YOU CAN'T SEE

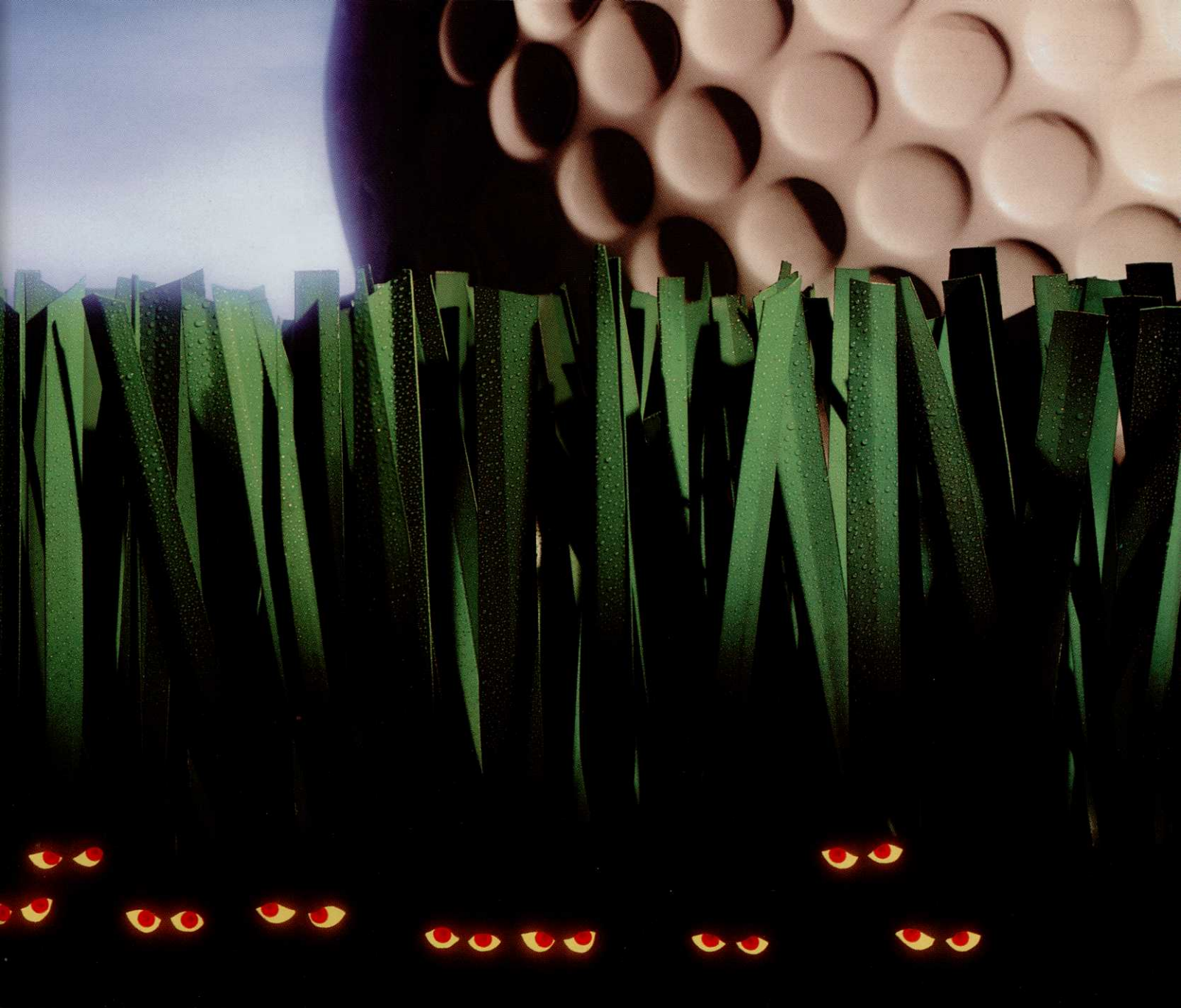
There's one sure way to turn your tournament-condition tees, greens and fairways into so many acres of rough: ignore Pythium blight. Because, as sure as the sun sets in the west, Pythium will strike. Unless you've protected your turf with the best Pythium prevention on the course

today: CHIPCO® ALIETTE® brand fosetyl Al fungicide. CHIPCO® ALIETTE® doesn't just cover turf, it actually gets inside each blade of grass—including the roots—to deliver powerful systemic protection other fungicides just can't match. And it stays on the job for up to 21 days with



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## SEE IT. AND YOU DEFINITELY CAN'T IGNORE IT.

each application. You can even use CHIPCO® ALIETTE® to control Pythium and Phytophthora on your high-value ornamentals.

Now, how's that for convenience and flexibility? Remember, as temperature and humidity rise, so does



the likelihood of Pythium tarnishing your hard-earned reputation. This year, strike first with the proven performance of CHIPCO® ALIETTE® brand fungicide.

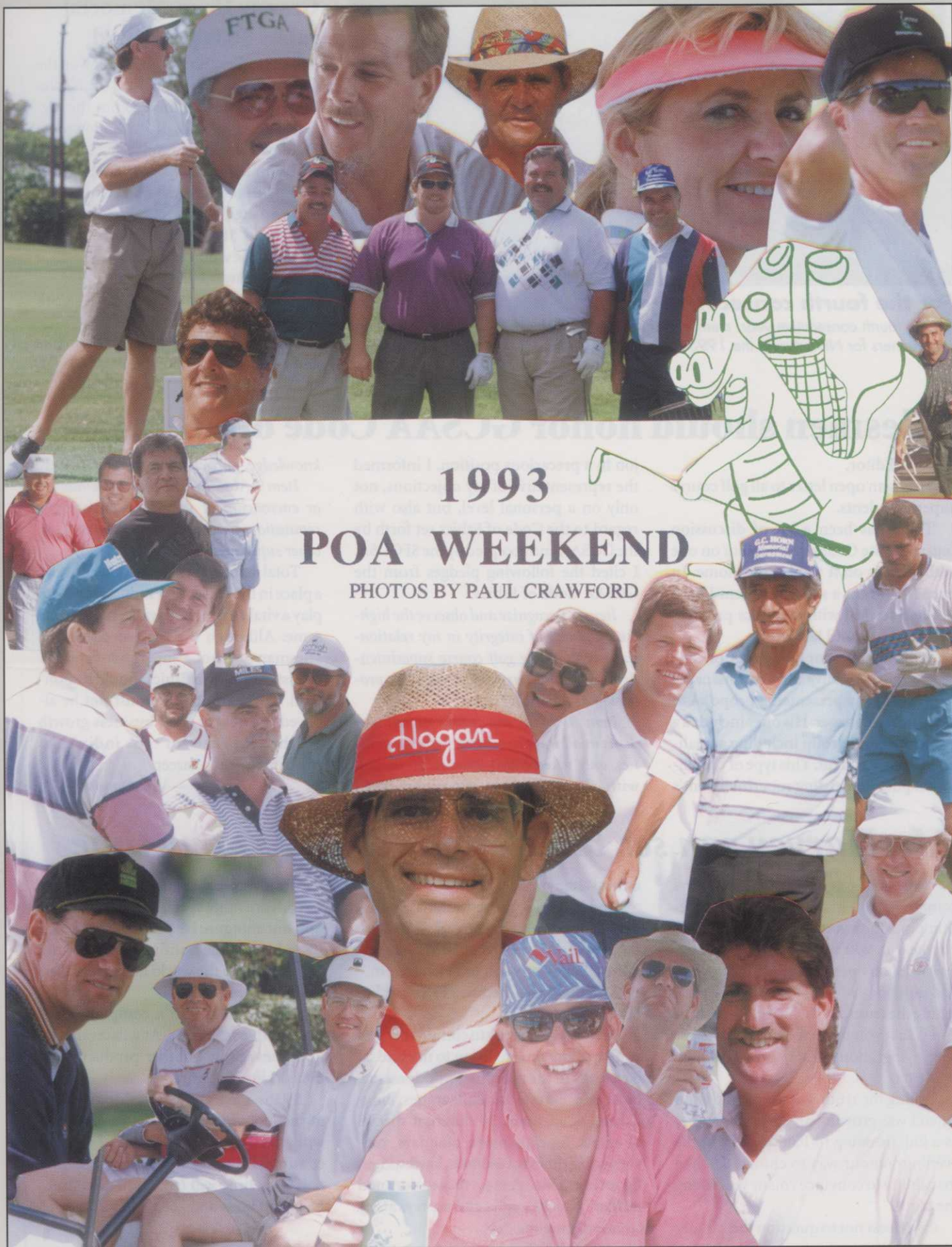
Available in an easy-handling, low-dust formulation.

**Chipco® Aliette® WDG**  
Brand Fungicide









1993

# POA WEEKEND

PHOTOS BY PAUL CRAWFORD





### For the fourth consecutive year...

For the fourth consecutive year, members of the Palm Beach GCSA worked as spotters and runners for NBC during the 1993 PGA Seniors Championship at PGA National GC.

### Granny Horn Memorial raises \$6,000 for fund

Jim Bridwell and Craig Boller won the Granny Horn Tournament at the Naples Beach Club during the Poa but the biggest winner was the Horn Endowment Fund, which netted more than \$6,000:

1. Jim Bridwell, Craig Boller; 2. Brad Beano, Ron Richards; 3. Rick Tatum, Steve Spaugh

All had 58 with a scorecard playoff deciding the winners. A total of \$2,500 in prizes was awarded.

The putting contest was won by Mark Hopkins who claimed he had 14.

Many thanks to all of the participants and especially the hole sponsors.

## Salesmen should honor GCSAA Code of Ethics

Dear Editor,

This is an open letter to all golf course superintendents.

There has been a lot of discussion regarding the Code of Ethics, but on one really dwells on it until it hits home. In over 18 years as a superintendent I have not had to deal with an ethics problem personally... until last week.

Without my prior knowledge or consent, a representative for a turf management company presented a proposal to my general manager. His offer included a complete labor group including a qualified superintendent. This type of presentation puts the existing superintendent's

job in a precarious position. I informed the representative of my objections, not only on a personal level, but also with regard to the Code of Ethics set forth by the GCSAA and accepted by the SFGCSA. I cited the following pledges from the GCSAA Code of Ethics:

*Item 7. Recognize and observe the highest standards of integrity in my relationships with fellow golf course superintendents and others associated with this profession and industry.*

*Item 8. Assist my fellow superintendents in all ways consistent with my abilities, only when called upon to do so, and with the incumbent superintendent's*

*knowledge, participation and acceptance.*

*Item 9. Abstain from the debasement of, or encroachment upon, the professional reputation, practice or employment of another superintendent.*

Total management companies do have a place in the golf course industry and can play a vital role in the advancement of the same. Although the representative is a salesman and not a superintendent, the industry's Code of Ethics should be honored. These companies must not be allowed to enhance their business growth at the expense of an individual superintendent's career.

— Anonymous

## Mr. Harvey can see birds on my course at any time

Then one day that person says something you know is wrong... something in which you are the expert. After you hear it, you feel betrayed... you believed in this person for all these years and now you *know* that this person is not telling the truth. And what really disturbs you is that you begin to wonder if he has been lying about other topics through the years.

Telling the truth was never an option when I was growing up. I can remember as a kid, listening to Paul Harvey in the evenings on our way to church. He had that ability to convince you he was telling the truth.

Or at least not to question the validity

of his statements.

And he told some sensational stories. Now I wonder how many of these were made up. I no longer listen to Mr. Harvey, nor do I allow my son to listen to him.

And this is sad because I used to believe in the man.

I invite Mr. Harvey to come to my golf course at any time to listen to my birds. I have owls in the morning, woodpeckers, great blue herons, sandhill cranes, kingfishers, dove, quail, 10 different species of egrets, mockingbirds, blue jays, red-winged blackbirds, cardinals, hawks, kites, Egyptian Nile geese, those damned muskvy ducks, eagles and ospreys at my course during the day.

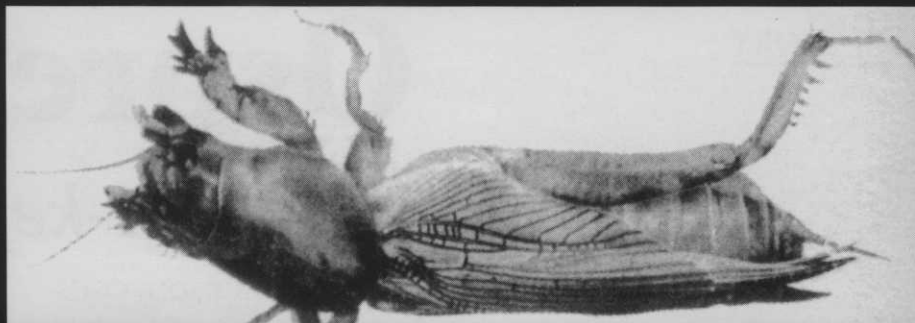
I can remember many years ago he was advertising a special type of bird shot for your shotgun. He probably has killed more birds while hunting than all of the golf courses in the world have ever killed by any means.

I am sending him a complimentary issue of this magazine. At whatever rate, I will never buy another product from True Value hardware.

By the way, my personal impression of the lobbyist we hired in cooperation with the FTGA is favorable. I believe continued support in this area is essential. Only time will tell. Until next time, may God bless and keep you safe.



Attention:  
Golf Course  
Superintendents



# ... Mole Cricket Problem?

Liquid Ag Systems introduces a new, safe  
and effective solution for Golf Courses.

## Proact<sup>TM</sup>

With Six Major Advantages Over Any Other  
Control Method:

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*For More Information Call: 1-800-432-2249 In Florida • (305) 971-0022 Outside Florida*

Proact consists of *Steinernema scapterisci*, the patented nematode licensed to BioControl Inc. for mole cricket control (Patent #5,165,930)



# Osprey Cove

## *The best-kept secret in Georgia*

BY JOEL JACKSON, CGCS

What do Spanish colonists, Mikhail Barishnikov, and Burr Johnson have in common? Why, St. Marys, Georgia of course!

The Spaniards occupied St. Marys and the surrounding area from 1566 to 1686 until the British influenced them to give up their residency.

Mr. Barishnikov, renowned ballet master and frequent visitor, and Burr Johnson, superintendent,

*Cover story photographed by  
Daniel Zelazek*



## ia (or North Florida)

are recent time travelers who spend their time at Osprey Cove, an exclusive new development on the shores of the St. Marys river. The most recent Georgia Golf Guide calls it, the best kept secret in Georgia!”

Osprey Cove is the property of Howard Gilman, sole owner of the Gilman Paper Company in St. Marys. His vision of a well-appointed country

*Native marshland surrounds  
Number Eight*



***First and foremost is my father, Herb Johnson. He taught me to treat others as I would want to be treated, and he also taught me the meaning and value of hard work.***



## They're known by the greens they keep.

Lush, beautiful greens and tee boxes are well-known to superintendents who use Ringer Greens Products. With five finely-granulated formulations available, you can match our fertilizer to your needs throughout the seasons. Each formulation releases the precise amount of nitrogen needed to eliminate burning and green-up greens evenly. The remaining nitrogen is reserved for slower release to encourage consistent growth. Try Ringer Greens Products. Your greens will be in good company.

**RINGER**

Contact your local distributor or Ringer's Golf & Commercial Turf Division at 9959 Valley View Road, Minneapolis, MN 55344, (612) 941-4180. Ringer offers a complete line of fertilizers for greens, fairways and general turf applications.

club community on Georgia's Colonial Coast is becoming a reality with the help of Morris "Burr" Johnson, CGCS, who is in charge of all of the development's landscaping as well as the golf course. By the way, "Burr" is a nickname that stuck when, as a child, his sister couldn't say, "brother!"

Osprey Cove is beautifully manicured and maintained all the way from the main gate to the maintenance facility. It looks like a model for the way all golf facilities should look. Neat and clean. Everything in its place from the superintendent's office to the enclosed soil bins. A truly professional atmosphere that reflects the countenance of this confident and mild-mannered superintendent.

Like many of his peers, Johnson did not come directly to this profession from high school. A North Carolinian from Hendersonville, he was at the end of his sophomore year at UNC-Asheville with no firm major in sight. After consulting with his father he took a summer job as a merchant seaman with the Exxon Company to earn money for school and to find his calling. Well, the summer stretched into five years and he eliminated the merchant marine as a lifelong career.

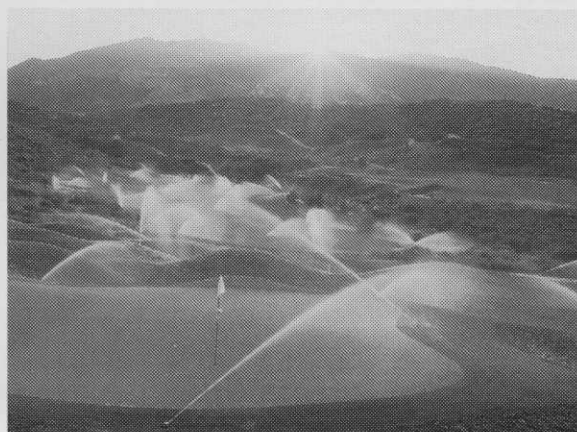
Burr's family's roots were in agriculture and dairy farming, and one uncle in Fort Myers suggested the golf course operations program at Lake City Community College. Johnson liked the outdoors and, although not an avid golfer, he did dabble with the game in school. And so, in the company of such classmates as Buck Buckner and Dwight Kummer, Burr Johnson matriculated in 1983 and began his turf management career.

When reflecting on people who have had a major influence in his life, Johnson said, "There are two people primarily that I have to credit. First and foremost is my father, Herb Johnson. He taught me to treat others as I would want to be treated, and he also taught me the meaning and value of hard work.

"In the golf business, it would have to be Mark Hampton, CGCS when he was at the Wyndemere C.C. in Naples. I worked for Mark on my 1982 summer







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**The individually-owned operations are the best environments because the chain of command is very short from the superintendent to the owner.**

OJT while at Lake City. In that summer, I learned how a professional superintendent conducts himself and how a quality maintenance operation should be run. Much of what I learned during that time I practice today.”

In his first 10 years in the turf management business, Johnson has been involved in a variety of golf course operations.

“I have been at a resort course at the Ravines, a private, member-owned club at Palmetto Pines, and two individually owned private-semiprivate courses, Cotton Creek and Osprey Cove. The individually-owned operations are the best environments because the chain of command is very short from the superintendent to the owner.

“Mr. Gilman and the entire management team are very open to suggestions and we all have the common goal of excellence.

“We have a very diverse group of

people on the staff at Osprey Cove with none having any prior experience working on golf courses except my assistant, Mike Nettles. They have all learned from the ground floor what it takes to build, grow in and maintain a nice golf course. I get many compliments on the condition of the course from both members and our guests, which only proves what I’ve known for a long time — that we have quality people doing a quality job.”

Nettles, also a Lake City graduate, heads up the landscape division.

“Mike oversees a 10-person crew, which maintains the entrance, all the common areas and roadways, the clubhouse, tennis facility, and pool area landscaping.

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## Morris "Burr" Johnson, CGCS

**Education:** Lake City Community College. A.S. in Golf Course Operations in 1983; University of North Carolina at Asheville, 1974-1976; GCSAA certified in 1992.

**Professional Affiliations:** Golf Course Superintendents Association of America; Florida GCSA, North Florida Chapter; Georgia GCSA.

**Previous employment:** Superintendent, Cotton Creek CC, Gulf Shores, Alabama; Superintendent, Palmetto Pines CC, Cape Coral, Florida; Assistant superintendent, Ravines Resort, Middleburg, Florida.

**Family:** Wife, Linda; son, Andy (5 yrs.); daughter Mary Hanna (15 mos.).

**Hobbies and interests:** All sports. Andy's Tee Ball team. Quality time with the family.



service offered by Mr. Gilman to help maintain the quality and integrity of the community."

No golf course was ever built that doesn't have some special challenges, and Osprey Cove is no exception.

"Two of my biggest ongoing challenges are the maintenance of the Meyer zoysiagrass bunker faces and managing the turf growing on some of the front nine holes, which were once part of the old St. Marys Country Club.

"The bunker faces are not large, but they are steep, and the grass tends to dry out quickly when we go for periods without significant rainfall. This is especially prevalent on our fairway bunkers that only have single head coverage. We try to alleviate the problem by doing quite a lot of hand watering with wetting agents. I think, over time, the 419 bermuda will out-compete the zoysia."

"On the old holes on the front nine



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*A watery grave awaits a banana ball on this 526-yard, par five at number six.*

**Because of the severe pressure from mole crickets we do make one annual wall-to-wall treatment in the spring.**

that were incorporated into the new design, it seems like we spend more time on this area than on the rest of the course trying to control outbreaks of dollarweed, johnsongrass, carpetgrass, and Virginia buttonweed." Since superintendents are their own worst critics, Johnson knows

where the little flaws exist. All the average golfer or the casual observer will see is excellence.

There have been several projects undertaken to enhance the course aesthetics and playability.

"One of the first problems we had to

solve was the damage done by traffic in our first year. Management agreed and we have installed nearly 3.5 miles of cart path and two bridges. We also had to enlarge the teeing surfaces on the par 3 holes — 4, 11, and 17. We have also added three rain shelters for our guests."

Environmental considerations are a key part of Johnson's total management philosophy.

"We only fertilize according to soil sample results and then we use slow-release nitrogen sources. We also map pest populations and spot-treat to control them.

"Because of the severe pressure from mole crickets we do make one annual wall-to-wall treatment in the spring. This year we will use the coulter-slit injection



*A 395-yard par-four greets the golfer at the turn, with swamp to the right and rear.*



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## Osprey Cove Golf Club

**Location:** St. Marys, Georgia

**Ownership:** Howard Gilman . Gilman Paper Company

**Management:** General Manager, Gene Rose; Golf Professional, Darryl Jack

**Playing Policies:** Preferred tee times for members. Public play allowed.

**Designed by:** Mark McCumber. Constructed by: McCumber Construction Inc.

**Opened:** October 1990. Number of holes: 18 Turf: 120 acres under maintenance.

**Greens:** 3 acres. Average size, 6500 square feet in Tifdwarf hybrid bermudagrass. Height of cut 5/32" with walking mowers. Overseeding - Marvelgreen/Laser blend at 25 lbs./1000 sq. ft.

**Tees:** 3.5 acres in Tifgreen 328 hybrid bermudagrass. Height of cut 5/16". Overseeding . Sunbelt Tee & Fairway Blend at 15 lbs./1000 sq. ft.

**Fairways:** 45 acres in Tifway 419 hybrid bermudagrass. Height

of cut - 1/2". Overseeding - Sunbelt Tee & Fairway Blend at 275 lbs./acre

**Roughs:** 58 acres in Tifway 419 hybrid bermudagrass. Height of cut: 5/16". Not overseeded.

**Irrigation system:** Rainbird Linksmaster Controls, Pumps: 2 - 75 hp and 1 - 25 hp, 540 Rainbird heads.

**Staff:** Assistant Superintendent, Mike Nettles (LCCC graduate); Head Mechanic, Paul Merritt; Assistant Mechanic, Justin Jones (both graduates of LCCC golf course mechanics program); Chemical Technician, Jack Kennedy; Irrigation technician/foreman, Bruce Bowden; Golf Course crew - 12. Landscape crew - 10.

**Turf equipment:** 4 John Deere walking greens mowers, 5 Jacobsen Greenskins, 1 Toro triplex slope mower, 1 Jacobsen F-10 fairway mower, 1 Toro 7-gang pull frame mower, 1 Toro 72" Groundsmaster, 2 turf tractors — a 50-hp Kubota and a 30-hp Ford, 1 - 40-hp Ford front-end loader, 1 - 300-gal. Hahn sprayer, 1 - 100-gal. Agrotec sprayer, 4 Cushman utility vehicles, 4 EZ-Go utility vehicles, 1 Turfco topdresser, 1 Vicon fertilizer spreader, 1 Coremaster greens aerifier, 1 Ryan fairway aerifier, 1 AgriMetal blower, 1 Chevrolet 1-ton dump truck, 1 Chevrolet pickup truck.

method with Crusade. We are also experimenting with the parasitic nematode. We do alternate pesticide products to reduce the possibility of chemical resistance by the target organisms."

Johnson's vision of the future of golf is similar to many of his peers. "I see continued growth for the game with more new golf courses. But along with that growth will come even more stringent guidelines from federal and state agencies on how new and existing courses can be built and maintained."

From the friendly, cooperative, teamwork atmosphere prevalent at Osprey Cove it seems that Johnson is doing the "right stuff".

The formula for success in this business according to Johnson is simple: "Get as much practical experience as possible, and don't be afraid to ask for help from your friends and Your peers."

The most satisfying professional accomplishments so far for Burr have been being part of the construction, completion, and opening of two new courses, Cotton Creek and Osprey Cove.

"At Cotton Creek I got to meet and work with Arnold Palmer, one of the finest gentlemen in the golf business. And now at Osprey Cove, I have a great job working with wonderful people. What more could I ask?"



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# With enemies like this...

*Courses spend  
\$50,000-plus  
on mole crickets*

**Y**ep! It's that time of the year again. Time again for what is fast becoming one of the most important annual rituals we superintendents in Florida perform each year. The invasion of the mole crickets as my greens chairman puts it. Tunneling, foraging, devouring all of the turf lying in their path, they have truly become the scourge of the golf course industry in Florida.

How big of a scourge do you ask? In

*Once upon a time, healthy turf lived here. And then Mr. Mole Cricket set up housekeeping.*

TOM BENEFIELD, FGCSA





# ...you need a friend

the last survey done by the FGCSA, a question was asked as to what percentage of the pesticide budget was allocated to the control of mole crickets. The survey average was 70 percent. When you compile this figure with the average pesticide budget of \$75,000 (from those who returned their surveys) you can truly appreciate the magnitude of the problem. On average, an 18-hole facility will spend over \$50,000 per year to keep this pest in check. Certainly no other single item can cause as much monetary impact or agronomic destruction as our friend, Mr. Mole Cricket.

New products come and go. New methods come from the ingenuity of the golf course superintendents to become more efficient with higher efficacy rates than in previous years. Through this problem, we seek solutions and it this striving for a better mouse trap that brings our new solutions. For you see the old ways are on the way out. The days will soon be gone for products which are great for mole crickets but best-suited for nematodes. IPM of this pest has taken on a whole new concept. Biological controls are making their way into our arsenal of defenses, albeit ever so slowly.

New application techniques for some old mainstays which effectively reduces the runoff and odorous ill effects have become ever more promising. Yes we are getting better at controlling this pest and

at the same time becoming more environmentally conscious of our methods.

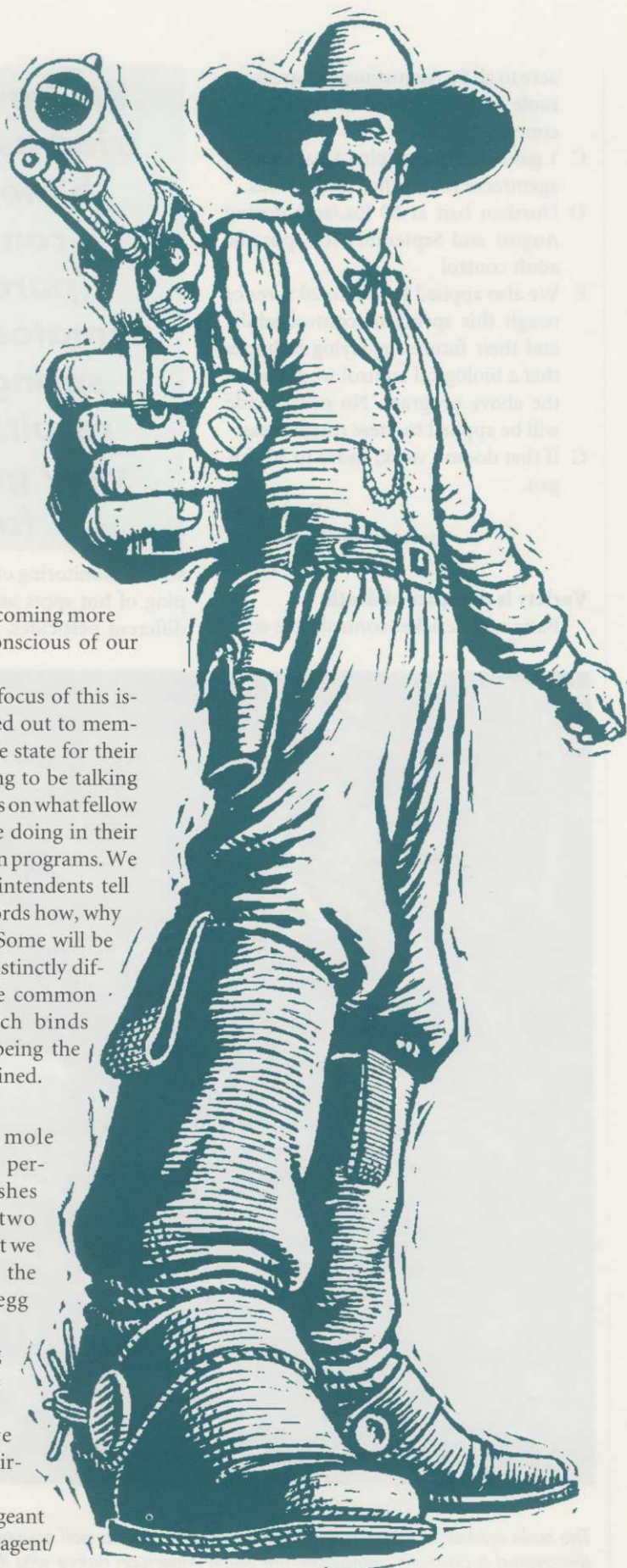
As the editorial focus of this issue, we have reached out to members from across the state for their advice. We are going to be talking the next few minutes on what fellow superintendents are doing in their chemical application programs. We will let these superintendents tell you in their own words how, why and what they do. Some will be similar and some distinctly different with the one common denominator which binds them all together being the level of success attained.

## Soap Flush

We start our mole cricket control by performing soap flushes during the last two weeks of May so that we can observe when the majority of the egg hatch occurs.

After the egg hatch occurs, we apply:

- A 200 lbs./acre Mocap to all fairway-cut areas.
- B 6 lbs./acre of Pageant plus 1 gal wetting agent/





acre to all St. Augustinegrass areas for mole crickets as well as chinch bug control.

- C 1 gal/acre Oftanol plus 1 gal wetting agent/acre to all other rough areas.
- D Dursban bait at 50 lbs./acre during August and September for sporadic adult control
- E We also applied Proact to 20 acres of rough this spring to control adults and their future egg laying in hopes that a biological control would assist the above program. No nematocide will be applied to these rough areas.
- G If that doesn't work, move to Michigan.

*Fred Klauk  
Tournament Players Club  
Ponte Vedra Beach*

## Variety is the spice of death

Basic mole cricket control here con-

**We have also  
tried using the  
biological  
control  
(parasitic  
nematodes) this  
spring and  
results look  
very good so  
far.**

sists of monitoring of in-star stage, mapping of hot spots and the use of many different pesticides. We have also tried

using the biological control (parasitic nematodes) this spring and results look very good so far.

Pesticides used to control the mole crickets include Oftanol, Crusade 5G, Pageant DF, Orthene T/O and Dursban Baits. In the fall, winter and spring Orthene and Pageant are used most. These treatments are always spot treatments, pesticides are always applied early evening. Late spring, early summer we apply Oftanol and Crusade to fairways and roughs. These pesticides are on a rotating schedule. One year Oftanol in fairways, and Crusade in the roughs, the following year they are rotated. These treatments also are our grub control products. Summer program consists of the use of Crusade, Pageant and Orthene, these are spot treatments only. Baits are



TOM BENEFIELD, FGCSA

*The mole cricket is one species of exotic wildlife that no golf course wants to attract. Until University of Florida researchers discovered a parasitic nematode, the South American native was thought to have no natural enemies.*





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seldom used, but when applied it is in the fall, winter or spring, and always on or near the full moon.

*Robert Bittner  
Club at Pelican Bay*

## Decided to experiment

In 1990 and 1991 the course was treated with Oftanol granule with moderate to good success. In 1992 we decided to experiment with some other products since we were concerned with other courses that were experiencing problems with Oftanol after the third year. In 1992 we also began the mapping and monitoring mole cricket activity during the months of February through May. Last year we ended up using Oftanol on half the course with the remainder divided between Pageant and Mocap. As a check we also did not apply any preventive pesticide control onto one of our fairways in order to monitor damage activity. We did end up doing some post-damage control with Orthene and baits in late August on this hole.

In 1993 we are applying Crusade on one third of the course with two-thirds of the fairways being done with Mocap. We are also applying the material to tee tops and the slopes of greens and tees. In preparation for this chemical treatment we renovated the fairways by aerifying and scalping the turf to allow for better penetration. Our application date was scheduled for the first week in June.

*Kevin Downing  
Willoughby Golf Club  
Stuart*

## Twice a year

During the last four years at the Waterford GC we have been treating the course twice a year. We make an application in May to treat the spring nymphs. The fall application in late August.

The spring application consists of Oftanol coated fertilizer, which has consistently produced excellent results. Although last year I tried an application of Crusade which proved to be disastrous.

I have used different products for the fall application. During 1989 and 1990 I had a custom application of Nema-cur 3EC applied. In 1992 I used Orthene and Gama-mean. This year I am planning to use Mocap granule through slit injection

**As a check we also did not apply any preventive pesticide control onto one of our fairways in order to monitor damage activity. We did end up doing some post-damage control in late August on this hole.**

custom application.

Throughout the year I spot-treat trouble areas with Orthene, Sevimol, Pageant DF and bait.

*James B Miller  
Waterford Golf Club  
Venice*

## Map previous year's activity

The mainstay of my program is the mapping of previous year's high mole cricket activity. This allows me to pinpoint those areas where pressures are most likely to occur.

Start the program June 10 through June 20. Treat small nymphs 2-3 weeks after 80% of eggs have hatched. Use residual product on all irrigated turfgrass. If products are sprayable do at night, early morning (most ineffective if product dries on leaves).

Mid-June to Mid-July. Use mapping records from previous years, locate and respond to past problem areas and areas where pressures have not dropped from initial treatment. Treat with alternative residual products until pressures are satisfactory. Treat weekly, flag areas to improve cost effectiveness.

Mid July through September, 3/4-inch

Monster Program. Baits are extremely effective if applied late, preferably after late afternoon showers and applied that evening from 7 to 10 p.m. Most effective using small rotary spreader and utility vehicle. Contact spray, some good, some bad, results never consistent. Soil moisture must be high same as bait, possible problems with overall weight of sprayer (when very wet). Still use some residual products usually out of frustration, when all else fails.

September through May. Usually pleasures are down with the exception of "flying." Typical scene very dry, cool, consistent weather, but with sudden temperature fluctuations and rainfall, it looks like a B-52 bombing run. In morning, use contacts and contacts and contacts, no baits. Adults usually do not eat so consequently baits are usually ineffective.

*Jeff Hayden  
Gainesville Golf & Country Club*

## Early to mid June

Our ongoing program is to spot-treat problem areas with Orthene, Dursban, Crusade. We monitor by soap flush.

Big treatment last five years has been early to mid-June when we have the highest population of nymphs. Last year Crusade was very successful and we will use the same plan this year. Prior years, Oftanol was used with varied results.

Spot treat year-round after this application. Some control from Nema-cur in August. Also treat for grubs, which helps knock back populations.

*Mark Henderson  
Atlantis Golf Club  
Lake Worth*

## Constantly monitor

My main plan of attack for the control of mole crickets is to constantly monitor the golf course and spot treat the active areas. The only wall-to-wall application of pesticide is made when the newly hatched crickets, in the nymph stage, appear in early June.

This blanket application when the crickets are at their most vulnerable stage goes a long way in keeping damaging populations from occurring. Then, by watching the areas that we know will show the first signs of fresh activity, the



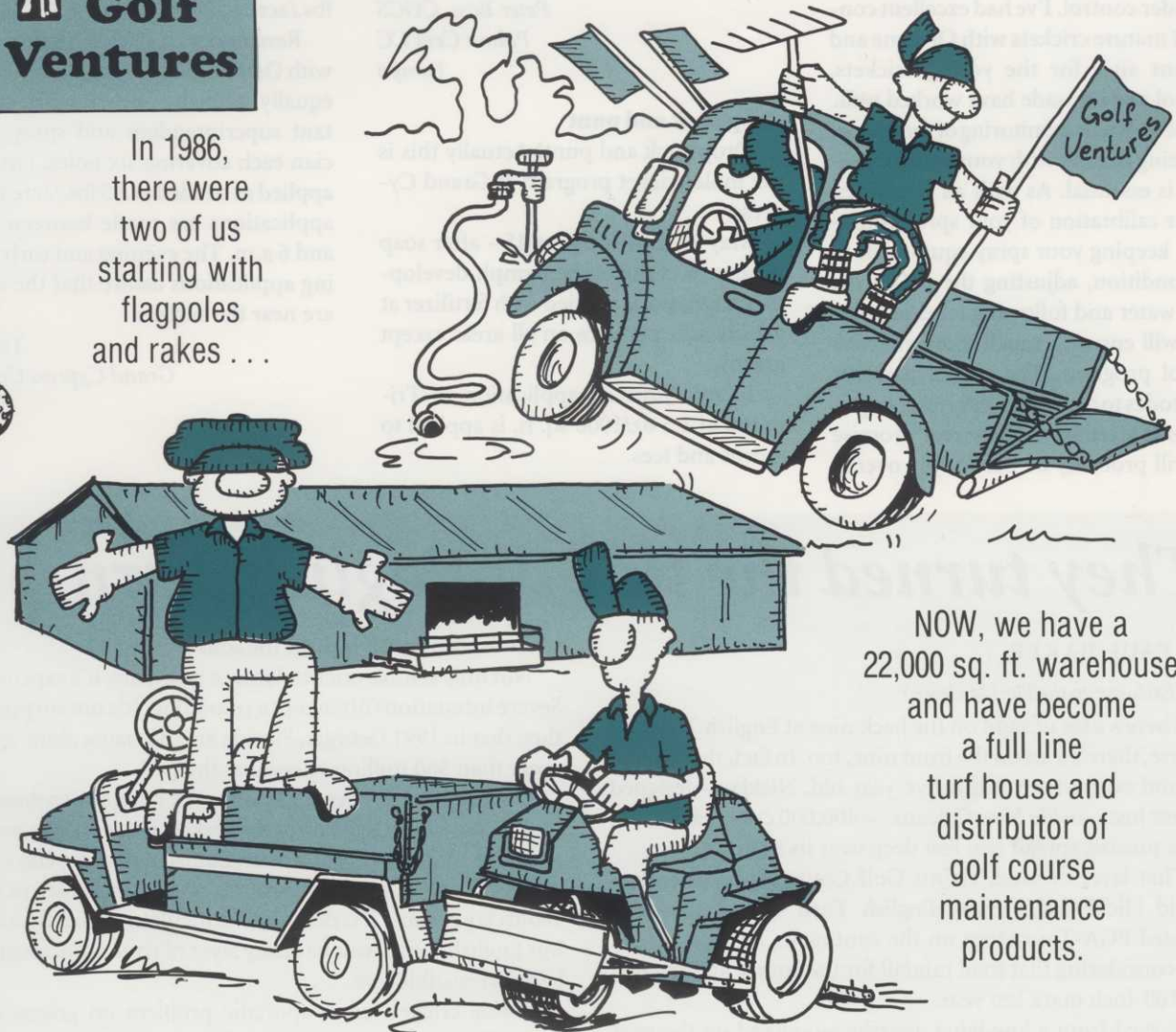




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spot treatments will keep the larger crickets under control. I've had excellent control of mature crickets with Orthene and Pageant and, for the young crickets, Oftanol and Crusade have worked well.

The constant monitoring of the course, and being flexible with your control program is essential. As with all pesticides, proper calibration of your spray equipment, keeping your spray equipment in top condition, adjusting the pH of the spray water and following label instructions will ensure a much more effective control program. The use of parasitic nematodes to control mole cricket populations is starting to show real promise and will probably be part of my overall

program in the near future.

Peter Bass, CGCS  
Palma Ceia CC  
Tampa

### Drop back and punt

Drop back and punt! Actually this is the mole cricket program at Grand Cypress.

May 20 through June 15 - after soap flushes to evaluate the nymph development, Oftanol is applied with fertilizer at a 2 lbs. rate per acre on all areas except greens.

In mid-June an application of Triumph at 1.5 oz/1000 sq. ft. is applied to greens and tees.

In mid-July we inject fairways with 75 lbs./acre of Mocap

Remainder of cricket control is done with Orthene. We divide the golf courses equally with the superintendent, assistant superintendent and spray technician each covering six holes. Orthene is applied as needed at a 5 lbs./acre rate. All applications are made between 8 p.m. and 6 a.m. The evening and early morning applications assure that the crickets are near the surface.

Tom Alex  
Grand Cypress Golf Club  
Orlando

## They turned the tide at English Turn

BY PAUL BAKER

*(Exclusive to the Florida Green)*

There's a lot of sand on the back nine at English Turn. Of course, there's a lot on the front nine, too. In fact, there's a lot of sand everywhere at this five-year-old, Nicklaus-designed course just outside New Orleans — 400,000 cubic yards of it, to be precise, spread two feet deep over its entirety.

That layer of sand, claims Golf Course Superintendent David Hicks, helps make English Turn one of the best-drained PGA-Tour stops on the continent. That's no small feat considering that total rainfall for the course approached the 100-inch mark last year.

Carved from a low-lying, marshy woodland on the west bank of the Mississippi, English Turn was specifically built with drainage in mind. Native clay, excavated from a surrounding moat-like lagoon, was used to elevate the course and shape its slopes, hills and spectator mounds. Sand, pumped from the bed of the Mississippi, was layered on to help channel water off the course in a hurry.

But as convenient as good drainage makes the 18-hole course for members and tournament players, all that sand makes a mountain out of Hicks' mole cricket problem. "English Turn is a perfect habitat for the insect," he said.

To combat the subterranean pest, Hicks uses slit application to apply granular insecticide/nematicide below the thatch layer where mole crickets are most active. He adopted the innovation from superintendents in Florida.

Mole crickets are the single most destructive pest of turfgrass in the South. When nighttime temperatures begin to rise in the spring, they burrow just beneath the surface to feed on tender roots and stems. They damage turf by feeding directly on turfgrass, and the insect's burrowing also causes further

stress on turf by drying out the soil.

Not only is mole cricket damage unsightly, it's expensive. Severe infestations often mean resodding. It's not surprising then that in 1991 Georgia, Florida and Alabama alone spent more than \$60 million to combat the pest.

Although superintendents from the coastal Carolinas to Florida have been fighting mole crickets for years, the pest is a relative newcomer to southern Louisiana, where clay constitutes the subsurface layers of most courses. Mole crickets avoid clay because it is dense and difficult to tunnel through. But English Turn, with its cushy layer of river sand, seems to be an irresistible lure.

"Mole crickets are a sporadic problem on greens and around bunkers on most courses here, and they appear to be getting worse," Hicks said. "Luckily, we can draw on the experience of people in Georgia and Florida. We try very hard to stay abreast of new control techniques, and we use a lot of different tools and products to remain on the cutting edge."

Slit application is quite literally on the cutting edge of mole cricket control. The technique involves placing granular products below the surface with a device very much like a conventional overseeder. Coulters spaced 1.5 to 1.75 inches apart cut narrow slits about an inch deep in the sod. Precisely measured doses of insecticide are simultaneously deposited into the slits.

Developed in Florida just three years ago, slit application is quickly catching on throughout the South, and with good reason. According to Dr. Bob Dunn, a University of Florida nematologist, applying granular chemicals in concentrated subsurface bands is a very effective way to control highly mobile insects like mole crickets.

"Most moving insects will cross those bands many times



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**Timing is everything**

Timing is the most important aspect of mole cricket control. Whatever you are going to do for mole cricket control, January through July are the most critical times!

Hatch - mid to late June in Ridge GCSA area.

January to May: Treat with Crusade, Mocap, Orthene and baits

August to September: spot treat only

We are interested in the new cedar slit injections for fairways. We believe this method will end up being less expensive due to the concentration of material in furrows.

We use Crusade on the roughs. Crusade is best on large areas.

*Buck Buckner  
Orange Tree GC  
Orlando*

**Pray for us**

Here at the Oak Bridge Club we have changed our school of thought. Instead of trying to predict when egg hatch is going to occur in north Florida and then going after nymphs, this year we went after the adults. Mocap was sliced in April 16 at 75 lbs./acre.

Normally in our area, egg hatch occurs mid-May to mid June. However, last year with an extended exceptionally cool

spring, egg hatch was occurring in late July! So who knows what "normal" is anymore!

By going after the adults, we hope to have better control over the population on site. Later on if we do get some egg hatch or fly-ins, we hope to be able to spot treat those areas.

Pray for us. We should know the "state of the mole cricket" by mid July and hopefully we can deliver a positive address.

*Eddie Snipes  
Oak Bridge Club  
Ponte Vedra Beach*

Please See WE ARE, page 54 ➡

## ***Slit application is a very good way to deliver the material precisely***

➡ as they dig around under the thatch," he notes, "so they will encounter the material multiple times. Slit application is a very good way to deliver the material precisely to the area where it will do the most good."

"By depositing the material immediately beneath the growing turf," he continues, "you substantially reduce exposing it to wildlife, pets and people, and you reduce potential runoff problems. It also substantially lessens any odors which occur."

For the past two years, David Hicks' mole cricket program has included two slit applications per season. "We treat the tees and the fairways at the beginning of June and during the middle of August," he said. "That gets us through our worst months, which are June through September in New Orleans. It does a good job of keeping them out of the fairways." Hicks spot-treats troublesome areas in the rough and around bunker facings.

In addition to controlling mole crickets, slit application provides other benefits as well, Hicks said. "It's a good cultural practice, very much like verticle mowing. You cut through the thatch, and that helps create new growing points." He adds that the slits heal quickly, usually within a week to 10 days.

Slit applications also help control nematodes, particularly the sting, lesion and root-knot species that feed on roots. By controlling both nematodes and mole crickets, the product allows turf to grow more vigorously, thus enhancing its quality.

Like the majority of superintendents who have adopted slit application, Hicks contracts with an outside company to provide the service. Contracting the work out made him a little nervous at first, he admits.

"I can't stress enough how important it is to build a high level of trust with the person who is actually going to be running the machine," he cautions.

"We have gotten to the point where we put out our material at night with the lights on. That provides the benefit of allowing you to keep out of the players' way. But again, success depends on how comfortable you are with the operator. Obviously, you don't want to send someone you don't know to run this machine over your course in the dark."

"Attention to details makes the switch from conventional broadcast application to slit application smoother," he continues. "It's the little things, like deciding where to turn around. For example, are you going to turn around close to the green or stay a little farther away? We've developed a flagging system that establishes those boundaries, and that's helped a lot. Of course, we still always monitor the operation."

Making sure that the operator adheres to all health and safety precautions while applying the pesticide is critical as well, he said.

Although Hicks has had tremendous success with slit applying granular insecticide for mole cricket control, he cautions that the technique may not be for everyone. "It's for people who have a situation like English Turn, where large areas are vulnerable to mole crickets. If you just have a few pockets, you might want to start a good mapping program and treat topically. You have to tailor your program to fit your golf course."

Even after two years, Hicks continues to modify his program. This year, for example, he will rotate his chemical used to minimize resistance and to enhance his nematode control program.

"We've had a lot of success with slit application," he said. "We've found that getting the material through the thatch and right to the insect is a more reliable way to control mole crickets."







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# Groundsmaster® 455-D

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landscape and industrial grounds. Groundsmaster® 455-D efficiently mows at 6.5 mph (up to 8 acres per hour) and quickly transports from site to site at 15 mph. And it maneuvers through or transports within a 75" opening.

## Powerful, Reliable

A 55 horsepower, 4 cylinder, 4 cycle, liquid cooled engine provides

ample power whether mowing long hours or challenging rugged terrain. It offers the latest in diesel engine technology promoting low noise, smooth operations, low vibration, easy starting, less fuel consumption and is lightweight.

High strength, heavy duty axle assemblies exclusively designed for Toro and a rugged hydrostatic transmission allow for smooth quick speed and direction changes.





accommodate any size operator and their steering preferences. Conveniently located pedals and controls enhance smooth operations — all together for a tireless, efficient performance. Standard safety features include a 2-post Roll Over Protective Structure and seat belt.

## Plus Accessories

The powerful 455-D can be customized to further meet your needs by giving you the versatility of other applications; consider a Cab, Sunshade, Broom, Light Kit, Mulcher Kit, Cruise Control, and a Rotary Radiator Cooling Screen.

Highly maneuverable, extremely productive, the Groundsmaster

## Traction-Plus® Toro 4-Matic®

Maneuverability and trimming capabilities are enhanced with full power steering and a low center of gravity. And, there's Traction-Plus®. A patented hydraulic weight transfer system that automatically transfers weight from the deck to the traction wheels for more deck flotation and better traction, on demand.

For the most in traction, choose the Toro 4-Matic® 4 Wheel Drive system. This automatic on-demand 4 wheel drive features an overrunning clutch that virtually eliminates turf scuffing or skidding in turns. Power is always available at front and rear axles, just when you need it most. And there's no stopping to shift.

## Operator Friendly

Even in 4 wheel drive, the 455-D is easy to operate. It's designed for comfort with a deluxe suspension foam cushion seat, backrest and armrests. The fore and aft seat adjustment and tilt steering column



455-D with the Quadfloat 126 will significantly increase your productivity and improve your aftercut appearance. So call your local Toro distributor today for a demonstration you can't afford to miss.



# Groundsmaster® 455-D Specifications\*

## 2 WHEEL DRIVE, MODEL 30450, OR 4 WHEEL DRIVE, MODEL 30455 TRACTION UNITS

<b>ENGINE</b>	Peugeot, 4 cylinder, 4 cycle, overhead cam, 116 cu. in. (1.9 liter) displacement, liquid cooled diesel engine. Engine rated at 55 hp (41.03 kW); governed to 3000 rpm high idle. 23.5:1 compression ratio, 3.27" (83 mm) x 3.46" (88 mm) stroke. Automatic glow plug system. Heavy duty, 2 stage, remote air cleaner.
<b>RADIATOR</b>	Rear mounted, cross-flow agricultural type radiator; 7 fins per inch. Approx. 7.5 quart (7.1 liter) capacity. Air-to-oil cooler, mounted to rear of radiator, tips outward for cleaning. Removable oil cooler/radiator screen.
<b>FUEL SYSTEM</b>	Rotary fuel injection pump with energized-to-run (ETR) fuel flow solenoid. Replaceable spin-on fuel filter/water separator. Fuel capacity: 14 gallon (53 liters).
<b>MAIN FRAME</b>	All welded, tubular steel frame with heavy gussets.
<b>TIRES/WHEELS/PRESSURES</b>	High flotation turf tread tires on demountable rims. Front tires: (2) 26 x 12.0-12, 8 ply. Rear tires: (2) 20 x 10.0-10, 6 ply. Tire pressure: 15-20 psi (103-140 kPa).
<b>BRAKES</b>	Totally enclosed, dry, multi-disc (5.62" (14.3 cm) diameter) individual wheel and parking brakes on front traction wheels. Individual brakes controlled by the left foot. Dynamic braking through closed-loop hydrostatic drive. Tower mounted, hand operated, park brake latch. Individual brakes can be latched together for park brake.
<b>STEERING</b>	Automotive type full power steering. Steering wheel tilts to desired operator position.
<b>GROUND SPEED/CLEARANCE</b>	Forward, low range (mowing): 0-6.5 mph (0-10.5 km/hr); high range (transport): 0-15 mph (0-24.1 km/hr) Reverse, low range: 0-3 mph (0-4.8 km/hr); high range: 0-5 mph (0-8 km/hr). Ground clearance: 7" (17.8 cm)
<b>TRACTION DRIVE</b>	<b>2 Wheel Drive:</b> Hydrostatic closed loop system consisting of a Sundstrand M25 hydrostatic pump with M15 motor driving a 2-speed axle. <b>Toro 4-Matic® 4 Wheel Drive:</b> Hydrostatic closed loop system, consisting of a Sundstrand M25 hydrostatic pump with an M15 motor in series with an Eaton motor, drives a 2-speed front axle and a steerable, agricultural style rear axle. A unidirectional, over-running clutch drives the rear axle and provides automatic, on-demand 4-Matic 4 wheel drive. 2-speed axle provides a high range (transport) 15.4:1 ratio, low range (mow) 32.8:1 ratio, and neutral (towing).
<b>CONTROLS</b>	<i>Foot operated</i> — traction pedal, individual wheel and parking brakes. <i>Hand operated</i> — key switch, throttle, individual deck lift and deck engagement, park brake latch, tilt wheel control and traction gear range selection.
<b>GAUGES &amp; DIAGNOSTICS</b>	Gauges: fuel level, engine coolant temperature and hour meter. Warning lights: glow plugs, low engine oil pressure, high engine coolant temperature and charge light. Diagnostic pressure test ports (located under operator's seat): forward and reverse traction, lift and counterbalance circuit, steering circuit and charge circuit.
<b>INTERLOCK SYSTEM</b>	Prevents engine from starting unless traction pedal is in neutral and cutting units are disengaged. If operator leaves seat with cutting units engaged, engine stops. High engine temperature also automatically shuts down engine and prevents starting of engine (indicated by RH console warning light.) Mow circuit interlock permits mowing only in low gear range.
<b>ELECTRICAL FEATURES</b>	12 volt, cold cranking 530 amperes at 0° F (-18° C), 85 minute reserve capacity at 85° F (29° C), maintenance free battery. 55 amp alternator, ammeter, 1.4 kW starter, key switch and automatic temperature controlled glow plug controller. 4-way blade type fuse panel, with separately fused run, accessories, and cutting units circuits. Extensive use of sealed electrical connectors.
<b>SEAT/STORAGE</b>	Deluxe seat with armrests, backrest and suspension. Adjustable fore and aft, and to weight. Storage at left side of seat.
<b>CERTIFICATION</b>	Certified to meet ANSI specification B71.4-1990 and applicable Federal and State OSHA regulations based thereon.
<b>WARRANTY</b>	Two years or 1500 operational hours, whichever comes first. Refer to the respective Operators' Manual for further details.
<b>OVERALL DIMENSIONS</b>	Width (transport): 75" (191 cm)      Height: 58" (147 cm)      Wheel Tread (front): 52" (132 cm) Width (mowing): 127" (323 cm)      Length: 138" (351 cm)      Wheel Tread (rear): 44" (112 cm)
<b>WEIGHT</b>	<b>2 Wheel Drive (Model 30450):</b> 3,450 lbs. (1,568 kg) <b>4-Matic 4 Wheel Drive (Model 30455):</b> 3,550 lbs. (1,613 kg)

## QUADFLOAT 126 CUTTING UNIT, MODEL 30401

<b>TYPE</b>	126" (320 cm) width of cut, seven blade, front mounted rotary. 54" (137 cm) width of cut, three blade center section. Two 36" (91 cm) width of cut wings; 90" (229 cm) width of cut with one wing up. Rear discharge with even dispersion over the entire width of cut.
<b>MOWING RATE</b>	Mows up to 8 acres/hr (3.23 hectares/hr) at 6.5 mph (10.5 km/hr). (Assumes no overlap or stops.)
<b>TRIMABILITY</b>	Trims on both sides. <b>2 Wheel Drive:</b> 0" uncut circle <i>without</i> using wheel brakes. <b>4 Wheel Drive:</b> 0" uncut circle with use of wheel brakes.
<b>HEIGHT OF CUT</b>	1" – 5" (2.5–12.7 cm) adjustable in .5" (13 mm) increments.
<b>CONSTRUCTION</b>	12 gauge high strength steel, 5.5" (14 cm) deep, welded construction and reinforced with 10 gauge channels.
<b>CUTTER DRIVE</b>	PTO driven gearbox with 1:1 spiral bevel gears. Triple 3V section belt to center deck spindles, "A" section belt to each wing deck with patent-pending belt routing. 1.25" (3.2 cm) diameter, stress-proof spindle shafts mounted on 2 greaseable tapered roller bearings (greaseable from top of deck). A positive splined connection attaches pulleys to spindle shafts for high torque capacity.
<b>BLADES</b>	Seven 19" (48.3 cm) long, .25" (6.3 mm) thick, 2.5" (6.3 cm) wide, heat treated steel blades.
<b>BELT IDLERS</b>	Self-tensioning permanently lubricated idlers.
<b>WING DECKS</b>	Wings can be hydraulically raised individually from the operator's seat for transport or cutting with either wing and center or center deck only. Wings cut from level to 15° up and down. Further lift disengages the blade and applies a blade brake.
<b>SUSPENSION/CASTER WHEELS</b>	Four front and two rear caster tires consist of solid rubber and ball bearings. Center deck tires: 10.25" x 3.25" (26 x 8.3 cm). Wing deck tires: 8.0" x 3.25" (20 x 8.3 cm). Anti-scalp cup located on each blade. Three anti-scalp rollers on center deck. Deck is hydraulically counterbalanced.
<b>DECK COVERS</b>	Impact resistant, molded plastic covers. One on the center deck and one per wing deck. A pivoting, spring loaded cover spans between the center and wing decks. Easy to remove and reinstall without tools.
<b>DIMENSIONS/WT.</b>	127" (325 cm) width overall. 75" (190 cm) transport width. Weight: 1,100 lbs. (500 kg).

\*Specifications and design subject to change without notice. "Toro", "Groundsmaster", "Toro 4-Matic", "Wind-Tunnel", and "Traction-Plus" are registered trademarks of The Toro Company, 8111 Lyndale Avenue South, Minneapolis, Minnesota 55420-1196. Products depicted in this advertisement are for demonstration purposes only. Actual products offered for sale may vary in use, design, required attachments and safety features. Consult your local Toro distributor.

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*It's simply called...*

# 'Good Management'

BY GARY T. GRIGG, CGCS

Whether you are an experienced superintendent of a golf course, a new superintendent, or about to move up as a golf course superintendent, you are a manager. You need to think and act like a manager.

As an agronomic-trained golf course superintendent, you have acquired many specific technological skills. As a manager, you now need to rely less and less on your own skills and move into managing areas that are more intangible. Some of those areas are time, budget, planning and people. The largest area that will confront you is working with people. As a manager, you will now relate to people in new ways.

Dealing with people consists of two major areas — dealing with your crew and interacting with people in other departments at your club.

For most of us, myself included, we come through the ranks feeling our principal asset is our technical ability. As we move up, we find it takes more than that to be successful in this business. All at once, as the manager, it is your ability to get things done through other people that counts most. Your crew becomes by far your most important asset and you must get work done through them.

Management of your staff is not taught in turf school — it is acquired from experience. Most of what I have learned, I learned by making mistakes. Believe me, some of my mistakes have been big ones. I survived because basically I like people and it helps a lot to like people. If your crew knows you like them and you show concern for them, they will get a lot of work done for you.

Interacting with people in other departments is nothing more than good communication. The other department

***As the manager, it is your ability to get things done through other people that counts most. Your crew becomes by far your most important asset and you must get work done through them.***

heads at the club are also professionals and they are important for the accomplishment of both your short-term and long-term goals. You are part of a business and you need to think about the implications of your work and how it affects the other departments of the club. You cannot become too stressed nor be too casual while interacting with the other professional staff at the club.

Good communication cannot be over-emphasized. Mix-ups in communication can be embarrassing for everyone. In my experience, most errors on the golf course are caused by improper communication. Most superintendents who lose their jobs do so not because of lack of technical skills but because they failed to communicate properly. The responsibility for good communication belongs to the person who wants to communicate. Usually that is the manager. It is always your responsibility to instruct your staff properly.

Keep in mind that everyone's goal is satisfaction of the member or customer. Remember that ultimately the member or customer influences your job and your salary.

As a manager, your responsibilities are much greater. Some superintendents become overwhelmed by trying to bud-

get time. The key for me is to prioritize. Make a list each day and note what must be done first, and so on down. Those things that can wait should also be identified. Several years ago, I started using a day planner. I find it very helpful keeping track of projects and sequential tasking.

Budgeting and management of your budget is a process of achieving your goals by using funds prudently. In my budget process, I give the club more than a typical spreadsheet. A high quality budget should include:

1. An organizational chart of your department.
2. A staffing chart complete with job descriptions.
3. A description of each category item in your budget.
4. A spreadsheet with category items down the left axis and months across the top. A lot of superintendents stop here.
5. A complete management plan for the golf course. This plan should detail how the golf course is to be maintained. Hopefully, you can equate budget numbers to this plan. For example:

Under the chemical insecticide use portion of the plan, detail the chemicals to be used and the cost of each program.



Nematodes, mole cricket, fire ant, cutworms, sod webworm, chinch bug, etc. Each program should be detailed with cost.

Under fertilization, detail each fertilizer program with type of fertilizer and cost. Green, tee, fairway and rough programs should be detailed.

Carry this on for each category item in the budget, including the shop.

The value of this plan is that when your budget is being reviewed by those who approve it, they fully understand that when cutting money from the budget, they are cutting programs. If someone says to you, for example: "Cut your chemical cost." You lay out your management plan and reply, "Which program do you want to eliminate?" Management will find it more difficult to eliminate needed programs than simply to amend a dollar figure. In the process of budget review, you will be seen as an able manager of the club's money.

Everyone should have heard of the

five p's — prior planning prevents poor performance. There are a lot of steps involved in planning depending on the text book you are reading. In my opinion, only four are major:

- Where do you want to go?
- What does it take to get there?
- Implement the decision.
- Monitor the plan for feedback as you go.

Remember, details change as you go and you might have to adapt. The key word is flexibility. If you know where you want to go and a shift occurs along the way, just keep the original goal in mind and you will still achieve it.

As manager, all these intangibles interact. For example: You plan several projects and for budget reasons or time constraints, you may be forced to choose between the projects.

You think like a manager and make an informed decision.

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*In English or in Spanish, managers must...*

# Communicate carefully

BY SCOTT WAHLIN

One afternoon while sitting at my desk, I had an employee storm into my office waving a machete screaming, "I kill him! I kill him!" I said, "Wait a minute. Have you already killed him or are you going to kill him?"

Communicating with non-English speaking people can be challenging and create some tense moments. I would like to explore some strategies and philosophies when dealing with people I cannot talk to efficiently. Many of the points I will try to make here could relate just as easily to supervisory situations where all parties speak the same language. I feel confident with this statement because, as a supervisor, people who speak English frequently hear something other than what I said. My communication with them would probably have been enhanced had I assumed that they did not understand what I said.

"Tell me — I'll forget. Show me — I might remember. Involve me — I'll understand."

I am not sure where I heard this but I like it and use it.

A feeling of being in on things always seems to rate high on surveys of people who are asked what they like about their jobs. It is important to let your team know what you are planning, what projects will be implemented, and why, and to give them a clear explanation of why they are doing what they are doing.

A few years ago while training a non-English speaking employee to fertilize greens, I included an explanation of each of the various particles in the mix and what they did. I watched him do two greens then let him work on his own for a half hour. When I returned, he had several opened bags set aside. When I asked him about this, he reached into the bag and showed me a particle that he could not identify. It was muriate of potash and would have caused damage the way we were applying it.

I never expected to have a problem with this mix. I had explained the particles only because I thought it would motivate him to do a better job.

Everyone wants to be associated with ex-

**Tell me - I'll forget. Show me - I might remember. Involve me - I'll understand.**

cellence. Some may have given up; others are pursuing excellence in other areas of their lives with such vigor that they do not have time for you. Most people can be appealed to on this level.

I read a story one time about a company president who attended a softball game involving many of his employees. He was shocked to find energy and enthusiasm in several people whom he had thought to be very subdued. For some reason, this enthusiasm was not evident in their work.

Our job as supervisors is to find out what motivates individual employees to pursue their duties with energetic enthusiasm. Certainly there are many possibilities but one that seems to work well with many non-English speaking people is an opportunity to learn and advance. Technical training in irrigation repair and maintenance, equipment maintenance or materials application can be an excellent place to start.

Offering to pay for English classes or even having them on the property can be helpful. I have seen this work at many clubs where the result was a core of stable, highly motivated team players who accepted personal ownership of their areas of responsibility. An added bonus is that newcomers and other crew members quickly realize that their fate and compensation is based on their performance and desire to get ahead.

I was interviewed one time by a man who was telling me about the crew at the





club he represented. He said that his club did not have any of "those Murielito-types" working there. I had had considerable success with new hires that had come to the U.S. via the boatlift and told this man that I would not be limited in my choice of candidates to work on the golf course.

It was my impression that this man did not like Hispanics.

When I went to his club for a subsequent interview and heard him speaking Spanish, I asked him if he learned to speak Spanish because he lives in South Florida. He said, "No, I'm Cuban."

I got the job. I am sure it would be better if I learned more Spanish but I really have not had the need. I write instructions on the bulletin board in English and somehow they are carried out. Others will translate what is written and even follow up to make sure the activity is going well. I hand out forms and other

items that need to be filled out by the employees and give them the option of taking them home. They do and bring them back filled out properly.

I have had a couple situations with governmental agencies that having non-English speaking employees has aggravated.

I fired one employee for misconduct after several oral and written warnings. He applied for unemployment compensation and got it. I appealed and got a hearing. At the hearing the lady in charge asked me how I communicated my concerns to the employee. I told her I used a translator. She asked me how I knew that the translator told the employee what I wanted. I asked her to ask the employee what the translator had said. The employee said the same thing I said. I still lost because at the time I could not have been sure what the translator was saying.

As an FTGA member, I should have

called Seay and Associates!

The other concern I have relates to HAZCOM training. My understanding is that inspectors will judge your compliance based on your employee's understanding of the program, not on our ability to keep records of meetings. Will the inspector be willing to conduct interviews in Spanish or trust a translator?

The Lord has seen fit to challenge us with an imperfect world. Just like most of these imperfect situations, there are good and bad aspects that are not apparent on the surface. I find living in an international city very exciting. (I don't have to look very hard to see my blond kids in a sea of soccer players.)

I have learned that although people are very different, they are very much the same. One thing though is for sure: Anyone willing to get in a boat and row ninety miles across the ocean to get here can work for me.

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# SAFETY FIRST

*...and last, and always*

BY PRENTISS C. KNOTTS

*Golf Course Superintendent*

*Eagle Creek County Club, Naples*

While directing the golf course operations at a facility that I won't name, I observed (from a distance) a spray technician "formulating" a concoction to apply to the turf. I was unfamiliar with the specific technique he was using and approached for a more detailed examination of the procedure. The technician was preparing a mixture of insecticide to control several insect pests.

The material was in a soluble powder form and was being shaken directly into the tank. The insecticide was floating in the air and a large amount had become attached to the technician. In fact, his appearance was not unlike a honeybee that had been furiously working in flowers all day. His eyebrows were thick with the stuff and even the hairs in his nostrils were coated. I was so excited at what I was seeing that I just had to learn more.

"You're the spray tech?," I asked. "Yep!," he answered. "Been doing this a while, have you?," I continued. "Oh, four...no, five years," he responded. "I took over from Old Charlie," he volunteered. "Old Charlie (I write it this way because that's exactly the way it sounded, that is, 'Old' was his first name and 'Charlie,' his last) taught me everythin' I know. He was the head spray man around here for maybe 15 years. I took over after he dropped dead, in fact, right there — right where you're standin'. Been doin' it ever since."

Although this is a frightening scenario, this story is absolutely true!

I never had the pleasure of meeting Old Charlie, but I knew I had a tough battle in front of me to retrain his replacement and, hopefully, prevent a recurrence of the tragedy that had befallen

Old Charlie.

This issue is "safety!"

You could make a career out of the subject and many people have done just that. With the onset of the industrial revolution, the safety of the worker has been an important consideration. Agriculture and related fields have generally lagged far behind industry in areas of worker safety. Injuries are often serious and debilitating.

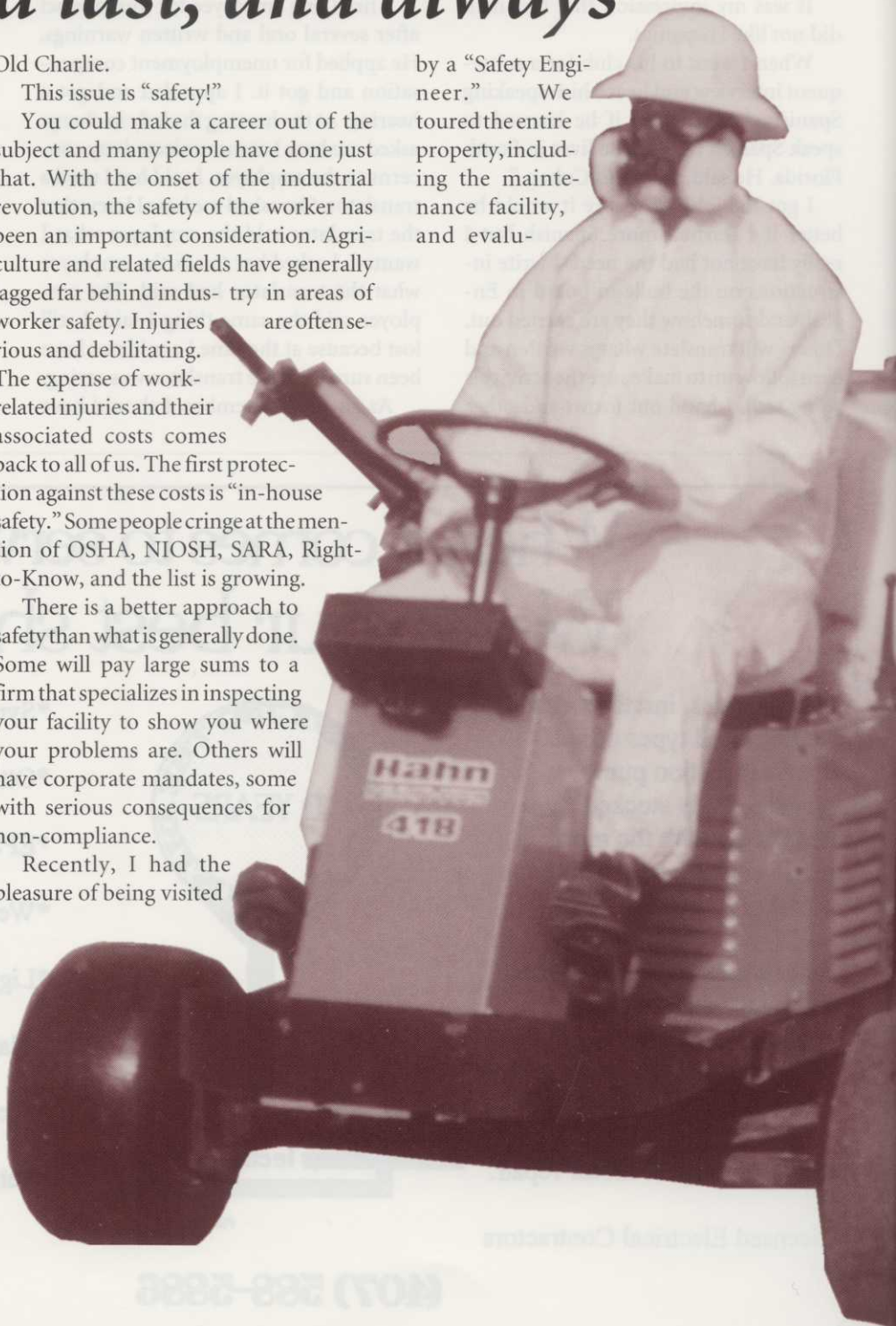
The expense of work-related injuries and their associated costs comes back to all of us. The first protection against these costs is "in-house safety." Some people cringe at the mention of OSHA, NIOSH, SARA, Right-to-Know, and the list is growing.

There is a better approach to safety than what is generally done. Some will pay large sums to a firm that specializes in inspecting your facility to show you where your problems are. Others will have corporate mandates, some with serious consequences for non-compliance.

Recently, I had the pleasure of being visited

by a "Safety Engineer."

We toured the entire property, including the maintenance facility, and evalu-





ated our site. The items that were pointed out during this tour were common to most golf course maintenance operations, but that only served to illustrate that the commonplace problems that we see daily are usually the most dangerous. In fact, most accidents occur because someone has become complacent about safety. This is the starting point for an effective safety program.

A very innovative safety expert that I met recently used the story of Sleeping Beauty to further illustrate the safety issue. Without stealing his entire lecture, suffice it to say that if Sleeping Beauty had not been beautiful, Prince Charming would probably have ridden away without stopping to investigate.

Safety,



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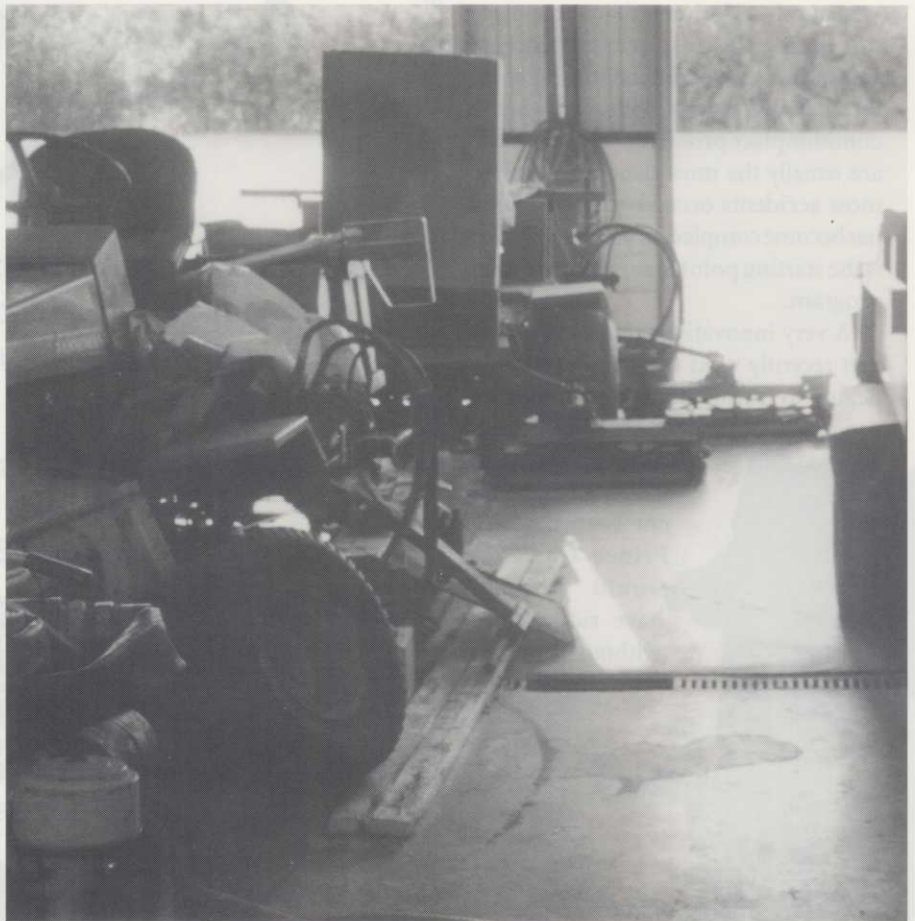
**The insecticide was floating in the air and a large amount had become attached to the technician. His appearance was not unlike a honeybee that had been furiously working in flowers all day. His eyebrows were thick with the stuff and even the hairs in his nostrils were coated!**

however, does not allow us to simply ride away and pretend that we didn't see Sleeping Ugly. We just have to "get off the horse and pucker up!" In other words, we must embrace the regulations and the agencies responsible for monitoring compliance, rather than being fearful and apprehensive.

The first step is to simply make safety a priority and sell that idea to your staff and crew.

The assistant superintendent and the shop foreman will be the first line of communication on safety issues. Post signs and posters highlighting safety items like speed limits, fueling procedures, clear lanes, combustibles, etc.

Many companies will provide posters at no charge. Some posters are available from the regulatory agencies. Probably the most effective are those that are done "in-house." Better yet, ask your employ-



*A jumble of machinery in the building that doesn't allow for unhindered exit is just asking for trouble.*

ees to create the safety notices that are needed. Involvement in the program will help the employee remember the safety rules and give him/her a sense of ownership in the safety program.

One common mistake made by users

**The commonplace problems that we see daily are usually the most dangerous. In fact, most accidents occur because someone has become complacent.**

and handlers of pesticides is the proper filing and use of the Manufacturer's Safety Data Sheet. The idea of the MSDS is to provide quick access to information about products being used in the workplace. Specifically, in the event of exposure, anyone can immediately access information to protect the exposed individual from additional injury. If this can't be easily done, most inspectors will strongly advise a revision of the system and, in some cases, issue written warnings about the methods used to access information from the MSDS.

The simplest solution is to maintain a book or folder of MSDS's that relate to only what is in current use. Products that were used in the past must be kept on file but that file may be "inactive." This will reduce the size of the book or folder and make the information inside much easier to find. Any employee that will use or





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**Ask your employees to create the safety notices that are needed. Involvement in the program will help the employee remember the safety rules and give him/her a sense of ownership in the safety program.**

come into contact with a hazardous material must be advised of the location of the MSDS and his/her right to access them. This part of the program falls under the Right-To-Know laws. RTK is a compliance area that should be the subject for entire training sessions.

A sign-up sheet or roll call form is necessary to keep records of the employees attending those sessions. The U.S. Department of Labor can assist with materials that can be used in training and compliance. Another good source of information is the public library. Your as-

sociation can also be a source of information and, probably even more importantly, experience. Superintendents that have been through the inspection process will usually be glad to relate those experiences and provide advice for the asking.

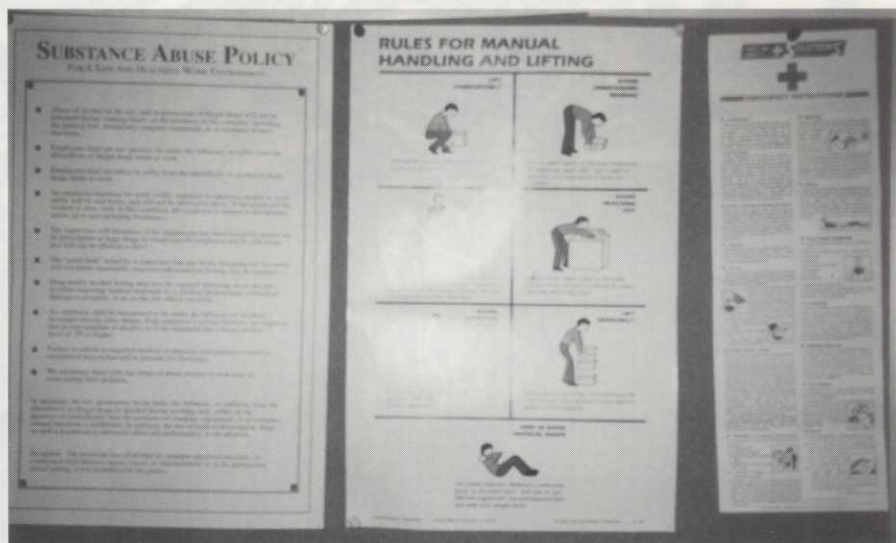
You and members of your staff should thoroughly inspect your own facility for unsafe conditions. For example, a jumble of machinery in the building that doesn't allow for unhindered exit is just asking for trouble. Old barrels and pesticide containers can be seen almost everywhere

you choose to look. Requiring the crew to protect themselves is also part of the process. Furnish safety equipment like goggles, gloves, rubber boots and gloves, coveralls, respirators, and, probably more important than all of this, provide the training to use these items properly.

Forming a safety committee made up of representatives from each department in the club provides consistency and continuity in a safety program. Regular, structured meetings of this committee assure a pro-active stance on safety and related



**Certain types of tasks are better left to those that are experts in the area. Non-routine tasks are a cause of many injuries simply because the people involved are not familiar with the job.**



Instructions on proper lifting techniques and basic first-aid, and a clearly-worded policy on substance abuse are all part of a good safety program.





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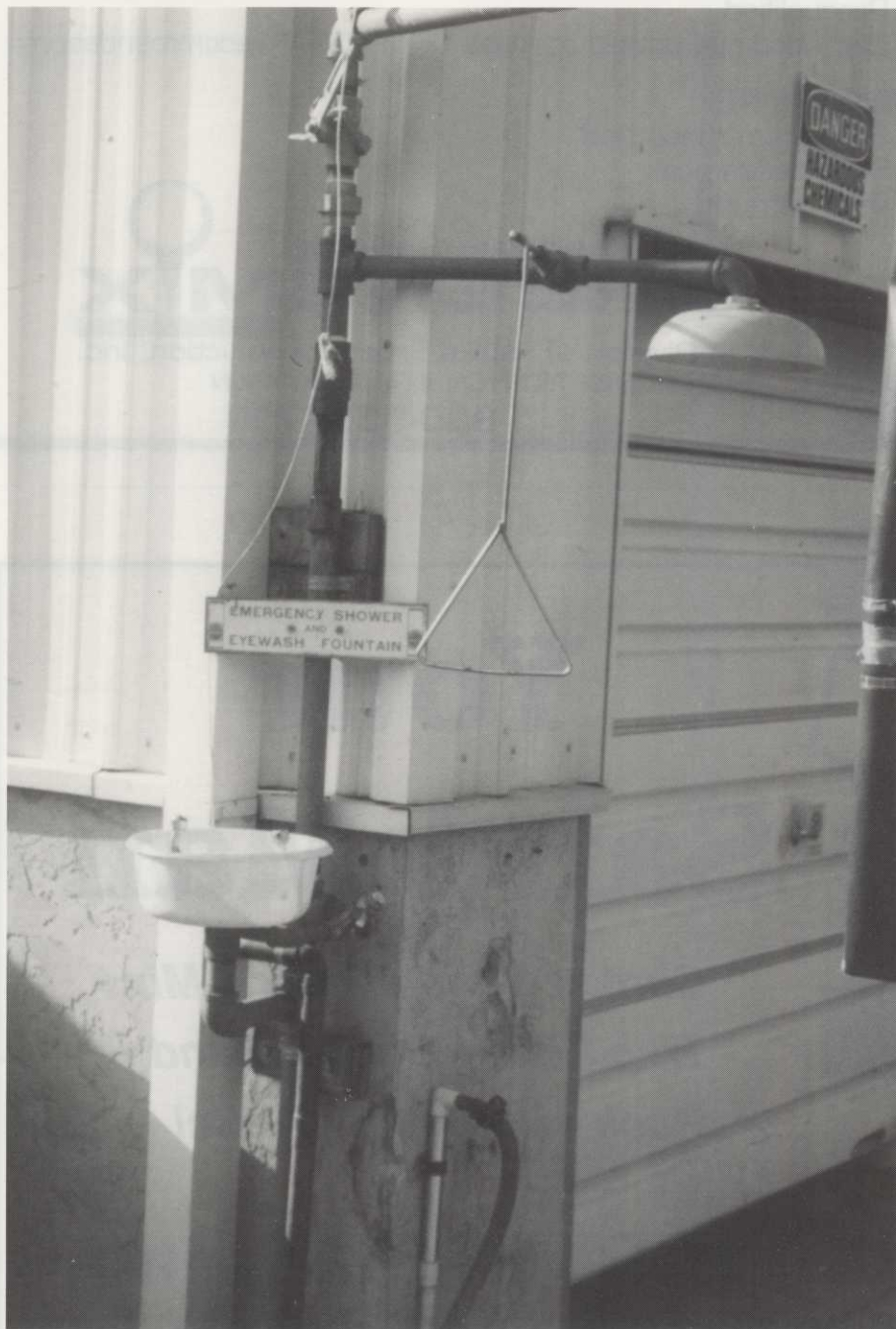
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# *The real issue in all of this is: Teach people not to be stupid.*



*An emergency shower and eyewash fountain are located as closely as possible to the site where the accident is likely to happen.*

issues. Keeping good records of these meetings is strong evidence of a willingness to comply with regulations. Obviously, each committee member must take the message back to their respective departments; otherwise, the safety program won't work.

The market has been inundated with "compliance kits" that, in some cases really can help you implement an effective program. However, most of the necessary materials and information is available free of charge from the regulatory agencies themselves. Some of the more useful items available from other sources are tapes, both audio and video that can be effective tools for training.

Once you have begun a safety and compliance program, you will usually be surprised at the scope of the issues. Upon discovering one area that requires attention, several other areas may be revealed. The size of the undertaking is probably the most dangerous pitfall in the continued effectiveness of any program of this type. Avoiding this problem is easier than one would think.

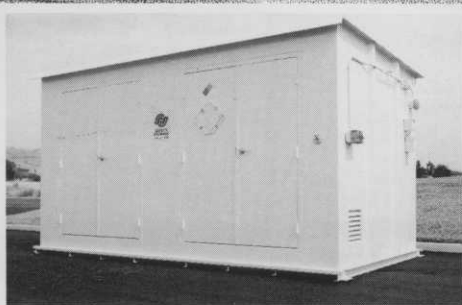
Golf course superintendents are expert managers of mayhem.

Consider some of the projects and just day-to-day obstacles thrown into your path. Somehow we still seem to finish what we start and, eventually, the end arrives. The same is true of this exercise, with one notable exception. It never ends! New problems and issues arise; laws change; restrictions increase (and seldom decrease); and the challenge never goes away. Handle this the same way you would handle other maintenance operations. Guide and direct. Delegate and follow-up. Take one item and see it through to completion. Set meeting times and dead-





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Having all safety notices in one place makes it easy for everyone to know right where to look.

lines in advance and stick to momentum and "life" in this kind of project. It

has become routine and is now as much a part of what we do as mowing schedules and fertilizer programs.

The real issue in all of this is: Teach people not to be stupid.

I once watched in amazement as a person stepped out of the bucket of a cherry picker to reach "one more limb" and fall 40 feet to the ground. Fortunately (?) for him, a large limb about two-thirds of the way down broke his fall (also, three ribs and one arm). Was that one limb worth it?

This particular accident occurred because the superintendent was too optimistic about the capabilities of his department. There comes a time when certain types of tasks are better left to those that are experts in the area. Non-routine tasks are a cause of many injuries simple because the people involved are not familiar with the job and supervisors lack knowledge and experience (and time) to train people for the task.

Each superintendent should carefully analyze the job and determine the feasibility of in-house execution. If it proves to be unfeasible, make a strong recommendation that the job be contracted out. Usually, explaining the liabilities and expense will be sufficient to tip the scales in favor of the contractor.

Employees often resist the implemen-

***The regulatory agencies state specifically that you may have a greater degree of safety regulation and stricter rules than the agencies' guidelines.***

tation of a strong safety program. They view the use of some of the safety equipment as an encumbrance and discomfort. Many will argue that restricted vision, movement, or heat retention will create a safety problem rather than alleviate one. These objections must be handled diplomatically.

The old standard, "Because I said so," or "I'll fire you!," just won't work with today's workers. Careful explanation of the concerns for individual safety and health held by the management very of



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*Note the respirators on bench, ready for use.*

ten remove the objections. Some employees will retain a bad attitude and continue to resist.

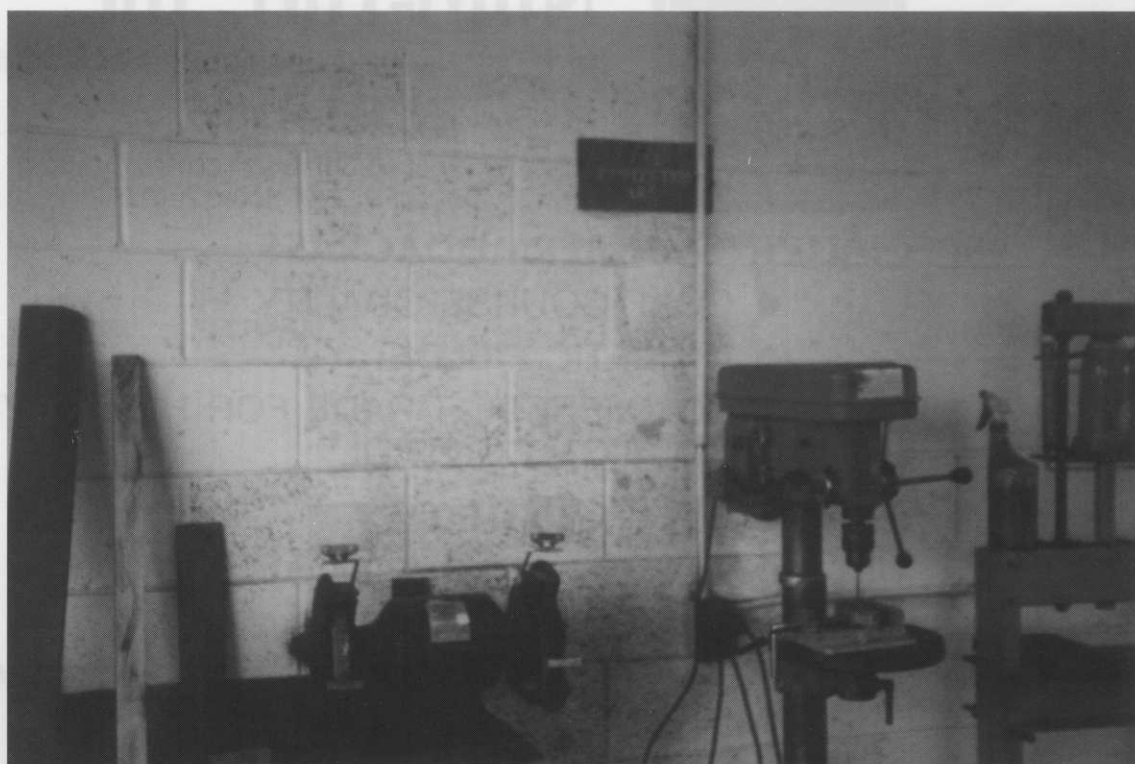
This is not all bad. People with this type of attitude are often disruptive to the efficiency and productivity of a department but they will single themselves out with their attitudes and be easier to iden-

tify and deal with. Remember, the regulatory agencies state specifically that you may have a greater degree of safety regulation and stricter rules than the agencies' guidelines. They also tell you and the employee that compliance with these policies set forth by the employer carry the weight of the law.

Regular meetings are conducted in the golf course maintenance department at this club.

Employees are encouraged to be creative and imaginative in all areas of the operation. When discussing safety issues, some employees will have constructive suggestions that really make a difference.

*Machinery requiring eye protection is grouped and posted. The sign should probably be cleaned.*





***'How can any of you possibly object to something that is for your own good. The man is telling you that he doesn't want you to get hurt!'***

One employee recently made a perspicuous observation. "How can any of you (fellow employees) possibly object to something that is for your own good. The man is telling you that he doesn't want you to get hurt!"

Following that comment, a moment of silence prevailed. When I continued with the meeting, I closed the safety segment saying, "I can't think of anything to say that would better illustrate the objec-

tives of our safety program than what you have just heard."

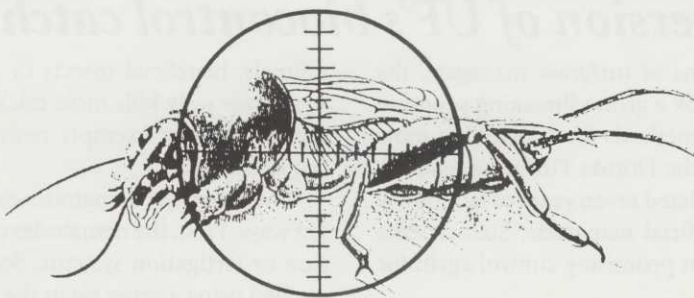
Getting started requires nothing more than setting a date for the first meeting and doing it.

A basic agenda of four or five items will generate enough discussion to fuel conversation for a half hour. Employees should be encouraged to voice their concerns and superintendents should follow up with management to assure that em-

ployees' concerns are adequately communicated. Some companies reward employees for reporting unsafe conditions or dangerous machinery.

Remember, the objective of a safety program is to prevent injury to employees. Pursuit of this objective will result in fewer accidents, less time loss due to injuries, lower workers' compensation premiums and, ultimately, a better overall operation.

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## We are favoring more use of the environmentally safer products.

➡ (From page 37)

### Map in fall

Fall - Mapping is done on existing damage from mole crickets.

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Late Spring/Early Summer - Soap flush suspect areas; use Triumph 4E to control nymphs on greens and tee tops, use Oftanol on green banks and tee banks, alternate Nemacur and Oftanol on fairways and roughs yearly.

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*Chris Hoder*

*Grenelefe Golf & Tennis Resort*

*Haines City*

One thing is readily apparent in these testimonials. It seems that no one product is the answer by itself but rather a wide array of different chemicals works best. Formulations and techniques are being used at specific times in this life

cycles of the mole cricket. The results show that we are favoring more use of the environmentally safer products whenever possible.

The facts speak of the excellent job Florida Superintendents are doing of putting into action the theory of integrated pest control management. And when theories are put into real-life situations, we all reap the benefits. For you see mole cricket control in Florida is in a constant state of evolution of research and applied theories and it is the results of these theories put into practice that furthers the educational process so important in uncovering better solutions.

Our own commitments of time, money and energy to the different research projects on mole cricket control is proof that we are today and have been in the recent past striving to get the upper hand on this ugliest of Florida pests. The new biological controls we have been looking at in the laboratory are now be-

ing expanded in greater numbers in the field. Only time will tell if these efforts are our keys to a better tomorrow or if we continue our search.



## Commercial version of UF's biocontrol catching on

In response to the concerns of turfgrass managers, the University of Florida undertook a groundbreaking program designed to identify the best methods for controlling mole crickets. With the support of the Florida Turfgrass Association, the UF researchers completed seven years of laboratory and field testing on the beneficial nematode, *Steinernema scapterisci*, which was the most promising control agent for mole crickets.

The beneficial nematode contains a bacterium that is lethal to mole crickets. Once the nematode enters the body cavity of the mole cricket, it releases the bacteria. The bacterium multiplies rapidly and kills the mole cricket within 24-48 hours. The beneficial nematode then feeds on the bacteria, reproduces and starts the entire cycle again. In fact, the nematode is capable of reproducing itself up to 80,000 times from a single mole cricket.

Like other biological controls, the nematode takes a little longer to work than traditional chemical treatments. However, the nematode is capable of living in the soil for 13 weeks even without finding a mole cricket host. If the nematode finds a host and reproduces, then the nematode offspring will kill additional mole crickets. This long-term effectiveness provides a much better chance of controlling mole cricket populations.

Also, the nematode is incapable of harming vertebrate

animals, beneficial insects or grasses. In fact, because the nematode only kills mole crickets, the Environmental Protection Agency exempts nematodes from its registration requirements.

The beneficial nematodes can be applied in several different ways. First, the nematodes can be applied through irrigation or fertigation systems. Second, the nematodes can be applied using a spray rig in the traditional pesticide application method. In either case, the nematodes are mixed with water at a rate of approximately 50 gallons per acre. The nematodes are applied to the moist soil surface and then watered into the soil.

In 1991, the UF researchers, along with the UF Office of Technology and Licensing began working with a group of graduate students to form a company to commercialize the nematodes. When the University of Florida received a patent on the nematode in November (US patent number 5,165,930), this new company became the exclusive licensee of the nematode technology.

To date the nematode has been applied to nearly 60 golf courses, 20 cattle pastures, and several county school systems, sod farms, municipalities and athletic fields. Turfgrass managers throughout the state have found the nematode to be an effective, environmentally safe method of controlling mole crickets.



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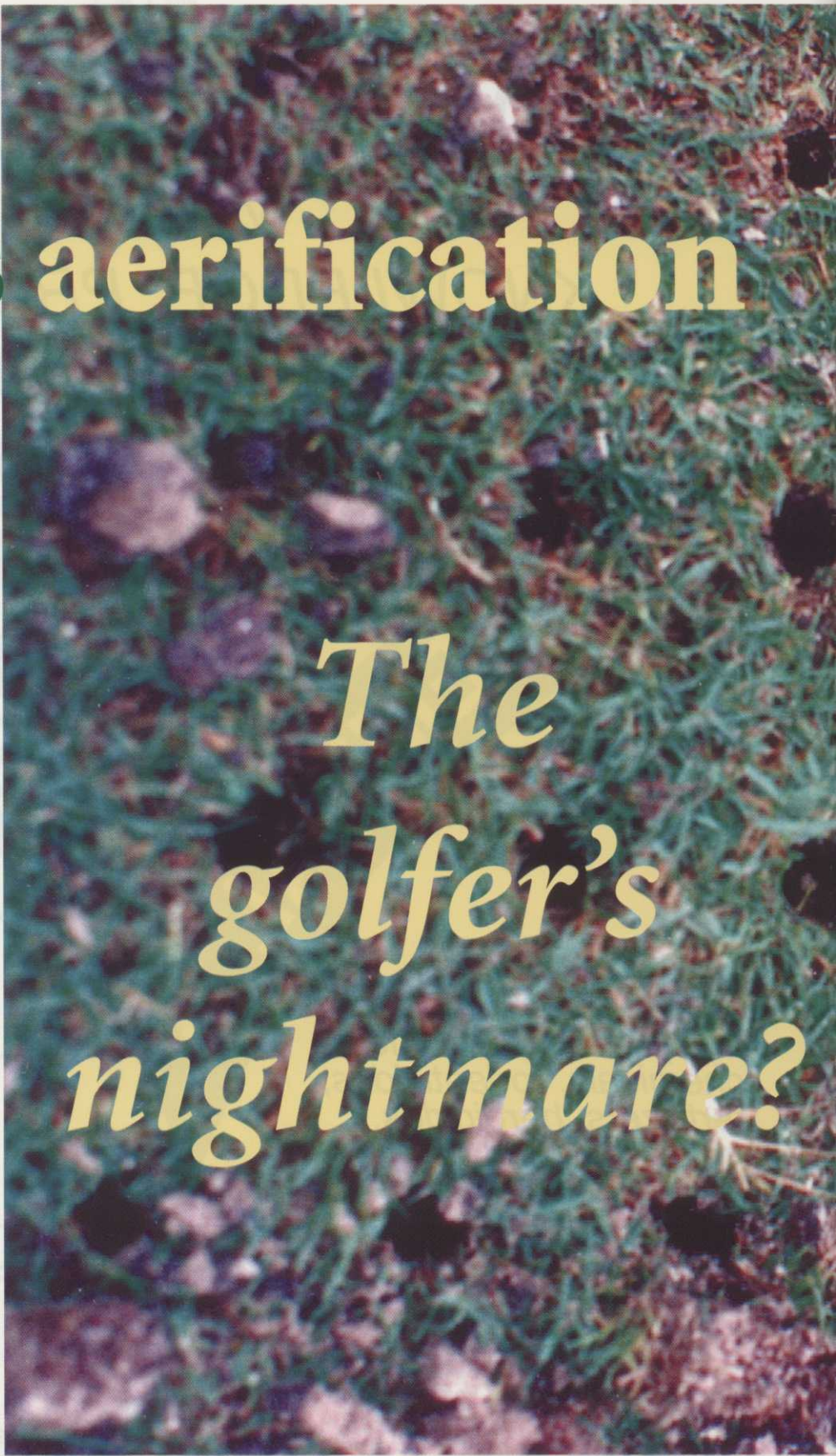
# Greens aerification

BY F.W. "CHIP" FOWKES

*Golf Course Superintendent  
Emerald Dunes, West Palm Beach*

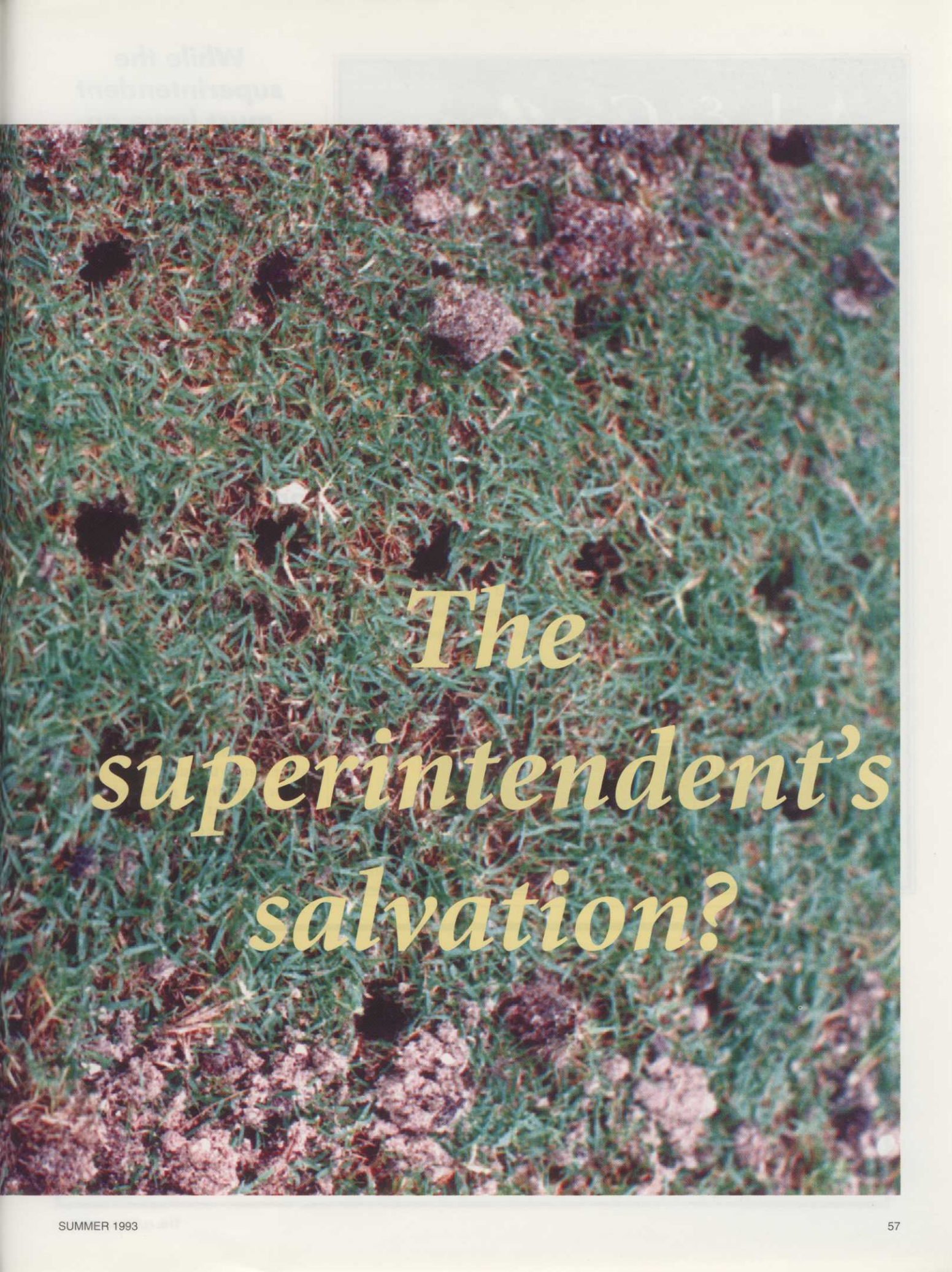
**A**s turf managers in the south, we anticipate spring as a time to recover from the stress of the grueling winter season, catching up on our golf game, fishing, family time and just general relaxation...in our dreams! What this really entails is the extra overtime, equipment preparation and abuse, and complaints from members in relation to the rejuvenation of the turf we call renovation.

Every golf club has its own set of circumstances that determine the characteristics of the renovation program. As always, budget is a principle factor in determining the type and extent of procedures that can be performed. Will play continue while renovation is commencing or is the course closed for certain procedures, specific times or the entire summer? To make these decisions, the turf manager, general manager, golf pro and committee must determine at what level the lost revenue and playing time directly related to the disruption of the playing surface is offset by the benefits realized by the renovation process.



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golfer's  
nightmare?*





*The  
superintendent's  
salvation?*





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**While the superintendent must have an understanding of and appreciation for the short run impact to the club, his job is to represent the case for the long-term positive effects of these procedures for the upcoming season and ongoing life of the golf course.**

While the superintendent must have an understanding of and appreciation for the short run impact to the club, his job is to represent the case for the long-term positive effects of these procedures for the upcoming season and ongoing life of the golf course. It is easy to see that loss of revenue and playing time due to poor turf condition is much more significant when it occurs in the busy winter months rather than in the summer.

The majority of golfers today have come to expect the golf course being "torn up" in the off season and accept it as temporary inconvenience. An efficiently renovated course recovers quickly



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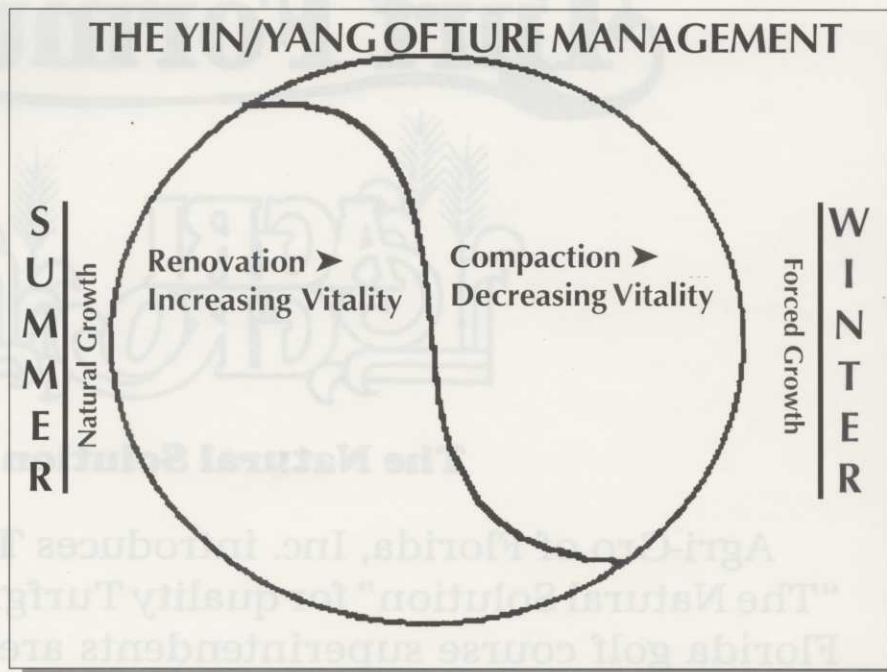
and exhibits immediate positive results. In the winter, damaged or weak turf recovers slowly due to the shortened photoperiod and lower temperatures.

If unusually harsh weather persists, extended tournament conditions are required, or turf is damaged from uncontrollable events; unrenovated turf will probably not recover until well after the seasonal player has returned home. On a private course, the member may reconsider his renewal or at least question the quality of his investment. The seasonal daily fee player will probably not return and certainly will not provide the essential "word of mouth" advertising necessary for increased revenue in the future.

With these financial repercussions of the impact of renovation understood by all involved, it remains to outline the agronomic practices that can be employed to restore the desired vitality to the turf.

#### Forced growth vs. natural growth

Each club has its own standard of turf quality and, hopefully, a budget that is



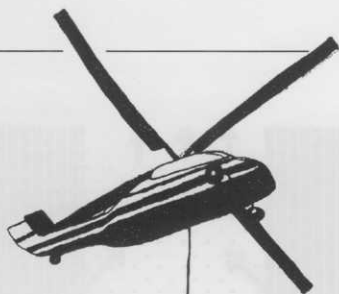
capable of supporting this goal. The successful turf manager will be able to maintain this standard with consistency, mini-

mizing the peaks and valleys in relation to playability and aesthetic value. An ag-



*Make sure that slicing and verticutting blades are straight with good bearings. Aerifiers should be properly timed so the tines enter and exit the soil cleanly.*





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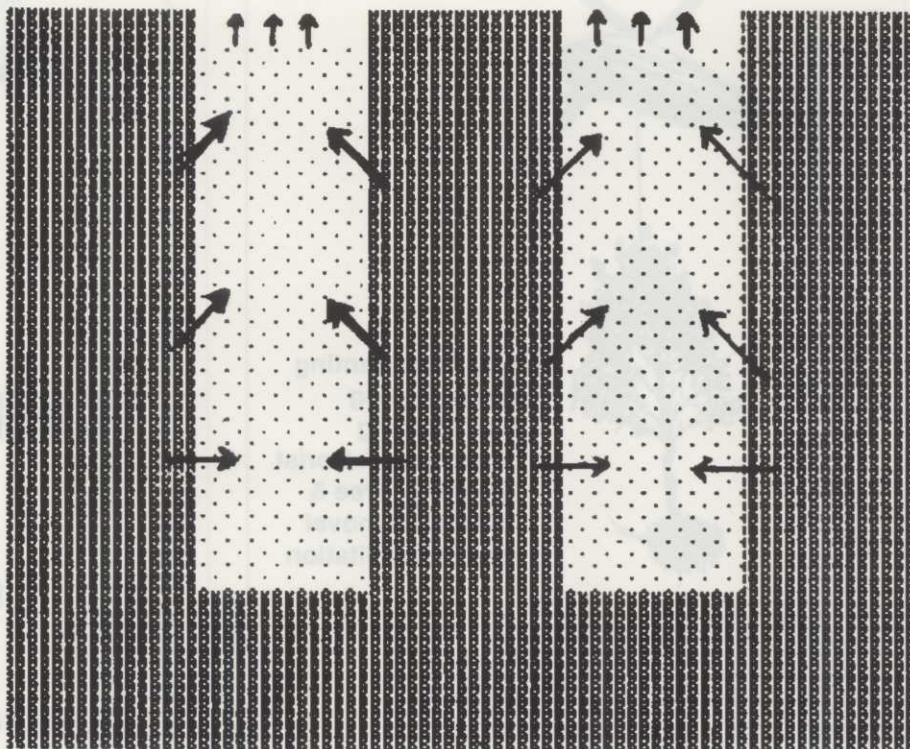
ronomically sound conditioning program during the "natural" growing season will increase the probability that the superintendent can provide consistent turf during the "forced" winter growing season. Unfortunately, the physical disruption of the playing surface during renovation is in itself not very pleasing to the eye or the golf swing.

#### The Yin/Yang of turf management

As the winter months progress, the shorter days and cooler temperatures dictate that the superintendent provide additional nutrients to force the turf to recover from damage and maintain acceptable color. The compaction from equipment, carts and foot traffic reduces the ability of water to penetrate the soil and carry nutrients to the root system.

This can begin a vicious cycle as more and more water is applied and the soil becomes saturated in the top layer. The wet conditions increase the rate of compaction, root systems shrink to the elevated water table and conditions become more favorable for disease development and turf decline.

Renovation should do more than simply allow the turf to withstand these pres-



*As topdressed areas settle and expand into the topdressed holes, the positive effects of cultivation are spread more evenly throughout the soil.*

sures and survive until spring. Along with reconditioning the soil, a program of efficient irrigation and fertilization should

be implemented to extend the natural growth period as far into the winter as possible.

Light reconditioning of the soil should start early to achieve maximum possible vitality when the plant is given the opportunity to improve itself. A weak plant with low food reserves will be slow to develop new roots to aid in nutrient uptake.

Before physically disrupting the soil, take soil and tissue samples for analysis. Soil tests will indicate what will be needed to encourage steady recovery, and what long range modifications are necessary to balance the growing medium. The tissue test will suggest what the immediate needs of the plant are and indicate if it is efficiently gathering and processing the nutrients that are available in the soil. This information can be used to determine what formulations of granular and foliar fertilizer can be used more efficiently over the upcoming months.

As soon as the turf can be spiked or sliced without displaying unacceptable discoloration, begin opening up the high traffic areas exhibiting the most damage. Experiment on a remote area to deter-

***Soil tests will indicate what will be needed to encourage steady recovery, and what long range modifications are necessary to balance the growing medium.***

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***Sand particle size and organic content of the topdressing will be an important factor that contributes a long-term residual effect from the aerification process and will be a deciding factor in the continued success of the turf management program.***

mine a good time to start.

Use of wetting agents or soil conditioners after slicing may soften the area further and allow for more efficient water penetration. Now is the time to start cutting back on overwatering and try to aid deeper root development through less frequent irrigation.

Where localized dry spots develop

every summer or areas are continually susceptible to nematode damage, these procedures, started early and continued regularly, help the plant withstand the stress of hot, dry periods. If these areas are low in organic matter, start applying amendments that will aid in the development of beneficial microorganisms.

As the winter season is ending and the

turf begins to respond to the early conditioning program, tissue analysis should indicate that the plant is reaching optimum nutrient balance. All that must be provided now is room to grow. The turf can now be subjected to more aggressive cultivating techniques and have the ability to respond quickly to the improved



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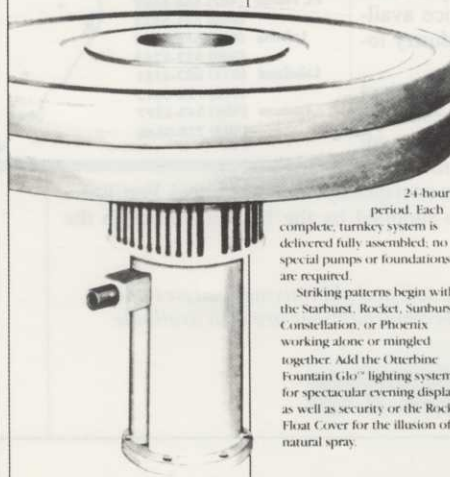
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soil structure.

Even under favorable conditions, deep verticutting, aerifying, and scalping all damage the plant to some extent. High rates of fast release or high chloride fertilization immediately after cultivation can burn new roots and leach quickly, contributing only a small portion to plant recovery. Post cultivation fertilizer should contain nutrient sources timed to release as the plant can use them to recover in an efficient, healthy manner.

Forcing the turf to "close up" quickly through excess nitrogen application will produce leggy and inconsistent top growth along with an environment favorable to disease and insect pressure. This is the optimum time to apply controlled release nutrients and conditioners that will balance and improve the soil throughout the year and establish a con-

sistent food source for the developing root system.

For the turf manager who is unable to suspend play while renovation takes place and turf recovers, there is additional pressure to quickly restore a smooth, consistent playing surface and keep visual disruption at a minimum. Make sure that slicing and verticutting blades are straight with good bearings. Aerifiers should be properly timed so the tines enter and exit the soil cleanly. On the putting surface, remove all aerified debris before topdressing. Left-over plugs become imbedded in the soft surface and are a sure excuse for missed putts. Applying the correct amount of topdressing to fill aerification holes is one of the single most important factors in determining how the ball will roll immediately after topdressing.

**Forcing the turf to "close up" quickly through excess nitrogen application will produce leggy and inconsistent top growth along with an environment favorable to disease and insect pressure.**

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John Foy of the USGA Green section recommends leaving the holes slightly unfilled. As non-aerified areas settle and expand into the freshly topdressed holes, the positive effects of cultivation are spread more evenly throughout the soil. Topdressing is forced to the surface by the encroaching soil, providing a smoother ball roll. A greens roller may be used after topdressing to expedite this process.

To maintain consistency throughout the entire green, the holes should be filled as evenly as possible. Steel mats, brushes and rugs may be used in various combinations to achieve the best results and a shop broom can patch up any missed areas. The contours of the green, type of topdressing and height of cut will determine the most efficient dragging method.

Tine size and cutting height for cultivation should be determined based on the level of compaction, layering or thatch buildup, turf vitality and environmental conditions. Cutting at low heights in an attempt to provide a smoother ball roll after aerification may delay turf recovery and should be approached with caution.

Sand particle size and organic content of the topdressing will be an important

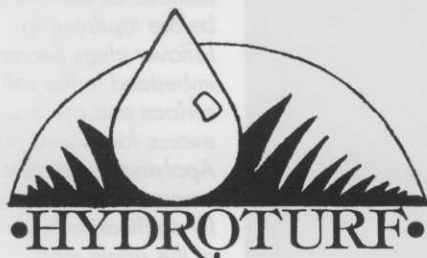


factor that contributes a long-term residual effect from the aerification process and will be a deciding factor in the continued success of the turf management program. Do thorough research to determine the best mix to improve ongoing quality of the soil.

A valuable lesson can be learned from

an act of vandalism experienced by most superintendents at some point in their career. Spinning donuts on a golf green can destroy a smooth putting surface and likewise a great deal of damage can be caused by wheel ruts inflicted by heavy equipment used during and after cultivation.

Turning on a green should always be avoided, especially on soft, aerified soil. Drive equipment straight through the green and turn on collar or apron. Be sure these areas are clean of debris and weed seed to avoid dragging foreign matter on the putting surface.



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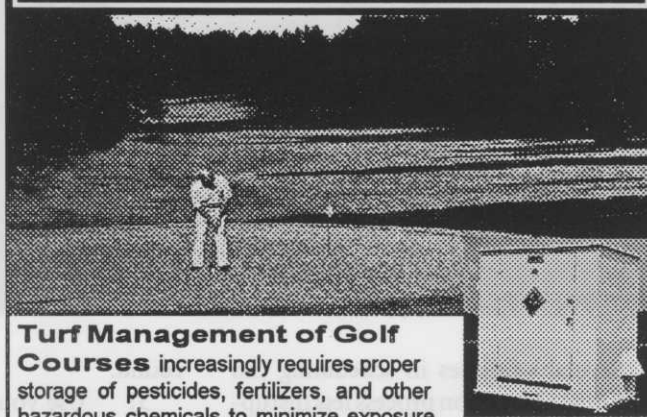
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*Remove all aerified debris before topdressing. Leftover plugs become imbedded in the soft surface and are a sure excuse for missed putts. Applying the correct amount of topdressing to fill aerification holes is one of the single most important factors in determining how the ball will roll immediately after topdressing.*

Several strategies in scheduling can make the renovation process less disruptive to the player's eye and golf game. If it is necessary to core aerify greens several times over a summer, it may have to be attempted without closing the course. On the first morning, aerify, clean, topdress and drag the last five holes.

That afternoon allow the back nine play only and get as many front nine holes completed as possible. The next morning, start play on the back and finish aerifying the front. That afternoon allow play on the front nine only and finish the back. This specific procedure will only be possible on courses with back nine start accessibility. The concept can be adapted to any situation. Examine the components of this program.

1) Finish each green before players arrive. Be careful not to let the aerifiers get too far ahead to the clean-up crew. A green that is aerified is unpleasant, a green covered with plugs is unplayable. Use the same caution with the topdressing and dragging crew.

2) Using this program, once the player encounters an aerified green, he adjusts his game and finishes the round under the same conditions. Playing alternating aerified and non-aerified greens is totally disruptive to the continuity of the

round.

3) Use your imagination and experience to form a plan that works best in your situation. Get the crew involved and listen to their suggestions as to ways to improve and expedite the procedures. Crew members that take pride in the details in cultivation and clean-up will contribute greatly to its success.

4) Take these concepts from the green to the renovation of the rest of the golf course. The golfer can tolerate playing through a crew cleaning one fairway and verticutting the next, yet will be annoyed by continually playing through mounds of thatch and springs. Remove cores on tees between the tee blocks immediately.

## Share equipment and ideas

Everyone has their own techniques for renovating the golf course. Use your local GCSAA chapter meetings to discuss your situation and help others solve unique problems. Form an equipment co-op with other courses in the area. By sharing equipment, it will be possible to complete jobs quickly with less disruption of play. If your course can't afford to purchase renovation equipment, explore the possibility of renting from other courses or contracting from an outside service. Use the available FTGA member services and USGA green section as addi-

tional sources of technical information and agronomic advice.

## Year round renovation

Just as it is important to begin reconditioning the soil early to relieve winter stress, the superintendent should extend the program as far into the cool season as environmental conditions and amount of play will allow. The goal is to shorten the "forced growth" period as much as possible. Some procedures such as water aerification, light topdressing and grooming can be continued year round. Use tissue tests to determine what the plant is lacking for winter color and health, as the proper balance of minor nutrients may reduce the need for excess nitrogen application.

As the course begins to show signs of traffic stress and compaction, it will become more difficult to water efficiently and the tendency is to overwater and overfertilize these areas. Resist this temptation as long as possible and keep records as to where and when these areas develop. This information can guide you in the spring and help gauge the progress gained over the years. The successful renovation program will shorten the duration and intensity of turf stress and allow for the most consistent playing surface possible under any conditions.



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

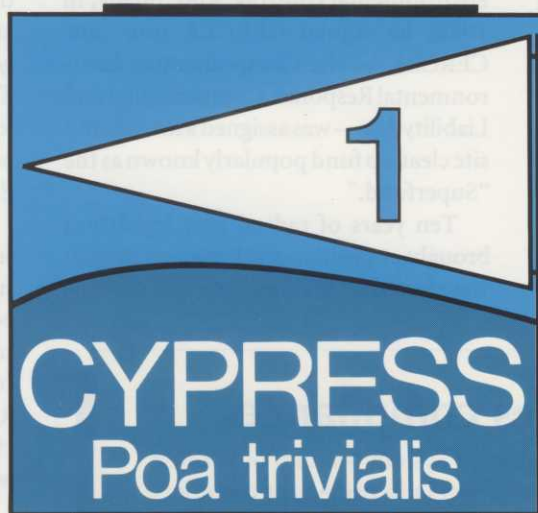
1992 University of Florida Dormant Bermudagrass Overseeding Trial - Gainesville, FL.

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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.	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	7.4
Pinnacle	7.5	7.8	7.3	6.8	5.3	7.1
Premier	7.8	7.7	7.4	6.8	5.5	7.1
Blend #1	7.4	7.7	7.1	6.8	5.0	6.8
Mix #2	7.2	7.4	7.5	6.9	5.3	6.8
CH-89	7.8	7.6	7.3	6.5	5.5	7.1
Southern Select	7.1	7.3	7.0	6.8	5.8	6.8
Mix #1	7.5	7.7	7.3	6.5	5.5	6.8
Leader Board	7.4	7.6	7.0	6.8	5.3	6.8
Medalist	7.2	7.5	7.0	6.5	5.0	6.3
Repell II	7.3	7.3	7.0	6.1	5.3	6.3
Essence	7.2	7.4	7.0	6.1	5.3	6.3
Cowboy II	7.5	7.6	7.0	6.1	5.3	6.3
Evening Shade	7.3	7.6	7.0	6.1	5.3	6.3
C&S II	6.8	7.4	7.0	6.1	5.3	6.3
Pennant	7.5	7.4	7.0	6.1	5.3	6.3
Mulligan	7.3	7.4	7.0	6.1	5.3	6.3
Ph.D.	7.2	7.4	7.0	6.1	5.3	6.3
Pebble Beach	7.0	7.4	7.0	6.1	5.3	6.3
Sunrise Primo	7.0	7.4	7.0	6.1	5.3	6.3
Prelude II	7.0	7.4	7.0	6.1	5.3	6.3
Alliance	7.0	7.4	7.0	6.1	5.3	6.3
Patriot II	7.0	7.4	7.0	6.1	5.3	6.3
Turf Seed Blend #1	7.0	7.4	7.0	6.1	5.3	6.3
Competitor	7.0	7.4	7.0	6.1	5.3	6.3
WX-1	7.0	7.4	7.0	6.1	5.3	6.3
WX9-115	7.0	7.4	7.0	6.1	5.3	6.3
WX9-83	7.0	7.4	7.0	6.1	5.3	6.3
Turf Seed Blend #2	7.0	7.4	7.0	6.1	5.3	6.3
Palmer II	7.0	7.4	7.0	6.1	5.3	6.3
Essence	7.0	7.4	7.0	6.1	5.3	6.3
Penneagle	7.0	7.4	7.0	6.1	5.3	6.3
Blend	7.0	7.4	7.0	6.1	5.3	6.3



# Hard to believe it was only 23 years ago

BY LARRY COFFMAN

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It is difficult today to believe that President Nixon signed OSHA into law in 1970 because statistics convinced Congress that more Americans were disabled and killed at work than in combat in Vietnam.

It was a time when we commonly used lead in paint and gasoline, asbestos and PCBs, and arsenic and chlordane were commonly used insecticides. We dumped toxic chemicals in rivers and lakes in those days, and workers didn't use eye and respiratory protection. It was just a generation ago.

Five years later (1975), President Ford signed HMTA into law, and the very next year, he signed RCRA and TSCA into legislative history. HMTA — the Department of Transportation's Hazardous materials Transportation Act — RCRA, the Resource Conservation and Recovery Act, and TSCA — the Toxic Substances Control Act, formed the foundation for our current system of controls

## Through the looking glass: Living with regulations in the '90s

over toxic chemicals. These laws required the proper packaging, labeling and documenting of hazardous materials for movement in interstate commerce, registration of toxic substances when created, and cradle-to-grave liability for hazardous materials to prevent their illegal disposal.

Then in 1977, President Carter signed the Clean Water Act into law and a totally new Clean Air Act into effect. These are the framework for the bulk of today's environmental controls. And, finally, in 1980, he signed CERCLA into law. CERCLA — the Comprehensive Environmental Response, Compensation and Liability Act — was assigned a toxic dump site cleanup fund popularly known as the "Superfund."

Ten years of radical new legislation brought opposition and President Reagan was elected on the theme to "get govern-

ment off the backs of the people" but during his two terms, an avalanche of new laws and amendments to existing laws came to pass. Most notable of these were the Solid Waste Disposal Acts and Safe Drinking Water Act, but the most significant were FIFRA and SARA.

FIFRA, the Federal Insecticide, Fungicide and Rodenticide Act and SARA, the Superfund Amendments Reauthorization ACT, were major new legislations and SARA was the most remarkable of them all. Title III of SARA was a separate and unique law — the Federal Emergency Planning and Community Right To Know Act of 1986, EPCRA. The habit for referring to this as SARA Title III is being relegislated to the correct term, EPCRA.

It is not coincidental that the tide of regulations and their chemical lists and supportive data came about when the personal computer came upon the American scene, for without electronic processing, the task may never have begun. Remember, the PC became available in 1980. Before that revolutionary moment, we relied on typewriters.

The Federal database today is enormous and in North Carolina's Research Triangle Park, the new EPA Supercomputer is being developed. The government has progressed light years ahead of the private sector and the probability of escaping discovery and prosecution for errors is bleak.

In 1990, EPA and OSHA joined forces. The 1990 Clean Air Act Amendments included EPA "ordering" OSHA to enact its Process Safety management Standard for Hazardous Chemicals, but then again EPA's SARA hinges upon OSHA's Hazard Communication Standard (the one we all mistakenly refer to as "Right to Know").

Those Clean Air Act amendments took effect in January of this year and it's clear

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for anyone to see they are international in scope — the result of international accords, treaties and protocols — as part of the “new world order.” The HMTA was revised in 1990 under President Bush also. The new system, HMTUSA (Hazardous Materials Transportation Uniform Safety Act), is the United Nations

system that all “first world” nations must adhere to under the “new world order.” HMTUSA as HM181 in this country takes full effect this October.

The young manager faces a regulatory nightmare the remainder of this decade, and because our “information society” has neglected to inform us of these new and revised rules, we will find living with regulations in the 90s a very difficult task indeed, as the Clinton Administration turns to enforcement and penalty collection as a solution to the deficit.

The way for this took place Nov. 5, 1990, when President Bush signed FOBRA into law. FOBRA, the Federal Omnibus Budget Reconciliation Act of 1990 (Read My Lips) amended Section 17 of the 1970 OSHA Act raising penalties to \$7,000 per violation and gave

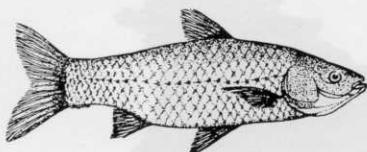
OSHA a penalty-collecting quota for its contribution to the national deficit. It's happening today.

Quota-minded inspectors are citing absurd little errors as serious violations and cashing in on the opportunity to impress their superiors. It has altered the image of OSHA as concerned about worker safety to an OSHA trying to impress the President's budget director.

As if all this isn't enough to disturb a young manager, within a very few short years, ISO will take over. What is ISO? Tune in next edition. It will stun you. Meanwhile, you'd better get started catching up with the rules that submerge you before they drown you.

*Larry Coffman is president of Compliance-Masters, Inc.*

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## It may just be a status thing

72 ➡ presentations. I began to wonder if he should have been there at all if there was so much going on that needed his attention.

These phone and communication junkies need to find out the proper way to use their devices. There are beepers that pulse or vibrate rather than give off that loud beep alarm. Use it when you're in a seminar or other indoor function. If you don't have that type, upgrade and get one. Phone owners, turn your ring volume down, excuse yourself as if going to the restroom and make your call from the hall outside the meeting room. And

tell your office not to call unless it is a dire emergency. After looking at the agenda, you can tell them you will call at the breaks and lunch.

When these new devices are used properly, there is no doubt that they can enhance a person's flexibility and productivity. Maybe I'm missing something. Maybe these people aren't trying to be more productive. It may just be a status thing. Bottom line is these techno-toys can be used as effective tools or abused to the detriment of others on the road, in a meeting, or on the course.

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*Poa trivialis*

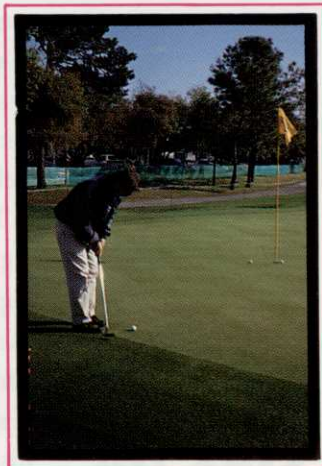
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- Retains dark color in winter
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# Are our techno-toys REALLY progress?

Techno-Supt takes to the field on his morning rounds. His Motorola two-way radio is nestled in the beverage holder of his converted golf cart/maintenance vehicle.

Clipped on his hip is a Bell South beeper set

on pulse mode. And on the seat next to him is his latest gadget, his Novatel Mark IV Trans-Stellar Intergalactic cellular phone and coffee maker.

Our modern-day communicator can keep tabs on the crew, the family, and the stock market while scouting and mapping mole

cricket colonies on the back nine. If the superintendent doesn't have a secretary to take messages, he can hook up an answering machine or subscribe to voice mail to log those formerly missed calls while out in the field.

Ten years ago, the two-way radio proved a great timesaver by allowing the superintendent to locate his key staff members without chasing them around some of our new sprawling course layouts. It still remains an indispensable tool to discover and report emergencies, contact crew leaders, and relay information to the pro shop, starter, and rangers.

With the increasing role of superintendents in the course management business, it became beneficial to wear a beeper to get notice of important calls that needed prompt attention. I know of a couple of superintendents who took to wearing them as their wives entered the final weeks of pregnancy, so they could be summoned directly by mom for the blessed event.

Now the nineties have hit us with the

omnipresent cellular phone, a device that initially made the traveling sales person more productive. It soon started showing up in executives' cars so they could work 24 hours a day and keep the profits and stress levels up. No sense wasting all that driving time, but I wonder how attentive the driver can be while engrossed in a conversation that may be very important to his business. More and more, I am also seeing these phones show up on the golf course. And some superintendents have started using them as well.

While these phones do allow a convenient way to stay in contact with the office, there needs to be some common sense, courtesy, and etiquette involved in using these new devices. It used to be a matter of common golf etiquette that you remain quiet while your playing partners or others on the course are in the process of making a shot. I have witnessed golfers carrying on heated discussions over the phone while nearby golfers are trying to tee off. Or the phone rings while play is in progress.

If the phone allows some harried businessman the chance to get out and enjoy the outdoors, I'm happy. But I see it more as an intrusion... another interruption in an already fast-paced world. Golf wasn't meant to be played as "shots between deals."

Players on the course aren't the only ones being interrupted by these phone abusers. Seminar attendees are increasingly being annoyed by the beeping and ringing of these communication devices. The height of insensitivity is when the phone rings, the person answers, and carries on a conversation while the speaker gamely tries to go on and ignore this rude behavior. I was at a seminar recently where one gentleman received three calls during the

Please See IT MAY, Page 70 ➡

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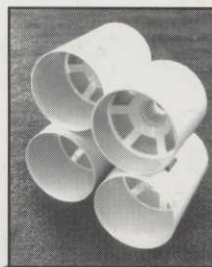


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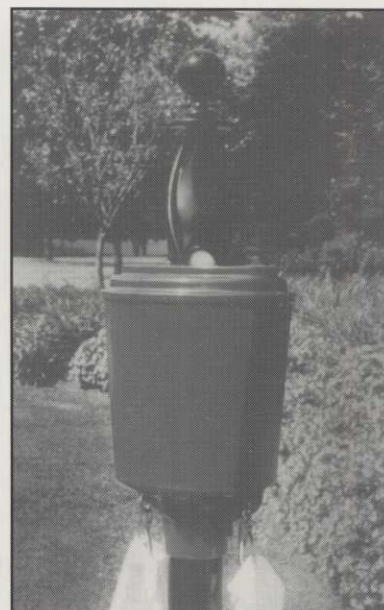
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