



The Florida Green

Summer 1998

No. 18 East
Laurel Oak Country Club
Sarasota
Photo by Daniel Zelazek

.....
Toro
experience,
innovation
and
leadership
cover new
ground
every day.
.....



Toro is the product of choice for more golf courses than all other brands combined. Toro anticipates changing irrigation needs with products that save time, water and money and provides tools for control to the superintendent. From labor-saving retrofit conversion assemblies to the industry's most advanced, computerized central control, Toro experience, innovation and leadership cover new ground every day.

Toro provides more than just irrigation products – we provide turf solutions. For more than thirty years, we've supplied a full line of quality irrigation equipment to fit any golf course need. Customers have grown to trust Toro. In fact, 74 of the top 100 golf courses in America choose Toro irrigation. That's experience.

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Toro has the experience and innovation to provide our customers with more than just irrigation products – we provide solutions. That's leadership.

TORO

Golf Sprinklers



730/750 Series Sprinklers

Efficiency and performance have been designed into each Toro 730 and 750 Series golf sprinkler. Designed for low friction loss and flushing at activation, these low-pressure golf sprinklers will stand the test of time. Toro offers the widest range of choices to match any design requirement, including Check-O-Matic models to prevent low-head drainage and a selection of body threads: ACME, BSP or NPT. Toro 730 and 750 Series full-circle sprinklers have a 3-inch pop-up to clear tall grasses, manual control at the head for diagnostics and four factory-set pressure designations to prevent tampering. They open and close smoothly to reduce pressure spikes and damage to the hydraulic system. And, installation is easier with nozzles that are color coded according to the radius and flow rate.



760/780 Series Sprinklers

Toro 760/780 Series sprinklers provide more precision-engineered features than any other. Both feature full-circle and adjustable part-circle versions that maintain consistent nozzle performance regardless of the model. And, the durable stainless-steel riser design produces low flush at activation, making them very effective in lower-pressure systems. Like the 730/750 Series, nozzle selection is easy with nozzles that are color coded by radius and flow. They open and close smoothly to reduce pressure spikes and damage to the hydraulic system. Also included is a 3-inch pop-up to clear tall grasses, four pressure settings to prevent tampering and a selection of body threads: ACME, BSP or NPT.

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For Additional Information Contact Your Local Toro Distributor.



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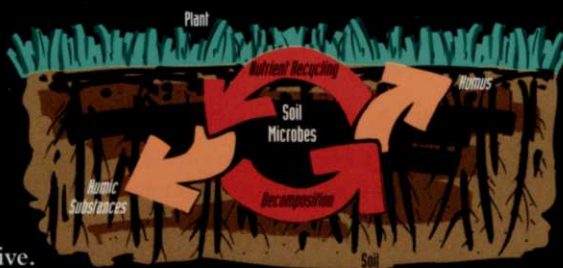
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Think of it as a high-carbo energy shake for your indigenous microbes.



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The lifelike sculpture of an old man and his "pet" gator on Laurel Oak's No. 3 West created by local artist Jack Dowd causes a few double takes by the golfers. Photo by Joel Jackson.

**SUMMER
1998**

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About the use of trade names: The use of trade names in this magazine is solely for the purpose of providing specific information and does not imply endorsement of the products named nor discrimination against similar unnamed products. It is the responsibility of the user to determine that product use is consistent with the directions on the label.

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800-732-6053 Florida WATS

Browsing through past issues of the *Florida Green*, *Green Sheet* and other turf publications, I have found one common goal. Everyone is trying to accomplish better communications. Open lines of communication are established with the FTGA, GCSAA, USGA and other golf

and turf associations so we can keep our members better informed on up-to-date news that affects our jobs and workplace.

Educational information from local meetings, regional seminars, pesticide safety workshops, Hands On articles is another way the FGCSA is

communicating now.

Our director of communications, Joel Jackson, has been attending meetings of the FQPA Action Committee and Pesticide Review Council and sharing that information with you through our publications and reports to each chapter's external vice president. He has already put together a contact list of all state and federal legislators for each chapter to use for making contact on government relations issues. In the coming months, he will also be working on compiling a list of media contacts statewide to be able to send and receive information about our profession or any other issues concerning our industry.

*What We
Have Here is
the Ability to
Communicate*

**PRESIDENT'S
MESSAGE**



Joe Ondo, CGCS
President
FGCSA

I urge any superintendent or local chapter officer to be sure and contact Marie or Joel with any information they might think we may need to know about. It doesn't have to be bad news or just government-related stuff. We'd also like to share names and contact numbers of good speakers you had for a chapter meeting; recognize local award winners; tell people about some community project your chapter or course may be involved in and job changes and openings. There's lots to talk about!

We communicate on a daily basis with our bosses and employees so this is an area we should all do pretty well. I know we can't always read every magazine, newsletter and all the literature and comes across our desks everyday, but you should try to at least look at your state and local publications. They are always trying to give you the latest of what's going on internally and externally that affects you as a member of the FGCSA.

Communications is a two way street. The more informed we are the better we will be able to communicate effectively with everyone. You can communicate with us at:

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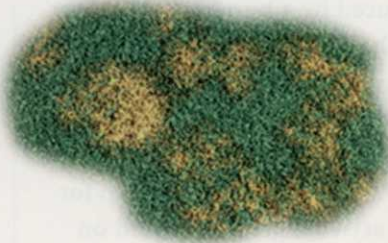
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*Shaun Barry,
AgrEvo Sales Representative*

There's never been a documented case of pythium resistance to Banol® Fungicide. But like I told Matt, there's a lot more to the story...



Like every other superintendent in the country, Matt had a healthy fear of a pythium outbreak on his greens. But since I introduced him to Banol systemic fungicide a few years back he'd used it regularly during periods favorable to pythium, and it had worked exactly as advertised. Still, I was uneasy. Just because there's never been a documented case of pythium resistance with Banol doesn't mean it couldn't happen. So I convinced him to adopt a disease-resistance management program that rotates Banol with other fungicides having different modes of action.



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FUNGICIDE



Matt thought I'd lost my mind. I told him I'd rather keep him as a long term customer than sell a few extra cases of my fine product for one season. "AgrEvo reps," he laughed, then he sent me a dozen golf balls from the club.



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Hopefully by now any superintendent reading this will have heard about the impact that the implementation of the Food Quality Protection Act may have on the agriculture and turf industries. People need to be aware that mosquito control, commercial and residential structural pest control, lawn care operators and golf courses will also be affected.

It is ironic that 80 percent of the purchase and use of residential pesticides are by homeowners and they may not even be considered.

The main focus of FQPA is to protect the public from residues in dietary and non-dietary sources. Some provisions:

- A single, health-based safety standard for pesticide residue tolerances

in both raw and processed food.

- An explicit determination that residue tolerances are safe for children.
- Consideration of (1) aggregate exposure to residues of pesticides (including food, drinking water and residential use) and (2) exposure to all other pesticides with a common mechanism of toxicity, when setting residue tolerances.

Using these guidelines will profoundly change the way tolerances are determined. For example, since all organophosphate (OP) insecticides have the same mechanism of toxicity, EPA must consider their cumulative effects on an aggregate basis when setting a residue tolerance level for one of them.

What does all this mean? The example of a "risk cup" is used to describe aggregate exposure estimates. A full cup represents the level of exposure that a person could receive every day for 70 years without

experiencing appreciable risk.

This is determined through animal studies where a no-effect exposure amount for the pesticide is identified for rats. This amount is reduced by a hundredfold factor to determine the daily/lifetime safe exposure for humans. FQPA requires that an additional safety margin up to tenfold be applied for infants and children.

Before FQPA, there was one risk cup for each pesticide active ingredient based on the exposure associated with its use on food crops and how they act on human health. Now, the same cup must hold the risks from dietary exposure plus the risks from any exposure to residues in drinking water, residential use, commercial lawn and ornamental care, commercial pest control, sports turf, golf courses and mosquito control programs (aggregate exposure).

Result: The cup fills more quickly. There is less room for new and even existing pesticides and uses.

Pesticide manufacturers could:

1. Make label or formulation changes so the pesticide is safer. This means the pesticides or uses require less room in the cup.
2. Drop pesticides and/or uses from the cup. This will make room for other products and uses.

All pesticide tolerances must be reviewed by EPA by the year 2006, but the deadline for organophosphate and carbamate food-use tolerance is August, 1999. Minor crops like fruit and vegetables, turf management of parks, sports fields, home and commercial lawns and golf courses are at risk for label restrictions and loss of product registration. If you manage such crops or green spaces, be aware that your pesticide options may change over the next few years.

What can you do?

- Be informed about FQPA and its impacts on pesticide use. This can translate into lower crop productivity, using more expensive, less effective

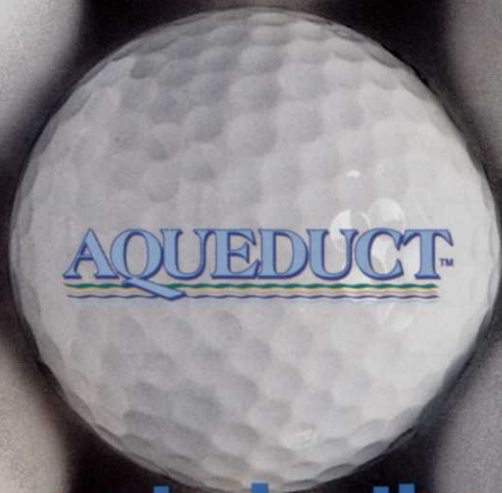
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D.O.C NOTES



Joel Jackson, CGCS
Director of
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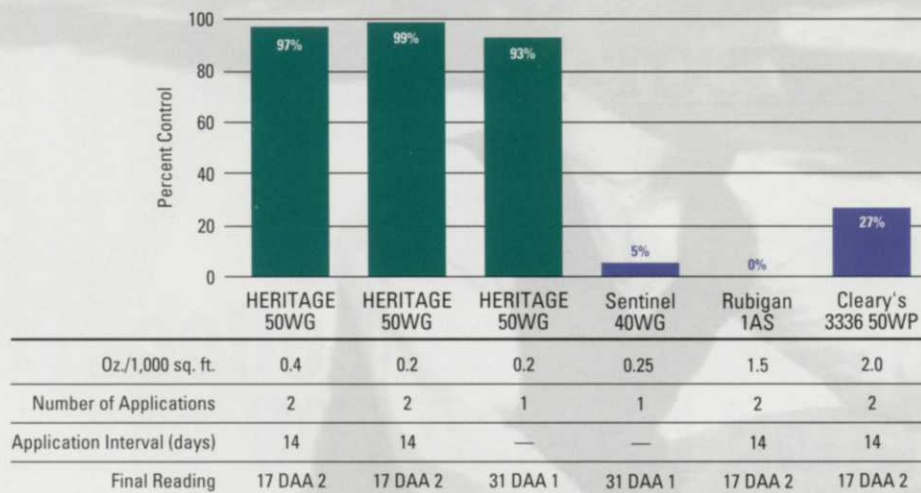
- Improves turf quality
- Controls brown patch, Pythium, take-all patch, summer patch, anthracnose and snow mold
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Anthracnose¹ (*Colletotrichum graminicola*) on 80% Annual Bluegrass, 20% Perennial Ryegrass

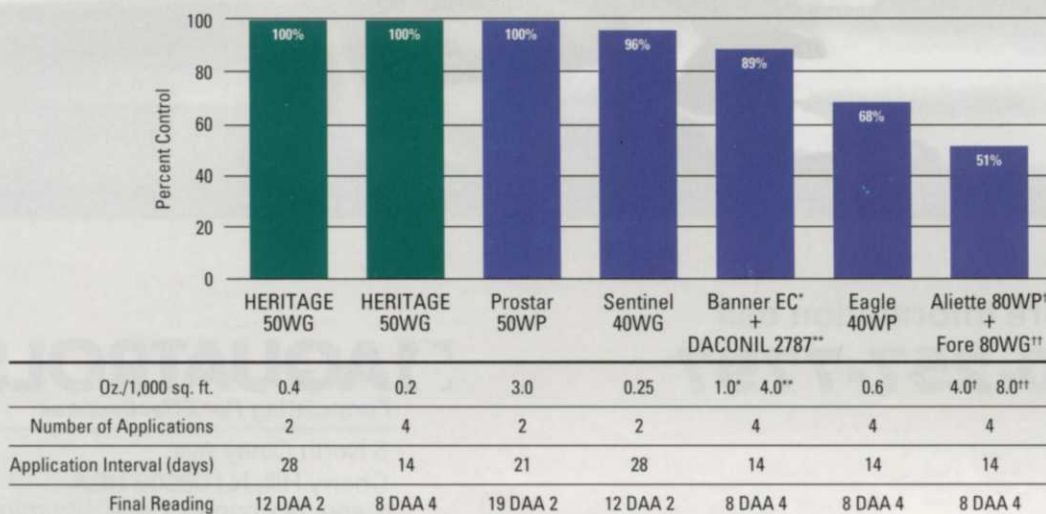


Dr. Don Scott, Purdue University, 1995

US 67-95-P354

¹ Also isolated from plots: 2 species *Rhizoctonia*; 3 species *Pythium*; and several species *Curvularia*.

Brown Patch (*Rhizoctonia solani*) on Colonial Bentgrass

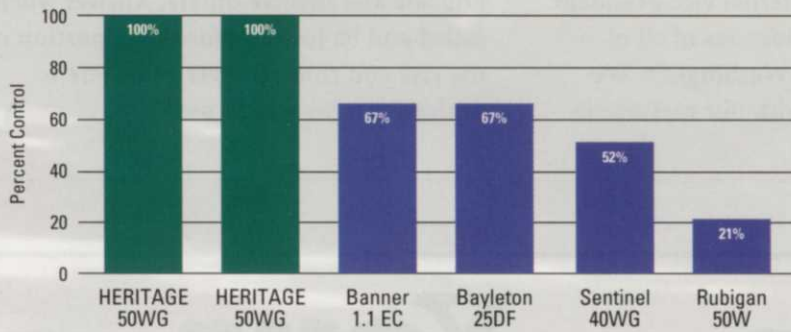


Dr. Pat Sanders, Penn State University, 1994

US 66-94-P356



Summer Patch (*Magnaporthe poae*) on Kentucky Bluegrass

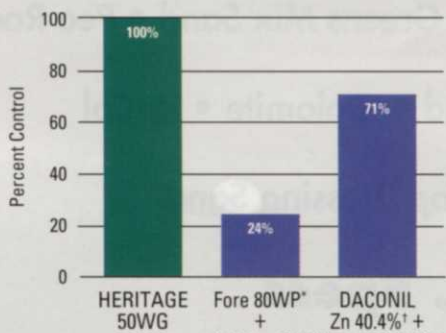


	HERITAGE 50WG	HERITAGE 50WG	Banner 1.1 EC	Bayleton 25DF	Sentinel 40WG	Rubigan 50W
Oz./1,000 sq. ft.	0.4	0.2	4.0	4.0	0.33	0.75
Number of Applications	3	4	3	3	3	3
Application Interval (days)	28	14	28	28	28	28
Final Reading	19 DAA 3	33 DAA 4	19 DAA 3	19 DAA 3	19 DAA 3	19 DAA 3

Dr. Bruce Clarke, Cooke College, Rutgers University, 1994

US 66-94-P362

Pythium Blight (*Pythium aphanidermatum*) on Perennial Ryegrass



	HERITAGE 50WG	Fore 80WP* + Subdue 2E**	DACONIL Zn 40.4%* + Aliette 80WDG**
Oz./1,000 sq. ft.	0.4	4.0* 2.0**	6.0* 4.0**
Number of Applications	4	3	4
Application Interval (days)	14	21	14

Dr. John Watkins, University of Nebraska, 1996

USNP-96-P030

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While we support the FQPA, we cannot abide the use of flawed science...

alternative products in greater quantities and more dependence on foreign sources for minor crops.

- Determine what pesticides are important to you in producing the crops you grow or areas you manage. Communicate these needs to the FGCSA, GCSAA, USDA and EPA. Write your senators and congressmen voicing your concerns about the impact of FQPA on your business.
- Respond to university- or commodity-sponsored pesticide-use surveys. This information is needed to make informed decisions about pesticide registrations, new uses and tolerances.

I strongly urge you contact either me or your local chapter's external vice president. We have names and addresses of all of Florida's legislators in Washington. We need to be persistent with our message to

them that, while we support the FQPA, we cannot abide the use of flawed science or excessively conservative and restrictive estimates and assumptions.

Our letters and spokespersons have had an effect on Congress. Numbers do count. EPA officials are now publicly stating they will not disregard our concerns. Henry Kissinger had a saying about disarmament talks that fits this situation, "Trust, but verify!"

While EPA's assurance is encouraging, the implementation process for minor crops and turf uses remains unclear and political pressure from activists continues to mount.

The debate is not over. Remain vigilant. Educate and involve others. Answer when called and be heard before your portion of the risk cup runneth over and there is nothing left for you to use.



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Suncoast GCSA Honors 'Mack' Baugh With Presidents' Award

This past spring, the Suncoast Golf Course Superintendent's Chapter nominated E. E. "Mack" Baugh, CGCS, for the FGCSA President's Award for Lifetime Service. There could not have been a better, more deserving choice. Mack has given 25 years of service to the turfgrass industry in Florida and 19 years as a certified golf course superintendent.

Baugh was born in Heth, Ark. on June 6, 1946. His interest in golf began when he watched the local postmaster hit practice balls into a rice field. His first job on a golf course was at Meadowbrook CC in nearby West Memphis where he learned to play the game during his summer job as a lad.

From 1964 to 1966 Baugh attended Arkansas State University where he was a member of the golf team. With the Vietnam conflict heating up and Baugh's interest in school waning, he joined the Navy, serving two years in Corpus Christi, Texas and two years on an aircraft carrier off the coast of Vietnam.

When Baugh's hitch in the Navy was over, his love of golf led him to pursue a career in turf management. In 1971 he enrolled



One of the founding members of the Suncoast Chapter of the FGCSA, Baugh has 25 years in the business.

in the Golf Course Operations program at Lake City Community College. He fulfilled his summer OJT requirements working on the Hidden Hills CC in Jacksonville and the Doral CC in Miami. Baugh graduated in December 1972. The following month, he was hired as the superintendent at the 27-hole Magnolia Valley GC in New Port Richey.

After short stays at Magnolia Valley and the Point Alexis Golf & Racquet Club — which closed in less than a year — Baugh was beginning to wonder about the profession he had chosen. He moved his family to the Sarasota area in 1974 and took the superintendent position at the Longboat Key Club's Islandside course. Eight years later he was involved with the addition and construction of the 18-hole Harborside Course. Another nine holes was

added to the Harborside complex in 1987.

Baugh moved in 1989 to take over the Gary Player Signature Laurel Oak Golf Links where he remains today. In 1994, an additional 18 holes was added to the facility. Currently, Baugh is the director of golf maintenance and landscape operations for the entire project.

Mack's professionalism is genuinely reflected at Laurel Oak Country Club in Sarasota. Local garden clubs have bestowed numerous beautification awards on Laurel Oak due to Mack's special touch. Laurel Oak's two plush and fast championship golf courses and the impressive golf course and landscape maintenance facility, reflect Mack's pursuit of perfection. Mack is proof that the product is only as good as the people performing the task.

Personnel management is one of Mack's greatest

strengths. His ability to listen and make decisions is a skill we know is necessary to succeed. Some of his employees have worked with Mack for over 15 years, following Mack as he has changed jobs. He takes great pride in enhancing the turfgrass profession and mentoring young individuals as they climb their career ladders.

Mack is married to Susan and he has one son, Rhett, who graduated from Lake City Community College and is now following his dad's footsteps. He likes to fish and has won many bass tournaments and participated in the Bass Master's Tour. He also likes golf, traveling and greyhound racing. Mack and a partner recently purchased a greyhound christened "CharlyMack Fast." So watch for him around the state!

Jim Svabek, GCS Bradenton Country Club

USGA CONFERENCE

Green Committee Must Learn the Job

The 1998 USGA Regional Conference had a full house of attendees at the Palm Beach Gardens Marriott on April 23. One hundred eighty golf course superintendents, club managers, green chairmen and PGA professionals attended this year's program.

Pat Cross, director of the Southwest Region USGA Green Section, started off the morning with his presentation, "Congratulations! You're on the Green Committee - Now What Do



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Superintendent Garth Bolin of the Chi Chi Rodriguez Golf Club-Home of the Chi Chi Rodriguez Youth Foundation in Clearwater, Florida.

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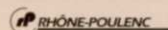


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You Do?" Cross's presented his ideas on the role of the green chairman and his committee. He outlined the following green chairman responsibilities:

1. Oversee the most important asset of your club.
2. Be willing to learn and know your limitations.
3. Avoid quick fixes. Think long term.
4. Be objective. Maintenance equals Budget.
5. Get out and bang the drum.
6. Be familiar with the superintendent's functions.
7. Filter member complaints.
8. (Last but not least) Must own a bulletproof vest!

Mike Dasher, president of Dasher Golf Design, followed next with a discussion on the importance of a master plan for remodeling your golf course.

Frank Thomas, technical director of the USGA, (the guy who tests clubs and balls) answered the question, "Can I buy a game?" Probably not, according to Thomas. He reviewed data over the past 25 years showing how club- and ball-technology hasn't really changed the game all that much.

Unlike what manufacturers tell us, the new technology may have added only a few extra yards to your golf shot.

Jim Moore, director of construction and education, explained the differences between the USGA and California methods of constructing greens. The choice is up to you and

your budget constraints.

Chris Hartwiger, USGA agronomist in the South-eastern/Florida Regions, showed us how to get our bunkers to make the grade. Hartwiger includes some great photos of his recent Turf Advisory Service (TAS) visit to the Dominican Republic.

After lunch Kathy Gordon, manager of women's regional affairs, took the audience through a few rules of golf, noting the importance of marking of the course. She also touched on rules covering lost balls and obstructions

Bill Wagner, CCM, general manager from Riviera Country Club gave a very good overview of the team-building concept. He touched on his involvement with his golf professional and superintendent and how they have worked together to make the operation a successful one.

Dr. Monica Elliott gave the audience an update on biological control agents that she and her associates have been working on at the Research Center in Ft. Lauderdale.

Finally John Foy, director of the Florida Region, USGA Green Section, discussed management of the ultra dwarfs and what we have learned to date. There is new hope on the horizon with the new bermudagrasses: Floradwarf, Champion, TifEagle and MS Express.

As John said, "Be patient. We still have a long way to go!"

David Court, CGCS
Boca Lago CC



During Poa weekend, Jim Goins, left, external vice president of the South Florida Chapter presents Joe Ondo, CGCS, president of the FGCSA, a check for \$18,000 which represents the proceeds from the South Florida GCSA Turf Expo '98. Photo by Joel Jackson.

POA ANNUA CLASSIC

Nothing Like a Sea Breeze

Florida superintendents needed a break from a cruel winter and the getaway provided by the 1998 Poa Annuia Classic weekend came none too soon. The Naples

Beach Club Hotel began bustling with the arrival of superintendents and their families on Friday, May 15. While they were checking in, the Florida GCSA held its spring board meeting. The officers and directors began shaping the 1998-99 operating budget;



Glenn Zakany, left, and Jim Osborne eliminated all comers in the Shoot Out format of the annual G. C. Horn Memorial Tournament at the Naples Beach Club. Photo by Joel Jackson.





Geoff Coggan, CGCS, left, FGCSA Education Committee chairman and Joe Ondo, CGCS with Robert Davis, CFP, who presented a financial management seminar from the new Etonic Superintendent Leadership Series. The tested seminar was worth .35 CEUs. Photo by Joel Jackson.

IFAS turf coordinator, Dr. John Cisar, reported on the progress of his new position; committee chairman gave their reports and Joel Jackson, director of communications, updated the group on his government-relations activity regarding the Food Quality Protection Act.

Following the board meeting and lunch, a group of 40 attended the first Etonic Superintendent Leadership Series seminar to be held in Florida. This Etonic program provides financial assistance in paying for professional speakers on a variety of topics of interest to superintendents. Robert Davis, a Certified Financial Planner, gave a presentation on



Mark Hopkins from the Sun 'N Lake Golf Club walked off with the most points in the Modified Stableford format of the 1998 Poa Annua Golf Classic played this year at the Audubon C. C. Photo by Joel Jackson.

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Doug Adams and Bill Gloff captured the Putting Contest portion of the G. C. Horn event. Golfer wannabe, Tom Benefield sneaks a peek over the champs' shoulders. Photo by Joel Jackson.

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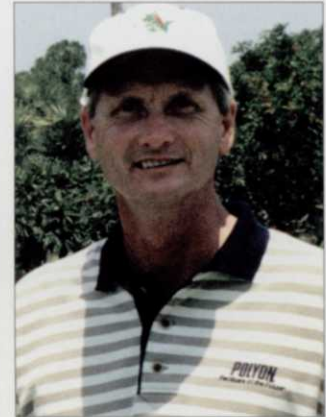
Later that evening after schmoozing with colleagues

by the pool, everyone enjoyed an outdoor luau of fish and suckling pig with lots of side vegetables and sinful desserts. Live entertainment provide music for dining and dancing into the

wee hours for those so inclined.

Saturday morning found 120 golfers making their way a few miles north to the Audubon Country Club to battle with par for the honor of their respective chapters in the Poa Annuia Golf Classic. Superintendent Walt Owisany and the Audubon CC stepped in to volunteer their course for the tournament when the traditional site, the Naples Beach Club course, was unavailable due to construction of a new clubhouse facility which took several holes out of play. Nice job by Walt and his staff. Saturday night, everyone was on their own to attend and enjoy the annual Naples Jazz Festival.

Sunday morning, David Barnes, president of the Florida Turfgrass Association



Tim Orton of Pursell Industries won the "Impossible Chip Shot" contest which was also part of this year's G. C. Horn golf outing. Photo by Joel Jackson.

and Nick Naccarato, superintendent at the Naples Beach Club GC had a surprise for the players in the G. C. Horn Memorial Tournament, which is part of the Poa Annuia weekend. Since parts of the golf course

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were under construction, they devised a single-elimination "shoot-out" between two-man teams playing over two three-hole courses. All ties after three holes were decided by a sudden death chip-off. Following the shoot-out (won by Glenn Zakany and Jim Osborne), there was a putting contest and a chipping contest to keep everyone participating.

In between all the meetings and events, superintendents and suppliers got to swap war stories about the winter that was! And in the soothing atmosphere of the beach, furrowed brows began to relax and smiles began to break out. Nothing quite like a sea breeze.



Envirotron Classic Cochairman Glenn Oberlander won the putting contest and a chance at a "Super Putt" for \$10,000. Sadly for Glenn his attempt was wide right, but his efforts for the Envirotron were right on target. Photo by Joel Jackson.

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The guys that made it happen, the 1998 Envirotron Classic Committee. From left seated: Paul Illgen, Bob Roessing, Jeff Hayden and Dave Hoggard. Standing: Brad Granlen, Bob Marrino, Lee Crosby, Quinn Kuite, Mike Swinson, Stuart Bozeman, Earl King and Glenn Oberlander. Photo by Joel Jackson.



Mike Swinson, CGCS, president of the Seven Rivers Chapter, recognizes, from right, Ron Kitchen, Jr., Ron Kitchen, Sr. and Terry Lagree of Barbaron, Inc. for their generous \$12,500 sponsorship of the 6th Annual Envirotron Classic. Photo by Joel Jackson.

once again putting together another stellar event with the 1998 Envirotron Classic. Having raised the bar to such a high level in the past with more than \$177,500 raised since the event began in 1993, the committee reports that they should clear in the neighborhood of \$45,000 again for the third year in a row.

A full field of golfers filled the Pine Barrens and Rolling Oaks golf courses at the World Woods Golf Club in Brooksville for the

sixth consecutive year for scramble and stroke-play events. Low gross winners on the Rolling Oaks course was the team of Scott Wycoff, Stan Cook, Jim Sanders and Darren Carpenter. Meanwhile, a Seven Rivers team of Stuart Bozeman, Vic Conigliaro, Glenn Oberlander and Pat Walker managed to win the Pine Barrens scramble. Oberlander went on to win the special putting contest and a try at a "Super Putt" worth \$10,000. While he

exuded all the confidence in the world, Oberlander's attempt slid by the cup and the insurance company underwriting the event gave a sigh of relief.

After the golfing was over everyone enjoyed a great steak-and-shrimp buffet while the scores were being tallied. During the

awarding of prizes, Seven Rivers President Michael Swinson, CGCS, paid special recognition to the Barbaron corporation. Barbaron, Inc., a specialized golf course construction company, led all sponsors for the second year in a row with a donation of \$12,500. Barbaron's belief and support in what the Envirotron means to turf research and development is an example that others in the golf business should follow.

SUNCOAST SCRAMBLE

Fun in the Sun – For a Good Reason

Raising nearly \$14,000 at this year's Suncoast Scramble Tournament held at Tom Crawford's Misty Creek CC, the Suncoast Chapter ensured financial support for FGCSA Projects, Florida Turfgrass Association research and local charity



Suncoast Chapter President Troy Smith, left, presents FTGA Vice President Scott Wahlin, CGCS, with a check for \$3,500 at the 1998 Suncoast Scramble held at the Misty Creek CC in Sarasota. Photo by Joel Jackson.



and junior golf programs. During the chapter meeting portion of the day's events, Suncoast President Troy Smith presented FTGA Vice President Scott Wahlin, CGCS with a check for \$3,500.

RIDGE INVITATIONAL

Red Cross Gets Help for Disaster Victims

Following on the heels of the worst tornado disaster in Central Florida, the Ridge Chapter donated \$1,000 to the Red Cross from the proceeds of the 7th Annual Ridge Invitational held at the Grasslands CC in Lakeland. Host superintendent and chapter president, Roy Wilshire, CGCS thanked everyone for supporting



Jim Torba, GCS of the U. of South Florida GC won low gross honors at the Ridge Invitational held at the Grasslands CC in Lakeland. Photo by Joel Jackson.

the primary fund-raiser for the Ridge Chapter. Out on the golf course, the Ridge players had to make way for Jim Torba from the University of South Florida GC in the West Coast Chapter as he won low gross honors.

SOUTH FLORIDA EXPO

Record Crowd Erases Jitters

The jitters the South Florida Turf Expo organizers were feeling prior to this year's event evaporated as a record number of participants showed up, answering the call for support of this major fund-raising event. The streamlined and well-organized program included tours of the turf research plots, a one-hour turf equipment expo, a supplier showcase of products, a catered lunch and research presentations by Drs. Monica Elliott and Robin Giblin Davis.

The \$18,000 raised this year was donated directly to the FGCSA Research Green account and will be used for operation and research costs on the Otto Schmeisser Research Green at the

UF-IFAS Research Center in Fort Lauderdale.

MIKE RICHARDS MEMORIAL

First Coast Goes First Class

In 1993 the North Florida Chapter established the Mike Richards Memorial Scholarship Tournament in honor of Mike Richards who was a very active commercial member of the chapter. The tournament raises money to provide scholarships to deserving students pursuing degrees in turf management. With the recent passing of PGA Tour Agronomist Allan MacCurrach, also a resident of the North Florida area, a second memorial scholarship has been added to the event.

At this year's tournament held at the Jacksonville G & CC, a \$3,000 Mike Richards scholarship was awarded to



The team of Scott Hudson (left) and Doug Sani from the Pablo Creek GC won the two-man scramble event at the Mike Richards Memorial Tournament. Photo by Joel Jackson.

Mike Fricault, who is attending the University of Florida majoring in Horticulture and Turf Science, and two \$1,500 Allan MacCurrach scholarships

were awarded to Thomas McDonald and Seth Spires, both attending the Turf Equipment Management program at Lake City Community College.

Congratulations to this year's tournament committee: Kim Shine, Jim Shine, Tom Brennan, Steve LaFrance, Kelli Bohn, Steve Richards and Paul Hamrick for running such a first-class event.

Kudos also go to Jacksonville G & CC's host superintendent, Greg Tharp, director of golf Chip Dutton and head golf professional Chris DeLarme for helping to make the tournament such a success.

TELEVISED TOUR EVENTS

Central Florida on the 'Spot' Again

Central Florida Chapter members keep busy working as television spotters for the Bay Hill Invitational, the LPGA

Healthsouth Inaugural at Grand Cypress and most recently the LPGA Mercury Titleholders at the LPGA International GC in Daytona Beach. Gary Morgan of UHS organized a six-man crew that worked the LPGA Mercury Titleholders event.

Gary turned over a \$1,000 check to the chapter at the May meeting at Bay Tree National in Melbourne. The spotters including Morgan were Mike Stone, Spruce Creek CC; Andy McGuire, Matanzas Woods GC; Ron Stockwell, Century Rain Aid; Rod King, Deltona GC and Jim Lawrence, Southridge GC. Thanks, gentlemen, for your contribution to golf and turf research.

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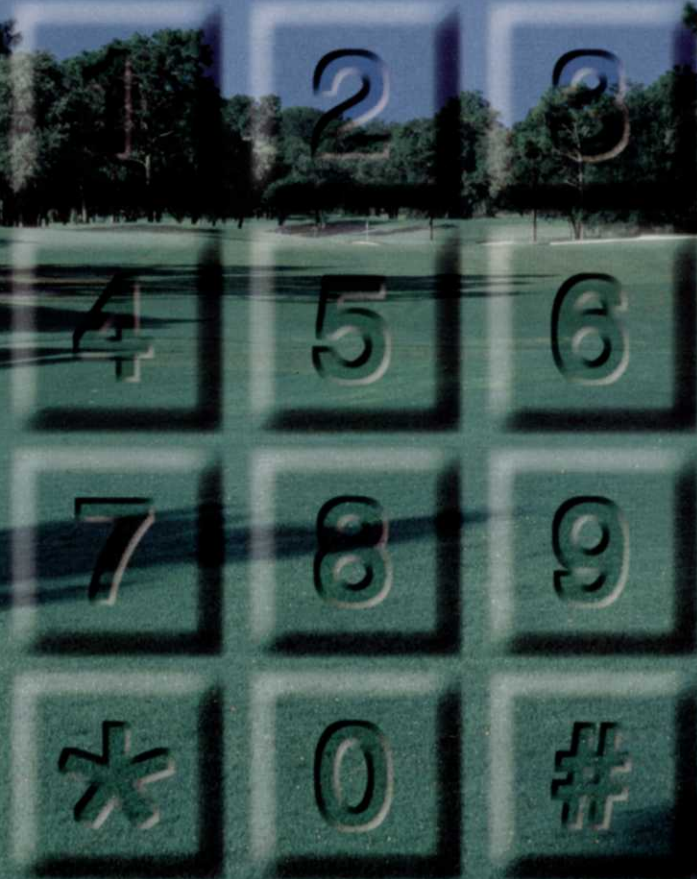
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Laurel Oak Country Club

Everybody Knows What's Going On

BY JOEL D. JACKSON, CGCS

Laurel Oak Country Club is a 36-hole golf and residential complex carved out of former ranch lands in eastern Sarasota County. Located a few miles east of I-75 on Bee

Ridge Road, the gated Laurel Oak community nestled itself among the native oaks that dotted the landscape and planted a few more over the years.

The Radnor Corporation developed the property and commissioned the Gary Player Design Company to design both courses. The West Course was built in 1989 and the East Course was opened in 1995. With Laurel Oak approaching total build-out, the Radnor company is slowly phasing out and the Laurel Oak members are preparing to take over full ownership of the golf club.

They should know what they're getting. Mack Baugh, CGCS, man-

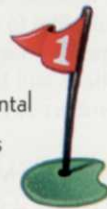
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Mack Baugh, CGCS

Originally from: Heth
Arkansas.

Family: Wife, Susan. Son, Rhett

Education: Arkansas State University 1964-66. U. S. Navy 1966-70. A.S. Golf Course Operations, Lake City Community College 1972.

Employment history: 1989 - present Laurel Oak Country Club; 1974 - 1989 Superintendent Longboat Key Golf Club, Sarasota, FL; 1973-74 Point. Alexis Golf & Racquet Club, Tarpon Springs, FL; 1973 - Magnolia Valley CC, New Port Richey, FL.

Professional affiliations: Suncoast GCSA - Founding member. First vice president and second president. Currently on the Board of Directors, Education Chairman. 1998 Suncoast Scramble Committee. FTGA - Served on the Board of Directors. Scholarship and Research Funding Cochairman in 1981. GCSAA - Member since 1973. Certified since 1979. FGCSA - Member since inception.

Honors/Awards: 1997 FGCSA President's Award.

People who have influenced your life and career: My father for his great work ethic. My mother for her kindness to people. The Navy and all my school teachers who taught me self discipline. My son who made me so very proud when he decided to get into the business. My peers, from whom I learn something almost daily. All of my "ex-assistants": Larry Edwards, Bruce Allison, Jerry Monley, Tom Norton, Jim Nyers, Jim Lamb, Al Steichen and most recently Keith Einwag, who just took the head superintendent's job at Lone Palm CC in Lakeland. Also my East and West Course superintendents, Ronnie Ford and newly promoted, Dwayne Carter.

How did you get into the business: Our postmaster in my hometown in Arkansas was an avid golfer. I watched him hit balls in our farm fields and fell in love with the game. My parents belonged to the Meadowbrook CC in West Memphis Arkansas. I went to work for Bonnie Harper the pro at the club and I knew I wanted to get into golf some way. I was not good enough to go on tour and I didn't want to be a club pro or teacher. So, after I got out of the Navy I went to Lake City Community College and it is all history from there on.

Goals: My immediate goal is to make the transition as the Golf/Landscape Manager of Laurel Oak as the members assume full ownership of the club. **Philosophy:** Treat people the way you would like to be treated. **Advice:** Care about your employees. To prospective superintendents, develop a thick skin to take criticism. On the other hand there will be times when you see work and dedication pay off when a members says, "Everything's great! Keep up the good work!"

Memorable moments: My parents' deaths. My son Rhett's graduation from Lake City in May 1997. Catching a 10-lb., 2-oz. largemouth bass on March 6, 1998.

Hobbies and interests: Golf. Bass fishing. Greyhound racing. We have a greyhound called CharlyMack Fast racing in Tampa and St. Petersburg. Watching people, the Tampa Bay Bucs, the Arkansas Razorbacks and sports in general.

ager of golf course and landscape operations for Laurel Oak, has probably the best communication program I've ever seen, from training newly hired employees to green committee orientation videos and maintenance facility tours for the members. As we find ourselves in the rapidly expanding information age, I found that Mack and his staff are way ahead in the business of keeping their owners and members informed about what's going on in their part of the operation.

Baugh's communication strategy tends to be proactive rather than reactive, and some of it is as subtle as the road signs that tell residents and visitors that Laurel Oak uses reclaimed irrigation water to conserve natural resources, or the reminder to be watchful of the many wildlife inhabitants that share the green spaces and roads with the human residents, or the sign that simply tells folks where the maintenance complex can be found.

If there is a member who doesn't know where Baugh's office is located, they simply have chosen not to visit. The maintenance facility hosted a series of open-house tours to show the members all the equipment necessary to maintain the two courses and the common landscape grounds. In addition, Baugh gets to show the environmentally friendly and effective covered degradation complex that had to be built back in 1988 to win the



The feathered and furry residents of Laurel Oak appreciate this reminder to vehicle operators. Photo by Joel Jackson.



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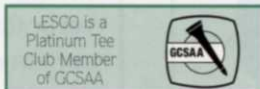
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A large native area highlights the 157-yard, par-3 7th hole on the West Course. Photo by Daniel Zelazek.

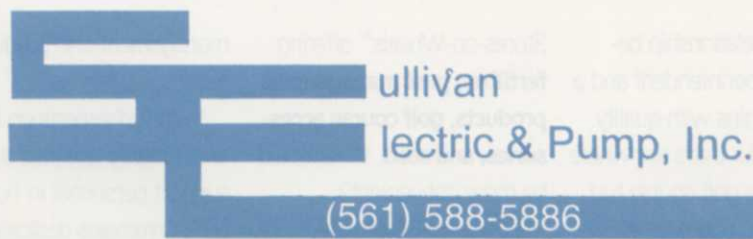
permits necessary for the project to get off the ground. The roofed-over, twin open concrete vaults filled with gravel and sand allow for the collection, filtration and microbial breakdown of all equipment and pest control rinse waters collected by sumps in the mix and load

and wash down sites.

Prior to the open house tours, Baugh and his staff filmed a video of the greens aerification process to show to the green committee.

“The video displayed in detail the various types of aerifiers and tines used in

aerification and what each one was used for and why,” Baugh said. “It also explained the important role of the equipment technicians in setting up the equipment and making crucial periodic adjustments. We even showed how different operators had their own styles and



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*Based on suggested manufacturer's list price. Prices subject to change without notice.



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Laurel Oak CC

Location: Sarasota.

Ownership: In transition to member-owned.

Playing policy: Private.

36 holes: West Course - Par 72 at 6676 yards. Course Rating 72.3 Slope Rating 129. East Course - Par 72 at 6862 yards. Course Rating 73.2 Slope Rating 128.

Designed by: Gary Player Design Co. Constructed by: Wadsworth Golf Construction of the Southeast.

Opened: West Course, August 1989. East Course, April 1995.

Management: Bob Weber - general manager; Bob Intrieri, PGA Master Professional - director of golf; Rudy Hanisch - club president; Don Rettinger - Green Committee chairman; Mack Baugh, Certified Golf Course Superintendent - golf and landscape operations manager.

Possible Future Renovations/Projects: Rebuild 1,500 linear feet of wooden bulkheads. Renovate fairways and roughs of the East Course to remove common bermudagrass infestation.

Acreage under maintenance: 250 acres.

Greens: 6 acres, average size: 6,000 sq. ft. Tifdwarf; cut: .125-.140 (summer) .160-.210 (winter); overseeding: none; green speed goals: 9.5-10.5 (East Course) 8.5-10.0 (West Course).

Tees: 12 acres Tifgreen 328 (West Course) Tifway 419 (East Course); cut: .500; overseeding: none

Fairways: 64 acres Tifway 419; cut: .500-.750; overseeding: none.

Roughs: 168 acres Tifway 419; cut: 1.0 (summer), 1.75 (winter); overseeding: none.

Waterways/Lakes/Ponds: 46 acres managed by Florida Environmental Consultants.

Irrigation: Source - Reclaimed water. Gator Pumping Modules pumping stations.

Staff: Total 49 including superintendent and landscape/common grounds crew; 2 superintendents: Ronnie Ford and Dwayne Carter; 4 mechanics; 2 pest control techs; 2 irrigation techs; administrative/clerical: Laurie Brown.

Special or unusual conditions: Blue-gray clay subsoil throughout the West Course. Ground can be as hard as concrete sometimes. East Course has common bermudagrass infestation on 13 holes. This year with the El Niño conditions, managing the thin bermuda turf was not fun.

Interesting or unusual features: Two people were found living in a homemade cave on the property during construction. Wetland area on the West Course was formerly the watering hole for cattle during the ranching days of the property

Maintenance equipment: Greens-Toro 1000 walkers year-round. Tees-Toro 3000s, 3100s & 3200s triplex mowers. Fairways: Toro 3000s, 3100s & 3200s triplex mowers on the East Course. Toro 6500 Lightweight 5-gang mowers on the West Course. Roughs: Toro 6500 5-gang mowers.

Mix/Load/Washdown practices: All rinsate is collected and contained in a pesticide degradation holding tank. This roofed-over facility is unique in the industry.

Stewardship - We have applied for the Audubon Cooperative Sanctuary Program. Laurel Oak annually hosts a National Audubon Society Christmas bird count — 69 species have been identified. Within the confines of the Laurel Oak gated community there is a large, resident, white-tailed-deer population that cannot easily exit the property. Sometimes the deer graze a little too often on the residents' landscaping.

finesse with the equipment. Each step in the process was explained so the members could see the time, effort and coordination required from start to finish. They were really amazed at how complex the entire process was."

It was out of that video presentation that the maintenance tours were born so every member could have the opportunity to see what really goes on in maintaining a golf course.

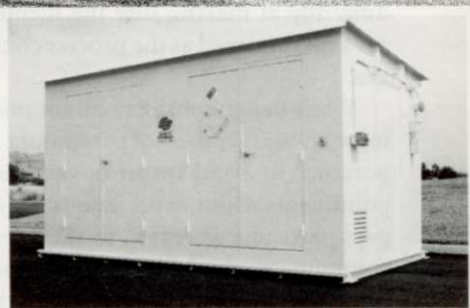
"After the green committee took the tour and started talking about all the things they learned, other members indicated they wanted to take the tour also," Baugh said. "Except for any recent members, we have hosted everybody that has had an interest. Of course that's great, because now they can give informed answers when people start asking questions in the clubhouse. They put out a lot of little fires for us before they get started."

Beyond those formal presentations and club newsletter announcements on upcoming projects on the course, Baugh and his superintendents make it a point



Just part of the large white-tailed deer herd residing in Laurel Oak. Photo by Mack Baugh.

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If we get word from someone — either staff or a member — that someone is unhappy about something, we look them up or call them as soon as possible to address their concern.

We don't want misinformation circulating, so we try to respond to them quickly.

This aquatic planting on No. 3 East provides cover for aquatic and terrestrial critters and it looks great too! Photo by Daniel Zelazek.

to talk to the members during their daily rounds. It may be just a casual greeting and conversation or it may be a deliberate search for a member who has voiced a concern or has a question about some-

thing on the courses. Baugh always returns resident and member phone calls promptly and follows up on questions they may have on landscape issues.

“If we get word from someone —

either staff or a member — that someone is unhappy about something, we look them up or call them as soon as possible to address their concern. We don't want misinformation circulating, so we try to respond to them quickly,” he noted.

One of Baugh's most important priorities right now is being the communication link between the developer and the members as the transition of ownership of the club takes place. Baugh works diligently at making sure the members are kept informed as the process continues.

While Baugh considers communicating with the members of paramount importance to avoid surprises and disappointments about expectations, he also pays particular attention to the lines of communication within the department. Like so many clubs in today's marketplace, the Laurel Oak staff has a large number of Hispanic workers. Using bilingual training videos, operator manuals and equipment decals, Baugh and his superintendents team up new hires with experienced operators for training.

“We put the new employee with a



Wood Storks, Great White Herons and White Ibis line up for breakfast. Photo by Mack Baugh.

All in a Day's Work.

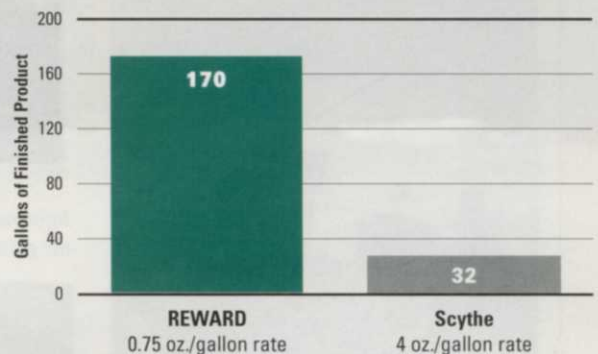


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Snapshots of Laurel Oak

By Joel Jackson



For nearly a decade this covered concrete vault system has been successfully filtering and degrading equipment washdown water and pest control rinsate.



Baugh uses this range finding system to verify distance yardages on sprinkler heads when the tags are worn off; the head is replaced or whenever a member needs reassurance about the accuracy of the yardage.



Information signs begin the communication process at Laurel Oak as soon as you drive through the gate.



The red and white stake marks just one of many patches of Common Bermudagrass infestation on the 419 fairways of the East Course. The source was a contaminated soil stockpile used during construction in 1995.



A lightning detection system and sirens on the course warn golfers and staff when storms are too near.

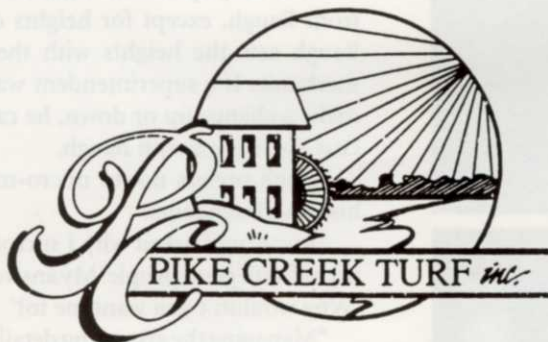


trainer for a few days and ask the trainer to evaluate his progress,” said Ronnie Ford, superintendent of the West Course. “Our employees tend to stay with us a long time, so they take pride in their work and responsibilities. If we ask them if a rookie is ready to solo, they may ask for another day or two with the employee to make sure they have the routines down pat.

“Many of our new hires come from employee referrals. There is a great incentive for the families to stick together and help each other out. If somebody doesn’t perform satisfactorily in being punctual or producing a good result on the job, there’s a lot of peer pressure on them to shape up because they are help-

Superintendents Dwayne Carter, left, and Ronnie Ford oversee daily operations on the East and West Courses respectively. Photo by Daniel Zelazek.

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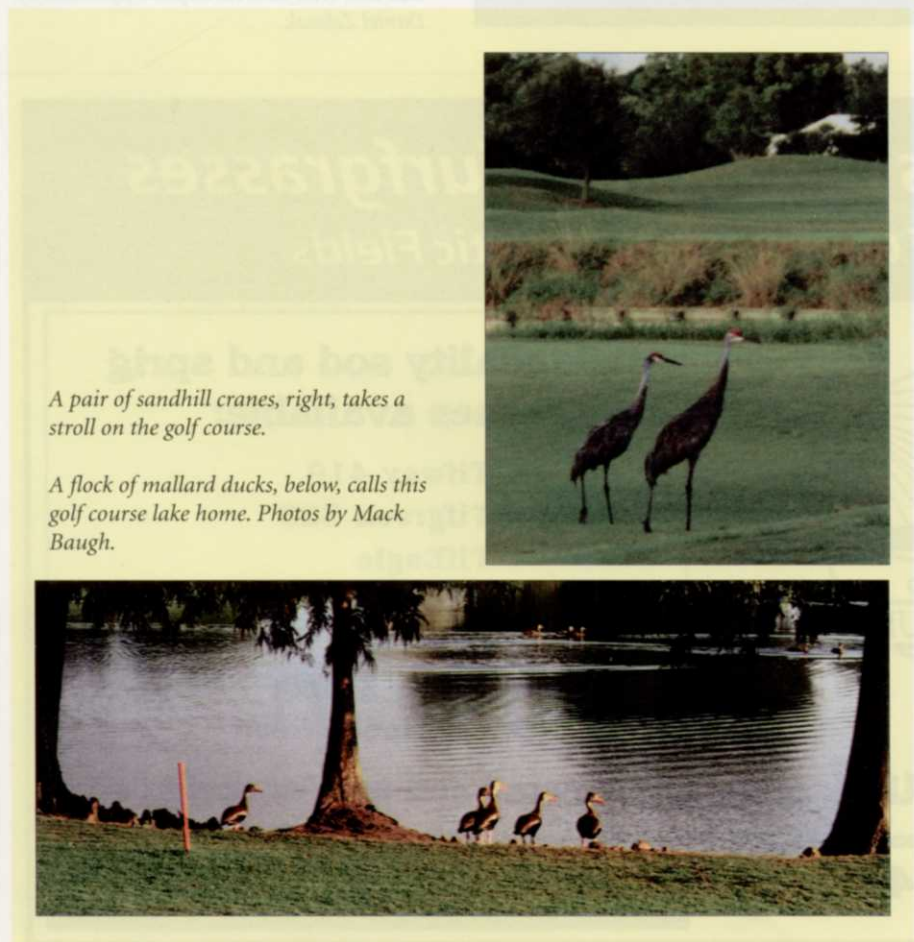
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The early morning fog flirts with sunrise on the 5th hole of the West Course. Photo by Daniel Zelazek.



A pair of sandhill cranes, right, takes a stroll on the golf course.

A flock of mallard ducks, below, calls this golf course lake home. Photos by Mack Baugh.

ing with the rent and the groceries.”

Each golf course and landscape superintendent holds weekly meetings with his respective crews, going over safety issues, schedule changes or upcoming events. Each superintendent meets one-on-one with Baugh to discuss anything they need to talk about. Joint meetings are held with all department heads on renovation schedules and equipment-sharing issues. The superintendents run their own courses’ daily operations with little input from Baugh, except for heights of cut. Baugh sets the heights with the head mechanic. If a superintendent wants to make a change up or down, he can discuss his reasons with Baugh.

Baugh prefers not to micro-manage his superintendents.

“I was once asked why I surrounded myself with good people. My answer was, ‘Why wouldn’t you want me to?’

“Managing the grooming details of an 18-hole golf course, monitoring the health of the turf, the playing conditions, monitoring and adjusting the irrigation system and evaluating and coaching the daily performance of your staff is a full-time job. That doesn’t begin to address the administration of the budget of 36 holes



This large wetland area seen from No. 10 West was once a watering hole on a cattle ranch. Photo by Daniel Zelazek.

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The par-five 9th and 18th holes on the East Course converge at a large double green complex near the clubhouse. Photo by Daniel Zelazek.

and landscape areas, dealing with vendors, meeting with contractors and other managers at the club, filling out reports, responding to members calls and simply coordinating it all so that it runs smoothly.

"If I didn't have capable competent people around me, I'd be up the creek."

Baugh is also proud of the number of superintendents and assistants who have worked with him and have taken head superintendent jobs or moved up to their own operations. The Baugh alumni include Larry Edwards, Bruce Allison, Jerry Monley, Tom Norton, Jim Nyers, Jim Lamb, Al Stichen and, most recently, Keith Einwag, who just left to take over the Lone Palm Country Club in Lakeland. Working with Baugh currently are Ronnie Ford on the West Course and Dwayne Carter who was promoted to Einwag's slot on the East Course.

There is one last area of communications that I found to be unique in all my cover story assignments. It has to do with warning golfers and employees about dangerous storms and lightning. Florida

is the thunderstorm capital of the United States and a band from the central west coast to the central east coast of the state is probably the most active.

The Laurel Oak club has a Toro Electrical Storm Indication Device (ESID) in the pro shop and Baugh has a DTN Weather Center at the maintenance facility. Both systems allow the club to detect and monitor the movement of thunderstorms and lightning in the area. While the club has sirens mounted on the courses' rain shelter/restroom buildings, equipment operators wearing noise protection devices can't always hear the sirens. Laurel Oak takes that proactive stance and goes one step further.

Baugh provides beepers to his employees. He can dial one number and then can enter one of three codes: 5555 - Go to Shelter; 6969 - Go to Work; or 911 - Come to Maintenance.

Baugh explained the logic behind the \$3,500 budget line item. "We have almost 50 people scattered over the project at any given time. They can't all hear the

sirens. Why would we put someone *else* in jeopardy by sending them out into an oncoming storm to find the others and warn them? Using this beeper system and the DTN we can tell them to take shelter and, if it is a small storm, we can give them an all-clear and save the time of running back and forth from the shop. If we have a big storm system coming, we can get them all off the course with one phone call. It makes pretty good sense to me and it shows we value our employees."

Superintendents are fond of telling students and young assistants, "Growing grass is the easy part of the job!" We have spent a lot of time talking about how important effective communication is to Laurel Oak's success. Communication just happens to be that part of the job that addresses perceptions and helps shape the reality that a well-informed membership sees with its own eyes. Don't ever neglect the opportunity to tell your members what's going on at your club.

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Those dreaded words come down from the accounting office, "It's budget time!" Are you at a club that just adds in a percentage increase for

inflation based on last year's actuals? Do you work at a club where there "is no budget?"

Or are you working for club that tries to make a profit? There is no better time

than during budget preparation to communicate to your members and owners the value of having a professional golf course superintendent.

Where are those delivery tickets? How much did the mechanic spend on greens mower No. 3 last year? Can I justify replacing the tractor? Am I going to use Polyon, IBDU, or SCU on the greens this year? How big a raise will the staff get this year? How can I make these doctors, lawyers and retired business people understand what it takes to make my department perform to their expectations?

If you don't know the answers to these and a zillion other bean-counting questions, your budget preparations are going to be a real ordeal. At some clubs the budget is the bible. For other clubs its just a set of reasonable guidelines. No matter what your situation, if you read the following articles, you may find some ideas that will make this part of your job a lot easier.

One other tip is to take lots of pictures. Documenting the conditions before and then after a project or the physical condition of a piece of equipment that needs replacing can help laymen visualize what your trying to tell.

JOEL JACKSON, CGCS

The Process of Using Funds Prudently to Achieve Your Goals

No question about it, being a golf course superintendent is different from when I took my first position some 30 years ago. I was trained in agronomy with a M.S. degree and always felt my technical ability would be my principal asset. That used to be true but not as much currently. I would rank staying abreast of new developments in agronomic principals such as plant nutrition, plant pathology, entomology and soil science along with irrigation principles



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as our biggest challenges. We have always had the challenge of maintaining our courses to the satisfaction of a demanding clientele while living within a budget.

The important things I have learned along the way are that being a good planner, organizer, motivator, coordinator, evaluator, purchaser, trainer, business manager and budget preparer are just as important.

Budgeting and management of a budget is the process to achievement of your goals by using funds prudently. A high-quality budget should consist of:

- A written maintenance plan.
- An organizational chart of your department.
- A staffing chart complete with job descriptions.
- A description of each category item in your budget.
- A spreadsheet with category items down the left (X) axis and months across the top (Y axis).
- Capital equipment purchases.
- Capital or special improvement projects.

The completed budget should be bound together along with any product brochures, trade industry articles or any other supporting material that provides understanding of the programs in your budget. These can be in an appendix at the rear. The budget book should provide a table of contents and tabs that make it easier for the reader to refer to each section. I go so far as to personalize each copy with the board member's name on the cover. On the inside cover put your name, address, phone number and

fax number so you can be readily contacted for any questions that might arise.

The purpose of a maintenance plan is to sell your budget to the finance committee or owner. It should be a complete management plan for the golf course.

The plan should define the desired level of quality and needs to include a mission statement. Put together a small committee to help put the plan together. It should consist of a representative from ownership, membership and the golf department.

The maintenance plan becomes your business plan and must have input and commitment from ownership. I have an equity club whose member/owners are represented by a board of directors. My committee is myself, the golf professional, my green chairman and another member of my green committee along with a member of the finance committee.

The plan first and foremost should detail how the golf course is to be maintained and to what level. It should be program-oriented, detailing every program in your budget. Hopefully you can equate budget numbers to this plan. For example, under the chemical-insecticide-use portion, detail the chemicals to be used and the cost of each program. Nematodes, mole crickets, fire ants, cutworms, sod webworms, chinch bugs, etc. Each program should be detailed with cost. Under fertilization, detail each fertilizer program with type of fertilizer and cost. The green program for example should include number of times per week you mow and roll, fertilizer program, fertilizer and supplies needed. How fast does your committee want the greens? The same for tees, fairways and roughs programs. They should be detailed. Carry this on for each category item in the budget including the maintenance shop and landscape.

The value of this plan is that when a budget is being reviewed by those who approve it, they fully understand that when

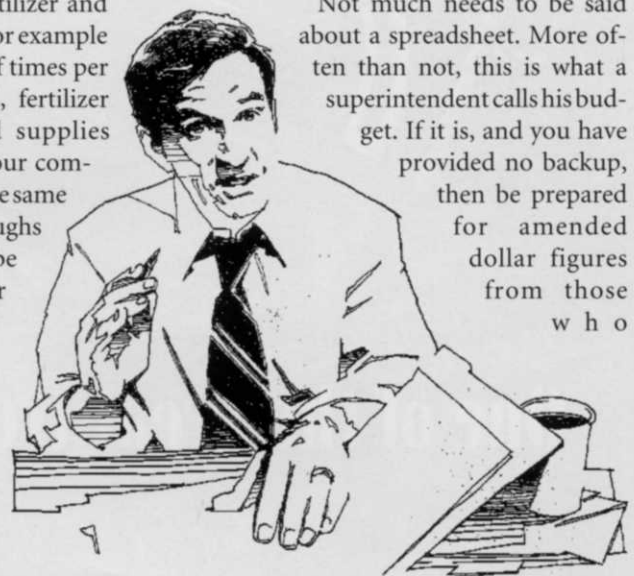
cutting money from the budget, they are cutting programs. If someone says to the superintendent, for example, "cut your chemical cost." He can lay out his management plan and reply, "Which program do you want to eliminate or cut?" Upper management will find it more difficult to eliminate needed programs rather than just amending a dollar figure. In the process of budget review, the superintendent needs to be seen as an able manager of the club's money.

Organizational charts are not that hard to do and they help those that do not understand your business or how you organize your staff.

The staffing chart should relate to the organizational chart and the business plan. How much staff is needed to carry out the programs in your plan? Include how much each employee is to earn and include overtime and bonuses for each. Also include raises in wages during the year if they are anticipated. Include payroll and workers' compensation taxes and any benefits the club provides. These numbers are then used to back up the payroll line item in your budget.

Have a section in the budget that describes every line item category in the spreadsheet. Go to whatever length you feel is necessary to assure that everyone who looks at your budget understands it completely. Do not forget line items for staff training and your own professional instruction.

Not much needs to be said about a spreadsheet. More often than not, this is what a superintendent calls his budget. If it is, and you have provided no backup, then be prepared for amended dollar figures from those
w h o



approve it. Make sure that line items in the spreadsheet are referenced back to your maintenance plan.

A typical capital equipment replacement budget should run 10 to 15 percent of your total investment in equipment. If new purchases are to replace equipment that should be rotated out because of age, then show backup records to support your case.

Most golf courses budget for continual improvements to the course over time. These capital projects should be well thought out and planned for with a complete cost analysis provided. The better job of planning you do is directly proportional to the number of improvements you sell to your owners.

The more knowledgeable you are of your business, the better your chances of success. The budget process is a part of that knowledge you need.

By Gary T. Grigg, CGCS, MG
Royal Poinciana GC.

Budget Book Makes It Easy to Defend Your Programs

I have been putting together a "budget book" at the Falls CC for sometime now. I find it gives me an easy-to-understand format to present our needs to the Greens Committee and finance committee. If I've done my homework on the book diligently, I find that I have a relatively easy time answering questions. If cuts to the budget are proposed, it is pretty simple for the committees to look at what work or program reductions they are willing to live with and defend to the members. I hope the following information will help you prepare and present your budget for approval.

Budget Time Line

January—During this month I review all of my past expenditures. This infor-

mation comes from my purchase order book and the programs I have followed in the past eight months. Our budget year runs from May through April of the following year. I get a complete line-item expense report from the club's controller to help me with this procedure.

I also work with our Greens Committee chairman to put together long-range capital improvements during this month so that there will be enough capital funds in the club to cover these expenses. By the end of the month, I'll have a draft copy of the line items and payroll expenses giving a proposed bottom line.

February—By the first week of February, I'll have a complete budget book with explanations of line items and detailed descriptions of our fertilizer and chemical programs.

My greens chairman and I meet with the Budget/Finance Committee early in this month. The greens chairman urges acceptance of the budget while I explain



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details and justification for specific line item expenses if questioned. My book is so detailed that members on the Budget/Finance Committee have a hard time justifying any significant cuts from the proposed budget. Some items are tweaked, but there are very few major changes.

February & March – Budgets from all areas of the club are compiled and the income to cover these proposed expenses is reviewed. From this point it is the responsibility of the Finance Committee to come back to each department head and discuss any income shortfalls that can't support the budgeted expenses. Depending on the outcome of this review, final changes are made to each budget.

The budgets are presented by the Finance Committee along with their recommendations to the Board of Directors. Final discussions are held and presentations made to the membership in April. At this point everything has been basically approved.

Highlights of the 1998-99 Budget Book

This year's book is a 22-page document including a cover page and Table of Contents. I will present summaries of some of the sections to give you an idea of what is included.

• Table of Contents

1 Summary of the Golf Course Budget by Accounts.

Lists each account by accounting code number and amount budgeted. (Payroll: Salaries & wages, Payroll taxes, Group insurance, Employee meals. Direct Expenses: Telephone, Professional fees, Dues & conferences, Employee ads, Permits, Uniforms, Auto expense, Repair & Maintenance accounts: Irrigation, Equipment, Cart paths, Buildings, Preventive. Consumables: Fertilizers, Chemicals, Fuels & Oils, Sand, soil and drainage, Flowers and landscaping. Supplies: Golf Course, Shop, Office, Service. Others: Small tools and equipment, Miscellaneous, Security, Equipment rental, Electricity—Buildings, Water & sewer, Trash removal, Electricity—Pumps, Outside contractors.

2 Golf Course Maintenance Payroll –

Detail of Staff.

Lists staff members salaries, wages and proposed increases.

3-6 Detail of Line-Item Accounts for Proposed Golf Course Maintenance Budget.

Gives itemized details of proposed expenses in the line-item accounts listed above i.e., GCSAA dues \$250 (superintendent), Seminars (2 @ \$110), etc. for each account.

7 Chemical Quantities and Pricing.

Breaks out each chemical by name, amount and price.

8-9 Golf Course Yearly Fertilizer Program with Quantities and Pricing.

Breaks out in chart form by month formulation, amount and cost of each product used on specific acreage for greens, tees & green slopes, fairways & roughs and trap lips.

10 Total Golf Course Fertilizer Program Summary with Pricing.

Summarizes above chart by each area of the course listing products with tonnage and prices.

11-12 Proposed Clubhouse Grounds/Falls/Entrance Maintenance Budget w/Payroll Details and Budget Summary.

Itemizes payroll and supplies expenses for these specific landscaping areas.

13 Summary and Comparison of 1997-98 and 1998-99 Golf Course Maintenance Budgets by Line Items.

Shows 1997-98 actual expenses for each line item and compares them to 1998-99 budget.

14 Summary and Comparison of 1997-98 and 1998-99 Club Grounds Budgets by Line Items.

Same as above for the landscape area budget.

15 Summary of Capital Improvements and Capital Equipment.

Lists capital improvement projects and capital equipment requests and estimated costs. Capital Improvements: Computerize/retrofit irrigation system, Repair/re-tile maintenance buildings No. 2, No. 3 and No. 4, Renovate/redesign building No. 4, Drainage of driving range fairway (Right half). Capital Equipment: Terra Topper top dresser, Diesel Triplex Greens mower, Walking Greens mower, Honda

ATV vehicle, Commercial boom sprayer, Salsco Electric Greens roller (includes trade-in), Small power equipment—edgers, trimmers and blowers, etc.

16-17 Individual Explanations of Capital Improvements for 1998-99.

Detailed justifications for the proposed projects.

18 Individual Explanations of Capital Expenditures for 1988-99.

Brief explanation of name and age of equipment being replaced and detailed explanation of reasons/benefits of new equipment purchases.

19 Long-Range Three-Year Equipment Purchase and Project Planning.

Projects timing and costs of future equipment purchases and capital improvements for the club.

20 Additional Personnel Request.

Detailed justification for a part time office assistant for golf course maintenance.

Duties include Answering phone and taking messages, Monitor and record daily fuel consumption, Call in orders for repair parts/supplies requested by superintendent, assistant superintendent and mechanics, Make parts/supplies runs to the store when necessary, Handle/receive deliveries, Input data into computer for mechanics, repair parts, PM work, etc., Input data into computer/account books for superintendent – billing personnel information, purchase orders, etc., Make up purchase requests when asked by superintendent or mechanics, Organize files and literature, Keep shop and offices clean and organized.

SCOTT PEARSON, CGCS
The Falls Country Club

Developing Maintenance Objectives

Successful country clubs do not happen by accident. USGA agronomists visit more than 200 golf courses of all sizes, shapes and budgets annually and they note that the most successful clubs, regardless of budget, are (1) owned and operated by people who design long-range planning and maintenance objec-



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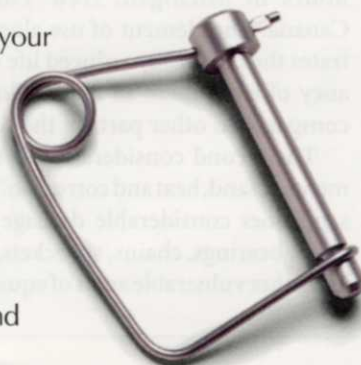
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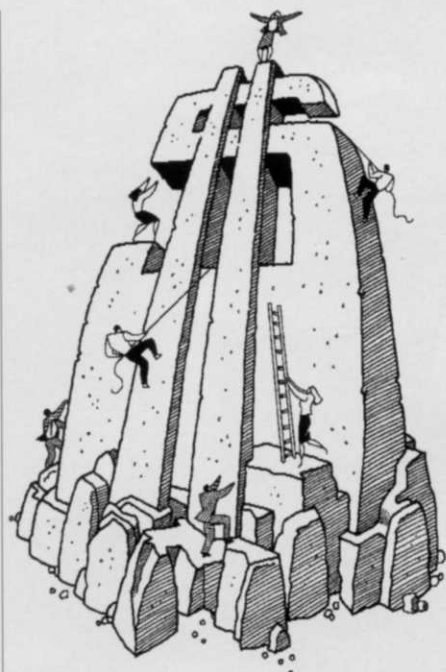
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tives, and (2) operated and enjoyed by club management, membership and golf course superintendents who work together effectively.

To maximize the dollars spent on the golf course, USGA agronomists recommend that every course have a long-range plan and maintenance objective. The following steps are helpful in developing maintenance objectives:

1. Establish an open conversation among club management, the board and the superintendent and define expectations for the golf course. Decide which areas of the course deserve priority attention; for example, the health of a course's putting greens is generally more important than that of the fairways, while the fairways are more important than the putting green surrounds. Discuss the level of conditioning that is expected for each of the playing areas. There will be differences in opinion, but compromises should be offered until all parties arrive at an agreement.

2. Develop an agronomic program to meet these objectives. Remember the superintendent and USGA Green Section are excellent informational resources.

3. Ensure that funding and staff can meet your chosen objectives. If the existing budget will allow complete implementation of your agronomic plan, the club is on the road to success. If not,

consider reallocating resources from lower priority areas, changing the budget or staff size, or reducing the level of expectations to meet those objectives.

4. Implement and closely follow the plan. This ensures that the budget will be spent as efficiently as possible. Priorities will be well defined and inefficient use of resources will drop dramatically. Continue to involve the membership in your maintenance objectives as you carry out the program. A defined long-range plan and maintenance goals will provide continuity and help demonstrate the progress being made on the golf course.

CHRIS HARTWIGER

USGA Green Section
Southeastern/Florida Region

Credit: *Through the Green*, January/
February 1998

Evaluating Golf Course Equipment for South Florida

The uniqueness of golf course operations in South Florida is often misunderstood when evaluating turf maintenance equipment. It is a fact that no other part of the United States places the severe demands on turf equipment like the golf course operations in South Florida. The following considerations are often overlooked in evaluating the initial purchase, replacement and maintenance of turf equipment

First, consider the required daily time of use of machines such as mowers, utility vehicles and tractors. These units will be used in South Florida 1,000 to 1,600 hours per year as compared to 760 to 1,200 hours in Georgia and Texas, 400 to 650 hours in Ohio and Illinois, 300 to 600 hours in Michigan, New York and Canada. The element of use alone illustrates the drastically reduced life expectancy of equipment in South Florida as compared to other parts of the country.

The second consideration is the elements of sand, heat and corrosion. Florida sand does considerable damage to engines, bearings, chains, sprockets, blades and other vulnerable areas of equipment.

Compounding the problem is the extreme heat and humidity machines are exposed to during the summer causing special difficulty in air-cooled engines. The humid, salt air causes extensive corrosion damage on exposed metal components.

Another consideration that places demands on equipment is the bermudagrass used almost exclusively on South Florida golf courses. Bermudagrass requires constant de-thatching and aerating for best playing conditions and appearance, placing a burden on specialized equipment designed for these procedures.

A final consideration that is often overlooked is the time available for preventive maintenance. In the Northern states, the winter season allows time for complete inspection and rebuilding of equipment, preventing damage to major components.

The winter simply does not allow time for South Florida courses to do any major rebuilding because of the continued demand for attention by the golf course.

Courses that receive maximum life and efficiency from their equipment have a conscientious and detailed preventive maintenance program for replacing filters and oil, cleaning, lubricating and adjusting equipment. The superintendent has correctly found time to implement these daily procedures to assure maximum benefit and life from the equipment.

If all of the above factors are properly considered, the realistic expected life of equipment in South Florida is as follows:

- Greens, tees, apron mowers, 3 to 4 years.
- Fairway mowers, 4 to 6 years.
- Tractors, 4 to 6 years
- Utility vehicles, 4 to 5 years.
- Specialty equipment (aerators, de-thatchers, sprayers and sweepers), 5 to 6 years.

Several variables are involved in the life span of a piece of equipment, but the above schedule has proven to be reliable for anticipating extensive repairs to equipment.

A realistic depreciation schedule of equipment would be even faster than the

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above schedule. The unique and demanding elements of a South Florida golf course operation requires a thorough evaluation of turf equipment and a proper comparison to operations in other parts of the United States. Budgets, depreciation schedules and time of equipment replacement should reflect these considerations.

David DeBra,
DeBra Turf Equipment, Inc.

Editor's Note: This article was gleaned from the Florida Green archives. The information remains timely and constructive when discussing budgets with your club. Fundamental and sound information are always the building blocks in the budget process.

Submitting Proposals to Management

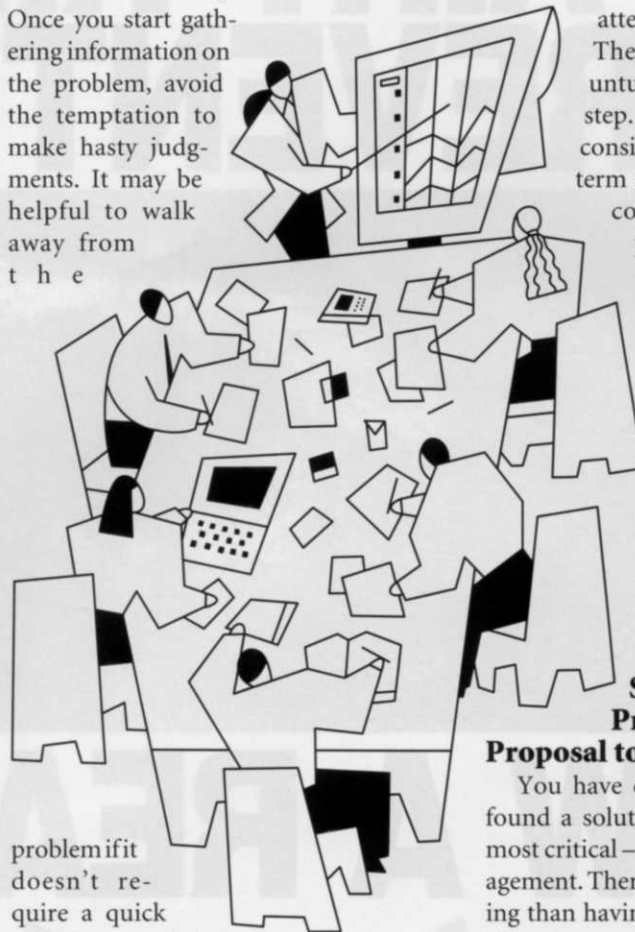
Maintaining today's modern golf course is no easy task. The expectations for course conditioning placed on the superintendent and his or her staff is extremely demanding. Occasionally, unexpected situations occur that hinder the normal day-to-day operations such as the severe flooding problems that affected numerous courses this past winter in central Florida. In addition, many superintendents were also having to deal with greens that suffered from stress and overseeding that failed due to the wrath of El Niño.

When unexpected situations occur, the superintendent may have to deal with a general manager or green committee before any work is started. This is especially true if the situation involves exceeding budget allowances. The purpose of this article is to assist the superintendent in presenting problems and solutions to management in an organized and effective manner.

STEP ONE - Define the Problem

It is impossible to fix a problem if you do not know what is broken. This first step is crucial to the process as a whole.

Once you start gathering information on the problem, avoid the temptation to make hasty judgments. It may be helpful to walk away from the



problem if it doesn't require a quick solution and think about possible solutions overnight. The next time you look at the problem you may notice something that you missed in your first examination.

One helpful tool that many managers fail to utilize is asking their employees for possible solutions to a problem. This process is called brainstorming. This process involves informing your employees of the problem and asking for their input for a solution. This is also an effective tool for building morale among your employees. Brainstorming does not have to take place in a formal setting but can be done even while you are making your rounds of the course in the morning. Remember that lack of communication is a major reason for job dissatisfaction.

STEP TWO - Compile Data

Once you are certain that you have found the problem, it is time to compile all the data for a possible solution. This is crucial step that should be given as much

attention to detail as possible. The adage "leave no stone unturned" is applicable in this step. Factors that you want to consider are costs, labor, long-term savings versus short-term costs, environmental impacts, local, state and federal regulations and ordinances, in-house repairs versus contractors. This list will be dictated by your particular situation. Remember to be thorough in your computations. The more answers you can provide to management, the more competent you will look in their eyes.

STEP THREE - Present Your Proposal to Management

You have defined the problem and found a solution. The final step is the most critical – selling your ideas to management. There is nothing more frustrating than having all your hard work and effort go to waste because you failed to properly prepare.

It may be helpful to think of yourself as an attorney going to court to defend a client. Each golf course is different in its superintendent/management hierarchy. It might be as simple as the superintendent and owner discussing business matters over lunch or as complicated as a superintendent having to deal with several layers of management. Whatever your situation is, the preparation should be the same.

In her book, *Elements of Argument*, Annette T. Rottenberg identifies five key areas to help you with selling your idea to management. Make your proposal clear. All terms of the proposal should be precisely defined.

If necessary, establish the need for a change. Sometimes a problem does not exist but a need for change is in order. The old saying, "this is the way we have always done it" comes into play. As a superintendent, you should always be looking for ways to constantly improve

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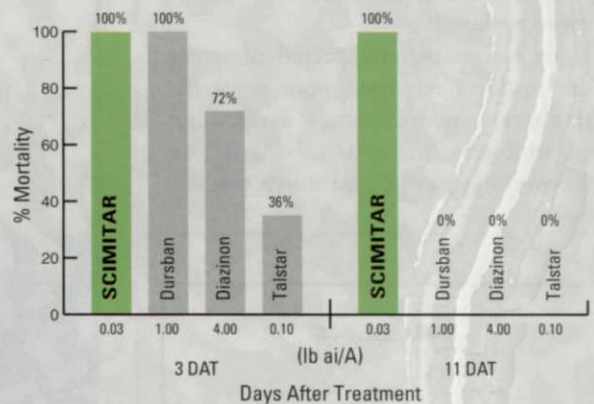
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your course. Even subtle changes can make a huge difference in the way your customers perceive your course. People often resist change so expect resistance.

Consider the opposing arguments. Give this area some careful thought. The time spent thinking of the questions you will be asked — and their answers — will be time well spent. This exercise is like playing chess. Always anticipate your opponent's move.

Discuss the benefits of your solutions. It will be helpful to understand your manager's preferences on certain issues. Is your general manager's main concern costs? If so, explain the cost savings over the short-term and long-term. Is the main concern of your green committee chairman the playability of the course? If so, demonstrate how your solution will make for a better playing surface.

Support your proposal with solid data. The preparation time spent in data collection will show itself here. Remember to leave no stone unturned. Are your estimates for contract labor the total costs or are there hidden charges? The more thorough you are in this department, the more credible you'll appear in management's eyes. In addition, you should also consider common-sense reasons, which may be more persuasive.

In summary, unexpected disasters, day-to-day operations, poor construction and member expectations often create problems that need solving. If you follow the steps outlined above, you will

be better prepared to present your solutions to management.

*Rick Banks,
Palisades GC*

Editor's Note: Richard Banks is the spray technician at the Palisades GC in Central Florida. Encouraged by his boss, Dan Winters, he is preparing for a career as a superintendent.

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Super Tips

Getting Out of the Rain Does Not Require the Ritz Carlton

Have you ever heard the saying, “All I need is a roof over my head”? Well, Doug Abbuhl, golf course superintendent at Seminole Golf Club in Tallahassee, took this saying literally when he installed several “temporary” vinyl-roofed structures to act as shelters on his golf course.

Doug, who is currently serving as the president of the Coastal Plains Chapter of the FGCSA, was faced with a problem at his course four years ago: The existing shelters at Seminole were old, wooden lean-to’s that had deteriorated over the years and were unsightly. More importantly, there were fast becoming unsafe, a condition which could create a liability for the course.

Seminole Golf Club, which serves as the home course for the Florida State University golf team, was originally a nine-hole course constructed in the 1960s. Ten years later, an additional nine holes was added and it currently serves as an affordable public golf course for the students of FSU and others in Tallahassee. It even doubles as a cross-country course for several collegiate events and local road races for the residents of Tallahassee. The majority of the time, when it is serving as a golf course, the green fees are relatively low. Therefore, Doug’s expenditures are somewhat limited. For this reason, expensive, modern shelters were not an option at Seminole and Doug had to get creative.

After some research, Doug found an affordable, attractive structure. The structures that Doug installed at Seminole Golf Club each consist of a very strong, clear span (no center poles) frame of galvanized steel and a cover of industrial-grade, reinforced vinyl fabric. Assembly is quick and easy with no welding or drilling necessary and the shelters are fairly mobile. A foundation, concrete footer or slab is also not needed. Instead, auger-type ground anchors hold the structure in place. The structures are considered temporary, although most are installed and remain indefinitely. As “temporary structures” they don’t usu-



This “clear span” designed structure of galvanized steel and reinforced vinyl has proven to be an inexpensive and efficient solution to Seminole CC’s rain shelter problems. Photo by Darren Davis.



These simple shelter structures can be dressed up with landscaping or club logos, or you may elect to sell advertising space to defray the cost of the shelters. Photo by Darren Davis.

ally require a building permit, nor will they increase property taxes.

One warning that Doug has is, “After the structures are installed be sure a lightning expert is consulted to assure the structures are safe for golfers to occupy if a storm rolls in.” Another tip relates to the cleaning of the fabric, “If mold forms on the fabric, the shelters can be cleaned quickly and easily with a light solution of bleach and water,” explained Doug. He adds, “The structures can be dressed up a little by adding landscape to the outside and spreading gravel inside, on the floor of the structure. Doug had his Club’s logo (A

big Seminole Indian head) embossed on the side of most of the structures at his course. However, Doug also suggested, “You could sell the space on the sides of the structure to an advertiser to help offset the purchase price.”

Doug has been the golf course superintendent at Seminole Golf Club for six years. Prior to that Doug was the assistant superintendent at Golden Eagle Country Club also in Tallahassee.

DARREN J. DAVIS
Golf Course Superintendent
Olde Florida Golf Club

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Lightning is the most dangerous and frequently encountered weather hazard that most people experience each year. According to the National Severe Storms Laboratory, lightning kills roughly 100 individuals per year on average and seriously injures another 500. Additionally, billions of dollars in property damage is attributed to lightning.

Many lightning casualties can be prevented by taking appropriate action when a thunderstorm threatens. Awareness about lightning is the key to public safety.

Educating the public about the myths and reality of lightning strikes was recently identified by the Lightning Safety Group to be instrumental in reducing the number of lightning victims. The LSG is a group of experts, including members who were instrumental in developing lightning policies for the military and NASA, who collectively have developed standardized procedures for the public during thunderstorm activity.

Beyond educating the public, the LSG recommends that recreational facilities formalize a lightning-warning policy with certain basic requirements. First, all per-

sons involved need to be warned of the lightning danger; and second, they need to be provided with adequate shelter. Seeking the lone tree on the fairway during lightning activity should be regarded as suicidal behavior.

Meeting the first requirement — that people need to be warned — means that some form of lightning detection should be implemented. Relying on visual signs of thunderstorm development can be hazardous, according to the National Weather Service, due to limitations of human observation. Lightning has been detected as far as 10 miles from the edge of a thunderstorm cell and at locations with blue skies overhead. Often these types of lightning strikes are falsely referred to as “bolts out of the blue.” In fact, a lightning strike is always connected to a thundercloud and cannot be generated in clear skies. It is critical to remember that this long arching lightning is a rare event, one which cannot be predicted or foreseen. The thunderstorm that generates a so-called “bolt out of the blue” can be detected by lightning sensors in time to issue a warning that lightning is nearby.

When determining the conditions to trigger a warning, golf courses have to balance acceptable down time (time of alert state) against the risk posed by lightning. The closer the lightning activity, the greater the chance of being struck. The LSG determined that current instrumentation — including lightning sensors — can enhance warning time during the initial stages of the storm by detecting lightning events, determining the storm’s proximity to the golf course and forecasting the storm’s arrival.

Advance notification of the storm provides additional time to seek safety. Detectors are also a valuable tool in determining when to give the “All Clear,” letting people know when it is safe to resume activities. However, even the best equipment cannot guarantee safety and certainly nothing can provide 100 percent protection. The experts also agree that lightning, as an event, cannot be predicted.

Because of the wide-open terrain, a golf course is a dangerous place to be during thunderstorms. Not only are the players, superintendents and staff at risk

First, all persons involved need to be warned of the lightning danger; and second, they need to be provided with adequate shelter. Seeking the lone tree on the fairway during lightning activity should be regarded as suicidal behavior.

for death or injury, but also the irrigation system and pump stations are highly susceptible to lightning-caused damage. A random survey of 140 lightning claims submitted by golf courses to their insurance carrier revealed the average loss to the irrigation system or pump station to total \$4250. Even though protection schemes and surge protectors can be effective, the best means of protecting electrical equipment is to physically isolate it from the main power grid. Technology is available which will automatically isolate equipment from the power grid when lightning is detected.

Establishing a formalized lightning-warning policy and educating the golfers and staff about the danger of lightning should be a growing concern among golf course managers in today's legal climate. If a lightning incident occurs at a facility, chances are a lawsuit will be filed. Golf course operators will be in a better position with a proven, formalized lightning policy that meets these safety recommendations than if they assert that lightning was not deemed a threat. A previously common defense — to say that facility

management is not responsible for lightning casualties because lightning is an "act of God," — is currently being challenged in U.S. courts. The outcome is bound to change the responsibility of golf course management in regard to lightning warning. The time to act is now.

For help and to obtain a copy of the Lightning Safety Group recommendations, please contact Global Atmospherics, Inc. (800-777-2838).

Lightning Safety Group Recommendations

Abstract

On average, lightning causes more casualties annually in the U.S. than any other storm-related phenomena except floods. Many people incur injuries or are killed due to misinformation and inappropriate behavior during thunderstorms. A few simple precautions can reduce many of the dangers posed by lightning. In order to standardize recommended actions during thunderstorms, a group of qualified experts from various

backgrounds collectively have addressed personal safety in regard to lightning, based on recently improved understanding of thunderstorm behavior. This "Lightning Safety Group" first convened during the 1998 American Meteorological Society Conference in Phoenix, Arizona to outline appropriate actions under various circumstances when lightning threatens.

Key Conclusions

The seemingly random nature of thunderstorms cannot guarantee the individual or group absolute protection from lightning strikes, however, being aware of and following proven lightning safety guidelines can greatly reduce the risk of injury or death.

The individual is ultimately responsible for his or her personal safety and has the right to take appropriate action when threatened by lightning. Adults must take responsibility for the safety of children in their care during thunderstorm activity.

Areas Addressed by the LSG

1. Identifying safe and not-so-safe locations during thunderstorm activity.
2. Safety guidelines for individuals.
3. Safety guidelines for small groups and/or when the evacuation time is less than 10 minutes.
4. Safety guidelines for large groups and/or when the evacuation time is more than 10 minutes.
5. Important components of an action plan.
6. First aid recommendations for lightning victims.

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Safer Locations During Thunderstorms And Locations To Avoid

No place is absolutely safe from the lightning threat. However, some places are safer than others.

Large enclosed structures (substantially constructed buildings) tend to be much safer than smaller or open structures. The risk for lightning injury depends on whether the structure incorporates lightning protection, construction materials used and the size of the structure (see NFPA 780, Appendix E & H).

In general, fully enclosed metal vehicles such as cars, trucks, buses, vans, fully enclosed farm vehicles, etc. with the windows rolled up provide good shelter from lightning. Avoid contact with metal or conducting surfaces outside or *inside* the vehicle.

AVOID being in or near:

High places and open fields, isolated trees, unprotected gazebos, rain or picnic shelters, baseball dugouts, communications towers, flagpoles, light poles, bleachers (metal or wood), metal fences, convertibles, golf carts, water (ocean, lakes, swimming pools, rivers, etc.).

When inside a building AVOID:

Use of the telephone, taking a shower, washing your hands, doing dishes, or any contact with conductive surfaces with exposure to the outside such as metal door or window frames, electrical wiring, telephone wiring, cable TV wiring, plumbing, etc.

Safety Guidelines for Individuals

Generally speaking, if an individual can see lightning and/or hear thunder,

he/she is already at risk. Louder or more frequent thunder indicates that lightning activity is approaching, increasing the risk for lightning injury or death. If the time delay between seeing the flash (lightning) and hearing the bang is less than 30 seconds, the individual should be in, or seek a safer location. Be aware that this method has severe limitations in part due to the difficulty of associating the proper thunder to the corresponding flash.

High winds, rainfall and cloud cover often act as precursors to actual cloud-to-ground strikes, notifying individuals to take action. Many lightning casualties occur in the beginning, as the storm approaches, because people ignore these precursors. Also, many lightning casualties occur after the perceived threat has passed. Generally, the lightning threat diminishes with time after the last sound of thunder, but may persist for more than 30 minutes. When thunderstorms are in the area but not overhead, the lightning threat can exist even when it is sunny, not raining, or when clear sky is visible.

When available, pay attention to weather warning devices such as NOAA weather radio and/or credible lightning detection systems. However, do not let this information override good common sense.

Considerations For Small Groups or When the Evacuation Time Is Less Than 10 Minutes

An action plan must be known in advance by all persons. School teachers, camp counselors, lifeguards and other adults must take responsibility for the safety of children in their care.

Local weather forecasts, NOAA weather radio, or the Weather Channel should be monitored prior to the outdoor event to ascertain if thunderstorms are in the forecast. Designate a responsible person to monitor forecast weather as well as to observe on-site developments to keep everyone informed when potential threats develop.

Recognize that personal observation of lightning may not be sufficient; additional information such as a lightning detection system or additional weather information may be required to ensure

LIGHTNING SAFETY GROUP

American Meteorological Society Conference

Phoenix, Arizona, 1998

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Assistant Athletic Trainer
The College of William & Mary

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Safety Management
Global Atmospherics, Inc.

consistency, accuracy and adequate advance warning.

Even though technology and instrumentation have proven to be effective, they cannot guarantee safety. Instrumentation can be used to enhance warning during the initial stages of the storm by detecting lightning in relation to the area of concern. Advance notification of the storm's arrival should be used to provide additional time to seek safety. Detectors are also a valuable tool to determine the "All Clear" (last occurrence of lightning within a specified range), providing a time reference for safe resumption of activities.

Safety Guidelines For Large Groups or When the Evacuation Time Is More Than 10 Minutes

An action plan must be known in advance by all persons involved. Adults must take responsibility for the safety of children in their care.

Local weather forecasts, NOAA weather radio, or the Weather Channel should be monitored prior to the outdoor event to ascertain if thunderstorms are in the forecast. During the event, a designated responsible person should monitor site relative weather condition changes.

Personal observation of the lightning threat is not adequate; additional information including detecting actual lightning strikes and monitoring the range at which they are occurring relative to the activity is required to ensure consistency, accuracy and adequate advance warning.

Even though technology and instrumentation have proven to be effective, they cannot guarantee safety. Instrumentation can be used to enhance warning during the initial stages of the storm by detecting lightning in relation to the area of concern. Advance notification of the storm's arrival should be used to provide additional time to seek safety. Detectors are also a valuable tool to determine the "All Clear" (last occurrence of lightning within a specified range), providing a time reference for safe resumption of activities.

When larger groups are involved, the time needed to properly evacuate an area

increases. As time requirements change, the distance at which lightning is noted and considered a threat to move into the area must be increased. Extending the range used to determine threat potential also increases the chance that a localized cell or thunderstorm may not reach the

area giving the impression of a "false alarm."

Remember, lightning is always generated and connected to a thundercloud but may strike many miles from the edge of the thunderstorm cell. Acceptable downtime (time of alert state) has to be



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balanced with the risk posed by lightning. Accepting responsibility for larger groups of people requires more sophistication and diligence to assure that all possibilities are considered.

Important Components of an Action Plan

Management, event coordinators, organizations and groups should designate a responsible, person(s) to monitor the weather to initiate the evacuation process when appropriate. Monitoring should begin days and even hours ahead of an event.

A protocol needs to be in place to notify all persons at risk from the lightning threat.

Depending on the number of individuals involved, a team of people may be needed to coordinate the evacuation plan. Adults must take responsibility for the safety of children in their care.

Safer sites must be identified beforehand, along with a means to route the

people to those locations. School buses are an excellent lightning shelter that can be provided (strategically placed around various locations) by organizers of outdoor events, with larger groups of people and larger areas, such as golf tournaments, summer day camps, swim meets, military training, scout groups, etc.

The "All Clear" signal must be identified and should be considerably different than the "Warning" signal.

The Action Plan must be periodically reviewed by all personnel and drills conducted.

Consider placing lightning safety tips and/or the action plan in game programs, flyers, score cards, etc. and placing lightning safety placards around the area. Lightning warning signs are effective means of communicating the lightning threat to the general public and raise awareness.

First Aid Recommendations for Lightning Victims

Most lightning victims can actually survive their encounter with lightning, especially with timely medical treatment. Individuals struck by lightning do not carry a charge and it is safe to touch them to render medical treatment. Follow these steps to try to save the life of a lightning victim:

First: Call 911 to provide directions and information about the likely number of victims.

Response: The first tenet of emergency care is "make no more casualties." If the area where the victim is located is a high risk area (mountain top, isolated tree, open field, etc.) with a continuing thunderstorm, the rescuers may be placing themselves in significant danger.

Evacuation: It is relatively unusual for victims who survive a lightning strike to have major fractures that would cause paralysis or major bleeding complications unless they have suffered a fall or been thrown a distance. As a result, in an active thunderstorm, the rescuer needs to choose whether evacuation from very high risk areas to an area of lesser risk is warranted and should not be afraid to move the vic-

tim rapidly if necessary. Rescuers are cautioned to minimize their exposure to lightning as much as possible.

Resuscitation: If the victim is not breathing, start mouth-to-mouth resuscitation. If it is decided to move the victim, give a few quick breaths prior to moving them. Determine if the victim has a pulse by checking the pulse at the carotid artery (side of the neck) or femoral artery (groin) for at least 20-30 seconds. If no pulse is detected, start cardiac compressions as well. In situations that are cold and wet, putting a protective layer between the victim and the ground may decrease the hypothermia that the victim suffers which can further complicate the resuscitation. In wilderness areas and those far from medical care, prolonged basic CPR is of little use: the victim is unlikely to recover if they do not respond within the first few minutes. If the pulse returns, the rescuer should continue ventilation with rescue breathing if needed for as long as practical in a wilderness situation. However, if a pulse does not return after 20 to 30 minutes of good effort, the rescuer should not feel guilty about stopping resuscitation.

Conclusion

Avoid unnecessary exposure to the lightning threat during thunderstorm activity. Follow these safety recommendations to reduce the overall number of lightning casualties. An individual ultimately must take responsibility for his or her own safety and should take appropriate action when threatened by lightning. School teachers, camp counselors, coaches, lifeguards and other adults must take responsibility for the safety of children in their care. A weather radio and the use of lightning detection data in conjunction with an action plan are prudent components of a lightning warning policy, especially when larger groups and/or longer evacuation times are involved.

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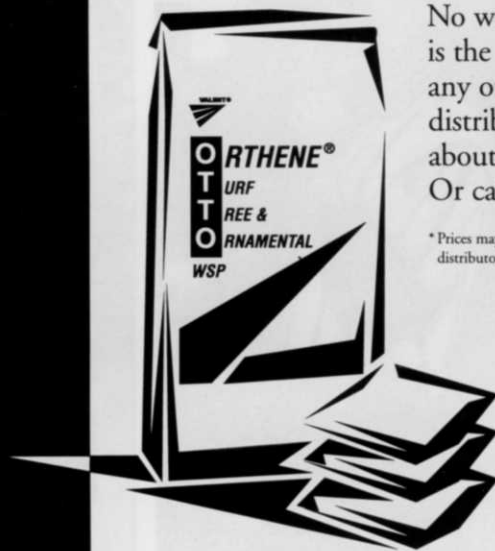
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And That's Where Our Money Goes!

Research Foundation needs help in projecting budget

It's budget-building time for the Florida GCSA. Research projects, staff salaries, travel and expenses, membership services, surveys, endowment funds, scholarships, government relations, media relations and the list goes on. When the time comes to put pencil to paper and write in a number, people sometimes forget what the funds are needed for or what they have accomplished.

Last month all renewing members of the Florida Turfgrass Association received a booklet titled, "1997 A Year in Review." Its wealth of information including a report on the research funded by the FTGA. Since the FTGA Research Foundation is the vehicle through which the Florida GCSA awards money for research in Florida, this report essentially tells us where the association's money went in 1997. A Florida GCSA member sits as cochairman of the FTGA Awards Committee to help decide where the money will be allocated, so our interests are always well represented.

The FGCSA leadership is looking to each local chapter to project what it will be able to donate to the total operating budget to meet the financial obligations of the statewide research effort. Each chapter was given a worksheet listing all the obligations and was asked to fill amounts that they could afford to allocate to the various accounts. These worksheets will be used to prepare the budget that will be presented for adoption at the annual board meeting and election of officers in August.

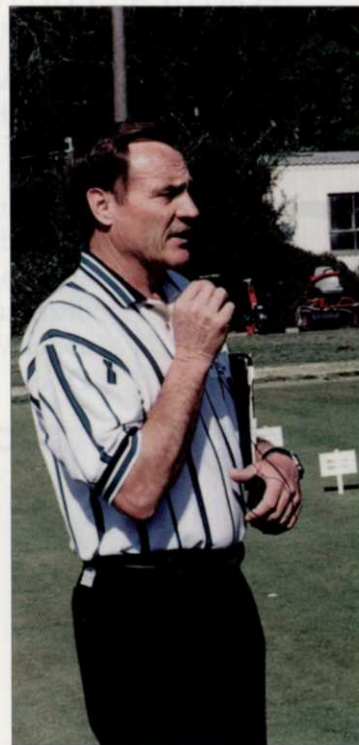
"Don't give us a worksheet to fill in; tell us what you need!" said one member. "You guys are on top of this stuff!"

It is not practical to divide the financial needs equally among the chapter, however. Larger chapters have more courses, bigger treasuries and traditionally raise more money, but each chapter can contribute and participate according to its ability. The important thing is that each chapter helps to share the costs.

The FTGA's Year in Review is a com-



Attendees at the 1998 Mini Field Day at the University of Florida got to rate the overseeding field trial plots and compare notes with Dr. Anderson and Dr. Dudeck. Photo by Joel Jackson.



Dr. Jerry Sartain explains the three-year fertility study which will compare the soil and turf tissue analysis correlation. Dr. Grady Miller will support this project using Near Infrared Reflectance Spectroscopy (NIRS - pronounced "nears"). Photo by Joel Jackson.



UF graduate student Ian Rodriguez (in cap) explains the phosphorus retention experiments he is conducting at the Envirotron. Ian, who lives in the Turfgrass Envirotron apartment is also involved in learning the NIRS technology under Dr. Grady Miller's direction. Photo by Joel Jackson.



In light of the ever shrinking inventory of effective chemical controls, Dr. Robert Dunn discusses his biological nematode control studies on the Envirogreen. He will study the efficacy of products currently being sold on the market as well as a potentially promising strain of bacteria called *Pasteuria*. Photo by Joel Jackson.



In addition to overseeing the work at the Envirotron and partnering with Dr. Sartain on the fertility study, Dr. Grady Miller will be doing a Special Evaluation of Athletic Field Surface Hardness for the Sports Turf Managers. Hey, Doc! That's a wicked-looking Stimpmeter! Photo by Joel Jackson.

prehensive report of where the research contributions went. As far as other projects or expenditures, each external vice president gets the minutes of every board meeting and should be reporting the information back to his local chapter.

Other sources of information include the *Green Sheet*, the *Florida Green* and the FTGA's *Florida Turf Digest*.

If a picture is worth a thousand words, then there are a five thousand words accompanying this article to let you know some of the things IFAS has been doing lately with your research dollars. The pictures were taken at the IFAS Mini Field Day and Overseeding Trials in Gainesville this March.

JOEL JACKSON, CGCS

Director of Communications

Notes from Dr. John Cisar IFAS Turf Coordinator,

- I was very pleased to hear from **Ray Carruthers** that the **Sod Growers Cooperative** will be handing over a check to **R. Nagata** at the Belle Glade Research Station for turf breeding research.
- *Florida Turf Digest* articles are having an impact. For example, **L. Datnoff** recently received a note of thanks from Zeneca for his article on fairy rings. Data from that report was used by Zeneca to pursue a 2-E registration label for their product *Heritage* for fairy ring control in Florida.
- At the April 8 meeting, the **Seven Rivers Chapter** Committee expressed an interest in **shade research with an Envirotron connection**. If you have an interest/expertise in conducting research in this area, please contact me. I'd like to set up a team who could develop a project to meet the needs of the Seven Rivers Chapter ASAP.
- **The Turf Coordinator made 12 visits** in the month of April including meetings with FGCSA chapters, individual golf courses, Envirotron Classic, USGA Regional Seminar, sports turf managers and master gardeners.

Last Call for the 4th Annual Florida Green Photo Contest

Category 1 - Wildlife on the Course: includes mammals, birds, reptiles, amphibians.

Category 2 - Course Landscape: Formal Plantings: includes annuals, shrubs, trees, entrance and tee signs

Category 3 - Course Landscape: Native Plantings: includes aquatic vegetation, grasses, shrubs, trees and wildflowers.

Category 4 - Scenic Hole Layout Shots: includes sunrises, sunsets, frosts, storms and any other golf hole view.

Prizes

- 1st Place (\$100) and 2nd Place (\$50) in each category
- Editor's Choice-Best Overall Photo - \$100.
- All winning entries published in the Fall 1998 issue.

Easy Rules

1. Color prints or slides. Only one entry per category.
2. Photo must be taken on an FGCSA member's course. Photo must be taken by an FGCSA member or a member of his staff.
3. Attach a label to the back of the print or slide which identifies the category, course and photographer. DO NOT WRITE DIRECTLY ON THE BACK OF THE PRINT. Each photo shall be attached to a sheet of 8.5 x 11 lined paper. Line up the photo with the vertical and horizontal lines to square the photo on the page. Attach the print to the paper using a loop of masking tape on the back of the photo. Slides must be easily removable for viewing.
4. A caption identifying the category, course and photographer should be typed or printed on the sheet of paper below the print or slide.
5. Judging will be done by a panel of FGCSA members not participating in the contest.
6. Mail entries in a bend proof package to: Joel D. Jackson, 6780 Tamarind Circle, Orlando 32819. No entries accepted postmarked after August 15, 1998.



FTGA Roundup

Annual Pest Control Guide Distributed

The Florida Turfgrass Association sent out to its membership packages that included the 1998 University of Florida's Pest Control Guide for Turfgrass Managers. This publication is an important tool for the safe use of pesticides. A booklet on how to motivate employees to superior performance was also included in the package, along with a report titled "FTGA — A Year in Review."

At the request of the Southern Seed Foundation, the FTGA is helping the Foundation inform the industry of the high standards of our turf certification program by sending out handbooks on the standards and regulations for certified turfgrass production in Alabama and Florida to all facets of the turf industry in Florida. The FTGA will also help promote certified grass by inserting flyers in the next issue of the *Turf Digest*.

Planning continues for an outstanding FTGA Conference & Show this September in Tampa. The Florida Turfgrass Association invited the Florida Golf Course Superintendents Association to participate in finding speakers for workshops and concurrent sessions. With the assistance of the Central Florida, Everglades and West Coast chapters of the FGCSA, the FTGA is funding three Etonic Leadership Series seminars which will be eligible for tested CEUs.

There are plans for great fun to go

along with all this education. There is Casino Night, Vendor Hospitality Night, an opportunity to win a Kawasaki Jet Ski and much more. The FTGA is trying to make it more economical for all to attend by having special package pricing this year: registered superintendents will be able to bring their managers with them for free and all registrants will receive lunch coupons. In addition, there will be

a New Product Showcase and your only opportunity for show sale pricing from some of our 300 exhibitors.

The FTGA would like to recognize the Seven Rivers Chapter of the FGCSA, World Woods Golf Course, Barbaron, Inc. and Glen Oberlander for their dedication to turfgrass research and thank them for arranging and hosting the 6th Annual Envirotron Classic.

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BY W. CRAIG WEYANDT, GCS

The Yacht & Country Club of Stuart

I have been the golf course superintendent at the Yacht & Country Club for the past 6-1/2 years and working on golf courses for the past 17 years. I try to stay up-to-date with all the changes in the industry (agronomics, legal issues, pesticides, etc.). And for the most part, I thought I was doing a pretty good job. That is, I thought so until about four months ago when I found out about a pesticide law that affects me and I'm sure many others. I really have two points in writing this article: One is to inform you of a pesticide law that you may not be aware of and the other is to convey my feelings of worth in belonging to different allied associations (FTGA, USGA, IMA, LMA, etc.).

Lets tackle the big one first: Pesticide laws. The Florida Administrative Code is administered by the Bureau of Compliance Monitoring. If you are a golf course superintendent, you are subject to the Florida Pesticide Law, Chapter 487, Florida Statutes and associated rules, Chapter 5E-2 and 5E-9. This law regulates both general-use and restricted-use pesticides.

In general, a pesticide applicator license is required only for applicators purchasing and applying restricted-use pesticides. However, a license is also required for individuals who apply any aerial pesticide, or apply chlorine gas into residential swimming pools using a portable system, or apply metam sodium to sewer systems to control roots, although the products used may not be restricted-use pesticides.

The license required for individuals working on a golf course who use restricted-use pesticides is a commercial applicator's license. A commercial applicator is a person who uses restricted-

use pesticides in areas regulated by the Bureau of Compliance Monitoring for any purpose other than as provided by the other license classifications. A commercial applicator license is required for employees or owners of the following who apply restricted-use pesticides:

- Aerial application service
- Aquatic weed control service
- Cemetery
- Chemical/fertilizer company
- Golf Course
- Parks and recreational property (privately owned)
- Right-of-Way control contracting with government or utility (i.e., railroad, power lines, pipeline, telephone, public road, etc.)
- Seed treatment company
- Wood treatment company

Commercial applicators are required to pass the general standards (Core) examination and the examination(s) for each category of intended use.

The categories most often used on golf courses are the Ornamental & Turf and Aquatic. I can go on and on explaining Chapter 487 but you should be well aware of it.

I said that I would inform you of a pesticide law that you probably don't know about. Did you know that you need a different license for any pesticide applications made outside the boundaries of the golf course (i.e.) club house, tennis courts, security gate, pool areas, walking trails, etc.? These are just a few of the areas that I am also responsible for maintaining at The Yacht & Country Club.

I know what you're saying: either you already have a Turf & Ornamental license which should cover it, or you thought you didn't need a license if you don't spray restricted use pesticides. Well you're right on both accounts in my books, but that won't get you very far with the State of Florida.

What we are talking about is specifically chapter 482.156 Limited Certification for commercial landscape maintenance personnel.

The regulation covering the Limited Certification for Landscape License (as it's known) states the department shall establish a limited certification category for commercial landscape maintenance personnel to authorize them to apply herbicides for controlling weeds in plant beds and to perform Integrated Pest Management on ornamental plants using the following materials: insecticides having the signal word "caution" but not having "warning" or "danger" on the label; insecticidal soaps; horticultural oils; and *Bacillus thuringensis* (BT) products.

What this means is if you want to spray something around your clubhouse, you must first have a Limited Certification for Landscape license, even if you are only going to spray Roundup. Only those personnel with the license may apply the pesticide (no supervising up to 15 people like the T & O license). You can only spray pesticides with the signal word "caution" and only use a portable, hand-pump-up sprayer. No power equipment!

OK, so the Limited Certification license just won't do for your operation. You need more control over the products applied. Well the way I see it, you have two choices: call a commercial pest controller (PCO) to do the spraying for you, which does have some advantages and disadvantages, or get a pest control license for yourself.

Get another license! How do you do it? The general rule is that first you must have a college degree in horticultural technology, entomology, botany, or agronomy.

That doesn't sound too bad for most people but you must also have three years' employment as a service employee of a licensed pest control operator, with

at least one of those years in Florida. The second requirement sounds kind of tough for most people that I know. You just can't stop working on the course to go out and work for a pest control operator to obtain a license.

So it sounds like you may have to contract those applications out, which will be more expensive. You will have less control over the specific application (the applicators are not your employees) and more than likely you won't have access to the same products.

What is the answer? Don't ask me; I'm just reporting the facts.

Last I wanted to talk about the advantages of belonging to allied associations (USGA, FTGA, LMA, IMA, etc.). It is very important to belong to allied associations for the information that you receive, the continuing education that can be learned and the support that you can get from colleagues and peers. I feel even stronger than I used

to about belonging to and supporting different associations because that is how I found out about the Limited Certification for Landscape.

A piece of mail came across my desk from the Landscape Maintenance Association advertising a seminar. On the back side of the flyer was a state-

ment in bold print, "Did you know?" I didn't know. That is how I found out about the law. The more I dug and the more information I found, the more I wanted to forget the whole thing. So if you are reading this now, you may wish that you never started.

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Sooner or later, somebody's going to find a Snake in Your Grass!

In Central Florida as in most parts of the world, bites by nonvenomous snakes occur far more frequently than by venomous snakes. Since the differentiation is often difficult and the offending snake is not known, victims of snake bite should be brought under a physician's care as quickly as possible. Whenever possible, the offending snake should be killed, as safely as possible, and brought with the victim for positive identification.

The total number of bites per year has changed and the number of deaths is probably negligible. This is probably attributed to quicker response and better treatment of bite victims. If you talk to 20 different people familiar with the dynamics of venomous snake bites, you will probably get 20 different opinions as to how to treat the bite.

An important fact to remember is that one can be bitten by a venomous snake and not be poisoned. In up to 49 percent of the bites inflicted by venomous snakes, no signs or symptoms of poisoning develop. This could be due to the fact that the snake does not always inject venom or, in the case of superficial wounds, the venom does not enter the wound.

The venom is injected through an apparatus consisting of a gland, a duct and one or more fangs located on either side of the head. The size of these structures depends on the size and species of the snake. The venom glands are surrounded by

muscles which can be contracted separately or together at will by the reptile to discharge the venom.

The viper (rattlesnakes, cottonmouths and copperheads) fangs are two elongated teeth of the maxillary bones. These bones can be rotated so that the fangs can be moved from their resting positions against the upper jaw, to their biting positions, approximately perpendicular to the upper jaw. The snakes have full control over their fangs, raising or lowering them at will. The two functional fangs are shed periodically and are replaced by reserve fangs.

The fangs of the *elapid* (coral snakes and cobras) are two enlarged anterior maxillary teeth which are hollow and are fixed in an erect position.

The arbitrary division of venom into such groups as neurotoxins, hemotoxins and cardiotoxins, has led to much misunderstanding and a number of errors in treatment. Neurotoxins can, and often do, have cardiotoxins and hemotoxins in their substance. It should be safe to say that all venom has some reaction characteristics of the other elements.

Venom from vipers causes change in the tissue both at the site and in its proximity, changes in red blood cells, defects in coagulation, injury to the blood vessels; and to a lesser extent, damage to the heart muscle, kidneys and lungs. The venom of the *elapid* snakes causes serious alterations in sensory and motor functions as well as cardiac and respiratory difficulties.

The gravity of snake-venom poisoning is dependent upon the age and size of the victim; the nature, location, depth and the number of bites; the length of time the snake holds on; the amount of venom injected; the species and size of the offending snake; the condition of the fangs and venom glands; the victim's sensitivity to the venom; the pathogens present in the snake's mouth; and the degree and kind of first aid and subsequent medical care.

The victim may also have other complicating considerations—heart disease, diabetes, epilepsy or special medication may play on the reaction of the bite.

Diagnosis of *crotalid* (rattlesnake, cottonmouth and copperhead) envenomation is dependent upon the presence of one or more fang marks, immediate and usually progressive swelling, edema and pain. Swelling and edema are usually seen about the injured area within 10 minutes of the bite. Without treatment, swelling progresses rapidly and may involve the entire extremity within one hour. Generally, however, swelling and edema spread more slowly and usually over a period of 8 to 36 hours. The skin appears tense and shiny, vesicles may form within three hours and are generally present by the end of 24 hours. Hemorrhagic vesiculations (bleeding blisters) and petechiae (small, bleeding spots) are common. Pain immediately following the bite is common in *crotalid* poisoning. Regional lymph nodes may be enlarged, painful and tender.



Eastern Diamondback Rattlesnake



Pigmy Rattlesnake



Coral Snake

Snake Myths

Many myths have spawned about snakes and snake bites, most passed down from one generation to the next as fact. These myths originated from observations and are told as they were seen with much color and flair added.

1. MYTH: FLORIDA HAS THE HIGHEST NUMBER OF VENOMOUS SNAKE BITES.

Considering that Florida has the most diverse number of species of snakes in North America and venomous snakes can be found in heavily populated areas of the state, one would expect this to be a true statement. However, we do not have the highest incident of venomous snake bites. Currently, North Carolina is leading the United States in snake bites.

2. MYTH: SNAKES TRAVEL IN PAIRS.

This thought has been around for many years. Nothing could be further from the truth. Snakes do not travel in pairs. They will search each other out during the mating season (usually early spring). At this time, two snakes may be seen together. If one lives in an area of high snake concentration or where food (rats, mice, rabbits, etc.) exist in quantity that may support higher-than-usual populations of snakes, this occurrence may be observed.

3. MYTH: RATTLESNAKES ALWAYS RATTLE BEFORE STRIKING AND MUST BE COILED.

In the wild, rattlesnakes often break off their rattles and are unable to rattle. Coiled is the best, most effective striking position for most snakes, including rattlesnakes. Stretched out straight, however, rattlesnakes can strike a few inches and can also turn and bite.

4. MYTH: SNAKES STALK PEOPLE TO BITE THEM.

Snakes do not stalk people. Snakes do not like people. Persons receiving venomous snake bites usually are trying to kill or capture the snake or accidentally and unknowingly step on or close to a snake.

5. MYTH: OUTDOOR ENTHUSIAST ARE MOST OFTEN VICTIMS OF SNAKE BITE.

This is not necessarily true. Hunters, fishermen, campers, hikers and other outdoor enthusiasts probably place themselves in areas where snakes are more commonly found, but by the nature of their activity they are usually more cautious and aware of the potential dangers and safety measures to follow keeping them from becoming a snakebite victim.



Juvenile Cottonmouth Water Moccasin

The first systemic sign of *elapid* venom poisoning is usually drowsiness. This is apparent within two hours of the bite. Ptosis, burring of vision and difficulties in speech and swelling may also appear within several hours of the bite.

In closing, any snake bite associated with immediate pain, followed within several minutes by the appearance of swelling and subsequent edema is usually diagnostic of snake venom poisoning by a viper. *Elapid* envenomation is not so easily diagnosed during the first

10 minutes. Swelling usually appears two to three hours following the bite and tends to be limited to the general area of the bite.

First aid in regard to snake bite and envenomation is as varied as those administering to the victim. Probably the best is to stabilize the victim and transport to the hospital as soon as possible.

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Alaqua Lakes Joins Audubon Signature Sanctuary Program

Alaqua Lakes, Taylor Woodrow Communities' newest luxury golf community in Longwood, has been accepted as a registered member of the Audubon International Signature Cooperative Sanctuary Program.

Admission to the Audubon Signature Program is a distinct honor. According to Michael Moser, club operations manager, only eight golf courses worldwide have achieved full certification. The 170-acre golf course at Alaqua Lakes was designed by Tom Fazio and is scheduled to open in September.

Audubon International personnel carefully scrutinize all design and construction plans before development work begins and visit the site regularly to monitor compliance. In addition, the golf course operations must maintain vigorous standards for wildlife management, water quality, integrated pest management (IPM), energy efficiency, waste management and a natural resources management plan that assures a long term commitment to the environment.

"We're thrilled," said Tom Spence, land development manager for Taylor Woodrow at Alaqua Lakes. "The Audubon Signature Program is an important effort that promotes conservation measures which provide large-scale developers with a more environmentally sensitive approach to land management. Taylor Woodrow Communities is a company dedicated to all types of environmental causes and sustainable resources management is an idea everyone should endorse."

"The Audubon Signature Program designation is rare because so few golf courses qualify. Tom Spence has spent nearly three years monitoring water quality and wildlife management efforts here," Moser said. "Alaqua Lakes is a pristine piece of property and we intend to make certain the golf course serves not only as a nurturing habitat for wildlife, birds and native or indigenous plants, but also as a role model for existing and future golf

course developers in Central Florida."

The Audubon Signature Program is the most rigorous — and the most prestigious — of the environmental management programs Audubon sponsors. "They monitor us very closely, literally day by day," Moser noted. "This program will also allow us the opportunity to work closely with the community. We have 'adopted' a local school, Heathrow Elementary, and will spend time educating the children there on the positive effects a golf course has on the environment."

Adam Feltman is the golf course superintendent at Alaqua Lakes. Prior to coming to Alaqua Lakes, Feltman was heavily involved in the Audubon Cooperative Sanctuary Program at the Champions Club at Summerfield in Stuart.

The Habitat at Valkaria Named Certified Sanctuary

IGM's The Habitat at Valkaria in Malabar has been named a certified Audubon Cooperative Sanctuary.

Awarded by Audubon International through its Audubon Cooperative Sanctuary System, a course must meet requirements in six categories to qualify for certification: Environmental Planning, Outreach and Education, Wildlife and Habitat Management, Integrated Pest Management, Water Conservation and Water Quality Management.

"We try to create more habitat that already exists for the variety of native birds on the course," said Bob Marshall, golf course superintendent at The Habitat for IGM. Along with the help of Lynne Walker, assistant golf course superintendent, we managed to achieve certification by limiting the use of chemicals and creating a safe environment for many of our endangered species of birds." These birds include the Scrub Jay, Bald Eagle and the Sand Hill Crane.

Joellen Zeh, staff ecologist for ACSS praised IGM's employees for enhancing native plantings, protecting wetlands during construction and involvement in community environmental projects.

Audubon Int'l Launches 'Project Flight Plan'

Audubon International has announced a new wildlife and habitat initiative for 1998 to foster migratory bird conservation across North America called Project Flight Plan. Throughout this year, Audubon International will be asking people to "pledge" their commitment to enhance and protect habitat for migratory birds by undertaking at least one environmental project and participating in the many featured Project Flight Plan events that will be held throughout the year.

Seventy-five percent of the land in the United States is privately owned. For migratory birds to survive, they must find suitable habitat throughout the year on these private properties.

Project Flight Plan is a focused way for Audubon International to encourage migratory bird conservation with private land managers and homeowners and get them actively protecting, improving and connecting habitat for migratory birds across North America.

In 1886, the original Audubon members pledged their support of bird conservation by refusing to wear hats or clothing adorned with bird plumage. Inspired by the first Audubon movement, Audubon International, through the Audubon Cooperative Sanctuary System, is asking that individuals sign a pledge card and commit to bird conservation and habitat preservation projects.

In return, Audubon International will send individuals a Project Flight Plan decal, educational information on the bird conservation projects chosen and updates on events and progress concerning Project Flight Plan.

Although Project Flight Plan participants must sign up for at least one project to help migratory birds, there is no maximum limit on the quantity of projects they can engage in.

Projects such as planting native




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trees, maintaining bird feeders, limiting mowing of fields, leaving dead standing trees for nesting, connecting existing habitat to create habitat corridors, reducing pesticide use and keeping a bird inventory are just some examples of the many activities individuals can be involved in to help migratory birds.

"If one-thousand individuals pledged to participate in Project Flight Plan with an average of four projects each, that's 4000 migratory bird conservation actions taking place on private land!" said Jean Mackay, director of education for Audubon International.

"An individual's participation in Project Flight Plan can have a significant impact towards migratory bird conservation when added with the hundreds of other Project Flight Plan activities taking place throughout North America. The momentum that is build-

ing for this initiative is thrilling and means great things for improving migratory bird populations in North America."

Audubon International will be hosting and promoting events that tie in with Project Flight Plan throughout

1998. Some of the events this year are The Audubon International Golf Course Birdwatching Open (May 9), Safe Haven for Birds Day (June 13) and Plant a-Tree for Birds Week that will run the week of Sept. 26 through

Safe Haven Day

The Safe Haven Day in Project Flight Plan is meant to reduce the number of migratory birds killed and maimed as a result of carelessness, inaction and the ignorance of the general public.

Bird hazards include collisions with cars, buildings, windows and power lines; pesticide exposure at feeding grounds in the U.S., Mexico, Central and South America; cat predation; habitat loss and destructing of breeding grounds..

These conditions can be mitigated through environmental stewardship projects through Audubon International and by the following actions such as breaking the reflection on windows with non-reflective coatings or screens, keeping bird feeding areas clean and free of waste and pesticides and not disturbing natural areas during spring and summer months.

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Following BMPs to Reduce Nitrate Leaching Can Offer Legal Protection

BY DR. GEORGE H. SNYDER
AND DR. JOHN L. CISAR

University of Florida, IFAS

Because of concern about nitrate-nitrogen ($\text{NO}_3\text{-N}$) contamination of groundwater, the Florida Department of Agriculture and Consumer Services and the Florida Department of Environmental Regulation have a joint program that is funded by a 50-cents-per-ton tax on nitrogen fertilizer. The legislation authorizing the program is commonly referred to as the "Nitrate Bill."

Nitrate-nitrogen can cause methemoglobinemia, which can lead to impairment of oxygen transport in the blood stream ("Accumulation of Nitrate," National Academy of Sciences, Washington, DC, 1972). It is mainly a problem in infants under three months age, causing the "blue baby disease."

The problem has seldom occurred in modern times here in the United States. It is easily diagnosed and treated. Infants can ingest high levels of nitrate in a number of ways, such as by drinking concentrated vegetable juices, eating fish and meats cured with nitrates and by drinking milk formulas prepared with water containing excessive nitrate.

To prevent the latter, many years ago the U.S. Public Health Service set a drinking water standard of 10 mg/L (ppm) for nitrate-nitrogen. Virtually all water treatment facilities are subject to this standard for drinking water and the state of

Florida intends to keep groundwater at or below this level.

The Department of Environmental Protection has the authority to level penalties against those it finds guilty of nitrate pollution of groundwater. Money collected from the Nitrate Bill is used to fund research aimed at minimizing nitrate leaching in agricultural enterprises and to develop Best Management Prac-

seems that following the BMPs could prevent expensive legal problems in the future.

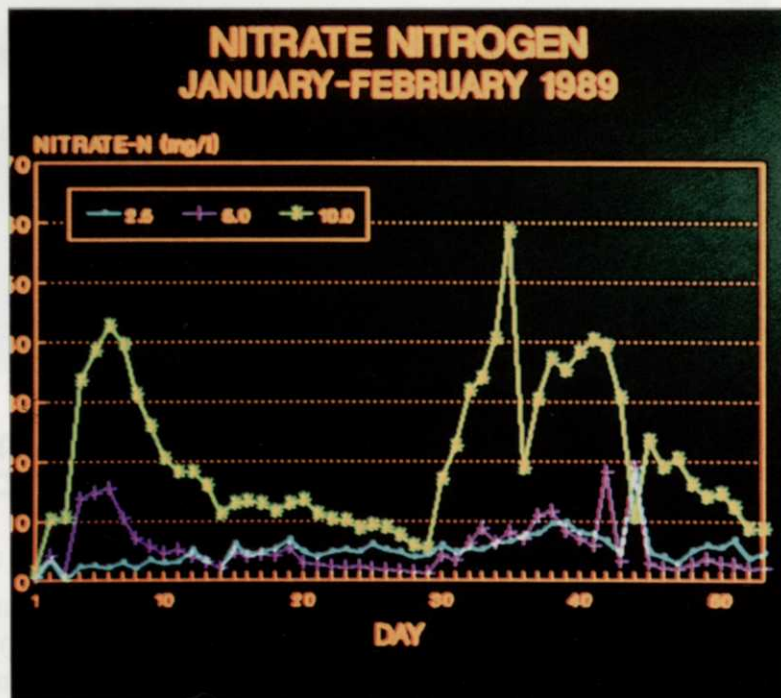
Fortunately, considerable research already has been conducted in Florida on the subject of nitrogen leaching in turfgrass and the work is continuing. In recognition of this, FDACS funded Drs. Snyder and Cisar to compile the scientific literature pertinent to nitrogen leaching

in turfgrass, develop BMPs and IMs where appropriate and develop a list of research priorities to obtain information that is lacking for the further development of BMPs.

The literature compilation is nearly complete. Over 100 scientific articles have been entered into a computerized database with key words for searching out specific topics. Hard copies of the associated papers are on file.

The first draft of proposed BMPs for established golf courses is complete. Drs. Snyder and Cisar are beginning to present these proposals to various golf course industry groups for their

reaction. With some modifications, these general proposals likely will be considered for other turfgrass uses. This article in the *Florida Green* is written to present the proposed BMPs to a wide array of turfgrass professionals for their consideration and comment. The final report will be made to FDACS in the fall. Questions, suggestions, arguments and other comments will be appreciated and should be directed to either Dr. Snyder or Dr. Cisar. It must be emphasized that the following are



Keeping soluble N application rates at or less than 0.5 lbs. N/1000 sq. ft. kept nitrate levels in perolate below 10 ppm Nitrate-N. Photo by G. Snyder.

tics for achieving this objective. The BMPs must, however, be supported by research. Suggested practices for which research is incomplete are known as Interim Measures.

The Nitrate Bill does not mandate that the BMPs be followed. However, those who can present credible evidence that they are adhering to the BMPs will not be prosecuted by the FDEP, even if excessive nitrates (greater than 10 mg/L) are found in groundwater below or emanating from their property. It certainly

BMPs For Minimizing Nitrate-Nitrogen Leaching in Golf Course Turf

OVERVIEW. The principle factors that can be implemented to minimize nitrate-nitrogen leaching on golf courses are 1) nitrogen rates, 2) nitrogen sources, 3) methods of application, 4) irrigation practices, and 5) enhancement of root growth and activity. Some of these factors are interrelated.

SPECIFIC PROPOSALS

NITROGEN RATES

(All fertilization rates are presented as pounds of nitrogen per 1000 square feet. Multiply by 43.56 to convert to pounds per acre)

- A. Nitrogen fertilization of greens and tees should not exceed 2, and that for fairways and roughs should not exceed 1 of nitrogen that will become available in any given month.
- B. Water-soluble nitrogen should not exceed 0.5 per application.
- C. Nitrogen in irrigation water, such as that in effluent, should be credited towards the maximum monthly allowance.

NITROGEN SOURCES

- A. Controlled-release nitrogen sources should be used when more than 0.5 needs to be applied in a single application. These sources may be indicated on the Florida fertilizer label as 'water-insoluble nitrogen,' or as 'controlled-release' nitrogen.

METHODS OF APPLICATION

- A. Fertigation may be used to apply small amounts (less than 0.5) of nitrogen on a frequent basis.
- B. Nitrogen may be applied in sprays either for foliar applications or for ground applications, but the rate of nitrogen application should not exceed 0.5.

IRRIGATION PRACTICES

- A. Irrigation amounts should not exceed the amount needed to restore soil moisture to field capacity, plus the percent irrigation efficiency of the irrigation system in use.

ENHANCEMENT OF ROOT GROWTH AND ACTIVITY

- A. Cultural practices should be employed to enhance turfgrass root systems, within the confines of desired turfgrass playability and legal use of agrochemical. Root-damaging conditions to be avoided include soil compaction, soil layering (including excessive thatch), poor aeration, root-feeding insects and nematodes, root diseases, inadequate soil depth and localized dry spots.

DIRECT COMMENTS, SUGGESTIONS AND QUESTIONS:

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first-draft proposals, some of which may be changed in the final presentation to FDACS.



Controlled and slow release N sources help reduce N leaching. Photo by G.Snyder.

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Fairy Ring Experiment Pays Off at Sun 'n Lake

If the members at Sun 'n Lake Golf Club in Sebring hadn't already experienced problems with fairy ring, they may not have agreed to participate in a fairy ring experiment the winter of 1996. The club rebuilt the front-nine greens of the original 18-hole course in late summer of 1995 and began having problems with fairy ring in February 1996.

"We stripped the greens, reshaped them and cored them down to 12 inches," says Mark Hopkins, golf course superintendent for the past 8-1/2 years. "Then we brought in an 85/15 sand and Canadian peat mixture. Since we sit right on top of a sand hill, we didn't feel we needed any more drainage. But fairy ring most often attacks sand-based greens."

When fairy ring began popping up,

some of the Sun 'n Lake members first thought improper mowing procedures were causing the problem. But Hopkins launched an educational effort, posting information from the USGA about the disease on the club bulletin board and working to dispel the rumors about the brown, unsightly rings. Hopkins tried everything he could think of to control the problem: wetting agents, extra water and fungicides. He finally used the curative rate of ProStar® 50WP Fungicide and the problem cleared up within two weeks.



Golfers putt on practice green with fairy ring at Sun 'N Lake Golf Club in Sebring. Photo by Bob Hickman.

Splitting Greens Down the Middle

Before rebuilding the back-nine greens, Hopkins talked to the greens committee and other club members to discuss what he wanted to do. He suggested

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applying ProStar® on half of each green at a preventive rate, as a test plot to see how well the fungicide controlled the fairy ring he knew would appear. "It's hard to get a golf course to split greens in half as an experiment," notes Hopkins. "But they knew we had to do something. Luckily, they got to see firsthand how well the product worked."

The greens were rebuilt and sprigged by May 1996. Hopkins waited four months before starting the applications so the greens would have full cover. He put PVC sleeves in the ground at the sides of each green and marked the halves with flags.

Starting in September, he first sprayed the green halves at a preventive rate of 3 ounces of ProStar® per 1000 square feet, returning every six weeks with the same rates of ProStar® and Primer, a wetting agent. The AgrEvo EH sales representative, Bob Hickman, supervised the experiment with the help of Dr. Monica Elliott from the University of Florida.

"Fairy rings started popping up on the sides we didn't spray by the end of February or early March 1997," explains Hopkins. "You could see a perfect line, where half the greens had rings all over them and the other halves were perfectly clean. The only thing we didn't see was half rings right at the center line!"

After Elliott and John Foy of the USGA Green Section visited the Sun 'n Lake course to observe the experiment, Hopkins sprayed ProStar® at the curative rate on the affected halves of each green. All the greens remained clean for two months after the ProStar® applications. Hopkins plans to continue using ProStar® on a regular basis during winter months until the fairy ring fungus completely goes away.

Since the newest nine-hole course on the 27-hole Sun 'n Lake facility was built only four years ago, Hopkins does not intend to rebuild those greens anytime soon. "But when we do rebuild them, we'll use ProStar® as a preventive treatment from the beginning," he said.

BOB HICKMAN
AgrEvo EH

Business Support Representative

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Letters..

...to the Editor

Bug Tutorial Info Change

Just received the letter back and the diskette (thank you) on the item I submitted concerning the Turfgrass No. 1 Bug Tutorial for CEUs.

We are still coming out with it, but it will probably not be until June. The place to buy it is now through UF/IFAS Publications at telephone 800-226-1764 to order or 352-392-1764 for information.

Other than that, everything else is the same. We are now starting the production cycle so that we have one out every three weeks. We'll have them in L&O, GHP, Termites, Fumigation and Core.

Details of all my programs are available on the UF Buggy Software WWW site at www.ifas.ufl.edu/~ent1/software/fasulo.htm. As a program becomes available it is listed there.

Tom Fasulo
Extension Entomologist
UF

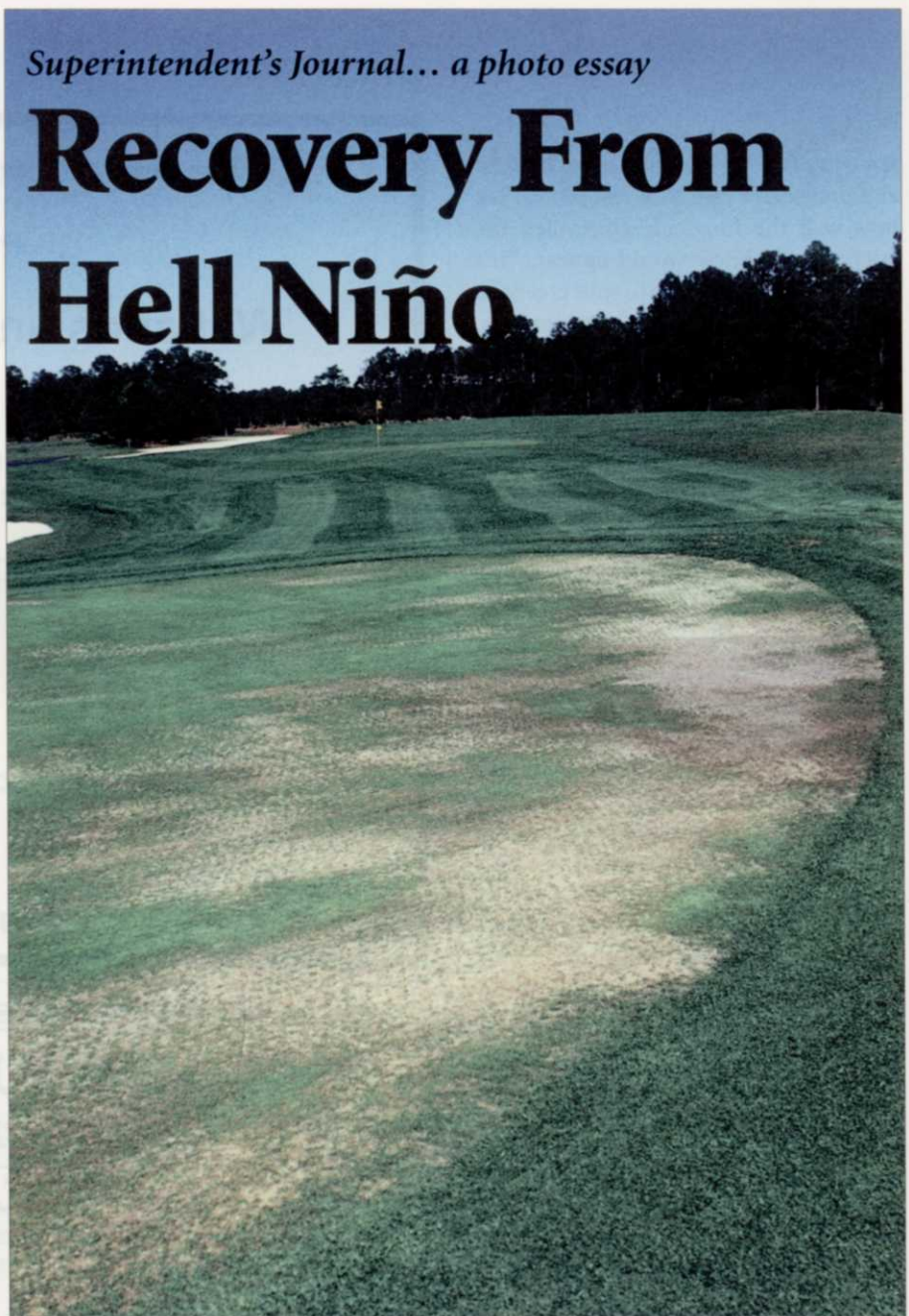
Many greens like this one suffered extensive turf loss this winter. Greens that had faulty construction, poor drainage, heavy traffic, too much shade or poor air circulation couldn't survive the heavy rains and lack of sunlight from the El Niño effect. Photo by Joel Jackson.

Rebuilding Bigger Can Be Better

Unacceptable turf thinning and loss during El Niño prompted many clubs to rebuild or regrass the damaged greens. This green is being enlarged because it was so small that heavy traffic literally wore off the turf during the impossible growing conditions this winter. Photo by Joel Jackson.

Superintendent's Journal... a photo essay

Recovery From Hell Niño





1



2



3



4

Rapid Turf to the Rescue!

1 Several clubs in Central Florida chose to re-grass their greens using Rapid Turf to get them back in play as soon as possible. Rapid Turf is grown hydroponically on plastic sheets for easy harvesting and transporting in large 4-foot wide rolls. Photo by Joel Jackson.

2 The first strip of Rapid Turf goes down. The white flags mark the perimeter of the putting surface for the operator. This green was totally rebuilt after investigation showed the sub-drain system had been crushed during original construction, which contributed to its chronic weak condition and final failure during El Niño. Photo by Joel Jackson

3 One hour later, nearly half the green has been re-grassed. The small turf roller in the center of the picture is used to help smooth the surface. Photo by Joel Jackson.

4 One week after Rapid Turf installation the green is almost ready for return to service. This process is more expensive than sprigging, but it does give clubs another alternative when repairs are warranted. Photo by Joel Jackson.

TThis is my final article as the assistant editor of *The Florida Green*. I like to kid Joel about “firing” me but the truth is that I requested he find a replacement who could actually put the magazine

together in the event that Joel was unable to perform those duties.

I’ve enjoyed the prestige of holding this title for our highly regarded publication, but I have neither the time nor the inclination to learn what’s

necessary to do Joel’s job if the need should arise. Our association deserves a more qualified and dedicated person in the assistant editor’s position and Joel has found this person in Past President Scott Bell.

Anyone who knows Scott knows the talent and effort he will bring to this position, so I confidently and contentedly turn this position over to his capable hands. I thank Joel and the officers of the Florida GCSA for the privilege of holding this position for the past few years and for their offer to continue allowing me space in the magazine for my musings and ramblings.

By now it is old news that Dr. John Cisar is the new turf coordinator for the University of Florida. John has addressed and/or attended meetings of the FGCSA and FTGA boards, the USGA, some local chapters and other meetings with industry reps since his appointment in March.

He demonstrates his enthusiasm and commitment to building the best turfgrass program in the country. With our long-term commitment of support this will become a reality. As an industry, we need to develop new sources of revenue for turfgrass research.

At the risk of sounding like a broken record, we cannot expect the same sources who have always supported us to increase their level of support. We need new sources and new strategies.

The golf and turf industry in Florida is huge and the vast majority of those who derive their livelihood or enjoy the benefits of turfgrass currently do nothing to support our efforts to improve quality of our product, reduce its costs and protect our fragile environment. This isn’t right and we need to find methods to rectify this inequitable situation. Godzilla needs to get off the Prozac and start taking steroids.

Giving Up the Title, But Not the Fight!

Mark My Words



Mark Jarrell, CGCS
Assistant Editor



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We live in a world of deceivers, receivers and true believers. Maybe they could be called the good, the bad and the ugly, but not necessarily in the same order.

There are just plain bad folk out there who have no conscience about going around spreading misinformation and disinformation about golf courses and their impact on the environment. Some do it out of ignorance, but the worst do it because that's how they make money. They get paid government and charitable grant money for ranting and raving and preying on people's fears. No real proof.

Just lots of rhetoric.

Then there are those who deceive themselves into thinking that if they ignore all the fuss, things will just keep going on like they all ways have and they won't have to make any changes in how they conduct business or enjoy their hobbies, like golf for instance.

There will always be deceivers as long as people look to take the easy way out.

The next bunch are the receivers. Doesn't mean they're good or bad, but they can be the ugly. They receive the benefits of a well maintained golf course. Maybe they are just daily fee players enjoying being outdoors, or the challenge of competition in a friendly match, or entertaining business clients. Maybe they are private-club members living in an exclusive golf community enjoying all the amenities. Maybe they make a living from a golf course by owning one or by being

employed by one as a superintendent or golf pro or general manager. Maybe they are professional tour players making a living plying their skills on courses around the world. Maybe they manufacture equipment and clothing for playing the game.

The one thing they don't do is give. They only receive.

And that can be ugly!

Then there are the true believers. Call them the good guys. They not only participate in the game of golf, they respect the traditions of the game. They volunteer their time and resources to make golf available or enjoyable to others. They too are employed by golf courses or make their living from some form of golf interest. They are educators and scientists who look for ways for golf to grow and change with the times and the evolution of the environment. They are the superintendents who practice the fine art of stewardship. True believers give something back to the hand that feeds them.

If the receivers would stop for just a moment and realize that they have within their power the ability to guarantee or destroy the game of golf as they know and enjoy it, maybe — just maybe — they would join the true believers. If they could only see that a very modest investment of time, effort and money could secure the future of the game from which they profit.

As we look for new strategies and ways to raise money to fund turf research or golf programs in general, the receivers must step up and give. Isn't it written somewhere that it's better to do that anyhow?

Deceivers, Receivers and True Believers

Green Side Up



Joel Jackson, CGCS
Editor

If more receivers of the benefits of golf became true believers like the Barbaron company, the future of golf would be secured. Photo by Joel Jackson.



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