



The Florida Green

Autumn 2001



Number 8, Great Outdoors Resort, Titusville, Photo by Daniel Zelazek



LEADERSHIP

Experience



In an industry where tradition is sacred, experience essential and innovation vital, the Toro reputation for leadership is legendary. Build on a track record of more than 35 years of service to golf, the Toro name has come to represent the finest in total turf solutions for thousands of courses around the world. In fact, 74 of America's top 100 courses* are irrigated with Toro systems.

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Toro leadership is further exemplified through its strong commitment

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The Total Renovation Package

Maintaining the quality of established courses is an ever-present challenge for golf course superintendents. While the maturing of a course often brings character and tradition to the overall layout, it also creates a need to replace and update an aging infrastructure.

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Golf Sprinklers

Simply said, Toro products are built to last. Manufactured of durable engineering plastics, Toro golf sprinklers feature the performance and long life required on today's courses. In addition, Toro sprinklers have the industry's lowest maintenance cost and are the easiest to service. Ideal for renovation projects, Toro sprinkler technology is backward compatible so that older sprinklers easily can be updated with simple conversion assemblies.

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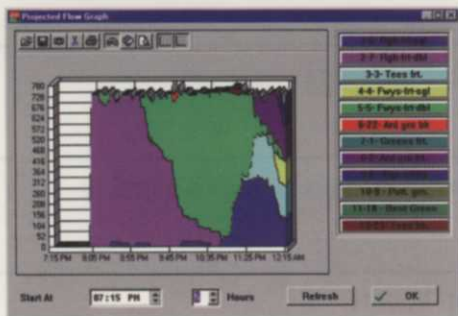


Toro golf sprinklers also offer a full range of features such as adjustable part-circle and full-circle operation, manual control at the sprinkler, factory-set pressure regulation, durable stainless-steel risers, and up to four-inch pop-up heights. Electric or hydraulic valve-in-head models help reduce pressure spikes and damage to hydraulic systems. Check-O-Matic technology, which prevents low-head drainage, also is available. All Toro sprinklers offer color-coded nozzles for easy in-field identification.

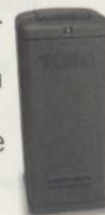
Central Control

Built with the superintendent in mind, Toro's central control systems are designed to ensure programming flexibility and optimum watering precision in any golf course application. Used at more than 1,000 sites throughout the country, SitePro offers precise programming capability to save time and money. And, of course, SitePro is backed by Toro's comprehensive NSN, as well as the distributor sales and service group.

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Toro satellites are ideal for golf course renovations. Existing hydraulic systems and old control boxes can be upgraded with either OSMAC or Network LTC Plus, providing enhanced control and programming flexibility. This in turn means better playing conditions. And isn't that the ultimate purpose of golf course renovation? For more information, contact your local Toro distributor.



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Great Outdoors Welcome Center. Photo by Daniel Zelazek

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Greenkeeper in Paradise

Let me begin by thanking all of you for giving me this opportunity to serve as your president. It will be an honor and a privilege to guide this association through the coming year. This job is facilitated in part by the strength and commitment of

those who have gone before me, as well as those currently serving on the board. My thanks go to

Cary Lewis, CGCS, who served our association admirably this past year; I know I can rely on Cary as I can the rest of the board for advice this coming year.

We have a very supportive staff in Marie Roberts and Joel Jackson, CGCS. They are the people who work diligently to make this association as good as it is through the changing of presidents and of the board members.

Working and living here in Florida is a far cry from what I had imagined my life would be while growing up in the coal mining area of northern England. Most of my schoolmates followed in their fathers' and grandfathers' footsteps and entered the mining industry. I was lucky enough to venture further afield thanks to Tim Hiers, CGCS, who offered me employment as an intern in 1986.

To be able to work outside in what can only be considered paradise is great.

Couple that with the fact that your colleagues share the same enthusiasm for their work as you and now you're talking. Sometimes the pressures of maintaining the course to others' expectations, dealing with Mother Nature, repudiating bad press and so on, can wear on you. But if I think back to what might have been, I certainly prefer doing what I'm doing now.

To maintain our work in paradise, we will need the efforts of all of our members, not just those of a few. As each month goes by, more and more legislation is passed, more ordinances written, and more restrictions are applied. I don't want to appear as if I am against legislation or ordinances—far from it. We should look at the work we do closely and make sure we don't adversely affect the environment and others.

My hope is that we as superintendents will be some of the first people who are contacted for input when issues are being discussed. We can offer real life experiences that can help produce quality, workable, and worthwhile directives. Our director of communications is our point man when it comes to the issues. Let him know as soon as you hear of something. He will get the word out and share it with others to see if we can't become involved as a partner, not as an adversary.

In closing, I would like to wish you all a very successful overseeding season, free from torrential downpours, and *Pythium* and most of all enjoy what truly is a great profession.

PRESIDENT'S MESSAGE



Geoff Coggan,
CGCS, MG

Working and living here in Florida is a far cry from what I had imagined my life would be while growing up in the coal mining area of northern England.



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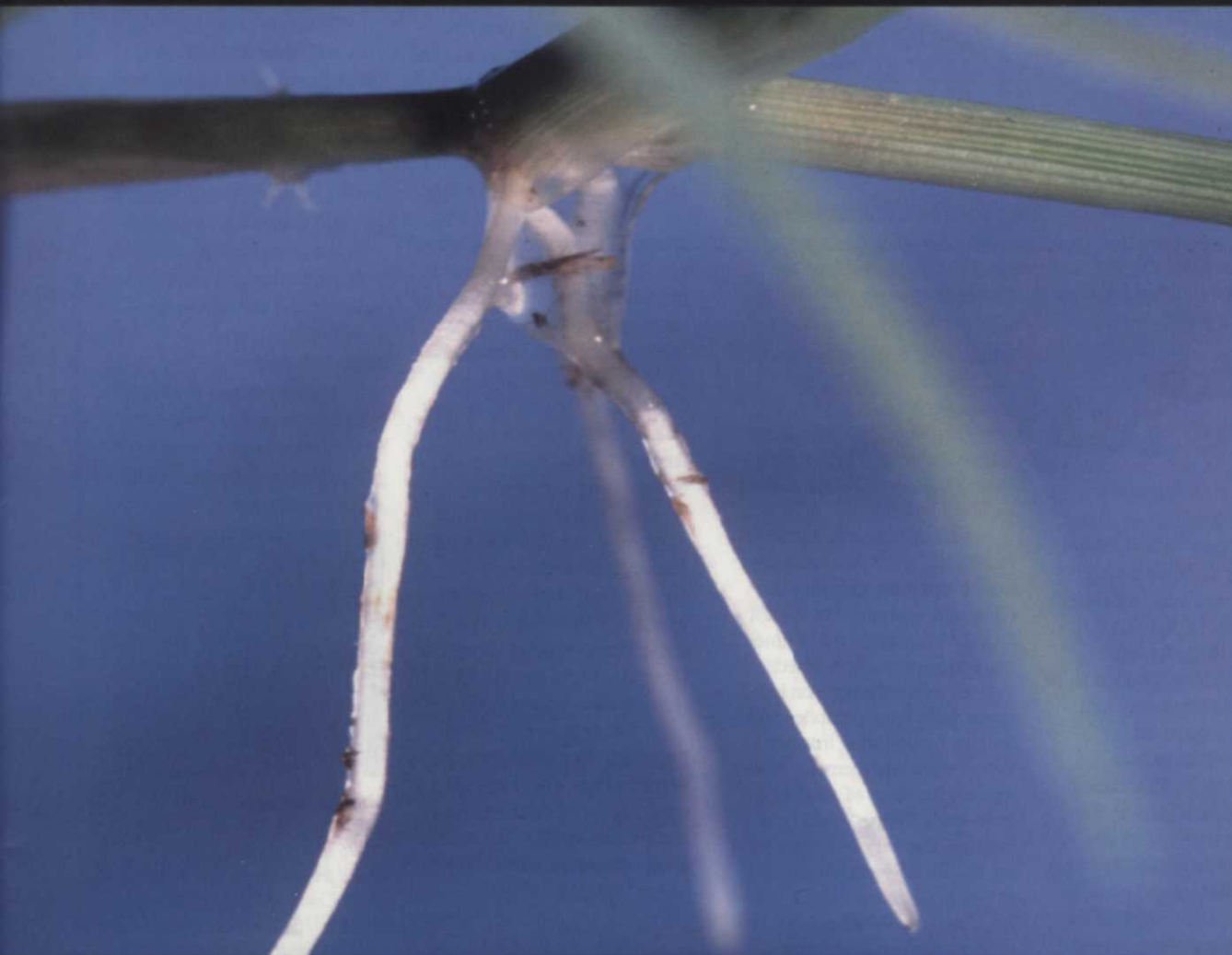
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It probably won't surprise you then that Ronstar is the number one choice among superintendents for uncompromising goosegrass control, and the very picture of healthy, weed-free turf.

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Four-time superintendent association president Dick Blake(left) receives the 2001 FGCSA Distinguished Service Award from the Palm Beach Chapter President Randy Bushway at the PBGCSA's July 18th meeting.

Blake wins DSA

From New England to Kansas to Florida, Dick Blake has left a legacy of leadership in his wake as he sailed through his golf course management career.

On July 18, the FGCSA recognized Blake for his unselfish, lifelong devotion to the profession by presenting him with the Distinguished Service Award as he was surrounded by his Palm Beach peers at a local chapter meeting.

"I was totally surprised by the award," said Blake, "but I am extremely pleased and proud to receive it. I had a couple of the Palm Beach members call me and ask if I was planning on coming to the chapter meeting, which was a little unusual, but I

Island, New England, GCSAA and Florida superintendent associations.

Of course each presidency was preceded by years on each board of directors before moving up to the top spot.

Blake's service to his profession has given those associations much more than they can repay with a plaque, but at least he knows his sacrifices of time and energy were appreciated.

Blake's reflections on his career yield fond memories and insights that still ring true in today's work environment. Blake recalled the result of some of his early work, "When I visit New England, it is very satisfying to see the maturity of the courses I helped build and to know I have left a mark on the landscape. Just as important is to watch the growth and development of over 30 superintendents that worked with me over the years."

DICK BLAKE

Education: Stockbridge School of Agriculture, Mass.

Career History: Massachusetts - Mitchell Brothers Corp. (golf course building and renovation); Whittinsville CC; Concord CC; Salem CC and Mt. Pleasant CC.
Vermont - Woodstock G&TC, Rock Resort Chain.
Florida - Card Sound G&CC; Quail Ridge CC; Bocaire CC and Growing Technologies, Inc.

Association Presidencies: 1968 Rhode Island GCSA; 1970 New England GCSA; 1971 GCSAA (first director to be nominated and elected from the floor); 1987 Florida GCSA

had no idea this was coming." Blake's presidential record sets the bar for professional association volunteerism and duty as he banged the gavel for the Rhode

Island. For those contemplating the life of a superintendent, Blake advised, "You cannot be thinned in this business. You should expect to work long, hard

hours to pay your dues before becoming a head superintendent. While paying your dues, do yourself a favor and develop sound business-management and people-handling skills. Take speaking and business-writing courses.

"Communication is a critical part of the profession today."

In a telephone interview, Blake said he has been heartened the past year by a resurgence in attendance at local superintendent meetings. "We had some bumpy years where attendance had fallen off, but it seems like the demand for professionalism by employers is spurring superintendents to seek out more education to remain competitive."

Blake also recounted his move to Florida and how local superintendents like Lou Oxnevad and Paul Turcotte — whom he had met at GCSAA conferences — helped him adapt his management techniques to fit warm-season grasses.

"Those guys and others rolled out the southern hospitality to me and my wife. Their generosity and willingness to help me is a true salute to the brotherhood of superintendents everywhere," he said.

Joel Jackson

Crawford Wins President's Award

Paul Crawford's winning the FGCSA's President's Award for Lifetime Service this summer is like getting elected to the Major League Baseball Hall of Fame on your first eligible ballot.

This award was created in 1990 to honor those superintendents who served the turfgrass industry for a minimum of 20 years, which is exactly the number of years Crawford has been employed at the Palm Beach Country Club. This is a reflection of the high esteem and apprecia-

tion that his contemporaries in the Palm Beach Chapter regard him and his many contributions.

But it isn't only the Palm Beach Chapter that has recognized Crawford for his outstanding service to the golf and turf industry. In 1996, he won the FGCSA's Distinguished Service Award, a "yearly award presented to a golf course superintendent who has given his time unselfishly in promoting golf course management and unification of the Florida Golf Course Superintendent."

It seems that as soon as he became a superintendent, Crawford embraced the spirit of giving back to his peers and his chosen profession.



After winning the FGCSA Distinguished Service Award in 1996 and a roasting by his good friend Butch Gill (left), Paul Crawford didn't rest on his laurels. His continuing state and national committee service earned him a 2000 FGCSA Presidents Award for Lifetime Service. Photo by Joel Jackson.

I first met Crawford in a hospital room in Jupiter in 1981. We were both visiting Harold Murphy, my former boss and general manager at Sugar Mill C.C., and Paul's former associate at Jupiter Hills.

While I can claim no prescience about his future dedication and service to our industry, I was aware that I had met a caring person of strong character. The next 20 years proved that my first impression was correct, as he went on to become one of the most insightful, dedicated, and productive superintendents in our state's history.

Crawford first joined the

board of the Palm Beach Chapter in 1987, becoming president in 1992. He did double duty during this period, serving on the FGCSA board from 1989 until becoming president in 1993. He was instrumental in laying the groundwork for the establishment of the successful Otto Schmeisser Research Green at the UF REC in Ft. Lauderdale... and the FGCSA hiring a technician to maintain it. His business savvy helped transition *The Florida Green* into the financial success it enjoys today, serving as business manager of our award-winning magazine for several years following his presidency.

Not content to rest on these laurels, Crawford then turned his attention to both the GCSAA and the Florida Turfgrass Association. He served on the GCSAA's Chapter Relations Committee, and over a seven-year period served the FTGA with a term as a director and at various times as a member of the external affairs, events, administration operations, publications, funding and endowment, finance, and member services committees.

By 2001, Crawford decided to scale back on his level of involvement and politely declined requests to serve on boards and committees. It is a well-deserved respite, but one I'm sure will be punctuated by many instances of service to the industry.

Awards like this are won by toil and accomplishment recognized by peers in your industry, but there is a side to Paul that, in my opinion, exceeds any professional achievement. Though he is divorced like so many of us, Crawford is the rock of stability and support for his two children Chris, 16, and Kelli, 14. His children come first in Paul Crawford's life, and if you've seen them with him in Naples, the Keys, or some other setting, you realize what a great job he has done raising these two beautiful and well-behaved young adults.

Nowadays Paul can be found more frequently at his place in the Keys, usually accompanied by Chris and Kelli, kicking back and enjoying life on the water in his boat "Crawdaddy," which is also his nickname; it seems appropriate even if Paul didn't enjoy fishing and diving for lobster as much as he does.

Mark Jarrell, CGCS

PALM BEACH FUTURE OF GOLF

Full field sloshes through delayed fund-raiser

Perseverance should be the motto of The Palm Beach Chapter GCSA. The June 2 event at The Falls CC in Lake Worth was washed out with the first heavy rain in months as the players were teeing it up on the first hole. Drought or no drought, the chance of playing in the afternoon during the summer is pot luck at best!

The rescheduled make-up date of July 14, didn't look much better. Typical afternoon showers were expected. The full field of 128 players was in attendance and ready to play. The 1 p.m. shotgun start went off without incident. The first nine holes were played with a couple of intermittent showers, but at least the tournament was going to have a team winner in this four-man scramble format and they were Mike Bonetti, Howard Hulsebosch, Ken Kniaz and Bob Harper.

After 15 holes, the skies opened up and everyone headed for the clubhouse. After everyone dried out, they sat down to enjoy a buffet dinner. Afterwards, lucky raffle ticket holders picked up over \$2,000 worth of prizes. The finale was the Aventis Power Pack Auction which netted \$1,400 for the event.

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The 2001-02 FGCSA Officers elected at the August Annual Meeting from left: Greg Pheneger, secretary/treasurer; David Court, CGCS, vice president; Geoff Coggan, CGCS, MG; and Cary Lewis, CGCS, who is taking it easy already! Photo by Joel Jackson.



FGCSA Board of Directors for 2001-02 from left: Front row: Dale Walters, CGCS, Everglades; John Lammrsh, Central Florida; Joe Pantaleo, South Florida; Back row: Andy Maguire, President North Florida; Mark Henderson, Palm Beach; John VanVranken, Suncoast; Roger Taylor, Calusa. Not pictured: Doug Abbuhl, Coastal Plains; Greg Tharp, North Florida; Steve Ciardullo, Ridge; Buddy Keene, Seven Rivers; Eric Joy, West Coast. Photo by Joel Jackson.

the many tournament sponsors, the Palm Beach County Chapter was able to raise \$21,000 for turfgrass research. A few weeks later at a Palm Beach GCSA chapter meeting Dr. John Cisar was presented with an \$8,000 check for his continuing research project on ultradwarf bermudagrass management.

Steve Pearson



Deltona Hills C.C. superintendent Chris Cartin shot a 1-under-par 71 to claim the Crowfoot Open medalist trophy. Photo by Joel Jackson.

CENTRAL FLORIDA CROWFOOT OPEN

Silver Anniversary for Kamphaus Crowfoot Open

The Central Florida GCSA celebrated the 25th anniversary of the Larry Kamphaus Crowfoot Open Aug. 4-5 at the Grand Cypress Resort in Orlando. From its humble beginnings in 1976 as strictly a fund-raising golf tournament to its present business, golf and social format, the Kamphaus Crowfoot Open has taken its place among the must-attend events of the year.

This year's event was kicked off by the summer meeting of the Florida GCSA board of directors and the election of officers at the

ensuing annual meeting.

Darren Davis welcomed Cary Lewis, CGCS to the ranks of past presidents as Lewis passed the gavel to new FGCSA President Geoff Coggan, CGCS, MG. Joining Coggan on the 2001-02 Executive Council will be Vice President David Court, CGCS and Secretary/Treasurer Greg Pheneger.

Saturday was devoted to rest, relaxation, theme park attendance with families and practice rounds for those wishing to tune up for the golf tournament on Sunday. On Saturday night, the poolside buffet

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Tim Orton, left, of Pursell Technologies, Inc. and Vilma Kamphaus present a framed David Pursell drawing of Larry Kamphaus to Jack Harrell, Sr. of Harrell's Inc. Harrell was named the 2001 Larry Kamphaus Award winner at the 25th Larry Kamphaus Crowfoot Open reception Aug. 4. Photo by Joel Jackson.

reception was moved indoors to dodge persistent thunderstorms and mosquitoes.

During the reception, the Crowfoot committee honored Jack Harrell, Sr. of Harrell's Inc. as the 2001 Larry Kamphaus Award Winner. The four-year-old award commemorates former Crowfoot Open Chairman Larry Kamphaus who served 13 years in that capacity and was at Walt Disney World for 27 years until he died in 1997.

The award alternates between superintendent and commercial

members of the golf course industry.

This year's golf tournament was played on the North, South and East nines of the Grand Cypress Club with 154 players teeing it up for chapter team and individual honors. Chris Cartin of Deltona Hills CC shot a 71 to capture medalist honors and a spot on the FGCSA team playing for the GCSAA Golf Championship next February. The home boys defended their Crowfoot Open team title and kept the trophy in Central Florida.



The Central Florida Chapter retained its hold on the Crowfoot Open Chapter Team trophy. From left: John Lammrigh, Dick Schlamel and Joe Ballant. Not pictured: P. J. Ronyecz. Photo by Joel Jackson.

Team members were Joe Ballant, John Lammrigh, Dick Schlamel and P. J. Ronyecz. Superintendent low net winner was Chuck Rogers and Commercial Division winners were John Swaner, low gross and Bill Lloyd, low net.

Special thanks to Lisa McDowell, Jan and Bob Lloyd for their hard work in helping the Crowfoot Committee (Tom Alex, chairman; Dwight Kummer; Stu Leventhal; Joe Ondo and Joel Jackson) organize and put on such a successful event this year.

Joe Ondo and Joel Jackson

CGCS CLASS OF 2001

David Datema, CGCS, Highlands Reserve, Davenport
Keith Einwag, CGCS, Westin Innisbrook Resort
Billy Huskins, CGCS, Fiddlesticks CC, Ft. Myers
Scott Jamros, CGCS, Hawk's Landing Orlando World Marriott
Don Johnson, CGCS, Garra de Leon GC, Costa Rica
James Schleutker, CGCS, Vero Beach Country Club
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RESEARCH DONATIONS



Golf Agronomics Supply and Handling representatives Dale Mitchell and Chris Leahy present Cary Lewis, CGCS, center, with a check for \$3,000 for the FGCSA Research Fund. GASH's generosity has reached \$42,000 in cumulative giving to the FGCSA. Photo by Joel Jackson.



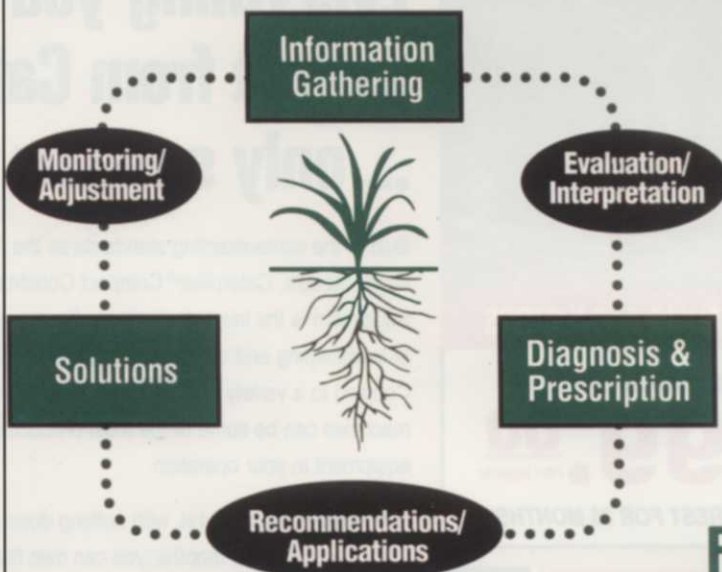
A presidential exchange takes place as North Florida Chapter President Andy Maguire, left, presents newly elected FGCSA President Geoff Coggan, CCGS, MG with a \$5,000 donation for the state's turf research fund. Photo by Joel Jackson.



Before giving up his gavel, FGCSA President Cary Lewis, CGCS accepted a \$5,000 turf research donation from Dale Walters, CGCS of the Everglades GCSA. Photo by Joel Jackson.

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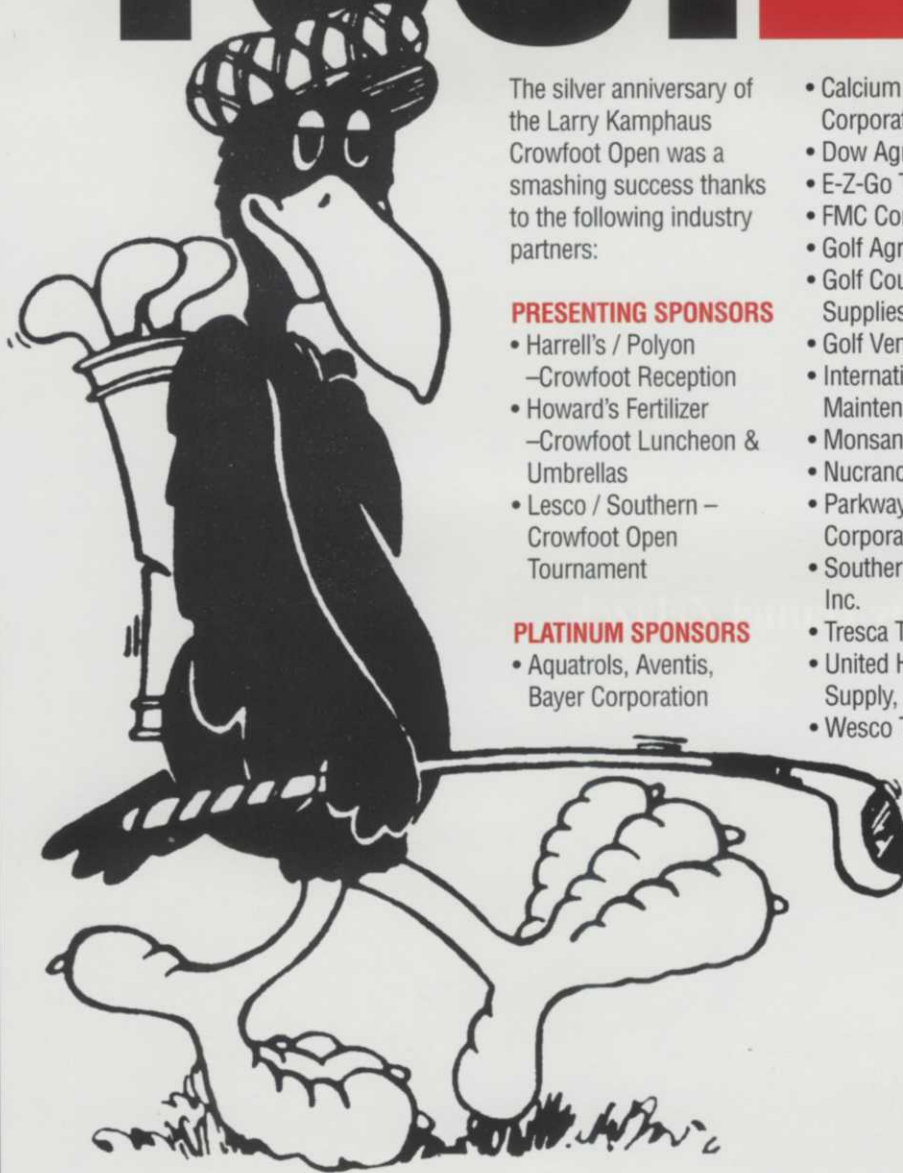
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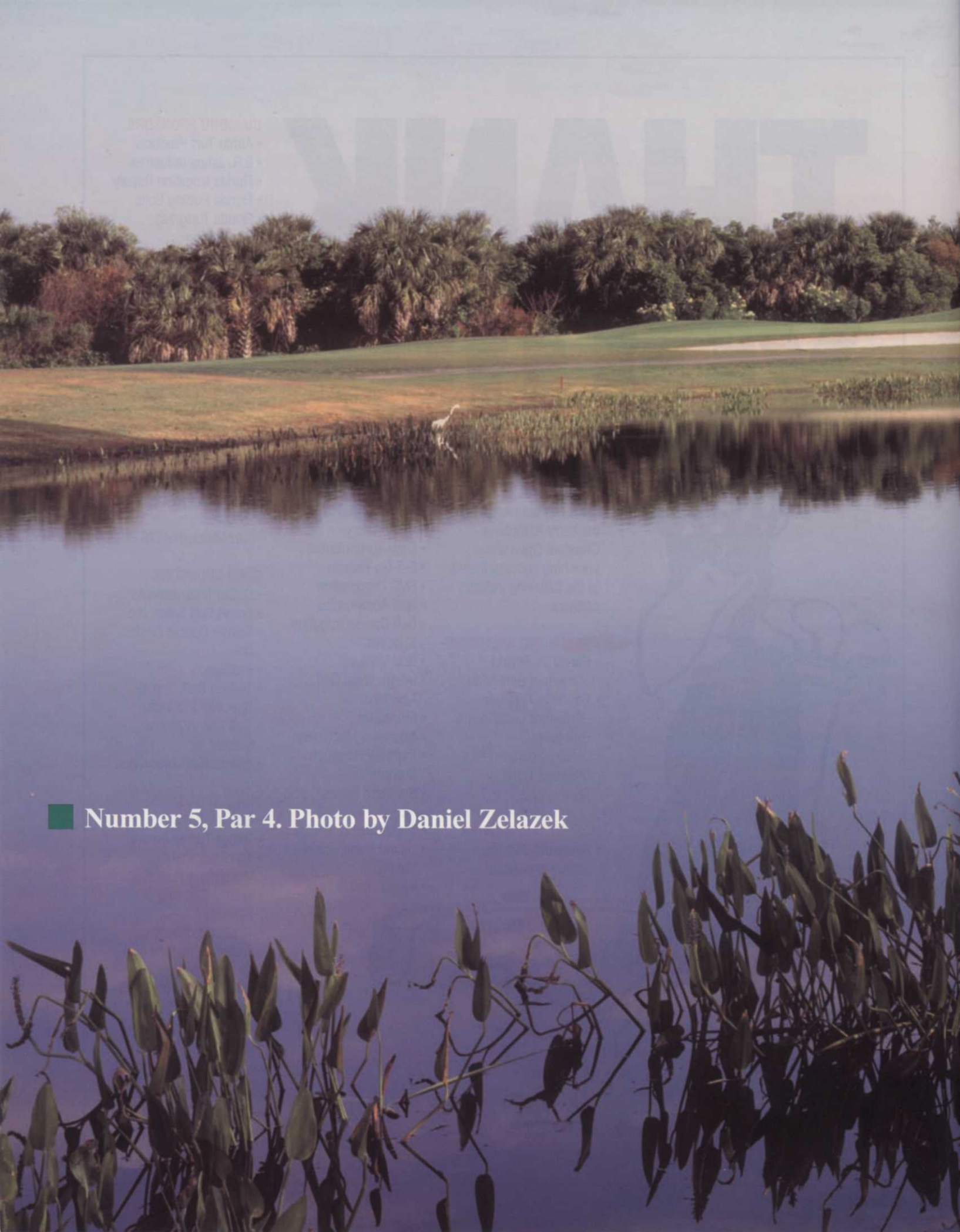
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■ Number 5, Par 4. Photo by Daniel Zelazek



The Great Outdoors:

Where the GM is an MG

By Joel Jackson, CGCS

Last January Geoff Coggan, CGCS, general manager/superintendent of the Great Outdoors RV Resort in Titusville, stood on the stage of a great hall in Harrowgate, England. His heart was thumping with pride and his skin prickled with goose bumps as Sir Michael Bollanack, former captain and secretary of the Royal and Ancient Golf Association, presented Geoff with his Master Greenkeeper's blazer. Twenty years earlier Coggan, the grandson of a coal miner, had been a resident of the town of Mansfield, not far from that very stage.



Native cabbage palms provide food and habitat as they accent the right side of the 15th hole. Photo by Daniel Zelazek.

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During its recent meeting, GCSAA's Board of Directors approved changes to the Associate membership classification, making it more accessible to all golf course employees!

Mansfield is located in Nottinghamshire 250 miles north of London and had two major claims to fame. It was the heart of the coal mining district for the UK, and according to legend it was also the birthplace of Robin Hood. As a lad of 15, Coggan had two career choices in his hometown as he finished his secondary education: become a miner or a minstrel.

Coggan was bound and determined not to go underground for a living, so he struck off into the world of commerce to become a manager. He wasn't quite sure what he was going to manage just yet, but it seemed a better life than mining.

He began his business training as a teenage furniture salesman, which not only included writing up the orders but also hauling and delivering the goods—no mean trick for a slip of a boy with not much bulk to his frame. Not wishing to be crushed under a sofa, Geoff began looking for other ways to get into a management training position. He saw an ad for a manager trainee at Fine Fare, a store not unlike a Wal-Mart. The opening was in the garden shop.

During his hiring interview the lady tested Coggan's knowledge by asking him to identify the plant in her office window. Geoff readily admitted he had no idea what it was, but he said, "If you give me the job, I will learn the names of every plant in the garden shop and in two weeks I'll come back up here and tell you the name of that plant." He got the job.

Coggan enjoyed his work in the garden shop so much so that he wanted to go to university to study horticulture, but his area supervisor was not inclined to help people improve themselves. That supervisor was replaced a short time later by one who valued his people and supported continuing education, so Coggan was able to begin a work-study program in horticulture.

But the corporate world is fickle, and in its infinite wisdom decided they would like to transfer Coggan to other departments to round out his manager training background. Meanwhile Coggan had developed a serious case of "green thumb" and wanted to stay in the

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This lake on the 17th hole is one of 19 watery golf hazards on the course that also double as fishing lakes for the residents. Photo by Daniel Zelazek.

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History: Founded in 1974 by Aris Catsum, Bill Cahill, John Cottage, Lew Dolan, Larry Kamphaus, Phil Morris, Roger Widrig and Adam Yurigan.

Included golf course superintendents from Brevard, Lake, Marion, Orange, Polk, Seminole and Volusia counties.

Activities: Hosts Larry Kamphaus Crowfoot Open. Celebrated 25th Anniversary of this statewide event in August 2001. Annual CFGCSA/FTGA Turf Research Fundraiser at the Interlachen C.C. Orange County Science Fair – judges and awards savings bonds as prizes for the best horticulture and environmental science entries.

Annual donations: Sentinel Santa program for Christmas gifts to needy children. Maitland Birds of Prey Center. FGCSA and FTGA Turf Research Funds.

Honors and Awards: Current and former FGCSA Presidents Geoff Coggan, CGCS, MG; Joe Ondo, CGCS, and Joel Jackson, CGCS.

Officers for 2001: President Scott Welder, WDW Palm & Magnolia Courses; Vice President Brian Lentz, Debary G&CC; External Vice President John Lammrish, LPGA International; Secretary/Treasurer Brett Harris, Lake Nona CC.

Membership: Approximately 250 total including around 140 Class A, B, and C members.

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Three ghostly tree snags frame the 10th green and give woodpeckers a place to live and feed. Photo by Daniel Zelazek.

horticulture field. So he moved on.

Coggan found an opening for a groundskeeper with the National District Parks and Recreation Service. In their employ he learned how to care for cricket squares and bowling greens and he even helped in constructing soccer fields on an old landfill. The position required versatility as he learned to design and install annual beds and to care for trees from planting to proper pruning.

Perhaps the best part of working for the district was its work-study program, which Coggan quickly enrolled in to continue his university schooling. He would go to school part time for three years, taking one class at a time. It was during this period that Coggan found that, of all the disciplines in horticulture, he was gravitating toward the turf option in the program. But this part-time schooling was taking too long. So he quit his job to enroll full

time at the Lancashire College of Agriculture and Horticulture. It meant moving back home to cut expenses, but with his savings from working three years and a grant from the local authority, Coggan was able to complete his studies in three more years of full-time classes.

During his last year of school in 1986, Coggan participated in an international internship and worked for Tim Hiers at the Johns Island Club. Inspired by the supremely professional Hiers, Coggan applied for a work visa upon graduation and began his golf course career in 1987 as a laborer and sprayman for Dave Oliver on the Inverrary GC.

Six months later Oliver left and assistant superintendent Bob Klitz moved up to superintendent. In a move that was to alter Coggan's fate, he selected the plucky Englishman as his assistant superintendent. The year was

1988 and Coggan was learning PGA tournament preparations for the Inverrary Classic. The world was his oyster.

At that time Inverrary was under management by Club Corporation of America. CCA needed someone to take over as superintendent at a property in Titusville, The Great Outdoors Resort, a vacation destination and residential resort catering to RV owners and travelers. The course had been open almost two years and needed some attention to detail to bring it around. In fact, it was just ragged enough to not be all that impressive to young Coggan, who was tapped by CCA to move up and take over.

But fate deals strange hands in the game of life, and as CCA was undergoing some changes it had no other place for Coggan if he didn't take the job at Great Outdoors. So a reluctant Coggan settled in to get to work on the

GEOFF COGGAN, CGCS, MG



Originally from: Mansfield, Nottinghamshire, England. Home of the legendary Robin Hood

Family: Married to Lynne Hundley, daughter Sarah 11 who lives outside Atlanta.

Education: Nottinghamshire College of Agriculture, City & Guilds in amenity horticulture. (3 years); Lancashire College of Agriculture and Horticulture, BTEC National Diploma in horticulture, major sports turf Management (3 years); 1987 Ransomes Top Student Award.

Employment history: Fine Fare Trainee Garden Centre Manager; Mansfield District Council Parks; Johns Island Club, Vero Beach, Intern; Inverrary C.C., Lauderhill, laborer/spray tech/supervisor/assistant superintendent; The Great Outdoors superintendent/manager

Professional affiliation and awards: GCSAA, FGCSA (president), FTGA, British and International Greenkeeper Association (BIGGA). 1996 CGCS; 2000 Master Greenkeeper. Served on Central Florida GCSA board since 1993, president 1997/99 and FGCSA board since 1996.

Mentors: My parents for giving me the encouragement and support when I needed it. John Hacker with PSD Agronomy in England. John was the head of turfgrass program at Myerscough (LCAH). Ben Andrews head of Horticulture who believed in me and encouraged me to refocus at a time when things weren't exactly going well. Tim Hiers who gave me my first job here in the States and whom I'm sure may have had one or two misgivings at the time. Bob Klitz who was truly a mentor to me and set me on the way to becoming a competent and accomplished superintendent. Larry McDaniel who was my GM here at The Great Outdoors, and has helped me in my new role as GM. Jim Swann, Jack Eckerd's stepson who has supported in my endeavors financially and by giving me the room and authority to manage the operation.

Goals: Someday I would like to move to a higher profile course that will push me further and allow me to realize my full potential. I hope to start a consulting operation down the road. I constantly strive to produce

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... continued from page 21

the best I can whether it's on the course or on the management side. I don't enjoy being still. There are always things to be done, and be done right. Having said that, thanks to my wife, I do see that there is more to life than work. It's one thing being focused on things but losing sight of the people around you is not the way to go.

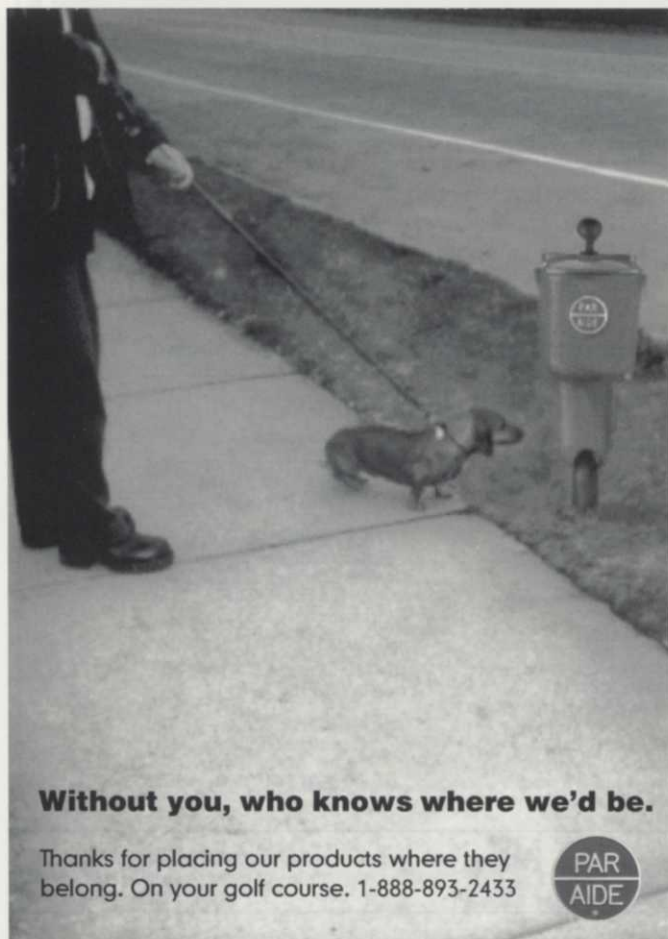
Advice: My advice to prospective superintendents is to value your family and friends. Really listen when others speak. Share thoughts and ideas with others. Do not worry about what everyone else is doing but perform your job to the best of your abilities.

Memorable moments: Checking the GCSAA Certification Exam results board with my former boss David Oliver at the GCSAA Conference and Show and successfully passing the first time. I was very proud of myself then. Most painful moment was shattering my right arm trying to rollerblade in the kitchen. Most embarrassing moment was explaining what happened to the nurses.

Hobbies and interests: Tennis, soccer, rollerblading (never again!)

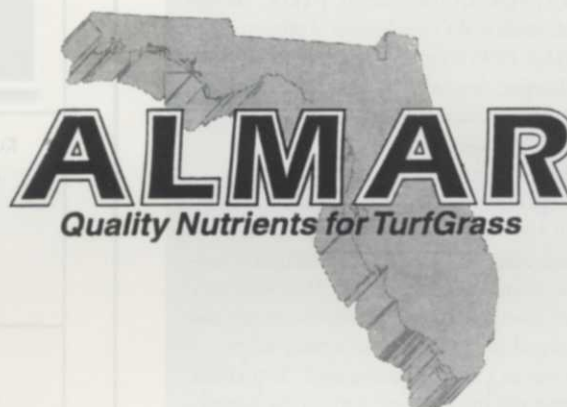
Here are some things you might not know about our cover story superintendent.

1. Car: 2001 Pontiac Grand Prix GT
2. The last good movie I saw: What Women Want
3. I stay home to watch: Football – Soccer to you!
4. The book I've been reading: Don't have time after reading all the trade magazines.
5. Favorite meal: Filet mignon,
6. Favorite performers: Michael Caine, Monty Python, The Beatles
7. Prized possession: Sense of humor
8. Personal heroes: Winston Churchill
9. Nobody knows that I: Am not in line to the throne.
10. I'm better than anyone else when it comes to: Locating local English and Irish pubs.
11. If I could do it over: I'm actually quite happy. No need to do it over.
12. I'd give anything to meet: Michael Palin
13. My fantasy is: Owning a luxury boat
14. The one thing I can't stand: People who sue others at the drop of a hat
15. If I could change one thing about myself: I would like to get back some of the brain cells I lost in college.
16. My most irrational act: Rollerblading on linoleum
17. My most humbling experience: Having to explain my broken arm. See #16
18. The words that best describe me: One of a kind



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Ownership: Jack Eckerd

Playing policy: Semi-private

18 Holes: Blue 6542 yards, par 71; Course/Slope Ratings: Blue 72/128, White 70.2/126, Gold 68.3/119, Red 69/114

Designed by: Ron Garl; opened in 1988.

Management: Club manager/superintendent, Geoffrey H. Coggan CGCS, MG; pro shop manager, Lori Jones; assistant golf professional Mike Owen.

Major Renovations/Ongoing Projects: Completion of program to replace all irrigation

pedestals with new Toro pedestals complete with hydraulic valve banks. Tee leveling and enlargement on holes 9 and 12.

Total acreage under maintenance: 80 acres turf
Greens: Average size: 5700 sq. ft., total 2.5 acres, Tifdwarf. Height of cut: 5/32" Overseeding: 80/20 blend of Lolium perenne (Perennial Ryegrass)/Poa trivialis @ 25lbs/1000 sq. ft. Green speed goals: "Smooth and consistent. They probably roll at about 8 but numbers aren't important to the members. Enjoyment is the goal."

Tees: 2.5 acres of Tifway 419 Bermuda. HOC: 1/2". Overseeding: Lolium perenne @ 20lbs/M
Fairways: 23 acres of Tifway 419 Bermuda. HOC: 1/2". Overseeding: Lolium perenne 370lbs/A.

Roughs: 44 acres of 419 Bermuda. HOC: 1.25".
Overseeding: Type and rate - Lolium perenne 270lbs/A.

Bunkers: 18 bunkers with #20 sand. Hand rake two greens bunkers. Mechanically rake all others with Toro Sand Pro 5000 with standard tines and flaps. Three sandy waste areas.

Waterways/Lakes: 19 Lakes covering 44 acres maintained on a monthly program with contractor. Cost shared 50/50 with the Community Services Association



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Irrigation: Water Source - Effluent from City of Titusville, and our own waste water treatment facility, stored in a 13-acre reservoir.

Equipment: PSI pump station 50 & 20 hp. Operating pressure 95 psi at station. Toro Osmac controller. Most heads now Toro 750 (original heads 680's), hydraulic valve in head. 357 heads total.

Fertigation system was originally installed but taken out of service in 1990 since course system also serves residential irrigation.

Total staff including superintendent: 14 full time and 10 part time. Golf Course (12), Pro-shop (5), Cart attendants, rangers, etc (7). Average weekly budgeted hours: straight 40, overtime 6.

Student interns: In the past we have employed an Ohio State International Exchange Program student.

Leadership: Assistant Superintendent Alan Jackson; Mechanic Phil Dascole; Pest Control Technician Walter Kincaid; Irrigation Technician - Open; Administrative assistant Ginger Wright; Pro Shop Manager Lori Jones.

Special circumstances: The course was built adjacent to the St Johns River and features a number of designated wetland areas. The soil is predominantly a heavy clay/fine sand mixture. The water table is very high and salt problems have been the number one problem. When I first started here, the pH ranged between 3.5 to 7.9 and the base saturation of sodium was an average of 33% on fairways. Percolation rates are poor and additional perforated pipe drainage and swales have been installed to assist.

Communications: Attend Men's or Ladies Golf Association by invitation, about two each season. Advisory board with 2-3 members

from each association meets with me regularly through the season. We deal with a consensus of the members rather than everyone with their own agendas. I invite them down to our break room. Provide them with coffee, juice, bagels, etc. and have a good discussion. I have meetings with all employees or individual crews as needed, but every two months the employees choose an employee of the month who then receives a \$50 gift certificate. Their picture is posted in the clubhouse. I also enclose memos with paychecks as I see fit. The members all receive a state-of-the-course address along with their new dues rate structure in the fall.

Cultural/Fertility/IPM programs: We try to incorporate four or five aerifications of greens each year, three on fairways and tees and twice in the roughs. Verticutting of greens is done bi-weekly and the entire course twice per year. Greens top dressing is monthly on average. Greens fertility is between 12 and 18 lbs N/year. The entire course is fertilized every nine weeks, and the tees receive additional fertilizer applications. Chipco choice has been applied alternating annually between tees and fairway and the roughs. The heavy soil composition I believe helps as we have not had any cricket problems in these areas since. Our biggest problem is grubs, not because of the damage they do, but from the scavenging of the armadillos, possums and sandhill cranes.

Equipment Inventory: Toro 3100 triplexes for greens and tees. Timed replacement with Jacobsen Greensking 4-Plus mowers. Jacobsen LF-128 for fairways. Toro gang unit for the roughs.



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course which still sported some bare fairways two years after grow-in.

About the time Coggan got the course looking presentable, CCA lost the management contract, but the owners liked what he had done to the course and asked him to stay on. Making a leap of faith, Coggan accepted the offer. Eleven years later, he is the general manager of golf operations, a Certified Golf Course Superintendent, a Master Greenkeeper and the new president of one of the largest golf course superintendent associations in the country.

Of all the two dozen or so superintendents in the U.S. that have become Master Greenkeepers with the British and International Greenkeepers Association, understanding Coggan's motivation is the perhaps the easiest given his heritage and Coggan admits his roots had a big part in deciding to pursue the MG classification. He was spurred to take action after a three day visit to the Great Outdoors by fellow superintendent and noted con-

sultant Terry Buchen, CGCS, MG. Buchen had been among some of the early Americans to attain MG status.

Buchen was hired by the Homeowners Association to do due diligence on the golf course operations as they considered buying it from the developer. During the intensive Q and A sessions with Buchen, Coggan had to dig deep into his background and training and recall all those classical reasons for doing the things we do almost subconsciously on the course because we sometimes get dulled by the day to day routine and political shenanigans that creep into the daily grind.

Having to reexamine his motives and methods energized Coggan and with a little encouragement from Buchen, he embarked on the course of study leading to the Master Greenkeeper examination.

Coggan says of the MG exam, "It is a totally different ball of wax than from the multiple choice format of the CGCS exam although it is also six hours long.

"There are two parts to the exam and only six questions total. The first part is only one question. They give you a scenario and you have to respond to the conditions that are presented. Your answer requires you to show the analytical thinking process and the application and justification of the solutions you propose to deal with the problems presented. You have to provide a great deal of detail to explain yourself because you must cover all the bases as the grading process is quite subjective."

The second part was made up of five essay questions that all required going into a great deal of detail to fully answer all aspects of the questions. The toughest part was that most of the questions dealt with aspects of cool season grasses naturally, and I had to really think back to my days in England to put myself in the proper frame of mind for the answers. Some of the questions were generic in nature, but most were heavy into cool season turf problems. I failed part two the first time, but passed

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Kevin Ross, CGCS
Country Club of the Rockies in Vail, CO



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“Grinding this machine is easier because you just remove two bolts and pull the head off. It’s simple. Very quick and easy. Your technicians will be thrilled to death immediately.”

Dennis Donnelly, Equipment Manager
The Estancia Club in Scottsdale, AZ

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is built to meet the
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superintendents,
technicians, operators
and golfers.



Operators

“It’s simple for my operators to understand how to run the Greensmaster Flex 21, which in turn makes it easy to train operators because it’s a very user-friendly machine.”

Allan Pulaski, Director of Golf Course and Grounds Maintenance
The Landings Club in Savannah, GA



Golfers

“Our golfers are pleased. We have a very demanding membership. A lot of our members belong to other courses like Pine Valley, Cyprus Point, Augusta. They really praise our greens. In fact, we’ve had other clubs come here just to take a look at our greens.”

Carl Rygg, CGCS, Director of Golf Operations
The Estancia Club in Scottsdale, AZ

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The new Toro® Greensmaster® Flex 21 delivers better looking, better playing greens. Designed to perform on any green, even the most severely undulated putting surfaces, the Flex 21 virtually eliminates the fear of scalping, allowing you to cut lower than you ever

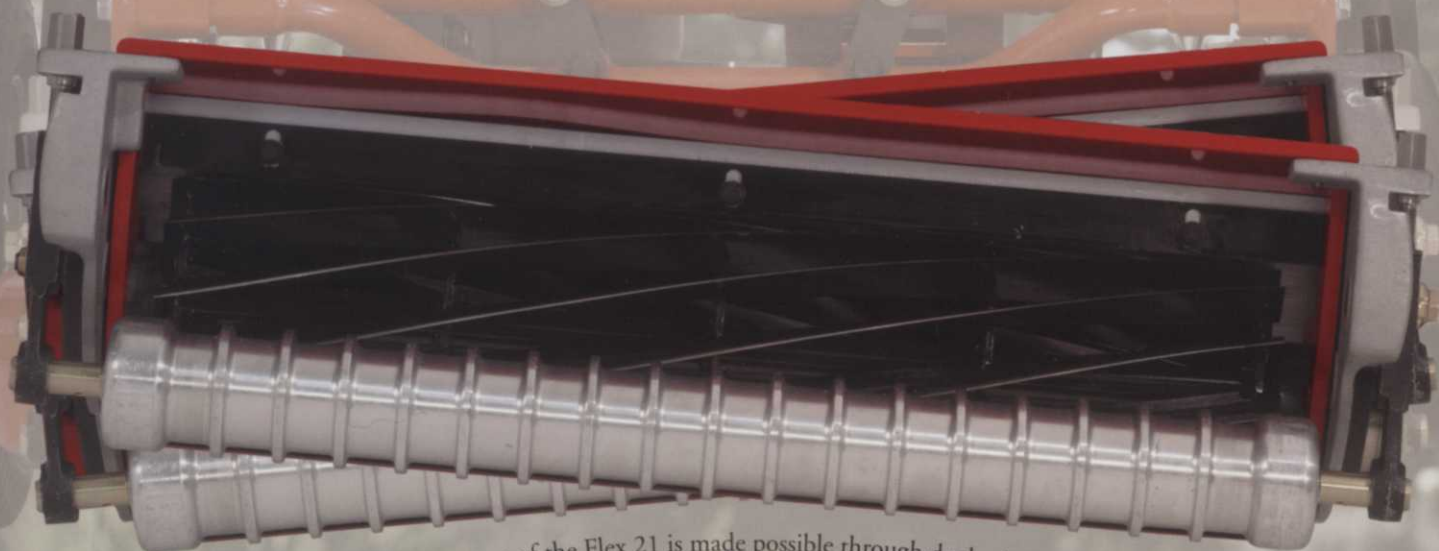
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dared before. Its revolutionary flexible cutting unit excels on traditional bent and bermuda, as well as on new ultra dwarf grasses including the Penn A & G Series, TifEagle, and Champion. Take a look at the features that deliver a more predictable, faster and truer ball roll.

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- ✓ Unique traction drum tapers at the outer edges to alleviate overlap marking on the cutting path
- ✓ No grease zerks, plus multi-lip seals and a new gear box keeps grease off the green and sets new standards in ease of maintenance
- ✓ An extruded aluminum, cutting unit frame offers strength, rigidity and creates the industry's shortest footprint with a mere 8.75" between rollers – reducing scalping



Here it is! Greens



The revolutionary movement of the Flex 21 is made possible through dual axis suspension and flexible drive shaft couplers. The individual traction and cutting units are attached at two center pivot points so the cutting head can pivot forward and back, and side to side around the bedknife centerline.

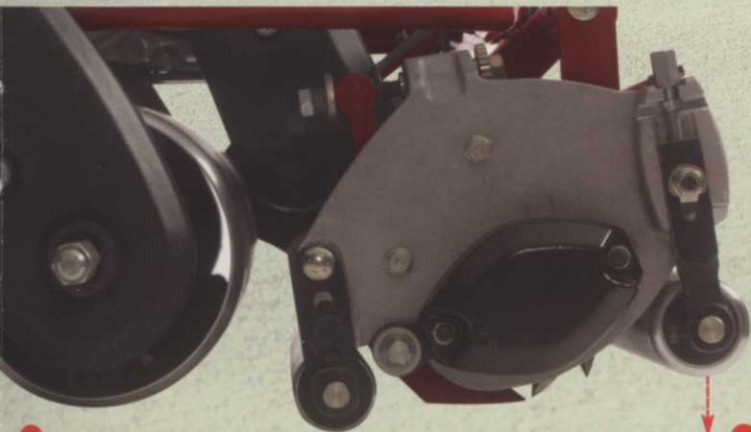
Flexible drive shaft couplers allow the cutting unit to flex on the center axis.



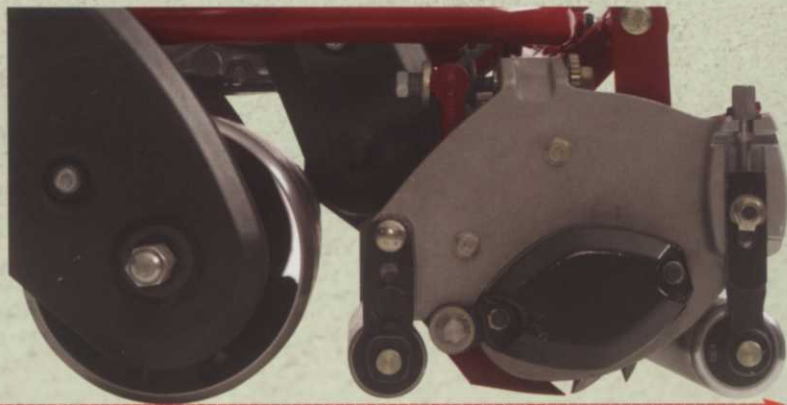
A dual-function lever controls both the traction and reel. Plus a new clutch design makes it easy to engage the reel with a simple twist of the wrist.



The unique positioning of two rollers tucked closer to the reel and rear drum means you're far less likely to mark an undulating green.



The cutting unit sets down softly back roller first, then front, like an airplane landing, to prevent gouging.

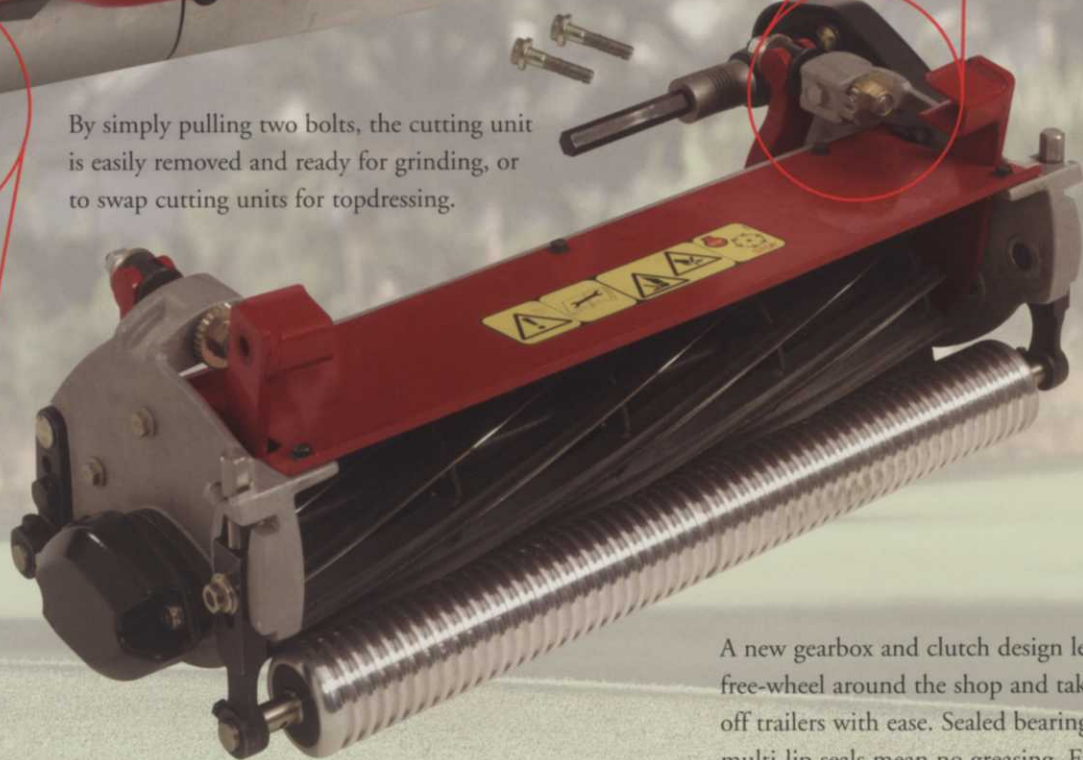


master Flex 21



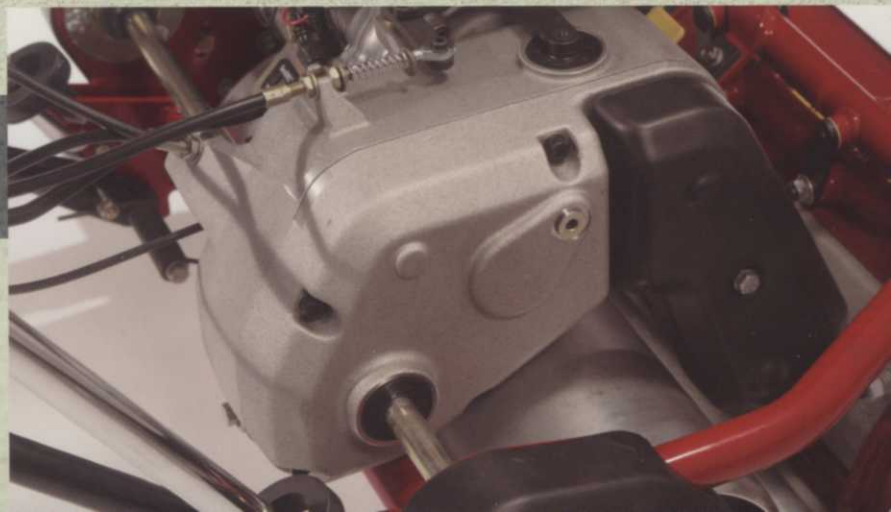
The reel-to-bedknife
adjusts with a simple click.

By simply pulling two bolts, the cutting unit
is easily removed and ready for grinding, or
to swap cutting units for topdressing.



A new gearbox and clutch design lets you
free-wheel around the shop and take on or
off trailers with ease. Sealed bearings with
multi-lip seals mean no greasing. Ever.
Which also means no grease on your greens.

Tapered drum alleviates edge
loading and virtually eliminates
overlap markings.



The Greensmaster® Flex 21 meets the needs of:

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- Even cut on undulations
- Less mechanical marking

Technicians

- Easy and quick to maintain
- Versatile
- Holds critical adjustments better

Operators

- Easy to use
- Easy to train
- Worry-free operation

Golfers

- Faster greens
- Truer ball roll
- Predictable putting

Greensmaster® Flex 21 Specifications (model 04021)

Engine	Kawasaki®, 4-cycle, 3.7 hp (2.7 kW), air-cooled OHV engine, 3600 rpm. Displacement: 7.57 cu in. (124 cc). Cast iron cylinder sleeve. Electronic ignition. Maximum noise suppression muffler, 83 dB(A) at operator's ear.
Fuel Capacity	2.64 quarts (2.5 liters) regular grade unleaded gasoline.
Gear Box	Traction Drive: Integral gearbox assembly directly mounted to the engine. The traction drive consists of a constant mesh planetary gear reduction incorporating a wet bath band-type clutch and brake driving a Peerless® differential assembly integrated into the gearbox assembly. Positive drive belt to traction drum. Implement Drive: Consistent mesh gear driven countershaft with integral cone wet clutch. Drive shaft consists of two stainless-steel beam couplings for angular misalignment combined with a molybdenum disulfide nylon extension member to accommodate axial movement. Positive drive belt to reel.
Ground Speed	Mowing speed: 1.3-3.5 mph (2.1-5.6 km/h). Transport speed (maximum): 5.3 mph (8.5 km/h).
Traction Drum	Dual cast aluminum, 7.5" (19 cm) diameter, tapered on outer 1/3 of length.
Controls	Engine mounted: on/off switch, recoil starter, choke. Handle mounted: throttle lever, dual function traction/reel control lever, service/park brake lever. Safety devices: neutral interlock system, servicing/park brake, enclosed drive system.
Handle	Loop style, 1" (2.5 cm) diameter with easy-pull pin height adjustment, operator selected.
Transport Tires/ Kickstand	Two quick detachable pneumatic tires; 3 x 3.25-6" (8.25 cm) tread width. Kickstand standard equipment.
Reel Construction	5" (12.7 cm) diameter, 11 blades (high-strength, low-alloy steel, through hardened, impact resistant).
Suspension	Semi-floating cutting unit separable from drive unit, pivoting around reel centerline (pitch axis) and pivoting around bedknife centerline side-to-side (roll axis).
Width of Cut	21" (53.3 cm).
Height of Cut	1/16-19/64" (1.5-7.5 mm).
Clip Frequency	11-Blade/Standard: .16 (4.1 mm), 11-blade w/clip kit: .14" or .21" (3.5 mm or 6.4 mm).
Cutting Unit Construction	Extruded aluminum mainframe with cast aluminum side plates.
Cutting Unit Service/Adjustments	Cutting unit detachable from traction unit, dual screw adjustments to reel. Front roller height of cut adjustment with rear roller eccentric leveling. Sealed reel bearings utilizing multi-lip canister seals.
Bedknife	Bedknife is high carbon through-hardened steel. Tournament bedknife standard.
Grass Basket	Molded polyethylene with integrated graphics highlighting overlap guidelines, vented for high-efficiency collection.
Rollers	Front Roller: Aluminum Wiehle® 2.5" (6.35 cm) diameter with sealed bearings and multi-lip seals standard. Rear Roller: Aluminum full roller 2" (5.1 cm) diameter with sealed bearings and multi-lip seals standard.
Dry Weight	238 lbs. (108 kg) with aluminum Wiehle roller, kickstand and grass basket (without transport tires and groomer).
Warranty	Two year limited warranty. Refer to the Operator's Manual for further details.

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it three months later on reexamination.”

Coggan is now among those few superintendents who are wearing two hats or at least a different hat—the one that says general manager on the nameplate. It is an eye-opening experience that can almost be schizophrenic at times.

For those contemplating a career move to a general manager position Coggan had these comments, “I didn’t seek out this position, but as a team player trying to do my best in my own area I paid attention to detail. I learned that lesson from staff meetings when other managers couldn’t explain certain monthly expenses in their own departments.”

“I made sure I could explain my budget variances in a business-like manner each month, and I paid attention to the monthly statements of the other departments as well to see how the whole operation was doing. I wasn’t being nosy, just interested in the overall health of our company. I guess my diligence paid off when it came time to do some reorganizing. They gave me an opportunity to move up.

Coggan says, “As the superintendent you see things that you want to do to make improvements to the golf course. As the general manager you have to calculate the return on the investment of those improvements. You have to balance where the revenues will come from against the expenses you have budgeted. You begin to appreciate the total business plan when sitting in the GM’s chair. On the other hand, you can see the folly of making unrealistic demands on the maintenance department as well.”

Coggan knows the maintenance phase very well as he has tended the golf course for over a decade’s worth of growth and maturity, which has included modifying the original design occasionally to accommodate the development of some of the home sites. The resort is now approaching total build-out and Coggan won’t miss adjusting the property lines and their impact to the adjacent golf holes.

The resort lies on the eastern flank of the St. John’s River basin where S.R. 50 intersects I-95 just west of Titusville. Much of the property

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remains pristine riverine wilderness dotted with moss-covered oaks and clusters of sabal palms and southern pines with thickets of holly, wax myrtle and palmettos. The golf course is a links layout that starts at the first tee and doesn't come back to the clubhouse until the 18th green.

One of the most appealing aspects of his tenure at The Great Outdoors is Coggan's never-ending amazement and appreciation for the natural beauty of the site and the steps taken by the resort to manage and enhance its place in the old Florida landscape.

Coggan says, "At many golf courses the superintendent has to take the lead in environmental awareness and promoting programs like the Audubon Cooperative Sanctuary. At the Great Outdoors, the resort maintains over two miles of nature trails and nature walks are conducted by request.

"The resort has established a fisheries and wildlife program of habitat management, stocking, forage management and supplementary feeding—pro-

ducing an angling paradise and an excellent turkey-management program. The resident bald eagles are protected and monitored by the Florida Department of Natural Resources. They can be seen swooping down to snatch a bite of lunch from the lakes from time to time.

"No hunting is allowed, but the resort has become a bird-watchers paradise, of which 300 species have been identified. Fishing enthusiasts take to the resort's 22 lakes in pursuit of the fighting largemouth bass on a catch-and-release basis. Other stocked species like black crappie, bluegill, perch and catfish are fair game for the frying pan.

"The Great Outdoors Resort is a rather unique RV property in its total scope and operation. This isn't a place where anybody pulling a pop-up camper can stop for the night. The RV rigs that pull in here run into the six figures, and most of the people here are residents, even if they are only here for the winter season.

"I have seen the home sites develop from a simple slab and utility

shed set-up in the beginning all the way to free-standing homes with huge carports for parking the RVs. Regardless of the configuration of the site, RV people remain some of the friendliest in the world and have been a great bunch to work with over the years. Maybe it's the common bond of wanderlust and road warrior camaraderie.

"Since I report to the resort ownership, we don't have a green committee per se, but the golf members do have an advisory committee that meets with me several times a year to discuss possible course or operational improvements. We work with them to address their concerns and to provide them with the best service possible."

When things get a bit hectic or revenues are lagging below projections, Coggan thinks about his old chums back in Mansfield most of whom never moved more than a few miles from their birthplace. He thinks about the world of opportunities they missed exploring and he is thankful he came to America to give it a go.

Cheers Geoff.

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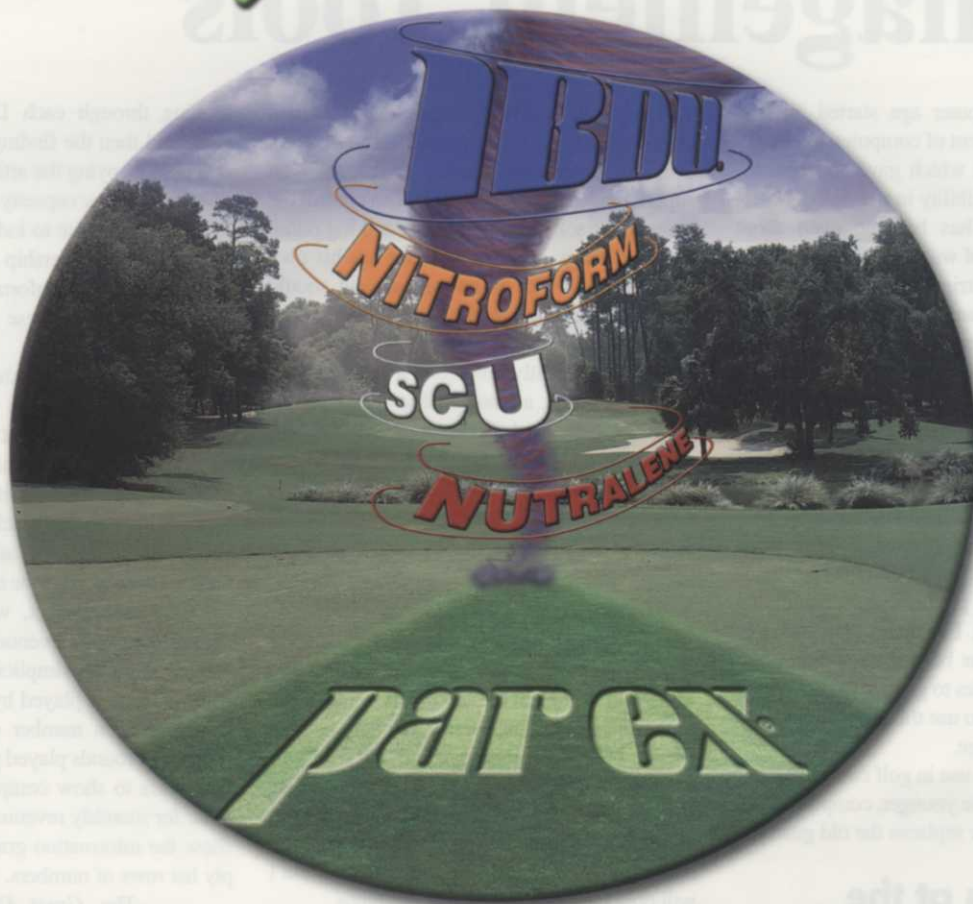
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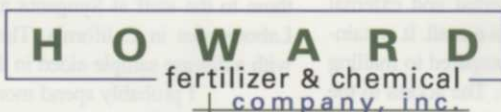
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Computers As Management Tools

The computer age started on golf courses with the advent of computerized irrigation control systems which gave superintendents tremendous flexibility in managing watering cycles, which has become even more important in a time of water restrictions.

Beyond irrigation, computers are proving to be important tools for personnel and payroll management, equipment record keeping, budget preparation and presentation, GPS mapping and, most of all, rapid communications.

Superintendents are experimenting with digital photography for documentation of projects and for show-and-tell sessions with green committees and owners. Typing skills seem to be the major limitation to many superintendents who were products of the traditional school of agronomy. For them, conversion to the computer age has been slower. You don't need bells and whistles to grow good turf, but it never hurts to learn to use the latest technology to your best advantage.

Computer use in golf course maintenance will grow as the younger, computer-literate generation slowly replaces the old guard.

Computers at the Great Outdoors Resort *Getting Computerized*

My use of computers in the everyday operation has increased significantly the past 11 years at The Great Outdoors. When I started here in 1990 everything was on paper and filed somewhat neatly in cabinets. The irrigation was run on a Toro Vari-Time system and the need for a computer was minimal.

However as things progressed, I realized that I could be more efficient with the aid of a computer and that my presentations of budgets or proposed employee pay raises could be improved. It wasn't until 1993 when the course irrigation was re-tubed and Toro Osmac was installed that I had my first office computer. It was a Magitronic 386, 35 MHz with a 30 MB hard drive. I upgraded the memory and hard drive over the next few years.

As I started to utilize the computer more, its limitations were glaringly apparent. It wasn't until 1997 that we replaced the computer in order to run the newer Osmac version

4.07. This was a 233MHz with a 2.4 GB hard drive and 24X CD purchased through Toro. This computer now resides in the assistant superintendents office where he can control the irrigation, track employee hours and log pump meter readings, etc. My assistant has his own Internet access with his own e-mail and, should the mechanic need to access the Internet, he does so on that unit.

I recently purchased a new computer for my office, a Compaq Presario 1.1 GHz with 25 GB hard drive, 128 MB RAM, rewritable CD drive, DVD drive and floppy. My printer is the Hewlett Packard PSC 500 — a flatbed scanner, color copier and printer all in one.

Software Applications

I originally started out using Microsoft Word and the Microsoft Works suite, then went to Word and Excel and now back to Works. I had a few problems moving files over to this new computer and associating data files with their new format. The only real problem I had is that Works does not import the graphs I had in Excel format; the data is available and I will now have to reproduce new graphs.

My e-mail files were all in Netscape Communicator and now I am using Microsoft Outlook. The email address book can be imported but I found that I had to re-enter all the addresses in some form or other. I am not sure if I will continue to use Outlook or not. Other software includes Adobe Photo Deluxe for my digital camera. I will probably go back to Microsoft Office 2000, as I would like to start using Power Point for presentations and prefer constructing graphs in Excel.

Management Tool

I use my computer for internal and external business communications via e-mail. It certainly saves time and money compared to mailing or faxing memos and letters. The access to the Internet enables me to keep abreast of industry news and to find articles or information I need. By visiting the GCSAA web site, I can access past *Golf Course Management* articles in the archives which can then be presented to my staff and membership. This is far easier than

looking through each December's directory issue and then the finding the respective issue and photocopying the article.

In my capacity as general manager, I often have to write to individual members and the general membership addressing concerns, giving updates and informing them of new rate structures etc. All these are saved to file for future reference.

I use spreadsheets for a number of tasks. I have made up a worksheet that determines the correct amount of fertilizer per green based on percentage of nitrogen and rate that I wish to apply. This sheet is then given to the applicators who can track the amount needed per green, so they can adjust settings or technique as needed to get the correct amount applied.

My budget, which consists of all departments with revenues and expenses, is on a spreadsheet for simplicity and presentation. I track all rounds played by category and this is displayed in a number of graphs that show number of rounds played per month for the past five years to show comparisons. The same is done for monthly revenues. It is a lot easier to show the information graphically than to simply list rows of numbers.

The Great Outdoors selects an employee of the month, which is voted on by the crew and alternates between the clubhouse staff and the course maintenance staff. The individual receives a \$50 gift certificate and his photo is displayed in the pro shop. I take the employee's photo with a digital camera, download it to the computer and print it as needed.

The digital camera is really helpful in the development of our website. I take photos around the course and clubhouse and email them to the Webmaster for posting on our site. Recently I was faced with a heavy disease problem on my emerging bermudagrass during transition. I was able to take photos and email them to the staff at Syngenta and to the Pace Laboratories in California. The photos along with a disease sample aided in the diagnosis.

I probably spend more time now on the computer than I did before. It does save time putting presentations together and it is a lot easier to edit. The key is having the ability to do much more than just keeping records by using a computer as a management tool.

By Geoff Coggan, CGCS, MG

Computer Mice... and Men

Computers entered my golf course maintenance life when I returned to Disney World to grow in the Osprey Ridge GC at the Bonnet Creek Club. While I had been banging away on a Macintosh Performa at home to work on the *Florida Green*, I had not used a computer at work until the Rainbird Maxi V controller was installed with the new irrigation system.

The first software with the Maxi system responded to MS DOS operating system which was awkward and cumbersome by today's standards of point and click, but we managed to bungle through until the new software made it easier to navigate to the various screens for reports, schedule changes, and system monitoring.

Soon the secretary's computer was installed and she began keeping personnel time records and submitting them to payroll and writing various memos for us to communicate with the chain of command and other departments within the golf division. When I upgraded my home computer, I brought my old Mac into work to use for work schedules and my own memo writing.

There was company email available on the secretary's computer so we could send and read interoffice memos. The best feature that took awhile to link up was when we could log into the Tee Sheet and check tee times and group reservations so we could plan our maintenance practices to minimize guest inconvenience.

When the new head superintendent, Gary Myers, took over, he wanted us to create a monthly maintenance calendar using Calendar Creator software. We would update it weekly for our staff meetings. By having a printout from each of us, he could track our fertilizer and pesticide applications to see what was going on each course at a glance. By posting the calendar in the office it also gave the crew a heads-up on what was happening and helped the crew foremen assign jobs to work around special situations.

I also developed a Daily Assignment Form which the foremen used to create the daily work sheets, which they still filled out by hand at the end of the day.

We were in the process of selecting software for the shops to track equipment repair,

labor and expenses, but that was still in its infancy when I retired. Our clerks and administrative staff used the computers for personnel and purchase requisitions, but budget reconciliations were still done manually from printed out reports from the bean counters.

I haven't checked with my old colleagues out at the Mouse House lately, but I bet they all have their own desktop computers now and they have come pointing and clicking into the 21st century of business management.

It will be four years since I hung up my L.L. Bean duck boots and we were just beginning to scratch the surface of using computers in golf course maintenance. Today, even if the superintendent doesn't have a computerized irrigation system or a secretary with a desk top computer, there is bound to be one at the clubhouse that is generating memos and reports that cross his desk.

Computers will never replace the trained eye or the artful hand of a gifted turf manager, but they can provide a tool that is useful in manipulating and sharing information for communicating with owners, members and fellow superintendents.

Joel Jackson, CGCS

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To keep from creating a cup changing nightmare after aerification, fill the old cup hole with top-dressing mix. Photo by Darren Davis.

It's In The Hole

Aerification... "A necessity, a customary cultural practice, a tool to improve putting greens."

Unfortunately, no matter what terms we use to define, defend or explain the process of aerification to golfers, it will most likely always fall on deaf ears. Aerification is, and will remain, an unpopular and often despised practice by the golfing public. What you may not know is that aerification can be equally as unpopular to the individual who has to change the hole placement on the day after the greens are aerified. If you have performed the task you know exactly what I mean!

The biggest problem that I have seen encountered by the crew member on "the morning after" is installing the new plug into the old hole that has been crushed or caved in by the aerification equipment. With the aerification process, core removal and topdressing, it is impossible to avoid crushing the void where the previous day's hole had been placed.

Leaving the old cup in, which would help stabilize the hole, is not usually the answer as the aerification tines would inevitably bang

into the metal or plastic hole-liner. There is, however, a very simple solution that you may have overlooked in your operation.

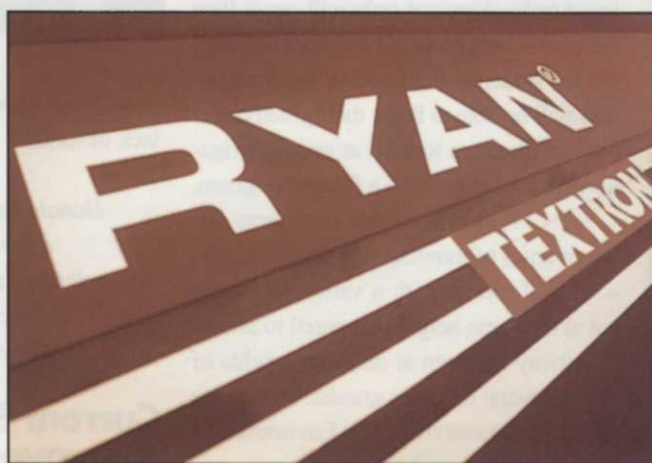
Once the cup has been removed in preparation for the aerification, the existing hole can be filled with soil. By filling the hole, the turf surrounding the void is held in place and the area does not collapse when a tire runs over it. As some of the soil mixture may remain in the hole the following day when a new plug is placed in the void, it would be prudent to fill the hole with a soil mixture compatible to your existing subsurface.

Simple, common sense you say. Yes. Maybe, but I guess having changed many a pin after aerification when the hole was not filled in, I know that I am not the only one out there facing this scenario.

Darren J. Davis
Director of Golf Course
Operations
Olde Florida Golf Club



Unfortunately, no matter what terms we use to define, defend or explain the process of aerification to golfers, it will most likely always fall on deaf ears. Aerification is, and will remain, an unpopular and often despised practice by the golfing public



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BENHAM'S BEAT

Lack of funds leaves research on the table

The FTGA and the University of Florida along with many members of the FGCSA are working together to make the new research facilities at Pine Acres Plant Science and Education Unit a reality.

Together we are formulating a plan to involve industry companies in helping with the building of the site and showcasing their individual equipment in use at the research facility.

For example, irrigation using the latest technology not only will serve Pine Acres research plots but also as a teaching aid for students. Golf course superintendents will be able to bring their green chairman or directors to look at several irrigation systems at once on a fairway or green.

They will be able to observe different types of mowing equipment on fairways and greens with a variety of grasses cut at the same height compared to another fairway or green at different heights of cut on several different grasses. The ability to use the research at the Envirotron on large turf plots and actual fairways, tees and greens is a wonderful concept. I will keep you updated of our progress in future articles.

Speaking of research, Bobby Ellis and Brian Combs with their committee have completed their recommendations on research and scholarship awards. Their committee works very hard on selecting the grants.

All proposals received are evaluated on a scientific educational merit scale. The quality of proposals is so high and our funding ability is so limited that each year we leave a lot of quality research on the table.

In addition, we are getting requests from our industry for more research on water usage, evaporation losses and determining the percentage of irrigated water being returned to the aquifer for reuse.

We hope the \$5-a-member program, Golfers For A Better Environment, which enables golfers to support turfgrass

research will continue to improve to provide funds for necessary research. In the winter issue of the *Florida Green* I will go into full detail of how that program is needed and funded.

You generally get many chances to read what projects are funded each year in the *Turf Digest* and *Florida Green*. I thought you might like to see a list of research projects that made it through the difficult evaluation process but were not funded because of the lack of funds.



Donald Benham

Donald Benham is director of public affairs for the Florida Turfgrass Association. He may be reached through the FTGA office, 407-896-8079; fax 407-896-6857; email turf@ftga.org.

Current Status of Approved Research Projects

2001 FLORIDA TURFGRASS PROPOSALS APPROVED BUT NOT FUNDED

Shows the project title, researcher(s), requested amount, and scientific educational merit score on a scale of 1-4, with 4 being high.

- Spread of mole cricket killing wasp *Larra bicolor* in Northern Florida, J. Howard Frank, \$8,597, 3.0
- Plant-Parasitic Nematodes of Seashore Paspalum, William T. Crow, \$17,350 (8,675 1st yr/8,675 2nd yr), 3.3
- Evaluating Best Management Practices for Landscape Turfgrass, Laurie Trenholm, J. Bryan Unruh, \$9,545, 3.1
- Weed Management Systems for Seashore Paspalum, Barry Brecke, J. Bryan Unruh, \$13,800 (6,900 1st yr/6,900 2nd yr), 3.0
- Variation in Product performance for the control of different Mole Cricket Populations in the Southern USA,

Eileen Buss J. Bryan Unruh Rick Brandenburg, \$21,620 (10,810 1st yr/10,810 2nd yr), 3.3

- Impact of Fipronil, Bifenthrin and Acephate on Beneficial Invertebrate and pest Insect Activity in bermuda grass, Eileen Buss, \$22,540 (11,270 1st yr/11,270 2nd yr), 3.4
- Controlling Sod Worms and Chinch Bugs on Florida Lawns, Eileen Buss, \$5,635, 2.9
- High Nitrogen Containing Organic Compounds for use in controlling Plant Parasitic Nematodes, J. Bryan Unruh Robert Kinloch, \$12,650 (8,625 1st yr/4,025 2nd yr), 3.3
- Enhancement of P Retention in Sand Golf Greens & Fairways, J.B. Sartain, \$74,294 (\$24,242 1st/ 24,760 2nd yr/\$25,292 3rd yr), 3.0
- Influence of Soil and Micronutrient availability on the fungal pathogen *Gaeumannomyces graminis* var. *graminis* in Turfgrass, Carol M. Stiles, Lawrence Datnoff, Monica Elliot, George Snyder, \$25,875 (14,375 1st yr/\$4,600 2nd yr/\$4,600 3rd yr/\$2,300 for 1/2 of 4th yr, 3.0
- Development of Proactive Strategies for Environmentally Sound & cost effective Nitrogen Fertilization of Turfgrass, J.M. Scholbert L.E. Trenholm, \$16,675 (\$8,625 for 1st yr/\$8,050 for 2nd yr, 3.8
- Nonherbicide management of dollar weed in the landscape, Phillip Busey, \$11,500 (\$5,750 1st yr/\$5,750 for 2nd yr, 2.7
- Development of real time nutrient sensor for Turfgrass fertility management in golf courses, Wonsuk Lee, Tom Burks, Grady Miller, Rao Mylavarapu, John K. Schueller, \$87,170 (\$42,320 1st yr/\$28,750 2nd yr/\$16,100 3rd yr, 3.3
- Effect of organic Matter in Soil of Insecticides for Southern Chinch Bug Control, Ron Cherry, Russell Nagata, \$5,750, 2.7
- Thermal Tolerances of Ornamental Perennial Crops, Kimberley Moore, \$11,500 (\$5,750 1st yr/\$5,750 2nd yr, 2.4

NEW PROJECTS FUNDED BY FTGA IN 2001

- Comparative Pathogenicity of

Several Plant-Parasitic Nematodes to Turfgrasses, William Crow, two-year study, \$9,200.

- Documenting the Florida Yard Concept for Reducing Nutrient Runoff and Leaching, John Cisar and George Snyder, one-year study, \$11,500.00
- Breeding Bermuda Grasses for Florida, Brian Scully, John Cisar, Laurie Trenholm, J. Bryan Unruh and Kenneth Quesenberry, one-year study, \$20,000
- Enhancement of Water Use Efficiency in Sand Soil in Golf Greens and Fairways, J. B. Sartain, Grady Miller & T. W. Shaddox, 3 year study - \$15,124 (1/2 funded by FTGA General Fund 1/2 funded by Envirotron Fund)

Total 2001 New Projects FTGA funding is \$41,010.50

CONTINUING PROJECTS FUNDED BY THE FTGA

- Bahiagrass Improvement for Rough Turf Application, Ann Blount and Kenneth Quesenberry, second year \$9,775, 2002 3rd year, \$6,325
- Seashore Paspalum Management in Florida, Laurie Trenholm, second year \$2,875.00
- Influence of silicon on controlling grey leaf spot of St. Augustinegrass, Lawrence Datnoff, Russell Nagata, and George Snyder, second year \$950.00
- Fate of N During Grow-In of a Golf Course Fairway Under Different N Management Practices and Intensities, J. B. Sartain and Jason Kruse, second year \$15,640.00
- Second Year Study for 2001 The Role of Gypsum for Maintaining Turfgrass on Sand Soils, George Snyder and John L. Cisar, \$13,800.00

Continuing 2001 research funding from the FTGA is \$43,040.00

Overall total for turf research funding from the FTGA for 2001 is \$84,050.50

CONTINUED FUNDING FROM FLORIDA SOD COOPERATIVE

- Optimizing herbicide combinations for managing mixed weed populations, Philip Busey, second year \$5,000

- Tropical Signalgrass Management in St. Augustinegrass Sod, Barry Brecke, J. Bryan Unruh, Philip Busey, R. Charudattan, Carol Stiles, Laurie Trenholm, Grady Miller and Jan Weinbrecht, second year \$10,000

Total continuing project funding from the Florida Sod Coop is \$15,000.00

CONTINUED FUNDING FROM SEVEN RIVERS CHAPTER (ENVIROTRON FUND)

- Diagnosis and Control of *Pythium* diseases of turf in Florida, Carol Stiles, Lawrence Datnoff and Grady Miller, second year \$2,410.00, 2002 third year, \$1,150.00
- Enhancement of Water Use Efficiency in Sand Soils used in Golf Greens and Fairways, J. B. Sartain, Grady Miller & T. W. Shaddox, first year \$4,910.50, second year \$5,040, third year \$5,173.50 (50% of project total)
- The Effects of Light Intensity on Turfgrass", Laurie Trenholm, third year \$24,000

Total funding for 2001 from the Envirotron fund is - \$31,320.50

GCSAA Seminar

Golf course superintendents got their education off to an early start by attending a GCSAA Superintendent Leadership seminar on Monday morning.



FGCSA President Geoff Coggan, left, poses with former GCSAA President Bruce Williams, who presented the half-day seminar on Mastering Your Communication Skills. The Leadership series is being sponsored by a \$250,000 grant from Callaway Golf. Photo by Joel Jackson.

Ribbon Cutting

Newly elected FTGA Officers officially open the 49th Annual FTGA Conference and Show in Gainesville.



From left: Bobby Ellis, secretary/treasurer; Alan Puckett, president and Ray Caruthers, vice president. Photo by Paul Bundschu.

GCSAA Educators



From left: FTGA's Don Benham meets with GCSAA's Chapter Seminar Manager Shari Koehler and Director of Education Hannes Combest and UF's Dr. Terril Nell to discuss how GCSAA might partner with the FTGA to provide more credit-earning educational opportunities for conference attendees. Photo by Joel Jackson.

FGCSA Booth



FGCSA Association Manager Marie Roberts (seated) chats with Scott Zakany while Buddy Carmouche takes the Caddy Shack Trivia Test at the FGCSA Booth during the FTGA Trade Show. UF turf science major Jim Spratt had a perfect score to win the contest and the mini-golf bag cooler prize. Photo by Joel Jackson.

USGA GREEN SECTION

**When It Rains It Pours:
From Famine to Feast***By John Foy and Todd Lowe*

Heavy rains and irrigation restrictions are still the primary issues with Florida golf course managers.

The weather, and especially rainfall for Florida, has been extreme for some time. Last year ended with a 20-25 inch rainfall deficit for most of the state. Throughout the winter and spring, severe drought conditions plagued the state, and because of a critical water shortage, the water management districts imposed irrigation restrictions. The Phase II restrictions, which allow irrigation of fairways and roughs two times per week, have complicated course management, but to my knowledge major turf loss has not been experienced.

In July, typical summertime thunderstorms began to occur. By the end of the month, total rainfall for Palm Beach County ended up being the second highest recorded in the past 50 years. This was followed in early August by a tropical wave that dumped as much as 13 inches in some locations and caused localized flooding. With all of the rain, wells and reservoirs have been replenished and the water level in Lake Okeechobee has risen more than two feet. However, the lake is still two feet below average for this time of year.

As expected, the excessive rains and heavily overcast skies have resulted in declining bermudagrass health and quality, especially on putting greens. With almost every one of the SOS calls we have received, a very low height of cut is being maintained due to demands for fast putting speeds. Remember: when sunlight intensity is reduced during the rainy season, raising the height of cut is a necessary compromise to assure bermudagrass survival.

Superintendents are starting to think about the upcoming winter season.

Overseeding is a primary component of fall preparations, but with the South Florida Water Management District announcement that irrigation restrictions will not be lifted, overseeding plans should be reconsidered. Establishment and maintenance of overseeding is not feasible if fairway and rough irrigation is permitted only two days per week.

There are no plans to lift the restrictions on nonessential water use, and imposing some type of permanent watering limits for the next two decades is being considered. This coincides with completing the Everglades Restoration Project and expanding the region's wells and reservoirs. If there is not a reversal in this situation, golfers in South Florida can be provided with good playing conditions, but a lot of courses will not be as green.

**TODD LOWE ALSO CHIPS IN
FROM HIS TRAVELS**

When it comes to water, Florida has been a state of extremes. We have gone from suffering severe drought to being inundated with rain since mid-June. Heavy rains soaked much of Florida during the week ending July 17, further easing long-term drought across the state. Only a small area of extreme drought lingers across interior central Florida. During the first 17 days of July, rainfall in Orlando included 9.28 inches (225 percent of normal).

The average surface elevation of Lake Okeechobee rose to 9.66 feet on July 17. This is up from 9.23 feet on July 10 and a record-low level of 8.97 feet on May 23. Lake Okeechobee is a key hydrological feature in the state of Florida as it supplies many of the surficial aquifers for our golf courses. It is still below the level that it needs to be and is being retrofitted with technology to backfill the reservoir.

Some experts are now calling for a mild El Niño throughout the region, so a more "normal" rainfall amount should continue through the summer. This is welcome news for many golf courses through-

out the state that have previously suffered from the drought. However, many courses have already received more than they can handle.

Increased rainfall can make it difficult to perform routine golf course maintenance practices. Fairway mowing is especially difficult on rain-soaked turf and some courses can fall behind. In addition to being overly wet, the turf becomes very thick and more difficult to mow and appears scalped when mowers are eventually allowed on the turf. A good tool throughout Florida during the rainy season is the use of plant growth regulators. PGRs like trinexapac-ethyl (Primo) reduce the vertical growth of turf, thereby decreasing mowing frequency. On bermudagrass fairways, PGRs also decrease clumps of clippings left behind from mowing.

Reduced rates of PGRs are also helpful for improving playing conditions on bermudagrass greens. Bermudagrass is actively growing now that nighttime temperatures are consistently within the 70s. PGRs increase the horizontal growth of bermudagrass, which improves surface smoothness and speed.

Remember, with periods of rains or persistent thunderstorms, sunlight is reduced. During the Florida rainy season slightly higher heights of cut need to be maintained to compensate for reduced sunlight. This is true with both Tifdwarf and ultradwarf bermudagrass putting surfaces.

Dealing with Mother Nature on a daily basis makes the life of a golf course superintendent very interesting. Although the elements cannot be controlled, there are a few tools available to help us cope with their effects.

*Adapted from the USGA Links On Line
Florida Region Update.*

John Foy, jfoy@usga.org, is director of the USGA Green Section Florida Region. Todd Lowe, tlowe@usga.org, is agronomist for the Florida Region. Both can be reached at 561-546-2620

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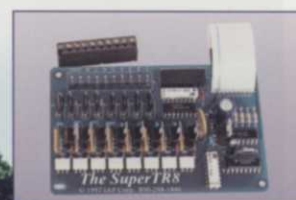
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What A Success!

By Gary L. Slater

As I sit back and reflect on the past six months, those words best describe my thoughts concerning the eastern bluebird reintroduction program in Everglades National Park. Granted, during that period, I often muttered other, less wholesome, phrases. For example, those days when my field crew and I awoke before dawn to drive to our research site, only to be taunted by bluebirds that refused to be trapped or even be found. As time passes, however, the unpleasant memories fade, while the accomplishments become more evident.

Perhaps the biggest reason for this year's success was the participation by golf courses. Last December, George McBath and I began talking to golf course superintendents in Naples to see if courses would be interested in donating bluebirds to the reintroduction program (see *Florida Green*, Spring 2001). The response by golf courses was extremely positive and as the breeding season approached, five courses each agreed to donate a pair of bluebirds.


Without George's help, this project would not have been possible. George is an enthusiastic advocate for conservation on golf courses and has helped many courses become certified in the Audubon Cooperative Sanctuary Program. It's no wonder that he has become known in southwest Florida as "the bluebird man." During this project, he guided me to nest boxes where we could trap, and he monitored bluebird nest boxes after birds were removed. With his help, we moved 10 adult and five nestling bluebirds from golf courses to a new home in Everglades National Park.

We captured and translocated the first breeding pair of bluebirds from Royal Poinciana Golf Club on Feb. 20, and followed that with captures of pairs from Grey Oaks CC and Foxfire Golf and CC on March 5.

All the pairs were captured with a large (30' x 25' ft) net designed to catch birds, a live lure bluebird, and speakers to play the bluebird's song on either side of the net. The net was placed next to a nest box where breeding behavior by bluebirds had been observed, and the lure bird was placed on top of the nest box in a small cage.



Gary Slater tries to locate and track bluebirds in the Everglades National Park by radio signals from tiny transmitters attached to the birds. Photo by Liliana Menacho.

A sepia-toned photograph of two children fishing in a pond. The child on the left is seen from behind, wearing a wide-brimmed straw hat, a dark green t-shirt, and light-colored overalls. The child on the right is also seen from behind, wearing a tan baseball cap, a striped t-shirt, and denim overalls, with a fishing tackle box slung over their shoulder. Both are holding fishing rods with floats. The background is a soft-focus view of the pond and distant trees.

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Male bluebird with radio transmitter attached to his back. Photo by Liliana Menacho.

In most cases, the bluebirds responded quickly to the invading lure bird, vocalizing loudly with displeasure, diving at the intruder, and even landing on the cage to scuffle — beak to beak — with the obnoxious intruder. The pair was then captured as they flew back and forth across the net in response to the lure bird on one side and the bluebird song coming from the speaker on the opposite side.

Once captured, the bluebirds were driven to Everglades National Park in a small cage, placed in an aviary, and given a gourmet diet of mealworms — typically a routine affair.

Can you imagine our surprise when we found the female from Foxfire had laid an egg in the transport cage? Because it was so early in the breeding season, we didn't realize that she might be that close to egg-laying or we would not have attempted to capture her. Fortunately, she appeared to be physically unaffected by what must have been a traumatic experience for her.

rience for her.

After spending three weeks in the aviary to become better adjusted to their new surroundings, the bluebird pairs were ready to be released. Before release, however, we attached a small, pinto-bean-sized radio transmitter to the back of the male. The transmitter emits a steady beep for about six weeks that we can detect with a radio receiver and antennae up to two miles away. This device greatly improves our ability to locate and track released birds, which often move six to eight miles daily, for the first few days after release.

We had hoped the birds would set up a territory and begin nesting before the radios fail.

That was not to be the case.

The Foxfire pair split up; I'm afraid the egg-laying experience may have persuaded the female to ditch her mate. The other two pairs stayed together, and, like the Foxfire male, moved widely throughout the pine forest in Everglades

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This bluebird nestling, shown here after banding, is the offspring of a Foxfire male and a Royal Poinciana female relocated to the Everglades National Park. Photo by Elizabeth Crisfeld.

National Park. When the radios failed, no evidence of breeding had been found and we lost track of all the birds.

In mid-April, about the time the

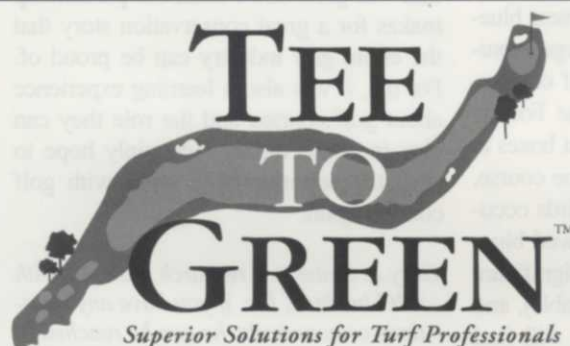
radios failed, we moved bluebirds from two more golf courses. This time, though, we moved bluebird pairs and their nestlings. From the Glades Golf Club we

removed a pair of bluebirds with two nestlings and from Eagle Creek CC we removed a pair and three nestlings.

As before, we transported each family to Everglades National Park and placed them in an aviary. The nestlings were put into a new nest box, where they were fed by the adults until they fledged.

One tragedy occurred when a rat snake got into the Glades aviary and swallowed the two fledglings — the lumps were obvious. Unfortunately, this seems to occur once a year regardless of our effort to exclude predators. Small-mesh wire is placed around the aviaries to deter snakes and other predators from entering, but because the ground is limestone rock it's impossible to completely secure the aviary.

Adults are able to get away from a predator inside the aviary, but the slow, uncoordinated flight by juveniles makes them vulnerable. More frustrating, was that these birds were to be released in just a couple days.



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After three weeks, the males from both courses were radio-tagged and the families were released. Immediately, the pairs split up. The Glades adults were seen on a couple occasions near the park's entrance, but neither has been seen since. The Eagle Creek male abandoned its mate and young and set up a territory near a nesting bluebird pair about four miles from its release site.

By early May, ten bluebird adults and three juveniles from golf courses had been released to Everglades National Park. But we knew the whereabouts of only one bird — not a great success story. To make matters worse, we had found only two of the eight bluebirds translocated from Big Cypress National Preserve, and only a few nests had been found.

Overall, the scene was discouraging and I must admit that a few of those unwholesome words escaped from my mouth.

Fortunately, our luck was about to change, and in this case it happened swiftly. One morning in early May, we found the female from Eagle Creek with one surviving juvenile near one of the Park's research buildings. An hour later, we found a nest across the street! The Foxfire male and the Royal Poinciana female had mated and were nesting in the back of a small shed.

We had been looking for golf-course birds in the forest; these birds were hanging out near buildings, people, and well-maintained lawns. I guess old habits die hard.

A few days later, we found the Grey Oaks pair nesting in a natural cavity, and a few weeks later, we located the male

from Royal Poinciana nesting with a female translocated from Big Cypress National Preserve.

The pair nesting in the small shed won the most fledglings contest for all of the territories in Everglades National Park. Their first nest yielded three juveniles, which we banded with color bands to mark them uniquely. To our pleasant surprise, they nested again and raised five more juveniles — a rare event — to bring their total to eight. The Royal Poinciana male and its mate produced three juveniles. However, the Grey Oaks pair failed. In summary, we found seven of the 10 golf course adults released in the park. This is a great success rate and higher than previous years where we had seen 40%–60% of translocated birds remain in the Park.

Also, the three adults that disappeared may still be in the park; it's an enormous area and impossible to survey completely. Golf course bluebirds produced 11 of the 38 (29%) juveniles that fledged in Everglades National Park this year. I could never have anticipated such great success. I expect all the birds to remain in the park and be ready to breed again next year.

Back at the golf courses, bluebirds were successful too. George monitored the nest boxes at four golf courses, while Dr. Harold Dowell of the Foxfire Nature Group monitored the nest boxes at Foxfire Golf and CC. At only one course, Royal Poinciana, did new bluebirds occupy the nest box where we removed bluebirds. However, all courses had significant numbers of bluebird nests (see table), and the juveniles produced this year will find an available nest box ready for them next year.

The bluebird population in Everglades National Park increased in size substantially this year with the help of translocated bluebirds from golf courses. Last year we found only four breeding territories. This year the number jumped to 16 breeding territories (I think we missed some last year).

With 38 fledglings produced this year, the population at the end of the breeding season is around 70 individuals. With such a large population established, we have decided to stop translocating birds and just monitor the population for a couple of years to evaluate its status.

That means an end to the golf course donor program, but not to the golf course bluebirds. Next year, golf course bluebirds and their offspring will continue to be monitored by me in Everglades National Park, by George on courses in southwestern Florida, by the Foxfire Nature Group on its home course, and by other bluebird enthusiasts on golf courses throughout Florida.

Finally, I want to thank the participating golf courses again for taking part in this reintroduction effort. Your cooperation was great and I think our partnership makes for a great conservation story that the entire golf industry can be proud of. For me, it was also a learning experience about golf courses and the role they can play in conservation. I certainly hope to have the opportunity to work with golf courses again.

Gary L. Slater is a research biologist with ARC Institute, Inc. If you have any questions or comments, he can be reached at 305-213-8829, or by e-mail: gslater@yahoo.com.

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STEWARDSHIP NOTES

by Shelly Foy

Ah fall... What a relief to know that you are just around the corner. I look forward to opening my house up and having pleasant nighttime temperatures, college football games to watch (GO DOGS), and those delightful breezes. It's no wonder half the world wants to live in Florida during the fall and winter.

I read an interesting article recently on environmental education and its importance in the development of children. Ken Voorhis, director of the Great Smoky Mountains Institute, reports that several studies have recently been published on the benefits of teaching environmental education in schools.

Those benefits:

- Better performance on standardized measures of academic achievement in reading, writing, math, science and social studies.
- Reduced discipline and classroom management problems.
- Increased engagement and enthusiasm for learning.
- Greater pride and ownership in accomplishments.

Voorhis says, "It seems obvious to many of us that environmental education is not only effective but also critically essential. People can only make informed decisions about the world in which they live if they are environmentally literate.

People also need to feel connected to nature, not separate from it."

Although this article was about environmental education in schools, I think adults can benefit as well. Let's look

at the above listed benefits for children and put them into context for our golfers:

- Better performance on tests could equate to golfers being more knowledgeable and tolerant of golf course maintenance practices and programs.
- Reduced discipline problems could mean less golfer grumbling.
- Increased enthusiasm for learning could mean more golfers getting involved in projects and programs.
- Greater pride and ownership — stands on its own.

The fall and winter is an excellent time of year to work on outreach and education projects with your members and golfers. So, I encourage everyone to take a little time this season to work on environmental education. The most successful golf course superintendents I have ever met are those who make communication with their golfers and members their top priority. The least successful are those who turn and go the other way to avoid running into a member when they might have to actually speak to them.

The Benefits of Reaching Out

Communicating with golfers and the public about your environmental efforts can help you:

- Gain recognition and support for your management efforts.
- Increase golfer understanding of wildlife and environmental quality on the golf course.

Let the public know that environmentally managed golf courses can be valuable community resources — whether

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or not the public ever gets to step on the course.

Audubon International recommends that the first step is to form that all-important Resource Advisory Committee made up of fellow employees, golfers, and even people outside the golf course who can provide technical expertise. Your Resource Advisory Committee's primary role is to aid you in communicating a commitment to environmental stewardship and implementing conservation activities.

There are many ways to let people know about your commitment to conservation. Education projects can inform people about your efforts or teach people how they can support environmental practices.

Try some of the following ideas this year. For more specific information on how to implement these ideas, call Audubon International at (518) 767-9051.

- Create a display to promote the positive efforts you have undertaken to maintain environmental quality at your course. (Artwork, pictures, newsletters, wildlife inventories, etc.. are all things that can be used in your display).
- Write articles for your club newsletter.
- Mount signs (like "Natural Area," "Environmentally Sensitive Area – Please Keep Out," "Shoreline Naturalization," "Critical Nesting Habitat," etc.).
- Write a press release announcing your environmental plans or projects (Audubon International has detailed information on writing press

releases).

- Work proactively with neighbors (adjoining properties, homeowners associations, etc.) by sharing information on your environmental projects, offering to help them with projects, or inviting them to participate in projects on your golf course.
- Request help with building and monitoring a nestbox program.
- Create a garden for wildlife.
- Let members/golfers help you inventory wildlife.
- Create a nature guide.
- Host nature walks.
- Lead a golf course tour.
- Use tournaments to showcase environmental aspects of the course.
- Teach good stewardship to golfers (jr. golf clinics, etc.).
- Offer a workshop like tree and shrub care, IPM, etc..
- Encourage neighborly stewardship.
- Host kids projects.
- Sponsor a school in the ACSP for Schools.

TCGCSA Sponsors Indian River Lagoon Envirothon

My pals with the Treasure Coast GCSA had a good time sponsoring the Indian River Lagoon Envirothon in March. They donated \$5,000 to this annual event established as a competitive, problem-solving, natural resource event for high school students to challenge them about the environment.

High school students in Martin, Okeechobee, St. Lucie and Indian River

counties used critical thinking skills and worked as a team to develop and design a proposal to implement the best environmental management practices for a specific demonstration site of their choice in their county.

Students were trained and tested in five natural resource areas: soil, aquatics, forestry, wildlife, and non-point source pollution.

The Envirothon began in Pennsylvania in 1979 and today, at least 46 states, Canada and Australia have initiated the program. In competing in the Envirothon, not only do students learn about their state's natural resources, problems and solutions, but they also learn about team building, communication, and conservation partnerships. They also indirectly experience natural resource and conservation careers, and most importantly will become more environmentally aware citizens in the future.

Greg Phenegar, John's Island Club, was a judge for this year's event. Greg was very impressed with the Envirothon and said, "it was a great learning experience for the students and I was impressed with their comments and the questions they asked."



Shelly Foy is coordinator of the USGA's Audubon Cooperative Sanctuary Program for the Florida Region. She can be reached at 561-546-2620; fax 561-546-4653; sfoya@usga.org.

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Long-Term Mole Cricket Control on Horizon

By Angela Brammer

- A nematode product patented for use by the University of Florida to provide long-term biological control of turf-damaging mole crickets will be available next year from Becker Underwood. This product, known as Nematac S, will be cost-effective and highly beneficial for a wide range of consumers, from golf course managers to ranchers.

The parasitic nematode *Steinernema scapterisci* attacks only foreign mole crickets — those that are most damaging to turfgrasses in the Southeast. The nematodes live in the soil and enter the mole cricket through openings in the body, such as the mouth or spiracles. Once inside, they release bacteria that feed on the mole cricket, usually killing it within 48 hours. The nematodes feed on the bacteria and reproduce inside the mole cricket, and the next generation emerges to search for another host once it dies.

Steinernema scapterisci spreads slowly on its own, mostly relying on its host for dispersal. After infection, a mole cricket may fly up to a mile, taking the nematodes along for the ride. The nematodes then emerge into the new location once the host mole cricket dies. Because of this, it may be possible to effectively cover a relatively large area of mole cricket infestation by applying the nematodes to the hot spots, those places with the highest concentrations of mole crickets. The mole crickets themselves do the work of spreading the later generations of nematodes throughout the site.

Of the three species of *Scapteriscus* spp. mole crickets that immigrated to the U.S. from their native South America about 100 years ago, the tawny

and southern mole crickets cause the most damage in Florida. With no native natural enemies in the U.S., they multiplied and thrived. Now the two species cause millions of dollars of damage each year to bahia, bermuda, centipede and St. Augustine grasses. Additional millions are spent each year on insecticides to prevent such damage.

In the 1980s, University of Florida scientists imported the mole cricket nematode from South America. The species was formally described in 1990 by UF nematologists Dr. Grover Smart and Dr. K.B. Nguyen. Experiments showed that the nematode killed 100 percent of tawny and southern mole crickets and at least 75 percent of short-winged mole crickets without adversely affecting other insects. It is an effective, permanent method of controlling all three *Scapteriscus* spp. mole crickets.

COST AND AVAILABILITY

The University of Florida has issued an exclusive license to produce the nematodes to the U.K. company MicroBio, owned by Becker Underwood of Ames, Iowa. MicroBio will sell the product under the name Nematac S. It will be available in units of 500 million, and it is expected that the cost will be comparable to that of chemical treatment. The total cost per acre will vary with the type of land and the speed of results needed. A higher initial concentration of nematodes will eliminate mole crickets more quickly and may be the best solution in a situation where speed is key.

Golf courses may require higher concentrations per acre, but in pastures,

fields or areas with large numbers of mole crickets, applying the nematodes in strips can reduce the cost per acre. UF research has shown that a swath of nematodes as small as 1/8 acre, given time, can control an acre's worth of mole crickets. In an experiment on 24 acres of ranchland in Polk County, nematodes applied in proportions varying from none to half of the treated area appeared to spread throughout the 24-acre site in less than a year.

A general recommendation is to use 800 million to 1 billion nematodes per acre. Partial-acre treatments should use a proportional amount of nematodes: 400 million to 500 million for a 1/2-acre strip, 200 million to 250 million for a 1/4 acre strip, etc. This brings the cost for those who treat their pastures in 1/8-acre strips down to an affordable level, especially when a single treatment has the potential for control that will last many years.

BENEFITS OF BIOLOGICAL CONTROL

Chemical control of insect pests is costly. Insecticides are immediately effective but must be reapplied often — at considerable cost — to maintain control of a mole cricket population over time. Mole cricket nematodes, on the other hand, have a residual effect on mole cricket populations that lasts long after the initial application.

The nematodes reproduce inside the mole crickets. Each infested mole cricket can harbor as many as 50,000 new nematodes. Those 50,000 will emerge once the mole cricket dies to seek new host mole crickets. This reduces the need for further application. Because of this, controlling mole crickets with these nematodes costs less than using pesticides.

Nematodes should be used as a preferred tactic in the integrated pest management of *Scapteriscus* spp. mole crickets. Chemical insecticides can be effective in controlling outbreaks and reducing heavy infestations of mole crickets; however, most situations call for prevention or suppression through turf management, biological control and other more sustainable tactics.

Steinernema scapterisci parasitizes only the three South American species in the genus *Scapteriscus*. Native mole crickets are not at risk. With chemi-



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cal pesticide use, not only are other, potentially beneficial, insects at risk, but so are humans, pets and wildlife. This is not the case with nematodes. With nematode applications, golf courses do not have to keep the public away for a time as they do with pesticides.

Nematodes are environmentally friendly as well. There is no danger of contamination of nearby water sources or other negative environmental impacts, which means there won't be any cleanup bills. In addition, the public looks kindly upon biological controls. The use of pesticides is a growing public concern, and minimizing their use when alternatives are available can contribute to a positive public image.

EASE OF USE

Application of the nematodes is simple. Mixed with water, they can be sprayed on the surface or injected into the sod under low pressure. Applying them just beneath the surface provides some protection from desiccation and ultraviolet light. Surface distribution should be followed by irrigation to help the nematodes into the soil. It may be possible to apply nematodes through existing irrigation systems as well.

The nematodes naturally have greater effect on large nymphs and adult mole crickets, as it is easier for them to find their way into the mouths and spiracles of the larger insects. Thus, it makes sense that they would be most effective in the early fall or late spring just before adult mole cricket populations reach their peak. Demonstration and Research Sites

The Florida Legislature awarded \$300,000 in state funds to the mole cricket nematode program this year. The money will enable the Mole Cricket Task Force to establish research and demonstration sites around the state to test the effectiveness of the nematode product on various types of land with different amounts and methods of application. The Mole Cricket Task Force includes University of Florida and Florida Department of Agriculture and Consumer Services, Division of Plant Industry researchers; county extension agents; product development specialists from MicroBio; and members of the affected industries.

The nematodes will be applied

during September and October at various sites around the state including golf courses, pastures, ranchland, sod farms, and city parks and playgrounds. Different methods of application (slit injection, liquid injection and spraying) will be tested and demonstrated. The results of this work will be presented at field days or workshops in areas of the state that are heavily infested with mole crickets.

Angela Brammer is a UF graduate student in entomology. For more information about the mole cricket state program, contact Dr. Norm Leppla, UF, co-chair of the Mole Cricket Task Force, at 352-391-1901 ext. 120, ncl@gvn.ifas.ufl.edu. An extensive article on the specific research and demonstration program appears in the September/October issue of Florida Turf Digest.

Turf Team Gains Entomologist

Dr. Eileen A. Buss is a new UF assistant professor and extension entomologist for turf and landscape. She received her Ph.D. in 1999 from the University of Kentucky in entomology (horticulture specialty). For her dissertation research, she determined the horned oak gall wasp's

biology, within-tree distribution, potential for host-plant resistance, and management on pin oak trees. Her work earned her several prestigious awards and scholarships.

She graduated from Michigan State University with an M.S. in entomology (forestry specialty) in 1996, after evaluating the susceptibility of four Scots pine Christmas tree varieties to the Zimmerman pine moth, European pine sawfly, and pine needle scale. She earned her B.S. in 1993 from MSU with a double major in zoology and German.

Dr. Buss served almost one year as the director of the Industrial Affiliates Program in Purdue University's Urban Center before coming to UF.

As an extension specialist at UF, she will be developing and delivering educational material for the green industry on integrated insect pest management, conducting product tests against turfgrass and ornamental insect pests, and studying the biology and management of these different pests.

She stopped by the FGCSA booth at the FTGA Conference and Show in Gainesville in August to introduce herself and to ask the FGCSA for support in the state's mole cricket control program. She can be reached at 352-392-1901, Ext. 116 or eabuss@ufl.edu.

Joel Jackson



Eileen A. Buss, Ph.D.



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Growing Solutions in Turf

News on the environmental front usually means bad news for the golf industry.

Dr. Frank Rossi's excellent article, "Environmental Complacency," which appeared in the last issue of *The Florida Green*, corroborates my long-held belief that the general public seems to prefer "gloom and doom"

The Skeptical Environmentalist

stories as dished out by the media. Valid scientific research is summarily dismissed or attacked as so much industry propaganda. Superintendents are often left alone to fight the battles that owners and golfers should be fighting, not to mention dealing with the squeeze on their budgets as costs for environmental compliance and sensitivity increase.

But you've heard all this before, and my purpose today is to pass along what I hope will be good news and ammunition for the future. By the time this article is published, a new book, *The Skeptical Environmentalist*, will be available, and, hopefully, make an impact on society's environmental philosophy. The fanatics and those whose livelihood depends on environmental anxieties will just cry "sellout," but there's a chance those whom I see as "mainstream environmentalists" will begin to see the light if they read this book.

The Skeptical Environmentalist was written by Dr. Bjorn Lomborg, a 36-year-old political scientist and professor of statistics at the University of Aarhus in Denmark. What makes Dr. Lomborg unique and why I think his book may be so important, is that he was a member of Greenpeace for four years, and actually began the work that became the body of this book to debunk certain "simple American right-wing propaganda," such as Dr. Julian Simon's population hypotheses and others that questioned the environmental agenda. As Dr. Lomborg and his statistics students began researching information from such agencies as the World Bank, the Food and Agriculture Organization, the U.S. Environmental Protection Agency, The

International Panel on Climate Change, and others, he came to the realization that his long-held beliefs were actually getting debunked.

Thus was born *The Skeptical Environmentalist*. Dr. Lomborg's meticulous investigation produced almost 3,000 footnotes to substantiate his new position that statements and tenets of environmental organizations like Greenpeace, the Worldwatch Institute, and the World Wildlife Fund are exaggerations or outright myths. He has labeled this persistently gloomy environmental holocaust doctrine "The Litany."

To quote Dr. Lomborg, "The Litany has pervaded the debate so deeply and so long that blatantly false claims can be made again and again, without any references, and yet still be believed. This is not the fault of academic environmental research, which is balanced and competent, but rather of the communication of environmental knowledge, which taps deeply into our doomsday beliefs." He is also critical of journalists who continue to spread "The Litany" without question or criticism.

In his book, Dr. Lomborg asserts that agriculture is sustainable, pollution is declining, the rate of human population increase is past its peak, forests are not disappearing, that there is no wholesale destruction of plant and animal species, acid rain does little damage to forests but does damage lakes, and that even global warming is not as serious as commonly portrayed.

He warns that the internationally approved Kyoto objectives for reducing carbon dioxide emissions will have minimal impact but enormous costs for implementation, as currently-used computer models stress greenhouse gases over the other three factors—clouds, aerosols, and the sunspot cycle—without supporting data.

Dr. Lomborg believes that the environment must be protected and that regulation is necessary, but exaggerating the problems distorts society's priorities and makes it difficult to decide on proper strategies. His motive is to simply tell the facts and present a brighter and more balanced view than "The Litany."

How refreshing.

This article is based on a book review I stumbled across while online, but I couldn't wait to actually obtain and read the book to share such a positive environmental development with my peers.

MARK MY WORDS



Mark Jarrell, CGCS

Since our last issue, several items have bubbled up from around the state. While many federal and state laws are pre-emptive in nature, counties and municipalities can enact laws which are more stringent than the federal or state law. Here's what's going on.

Golf Course Ordinances

Hernando, Lake and Marion counties have drafted ordinances that seek to govern and regulate golf course operations from design and construction to routine maintenance.

Local Rules Keep Bubbling Up

I have not seen the Hernando or Marion county ordinances, but a panel of golf industry people did get to offer input into the final draft of the Lake County ordinance this past July.

Word on the Marion County ordinance is they are making the Audubon Signature Sanctuary program mandatory for any new development.

Lake County took a broader view and will accept a recognized program of best management practices that addresses their concerns of water conservation, water quality and environmental impacts. The FGCSA is working on revisions to the UF/IFAS BMP Manual for Florida Golf Courses that will hopefully address those concerns for any county or local government and provide a blueprint for golf course managers to follow. The bottom line will be more documentation of water, fertilizer and pesticide use plans and applications. A copy of the workable Lake County ordinance was sent to each FGCSA chapter for review.

It isn't hard to imagine that we will see more of this type of lawmaking at the county and maybe even municipal level. It would be wise for all superintendents and golf course owners to familiarize themselves with the Lake County ordinance and see how it might affect their operations or what may be expected of them in the future. There is a section for existing golf courses, so it's not all aimed at new construction.

Water

The rains are falling but the water restrictions are not lifting. In fact I received a copy of an agenda for the Board of County Commissioners in Hillsborough County relating to Potable Water Demand Management Actions and I quote item number 7:

"Development of water use restrictions for golf courses that are more stringent than those enacted by Southwest Florida Water Management District."

That is plainly a political move when you consider that the green industries — and especially golf — use considerably fewer total gallons of water than residential, municipal, industrial and agricultural users. They keep strangling the golf industry, trying to squeeze drops of water out of us, while ignoring the major users and wasters of water. It is not politically expedient to increase residential utility rates or impose tighter conservation measures on the general public.

Golf is the easy target, but the industry will not yield any major water conservation since we are a small overall user. It's high time for golf course owners to get engaged in the battle for common sense.

Pesticides and Fumigants

Orthene reregistration: Valent U.S.A. Corporation reports that it is optimistic that most acephate (Orthene) uses will remain intact. Based on current discussions with EPA, Valent expects no food uses to be lost and that acephate will remain available for its important non-ag uses, e.g., golf course and sod insect control, PCO crack-and-crevice use, and nurseries and greenhouses, as well as homeowner use.

You can expect some reductions in some maximum rate applications and changes in personal protective equipment (PPE) requirements for mixers, loaders and applicators.

Valent also stated that stakeholder participation and input at EPA briefing sessions and conference calls continues to pay dividends as EPA cannot ignore the real world information and how it affects their assumptions and data collection. It pays to be involved.

Methyl Bromide (MeBr): While the methyl bromide phase-out mandate is still in effect, an industry source called recently to remind superintendents, sod producers and golf course builders that there will be plenty of material available until 2005 and beyond.

EPA has had to acknowledge that there is no effective or economical alternative at the present time. Since methyl bromide is a byproduct of the manufacture of a flame-retardant material, it will continue to be produced in the future. Soil fumigation is a beneficial way to dispose of it. If that use goes away entirely, then it will still have to be disposed of as a waste product.

Since we seen many products taken away recently and methyl bromide is on the hit list, it is easy to write it off prematurely. Research continues in an effort to find out scientifically if MeBr is really a factor in ozone depletion. Right now EPA is relying on computer modeling.

GREEN SIDE UP



Joel Jackson, CGCS
Editor

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Cypress 50% Stardust 50%

"Best average weekly ground cover"

estimates of all Poa trivs in test-University of Fla, Gainesville 1997-98 putting green trials highest seed count of all Poa trivs - University of Florida. - 1997-98.

Stardust

"Highest density"

1995-96 overseeded greens University of Arizona

"Highest percent ground cover"

University of Florida. 1995

"Highest mean ball speed scores"

1994-95 overseeded Bermuda greens--University of Arizona.

"Best monthly/seasonal turf color"

of all Poa trivs overseeded on tifway Bermuda--University of Fla. 1994-95.

"Highest seasonal average"

of all Poa trivs"--putting greens evaluation--
1997-98 Mississippi State University.

Cypress

"Highest mean for turf color"

1996-97 putting green overseeding trial, Clemson University.

"Highest quality rating"

of all entries in the 1996 Bermuda Triangle Research Center,
Palm Springs, California.

Tooting our horn!

Nucrane celebrates 10 years

IN 1991,
WHEN NUCRANE
MACHINERY BEGAN
OPERATING AS A
COMPLETELY DEDICATED
TURF EQUIPMENT-ONLY
BUSINESS IN FLORIDA,
CALIFORNIA, AND LATER,
NEVADA...LITTLE DID WE REALIZE
THAT A MERE 10 YEARS LATER,
WE WOULD REMAIN AS ONE OF
THE OLDEST DISTRIBUTORS STILL
UNDER THE SAME ORIGINAL
OWNERSHIP THAT NOW EXISTS
IN THOSE AREAS OF OPERATION.

WE ARE GRATIFIED BY THE LOYAL
FOLLOWING OF TURF EQUIPMENT
PROFESSIONALS WHO HAVE
RESPONDED TO OUR PHILOSOPHY
OF SERVICE, SUPPORT, AND MUTUAL
RESPECT...AND SINCERELY THANK
ALL OF YOU FOR ALLOWING US
TO PROVIDE YOU WITH THE
ALTERNATIVE OPTION IN TURF
EQUIPMENT OVER THE LAST
DECADE, AND LOOK FORWARD
TO WORKING WITH EVEN MORE
OF YOU IN THE NEXT.

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JOHN DEERE