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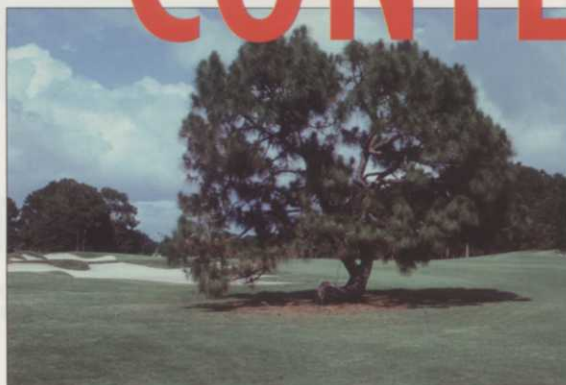
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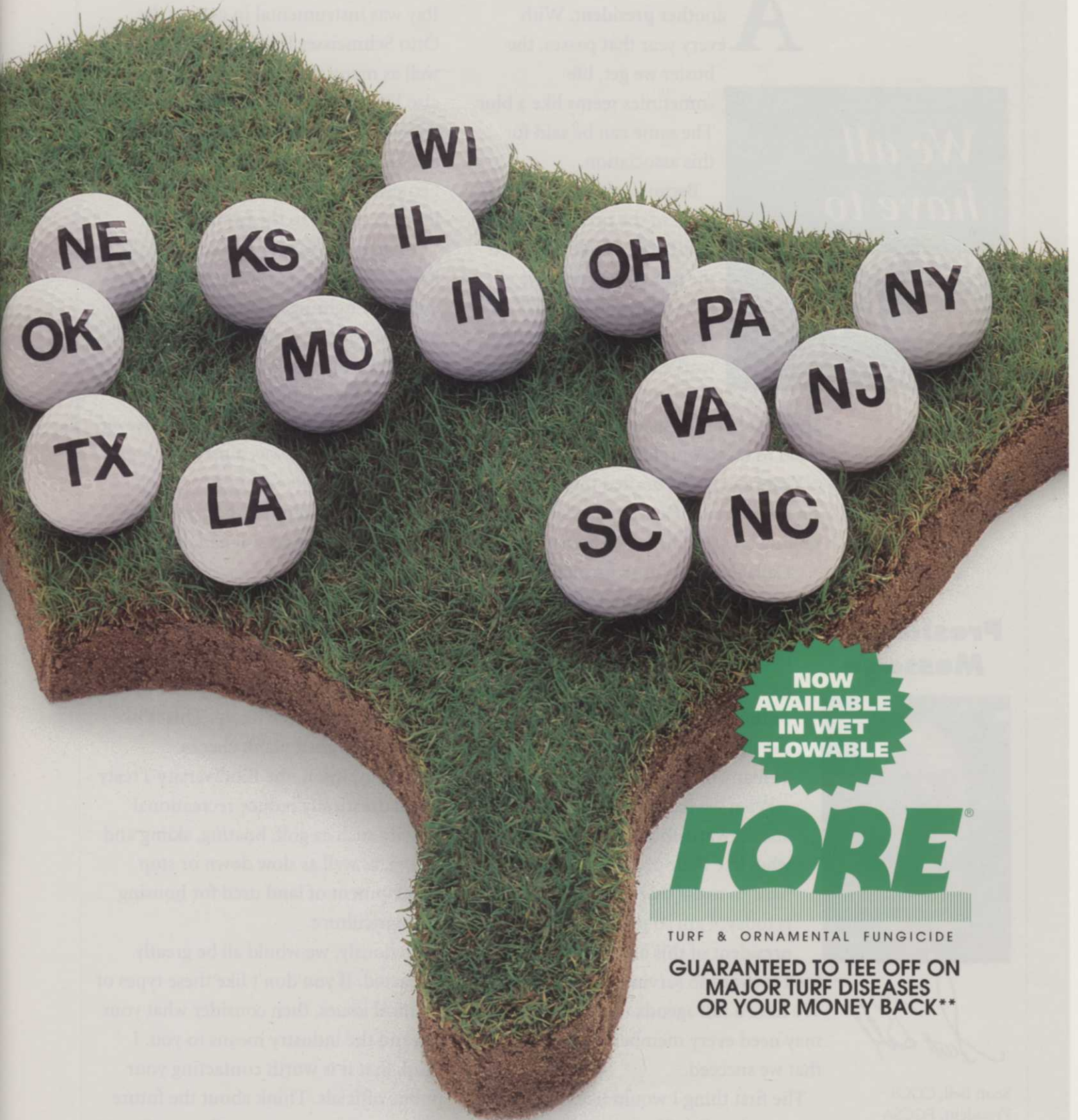
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We all have to get more involved

Another year, another board, another president. With every year that passes, the busier we get, life sometimes seems like a blur. The same can be said for this association.

Because of the hard work of all of the presidents and boards who have preceded the present officers, we all have a large, healthy, proactive organization that works well as a team. Yet, it is capable of drawing on stellar solo performances when things need to be accomplished.

Years ago, I was drafted into service on the Treasure Coast board by two golfing buddies, Mike Perham and Jim Callaghan. As I rose through the ranks of the Treasure Coast offices, I began to attend the state board meetings. Looking back, we did not have a research green, or a lobbyist, or the present fundraising capabilities, and Marie did not work as many hours as she does now.

What we had were many dedicated and forward-thinking individuals who, like their predecessors, worked hard to make this association what it is today. I am so proud to be president of this association, and I look forward to serving this next year. We have a full agenda to tackle and I may need every member's help to assure that we succeed.

The first thing I would like to do is congratulate Ray Hansen, our 1994

Distinguished Service Award winner. Ray was instrumental in getting the Otto Schmeisser Research Green built as well as many other projects. I would also like to congratulate The President's Award Winners, Lonnie Stubbs, Joe Snook, Paul Nevers, Bill McKee, Lou Oxnevard and Royce Stewart for their lifetime service to the profession.

As we move forward, I see us all having to get more involved. We are currently fighting a battle against the proposed Biodiversity Treaty. This treaty was the result of the 1992 Earth Summit. President Bush caught some heat for not signing it in 1992. However, President Clinton was more than happy to sign it.

Our first objection is that, once a worldwide treaty gets signed, it is hard to break.

Second, this is an unfinished document, not based on science. It will be finalized by radical preservationists and environmental organizations *after* Congress ratifies the treaty. This is like giving out signed blank checks.

In my opinion, the Biodiversity Treaty could drastically reduce recreational activity such as golf, boating, skiing and racing, as well as slow down or stop development of land used for housing and agriculture.

Obviously, we would all be greatly impacted. If you don't like these types of political issues, then consider what your job and the industry means to you. I think that it is worth contacting your public officials. Think about the future

Please see Page 12

President's Message



Scott Bell, CGCS President, FGCSA

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On Course,
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This is a saying that I came across some time ago and it has remained with me over the years. It has a lot of merit to it.

Everyone in this profession should be working hard towards building the perfect team.

Maintaining a magnificent facility cannot be done by one person. Each and every crew member needs to realize that their individual efforts combined into one coordinated, unified effort is what determines the

success of the team. Each person, whether it be a turf chemical technician applying a product or an operator raking traps, must understand the

meaning of excellence and be willing to work hard to achieve that level.

You, as a manager, must demand excellence. At the same time, you must be the most positive and enthusiastic person you can be. Once that level of excellence is achieved, you must reward the team for its success.

Everyone likes to be a part of a winning team. They know that rewards come with success. You must build on success by acknowledging the determined efforts put forth by your team. Reinforcing this positive attitude can reap benefits for the club, its members, and the employees.

Remember, when the course is in good playing condition, the members tend to be happy and when the members are happy — everyone is happy!

**Together
Everyone
Achieves
More!**

**Plotner's
Page**



Greg Plotner, CGCS
Publications Chairman

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The facts are in — Golf courses add billions to economy while occupying relatively small acreage

BY MARK JARRELL, CGCS

AND JOEL JACKSON, CGCS

What is your golf course worth? According to an Economic Impact Survey conducted by the University of Florida, your golf course contributes its share to an \$8.6 billion Florida turfgrass industry each year! Golf courses contribute about 36 per cent of this total or slightly over \$3 billion annually.

This total does not include other facets of the turf industry, only those associated with management of the *golf* turf!

The findings of this survey have been long awaited by those who sought to validate the economic importance of the turfgrass industry to the state of Florida. The turf industry is such a widespread network of independent operations it has been treated like a stepchild compared to cattle, citrus and other united agricultural entities.

The numbers presented by Agricultural Finance Professor P. J. Blockland, the survey team leader, surprised even the most veteran turf managers attending last month's Florida Turfgrass Conference and Show held in Fort Lauderdale. Although these were only preliminary figures, Dr. Blockland does not an-

The 1,100 golf courses in Florida employ 15,079 full time and 1,800 parttime employees.

ticipate any major adjustments in the final numbers.

The \$3 billion represents the annual cash expenditures for all labor, materials,

Hysteria about the acreage consumed by golf courses and their impact on the environment are misplaced when it was revealed that of the approximately 5 million acres of turfgrass under maintenance golf courses only occupy 149,000 acres.

equipment and services utilized in the maintenance of turfgrass. Professor Blockland said that was the equivalent of every working person in the state spending \$1,635, or each resident spending \$667.

The 1,100 golf courses in Florida employ 15,079 full time and 1,800 parttime employees. That compares to over 133,000 total turfgrass industry employees in the state.

Hysteria about the acreage consumed by golf courses and their impact on the environment are misplaced when it was revealed that of the approximately 5 million acres of turfgrass under maintenance golf courses only occupy 149,000 acres. Household residences account for about 3.3 million acres. Additionally, schools (206,000 acres) and airports (163,000 acres) both maintain more acreage than the nation's leading golf course state.

Because golf courses are maintained as a daily recreational outlet with high performance expectations, they lead every category in annual expenditures per

acre at \$3,700, followed by sod producers at \$1,900 and residential lawns at \$1,200.

Consequently, golf courses had the biggest investment in non-land assets by the end of 1991 with a figure of \$7,300, compared to sod producers at \$1,300 and residential at \$383. This survey has shown that the turfgrass industry employs nearly three times the number of people working in traditional agriculture.

The importance of this survey is that it brings to the attention of our legislators the enormous impact the turfgrass and golf industries have on the state. Lawmakers who are ignorant of these facts can sometimes be misled by radical elements who portray golf as an elitist self serving pastime. Instead, it has revealed that turfgrass is a major factor in the state's economy.

Armed with this information, lawmakers can take a more educated look at rules, regulations, and proposals that

This survey has shown that the turfgrass industry employs nearly three times the number of people working in traditional agriculture.

unfairly attack and restrict such a now proven valuable commodity like the turfgrass industry.

The turfgrass industry does not seek special treatment, but it does demand a level playing field with full consideration for its financial as well as environmental contributions to the health and wealth of the state.

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Letter: Taking Care Of Some Old Business

Dear Tom:

As chairman of the GCSAA Tournament Committee, I am in receipt of your recent article (Editorial-Spring '94 issue) relating to the GCSAA Championship. Please allow me to respond to your concerns involving the event.

As you know, the committee system has been reinstated at GCSAA. On the agenda at this spring's Tournament Committee meeting was the subject of alternate times to hold the annual championship. I think it is safe to say that those present were in agreement to investigate various options concerning the timing of the event. In no way does the committee ever expect to satisfy 100% of our membership. We do, however, desire to provide a quality event for those involved.

The idea of holding the event at a different time of the year or even utilizing a different format is not new. These issues have been discussed for years. I

will make sure that your concerns are forwarded to all committee members, the GCSAA Board of Directors, and the GCSAA Tournament Director.

There are a number of changes in store for this year's event. If you are interested in knowing more about them, feel free to contact me.

Best regards,
Tommy Witt, CGCS
GCSAA Tournament Chairman

Tom Benefield, former Editor, responds:

To me, the important aspect of Tommy's reply is that "the committee has been discussing these issues for years," but not actively taking measures for change.

The present format effectively eliminates 97% of the membership from participating in "their" tournament!

The time to act is now!

Scott Bell —

from Page 6

and think about the industry. If you feel strongly enough about your profession, then make a call or write a letter when one of these controversies arises.

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(It's about time.)

Crowfoot Weekend at Grand Cypress Resort

FGCSA honors Ray Hansen for Distinguished Service

Paul Crawford passes gavel to Scott Bell...

BY JOE ONDO, CGCS

Returning to the Grand Cypress Resort in Orlando, the 18th Crowfoot Open weekend began at Saturday noon with the FGCSA Summer Board Meeting followed by the Annual Meeting and election of officers. Paul Crawford passed the gavel to Scott Bell for the 1994-95 term. Scott will be announcing committee assignments in the near future. Other newly elected board members are Greg Plotner, CGCS, vice president; Dale Kuehner, CGCS, secretary/treasurer.

On Sunday morning, attendance was low, but the information was excellent as Scott Hunter of Seay Management Consultants conducted the seminar, "Employee Relations in the 90's."

Mr. Hunter began the day with four key points: (1) What's logical is not always legal; (2) The burden of proof is on the employer; (3) Documentation is the name of the game; and (4) Help is available. Seay Management is on a retainer with the Florida Turfgrass Association, so any FTGA member can call 407-423-7329 for advice concerning an employee relations matter. Additionally, the attendees received .5 CEU credits toward GCSAA re-certification.

Sunday evening everyone enjoyed the festivities at the banquet and awards cer-

emony. Entertainment was provided by the zany Denny Zavett and his Honky Tonk piano playing partner, Dave Tobiason. The fun and fine dining was capped off by the presentation of service awards to a group of deserving fellows. Ray Hansen, president of the FGCSA in 1991, was honored with the Distinguished Service Award. Bill McKee - South Florida; Paul Nevers - Everglades; Lou Oxnevad - Palm Beach; Lonnie Stubbs and Joe Snook - Treasure Coast; and Royce Stewart-Suncoast Chapter were given the FGCSA President's Award for Lifetime Service to the profession.

Tense excitement followed dinner as an autographed Arnold Palmer putter generated a fierce bidding duel in a fundraising auction. Steve Burrell of Southern Corporate Promotions took home the putter and the FTGA took home \$1,500. Steve followed up that purchase with a bid of \$500 for a Gary Player putter, which will soon be autographed by Mr. Player. He plans to mount both putters in his Atlanta office.

On Monday morning, 142 contestants dined on a continental breakfast and then tackled the North and South courses at Grand Cypress. Head superintendent Tom Alex gave well deserved praise to superintendent Shane McGuire for the

hard work and excellent condition of the course. The always-tough layout proved to be easy pickings for Central Florida newcomer Cary Stoffel of Baytree National in Melbourne. Cary took low gross honors with an even-par 72, and led the victorious Central Florida team which included Mark Heater, Pat Tomlinson, and Scott Welder. The Central Florida victory ended a possible three-peat by the Ridge Chapter!

By virtue of his victory, Cary Stoffel joins Dave Oliver, winner of the Poa Classic, on the FGCSA team for the GCSAA Championship in San Francisco in February. The remaining two spots on the team will be filled following the FTGA tournament in Ft. Lauderdale. Dave tried to win the second leg of the FGCSA Grand Slam, but he fell short with a 74 along with Mark Henderson another perennial threat. Over in the commercial division, Mark Wheaton and Dick Bessire had to match cards after firing a pair of fine two-under-par 70's.

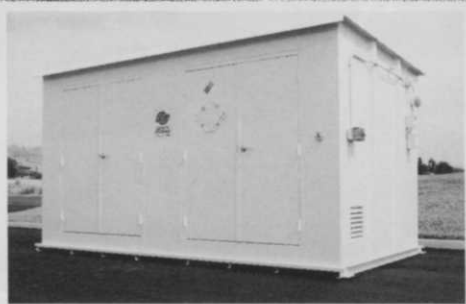
A special thanks to Larry and Vilma Kamphaus and the Crowfoot Committee for another great event. All of us wish to thank the record number of sponsors for their support of this fine event. We couldn't have done it without you!

FGCSA President's Award winners for Lifetime Service to the Profession

Bill McKee - South Florida
Paul Nevers - Everglades
Lou Oxnevad - Palm Beach

Lonnie Stubbs, Joe Snook -
Treasure Coast
Royce Stewart - Suncoast

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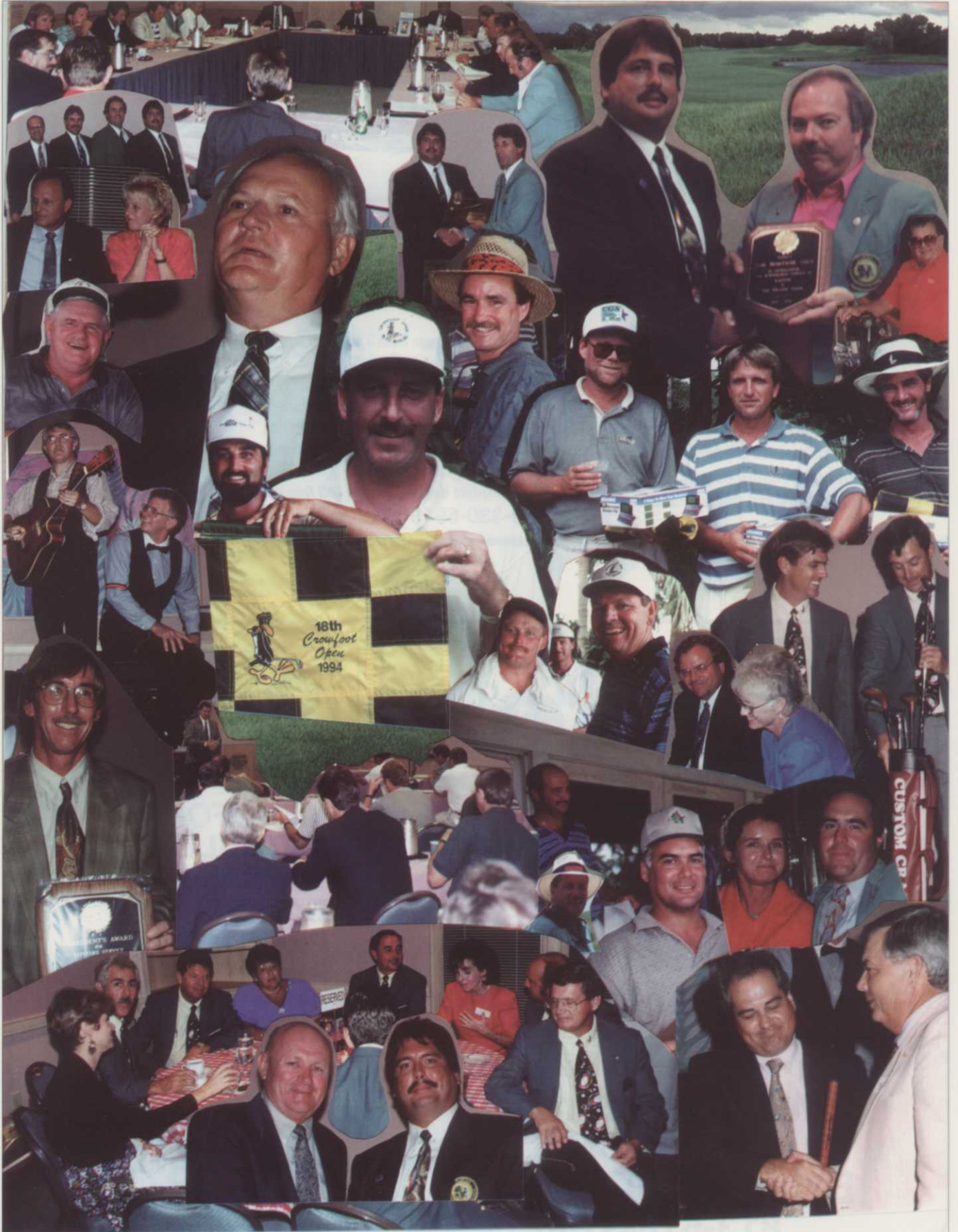
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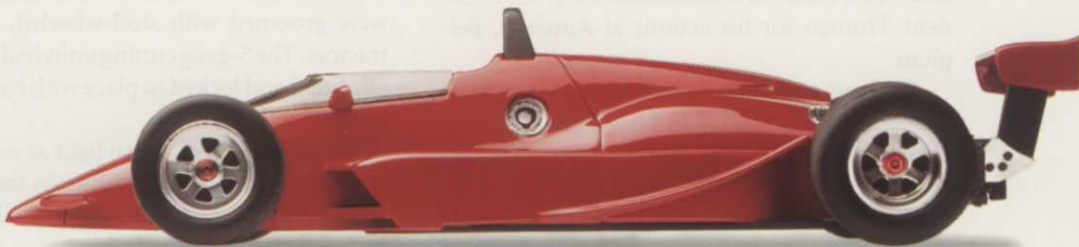
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Paul Nevers: Six Decades of Golf



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Paul Nevers: Six Decades of Golf

BY JOEL JACKSON, CGCS

Paul Nevers is a walking time capsule of golf course experience.

He has been associated with golf from the 1930s to the present. At age 9, Paul began his golf career as a caddy on the Sylvania Country Club in Sylvania, Ohio. He became the club's caddy master at age 16. In those days, caddies helped rake bunkers, fill divots, and did other miscellaneous jobs on the course in addition to carrying bags during the day.

After high school, Paul continued to work on the course until he went into the Merchant Marine and served in World War II. Paul saw action in the Mediterranean Sea as a deck engineer during the

invasion of Africa and Italy and in the North Sea during the Battle of the Bulge in Europe. He received a Letter of Commendation from President Truman for his actions at Antwerp, Belgium.

Paul was attending the Merchant Marine Officer Candidate School in New London, Connecticut when the war ended and he was discharged.

Paul returned to Sylvania where he took over the golf course and worked until he was 28 years

Naples. Thus began the Florida chapter of Paul's career.

Paul's first Naples job was to install irrigation during the construction of the Hole-in-the-Wall Golf Course in 1957. He then joined in the construction of the Palm River Golf Course which was completed in 1959. Paul then started the construction of the Big Cypress Golf Course in 1962. The course became a private club and changed its name to The Country Club of Naples. He remained the superintendent until his retirement in 1987.

The construction and opening of two golf courses remains one of Paul's fondest career memories.

"It was a proud feeling when the courses turned out as planned. I will never forget the applause of the people at the opening ceremonies," Paul recalled. "The other really memorable part of my career has been meeting some very nice people in the business and in education."

As Paul reflected on the changes in the business over the years, he talked about the English-made push greensmowers that could cut as low as 5/16 to 1/4 inch. The 1 to 1 1/4-inch high fairways were groomed with steel-wheeled, hard-seated tractors. The 5-gang cutting units had to be manually lifted and locked in place with rods for transporting.

Work began by lantern light as early as 3 or 4 a.m. There were few chemicals in the early days. Fertilizers and chemicals were often hand mixed and very coarse grained.

The growth and development of turf education has been one the most remarkable changes Paul has witnessed over the years. He thoroughly enjoyed working with Dr.'s Horn, Perry and Dickson from the University of Florida on the turf test plots at the Country Club of Naples.

He has marveled at and enjoyed the evolution of golf maintenance equipment and computerized irrigation systems. He is also pleased by the large number

of people playing and supporting the game of golf.

Please see Page 20

1994 FGCSA Presidents' Awards

Bill McKee
Paul Nevers
 Lou Oxnevad
 Joe Snook
 Royce Stewart
 Lonnie Stubbs

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

old. He started and operated his own concrete/masonry business for five years. At the age of 33, he married his wife Evala, and they moved to



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One of the real pioneers of the FGCSA

Continued from Page 18

Paul's successful career was nudged and nurtured along by mentors and peers. He credits Louis Cuiapetta, the golf pro at the Sylvania C. C. with getting him interested in golf as a career. And then, there was Wilbur Waters, the superintendent at the Inverness C.C. in Toledo, Ohio.

"Wilbur took me under his wing and showed me the real professional side to superintending.



Evala and Paul Nevers go through the buffet at the Crowfoot weekend at Grand Cypress. Evala received her own "President's Award" a few years ago — President Ronald Reagan presented her with Girl Scouting's highest award.

We talked long and often about the business. He was a good friend and colleague. I had some really good times with Dr. Horn and the professors from U. of F. We did the early work with glyphosate (Round Up) at the C.C. of Naples."

Paul is also a successful husband and father to

complement his golf career. His wife of 37 years, Evala, was busy raising their three daughters. She also earned the highest Girl Scouting honor in the nation and received it from President Reagan. She is still active in Girl Scout affairs.

The Nevers girls have made their own marks in the world.

Melodee graduated from the Lake City Golf Operations program and was an Assistant Superintendent for five years. She now owns and operates her own landscape business. Jennifer attended the University of Florida and is now working in the Admissions Department at U. of F. Suzanna was in the Marines. She married and has two children, Samantha and Tony. She lives in Redwood City, Calif.

Paul says, "Our home is on the first hole at the C. C. of Naples. The children have all grown up on the golf course. They loved the outdoors and the wildlife in our yard especially during the early construction days."

Paul Nevers is one of those real pioneers of the FGCSA. He remembers going to Fort Lauderdale to a meeting of 25-30 superintendents at Pier 66. "I was the fifth one to sign up. We tried to charter a state association. We struggled along and things died down for a few years before it got going again!"

Fellow Everglades Chapter founding member, Bob Sanderson, recalls those early days. "Paul, is a real jolly fellow. You like to be around him. I counted on him the most to help get the Everglades Chapter off the ground. He made calls and did whatever was asked to get everybody involved. He is just a super guy!"

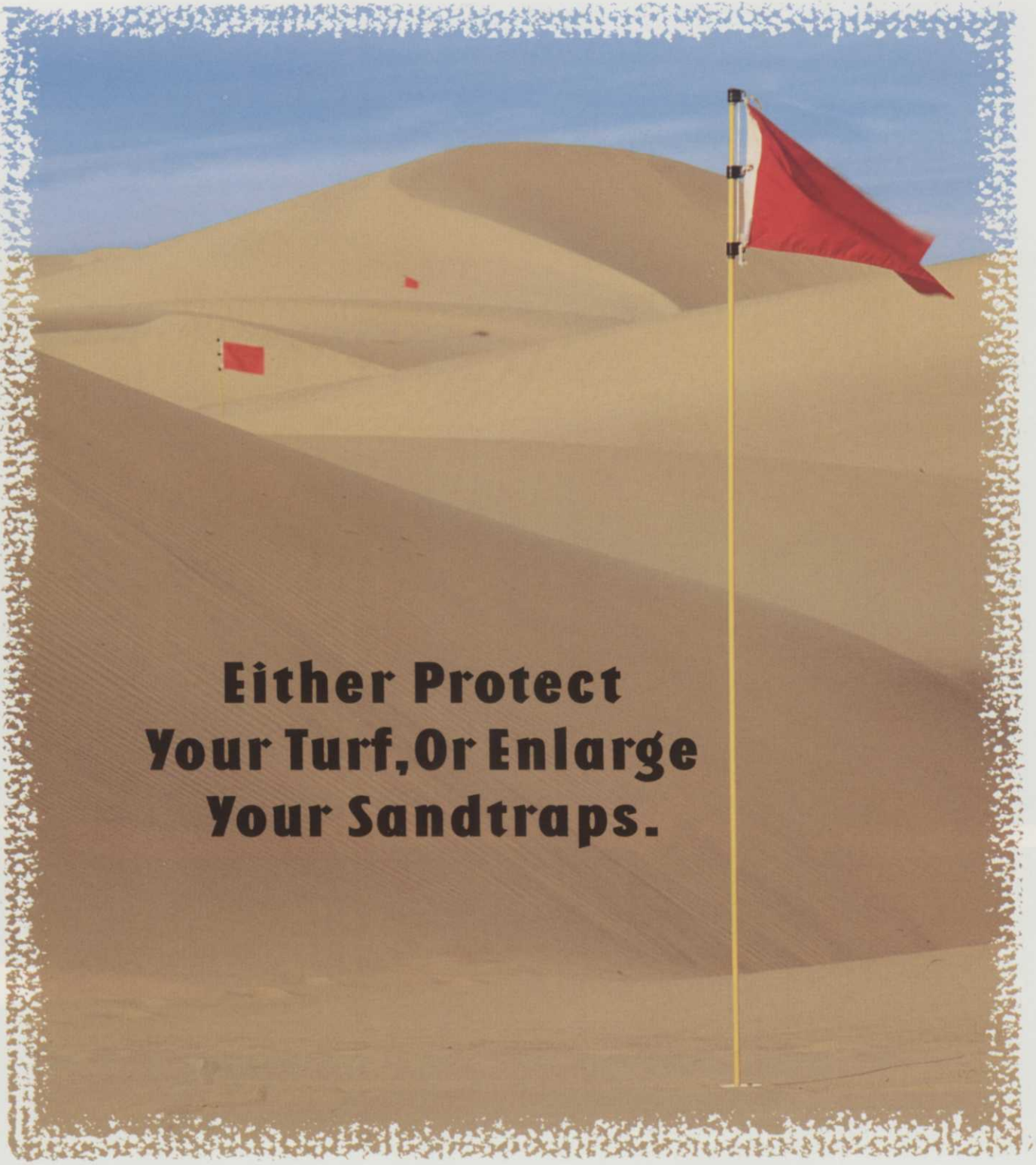
With the business so fast paced today, Paul has zeroed in on the current trends.

"Expectations are real high these days. The players are always demanding more! The acceptance level has increased!"

If that is the case, what advice does Paul have for new or aspiring superintendents?

"Be ready to change! New equipment, new methods, new grasses will necessitate changes in practices. However, stand by your convictions! Never be afraid to stand up for what is the right thing to do!"

Our congratulations to Paul Nevers, a superintendent who stood up for us in the early days.



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Number 4 has it all... pines, palms and year-round bentgrass greens.

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Bent Pine Golf Club

Vero Beach

BY JOEL D. JACKSON, CGCS

In the late 1970s several farsighted members of the John's Island Club in Vero Beach realized that the continued growth of their community would create overcrowding on their courses. They seized the opportunity to purchase and develop a tract of land just west of town. Their vision became a reality when the Indian River Country Club opened in 1978. A few years later the named changed to the current Bent Pine Golf Club.



Number 15

Year-round bentgrass putting surface over a Tifdwarf bermuda base

Bent Pine Golf Club

PHOTOS BY DAN ZELAZEK

Continued from previous page

The club is situated on the western flank of the great sand ridge that runs along Florida's east coast. This ridge is home to other well-known area courses like John's Island West, Hawks Nest, and Sandridge GC that lie just to the north and east of Bent Pine. The native vegetation ranges from pines and palmetto woods on the east side to a prairie/floodplain dotted with cabbage palms and wax myrtles to the west. Indian River citrus groves and CIBA's Vero Beach Research Center can be found north and west of the property.

The Bent Pine Golf Club falls into that group of private clubs that maintain a year-round bentgrass putting surface over a Tifdwarf bermuda base.

"June is the worst month for us," says superintendent, Scott Bell, "I tell the members that June is a great month to take a trip! Almost 90 per cent of the membership is gone by then anyhow."

"A busy day for us in the summer months is maybe 20 to 30 players. They know our post-season renovation is always the first week in June. That signals the time when we tend to lose patches of bentgrass on five or six of our greens."

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'The greens that are out in the open are quite healthy'



Number 14 from green to tee.

“Contrary to popular belief we do not raise our height of cut very much in the summer. I feel the taller cut creates a micro-climate more conducive to disease than the shorter cut...”

The other 12 greens are pretty good all summer!”

Why try to keep the bentgrass all year?

Scott explains, “It dawned on me one summer a few years ago when Tim Hiers declared he had finally gotten all of the bentgrass overseeding out of his John’s Island greens. It was August. I said, ‘Tim that’s great, but you’re going to be overseeding again in a month and a half.’ That’s when we decided to see if we could maintain the bent all year long.”

“These are not USGA greens but they were rebuilt in 1986 with 18 inches of 90-10 soil mix. The problem greens are the ones nestled in pockets in the trees which results in poor air circulation. We are going to try a couple of fans on the worst ones to see if they help prevent unwanted transition.

“The greens that are out in the open are quite healthy. The only other major problem in the summer is brown patch disease. I have been very happy with the control provided by a 16:1 mix of Daconil to Rubigan. We have also used Prostar 80 with good results.

“Contrary to popular belief we do not raise our height of cut very much in the summer. I feel the taller cut creates a micro-climate more conducive to disease than the shorter cut.

“We do back off on mowing frequency on the problem greens until the underlying host bermuda has re-established itself. That is the most trying time for me. No superintendent likes to see bare spots on his greens, but the



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members are very supportive and they appreciate the eight months of bentgrass greens that we produce for them."

Scott's fertility program is a recipe of spoon feeding that he has found to be quite successful even if it is labor intensive.

"We only apply granular fertilizer to the greens twice a year. We use Ringer's at 1 pound of nitrogen per thousand square feet. Every two weeks we apply a complete liquid fertilizer, Envirogreen, and on the off weeks we apply a low nitrogen high potassium liquid or a minors blend, usually with iron or manganese. The total nitrogen for the month will only run between 1/8 to 1/4 pound per thousand square feet during the peak bentgrass season."

"Like the other clubs that manage bentgrass, we have a special set of circumstances agreed upon by the members. They know we will have to endure a certain amount of transition in June and July, but again most of the members are

"Like the other clubs that manage bentgrass, we have a special set of circumstances agreed upon by the members.

gone. Bentgrass greens in Florida are not a reality for clubs with high-volume, year-round play!"

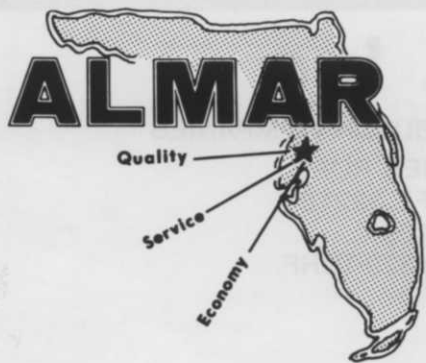
Scott acknowledges that other southern or Sunbelt states have bentgrass greens. Why then does Florida seem to struggle more with bentgrass?

"I firmly believe the unique difference is our latitude and the effect of the sun's angle, Scott explains. "We are exposed to

more relentless heat and humidity all summer than other locations. Other areas of the country do get hot and humid, but not for the same lengths of time. Our relationship to the equator guarantees our weather pretty much all summer!"

Forgetting the bentgrass for a moment, Scott and crew face the usual challenges of maintaining a golf course during a *wet* summer.

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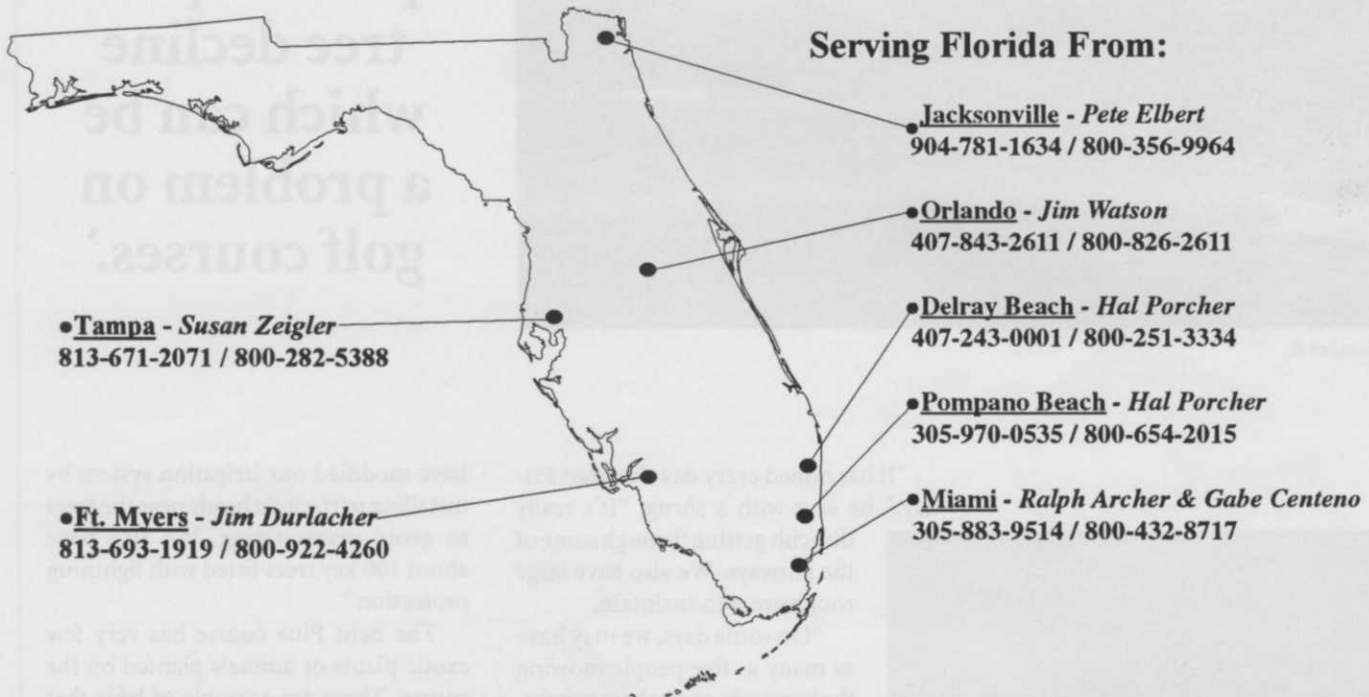
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Number 8.

*The Bent
Pine course
has very
few exotic
plants or
annuals*

"It has rained every day since last Friday," he says with a shrug. "It's really difficult getting through some of the fairways. We also have large rough areas to maintain.

"On some days, we may have as many as five people mowing the bermuda and bahaia roughs. Last night we didn't get a lot of rain, but we had a pretty good windstorm as you will see. We only lost one tree, but we will have lots of pine needles to clean up before we can mow.

"You know what pine needles can do to those reel mower bearings!"

"We have begun a program to prevent pine tree decline which can be a problem on golf courses. We have created pine straw beds under groups of trees and around individual trees to help keep the pH more acidic, which they prefer.

It also keeps traffic off the root systems around the trees. The pine straw beds also give us a place to blow and scatter pine needles that we clean up after storms. We

'We have begun a program to prevent pine tree decline which can be a problem on golf courses.'

have modified our irrigation system by installing part-circle heads near the trees to avoid overwatering. We also have about 100 key trees fitted with lightning protection."

The Bent Pine course has very few exotic plants or annuals planted on the course. There are a couple of beds that are maintained during the winter, but they are allowed to lie fallow during the summer. The only exception is the clubhouse area which is accented with Washingtonia palms, flowering trees, shrubs and annuals.

There are also very few houses bordering the course, and these have generous set-backs and are screened with lots of landscaping to break up the roof lines.

As we rode around the course, I was envious of the very obvious lack of weeds. Scott says his herbicide program consists of a pre-emergent application of pendimethalin in mid-January each year for *Poa annua*. His timing must also catch the early germinating goosegrass and crabgrass. If he does have any problems in the warm season, he spot treats with MSMA.

Bent Pine also alters their routines and equipment during the year. In the

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There are also very few houses bordering the course, and these have generous set-backs and are screened with lots of landscaping to break up the roof lines.



Number 18 and the clubhouse.

summer, the tees are mowed with triplex mowers. During the winter, a fleet of 11 green and tee walking mowers is trotted out to accomplish that manicured look.

On the fairways a seven-gang Parkmaster gives way to a pair of lightweight five-gang mowers to stripe the overseeded

Continued on Page 38



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The crew at Bent Pine GC.

Bent Pine Golf Club

Location: Vero Beach, Florida.

Ownership: Member owned

Playing policy: Private - No tee times.

Management: Clubhouse Manager, Jack Grant; Golf Professional, Pat Gorman
Club President, Robert Irwin; Greens Chairman, Joe Van Sickle.

Designed by: Joe Lee.

Opened: 1978, 18 holes. Originally called Indian River Country Club.

Renovations: Rebuilt greens in 1986. Currently, resodding greens collars-6 holes per year to remove 419 contamination.

Acreage: Total turf = 160. Lakes = 26 acres.

Tees: 2 acres, Tifway 419. HOC = .350. Overseeded w/Laser Poa trivialis.

Greens: 2.5 acres, Tifdwarf. HOC = .110 (January to June 6 - .125). Average size = 5,000 square feet. Overseeded w/Penncross creeping bentgrass @ 5 lbs. per 1,000 square feet. Winter green speed 10 - 11.5.

Fairways: 50 acres of Tifway 419, HOC = .500.

Roughs: 90 acres of Tifway 419, HOC = 1.50. 30 acres of Argentine bahiagrass, HOC = 3.0

Irrigation: Source: Artesian well. Pumps: 1 - 25hp; 2 - 50hp w/Autoflow Special Control Panel. System: Toro Osmac w/600 heads covering bermuda turf only.

Staff: Assistant Superintendent, Donnie Kouns (8 years). Equipment Technicians: Head Technician, Dwayne Keeling; Part-time assistant technician, Bob Kalin. Pest Control Technician: Sam Hooker. Irrigation Technician: Billy Gondek (8 years). Graduate of GCSAA, Toro, and Autoflow irrigation seminars.

Total Staff: 15, including superintendent.

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The Scott Bell family.

Scott Bell

Originally from: Ohio. Attended High School in Ft. Lauderdale.

Family: Wife, Debbie. Children: Jennifer(10); Sara(8); Scott(6); Allison(1 1/2).

Education: BS Landscape Horticulture from Colorado State University 1981.

Employment: Bent Pine G.C. since 1986; TPC at Monte Carlo, Ft. Pierce (2 Senior PGA events and 1 Senior Qualifier - Supt. 8/84 to 5/86); TPC at Eagle Trace, Ft. Lauderdale (1 Honda Classic - AS 3/83 to 8/84); The Pinery Country Club, Denver, Colorado (C.C.A. - AS 1981-82).

Hobbies/Interests: Golf (12 handicap); Yamaha Waverunner; coaching soccer, home improvement projects, travel, snow skiing.

Professional affiliations: FGCSA - President; Treasure Coast Chapter - all board offices; FTGA - Government Relations Committee; Indian River School Board - Gifted Student Task Force.

Memorable moments: Taking the Eagle Trace course from "dirt" to a PGA tour event site in one year was rewarding. Turning a bankrupt course into the TPC at Monte Carlo and hosting a PGA Senior Tour event was also a great feeling. Rebuilding the greens at Bent Pine to provide better playing conditions for the members has been fulfilling.

Advice: Remember, the customer comes first! Whether it's a member, a guest, or a daily fee player, we work for the golfer and they pay the bills!

Mentors: **Dr. Jack Butler** at Colorado State got me to switch over from an overcrowded forestry major to a six person turf program. I never looked back. **Fred Klauk** emphasized the importance of having very good greens as well as a manicured course. **Gene Burkholder**, a former greens chairman, taught me the art of diplomacy within the private club setting.



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Numbers 9 and 18. Note the Martin house on Number 18.

As we headed back to his office, Scott showed me one of his two successful purple martin houses...

Continued from Page 32
links.

As we headed back to his office, Scott showed me one of his two successful purple martin houses. This one was located on the lake bank of the 18th hole. He pointed out that the martins love to be near the water and out in open areas away from surrounding trees.

Scott added, "They are really a sight in the morning as the whole flight swoops and turns. When the sun flashes on their iridescent purple color, they're spectacular. I read that each purple martin can eat over 2,000 mosquitoes a day. That's a great benefit for simply mounting a bird house on a pole!"

Back in his office, Scott discussed his coming year as FGCSA President.


"The number-one mission of the FGCSA will always be to promote and educate the superintendent. We have made great strides in improving the professional image of superintendents.

"Right now, we should all be involved in taking a proactive stance on environmental issues. The FGCSA has and will con-

tinue to be a force in the search for better and safer ways to manage turf. While, we continue to actively raise funding for research, we must also support our lobbyist, Mike Goldie, in Tallahassee. Legislators need to hear both sides of each issue before heaping more business strangling regulations on our club's backs."

"We share funding of the lobbyist with the Florida Turfgrass Association. The FTGA is made up of members from all aspects of the turf industry including superintendents. I would like to see even more superintendents join and support the FTGA.

The FTGA is uniquely staffed and positioned to address large-scale issues that affect the industry. We are all anxious to see the results of the Turfgrass Economic Impact Survey that will help quantify the real financial value of turfgrass to the citizens of Florida."

"In this time of environmental sensitivity, it is critical for every club and every superintendent to do what is right. Superintendents with proven leadership skills are an asset to their clubs in this age of OSHA, ADA, and EPA activism." 

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GOLF COURSE SALES - GEORGE COOK

Wildlife and Habitat Management

The superintendent as wildlife manager

BY SHELLY FOY

Heavy development in Florida is eliminating living area for many of our birds and animals. The Florida Game and Freshwater Fish Commission's official list of Endangered and Potentially Endangered Species List of June 1, 1994, lists 118 fauna and flora species in Florida as endangered, threatened or vulnerable.

In some locations, golf courses are the last remaining green spaces and their value to wildlife is immeasurable. So not only are golf course superintendents land managers, but wildlife managers as well.

All wildlife need food, water, cover and space to survive. These four combined elements make up an animal's habitat.

How do you manage wildlife?

You provide for their needs; food to keep up energy levels, water to drink and bathe in, cover for breeding, nesting, sleeping, feeding and travel, and space to live and raise their young. The more elements, the more wildlife.

Throughout this article, many ideas and strategies are presented. They may not all be appropriate or needed at your golf course. The important point is that you implement programs you are comfortable with and have the time and energy to accomplish.

Every golf course is different, each idea of management is different. Step back and take a look at the big picture and decide what is right for your golf course and your golfers. Be patient and realistic about your expectations. A well-thought-out plan of action will be appreciated by everyone.

Creating a wildlife inventory

According to the Florida Game & Fresh Water Fish Commission, Florida has 1200 species of animals, which makes us the third most diverse state in the nation. Golf courses in Florida also have the opportunity to provide a valuable resting and feeding stop for migrating birds, as the East Coast is along the Atlantic Flyway.



Habitat Elements

- Conifers
- Grasses and legumes
- Hummingbird plants
- Summer plants
- Fall plants
- Winter plants
- Nut & acorn
- Feeders
- Water
- Dust beds & grit
- Salt
- Brush and rock piles
- Tree snags
- Nestboxes
- Cut banks, cliffs & caves
- Butterfly, bee & moth plants

A wildlife inventory can provide you with information such as what species are on-site, nesting and feeding information, as well as if your course is being used as a migration stop. Also, without knowing what species you have on your site, deciding what programs will be best for your course will be difficult. An ongoing inventory will help you to document the success of the enhancement projects you are implementing.

Ideas:

◆ Post a large-scale map of your facility which lists as much detail as possible (buildings, plant material, lakes, etc.) . Have a journal or log under the map where golfers can note date, location, species and any other pertinent information. For golfer convenience, try locating this journal near where they post scores.

◆ Create a wildlife library in your proshop or clubhouse where members can "check out" books on wildlife. Have a journal or log where sightings can be registered. As an educational tool, have a

board where you can highlight a different wildlife species each month, or educate members/golfers of the benefits of certain management practices, (snags, naturalization, etc...)

◆ Create a card (part of your scorecard maybe) which has pictures of the most common wildlife species on your golf course and a title that says, "Have you seen me today?" Even golfers who are not familiar with names of species can recognize them with a picture. Provide a few lines where they can note where they saw them and anything special that they observed.

◆ Take the time to educate your staff on the wildlife present on the course. Have a journal or log in the maintenance building where they can note sightings.

◆ Invite a local bird group, scout group, high school or college biology class to help you create an inventory, perhaps on a day the golf course is closed. Schools are always looking for new ways to interest students in learning.

ASCP: Part III

In part 3 of this series on the Audubon Cooperative Sanctuary Program for Golf Courses, ideas for fulfilling the "Wildlife & Habitat Management" category will be presented. Information for this article was gathered through many sources and they are listed at the end of this article.

- ✓ Environmental Planning
- ✓ Member/Public Involvement
- ✓ **Wildlife & Habitat Management**
- ☐ Integrated Pest Management
- ☐ Water Conservation
- ☐ Water Quality Management



Dave Coogan (in hat), environmental technician at Tampa Palms G&CC, demonstrates aquascaping plant materials and techniques at ACSP workshop for wildlife.

Workshops for Wildlife

The USGA Green Section, Audubon Society of New York, Colliers Reserve Country Club, and Tampa Palms G&CC recently hosted two workshops on the Audubon Cooperative Sanctuary Program for golf courses. The first workshop was Aug. 15 at Colliers Reserve in Naples. Over 50 people were in attendance to learn more about this program. Speakers for the day consisted of Time Hiers, Colliers Reserve; Shelly Foy, USGA Green Section; Ron Dodson, Audubon of New York; Pat Utter, Florida Power & Light; Jeremy Cook, Collier County Waste Management; and Kris DeLaney, botanist.

On Aug. 17, over 30 people attended at the ACSP workshop at Tampa Palms. Host Superintendent Greg Plotner, Ron

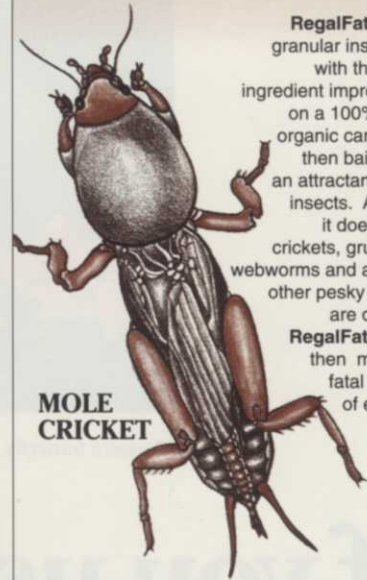
Dodson, and Shelly Foy walked everyone through the ACSP Resource Inventory form and each of the six certification categories. Dave Coogan, Tampa Palms Environmental Technician, gave an informative and entertaining talk on the establishment and management of aquatic plants.

Based on the positive response to the first two workshops, the Palm Beach GCSA will be hosting a third workshop at the Banyan Golf Club in West Palm Beach in January. We are currently searching for a workshop locations in North and Central Florida. If your chapter or club is interested, call Shelly Foy at (407) 546-2620.

—Shelly Foy, USGA Green Section

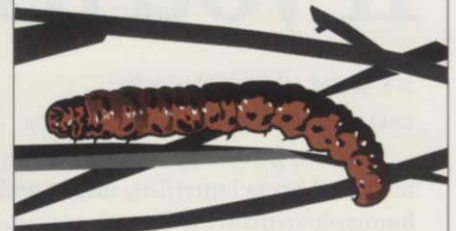
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Butterflies can be mostly free —



Monarch butterfly.

Photo by The Nature Conservancy

If you use the proper plants

BY KEN WORKINGER

KELLY GREENS GOLF & COUNTRY CLUB

Butterfly gardening is a way to conserve the natural environment and bring butterflies, insects and other wildlife back to human-invaded areas through plant gardening. When land is plowed and pushed up, native plants are mostly destroyed in the building process and replanted with exotic or popular species to man. By designing and building a butterfly garden using native plants, you not only help bring back the population of butterflies, but you will add a lot of beauty and color to your property.

Butterfly gardening works like this: Butterflies are equipped with a keen sense of smell and are able to identify food plants from quite a distance. If you use the proper plants, it won't be long before butterflies make your home or golf course, their home. The selection of plants is very important for having a successful butterfly garden. There are flowering plants that provide nectar necessary for adult butterflies. Nectar is a sweet sugary substance produced by flowers. There are also host plants that provide food for the larva or caterpillar. Because

caterpillars are particularly choosy eaters, host plants must be chosen carefully. Most species of butterflies will only lay eggs on one species of plant. So, it is important to choose the proper plants for the butterflies present in your area.

Some of the most common and easiest butterflies to find host plants for in South Florida consist of Giant Swallowtails, Black Swallowtails, Zebras, Julias, Queens, Monarch, the Gulf Fritillary and many Whites and Yellows (Sulphurs). See chart below for species of butterfly and preferred host plants for them.

When designing your garden, be sure to determine the full-grown size of the plants that you are going to use so that you can plant them and don't have to cut off flowers to maintain a feasible height.

Also, try to keep most of the garden in the full sun and preferably out of strong winds (next to fence or hedge). Butterflies prefer large blots of colors and strong accents. Once you start seeing butterflies in your garden, make note of the butterfly and what host plant they are on and watch those plants for the next three or four days. You should see tiny caterpillars emerge

Please see page 46

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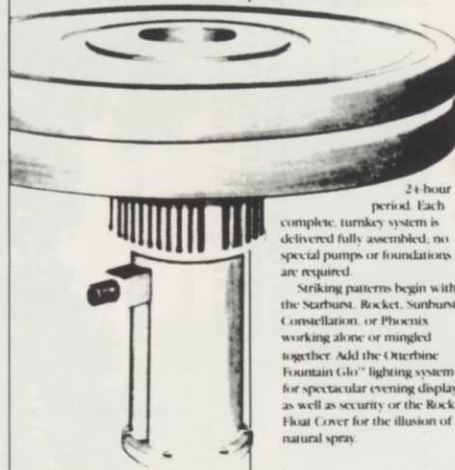
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Most Quiet

For the safety and comfort of your operators and to sustain the pleasant surroundings you've committed to your golfers and neighbors, Toro has kept noise and vibration to the lowest of levels. Thanks to a special Sound Treatment Package of the Vanguard engine, the Sand Pro 5000 boasts a low rating of 82 dB(A), and the 2000 rates ever so close.



Natural to Operate

Features like ergonomically designed controls, tilt steering, adjustable seating, hydrostatic drive and a zero turning radius lend every operator a skillful performance and added productivity. And of course there's the ease of hydraulic lift for all attachments, plus adjustable down pressure for proper grooming.





Durably Built, Easy to Service

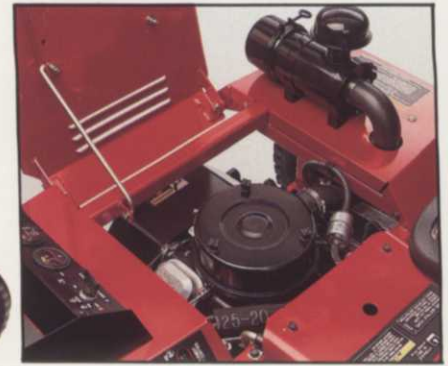
Either Sand Pro provides self-lubricating hydraulic systems that are completely enclosed, protected from sand and grit for longer life. There are no gears to change, belts to adjust, no clutch to slip, so downtime and maintenance is minimized. And both are easy to service. All major components are quickly accessed by removing the side panels.

The Sand Pro 5000

Powered with a commercial, 16 hp, twin cylinder Vanguard engine; it's fuel efficient, offers more horsepower output, runs cooler and has a fully pressurized oil lubrication system for longer life.

Three-wheel traction drive is standard but 2-wheel drive is an option which affords a choice of two ground speeds; 8.6 mph (and 11 mph with 2-wheel drive.)

A greater ground clearance of 7.5" allows alternating bunker entries. Combined with the ease of hydraulic lift, attachment transport is hassle-free.



The Sand Pro 2000 Tried and True

The Sand Pro 2000 gives you the same durability and versatility of the reputed Sand Pro 14. Featuring a 12 hp Kohler engine, it provides plenty of power to maintain a fast work rate, whether raking, edging, spiking or grading. Its transport

speed, infinitely variable from 0 to 11 mph, makes for quick mobility from bunker to bunker.



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Sand Pro Attachments

The 5000 and 2000 share a wide array of attachments to satisfy your varied conditions; whether maintaining bunkers or other labor intensive tasks around the golf course. All attachments are interchangeable; even most of your existing Sand Pro attachments will mount either model.



Tooth Rake, Model 08812

Designed for optimal performance in a variety of conditions. Ideal for maintaining firm bunkers having a tendency to crust. Raking depth is adjustable for achieving the desired bunker playability.



Spring Rake, Model 08813

Designed for minimal disturbance or shallow bunkers. It provides superior surface grooming and breaks up bunker crust of loose, dry silicate type sands. Spring teeth offer extreme floatability. Consider combining this Spring Rake with the Tooth Rake.



Weeder/Cultivator, Model 08815

A unique tool that serves a variety of applications. Ideal when used with either the Tooth Rake or Spring Rake for loosening or weeding the sand before raking. It also serves as a sand leveling device to eliminate bumps or washboarding.

Renovation Cultivator, Model 08818

Ideal for sand bunker renovation, golf course reconstruction, or seed bed preparation. You'll achieve high capacities with a 66" working width and 8 tines. Quick, no-tool individual tine removal accommodates various conditions.



40" Dozer Blade, Model 08821

Universally used, it's ideal for bunker renovation after washout, for landscaping or for constructing new greens. The counterbalanced blade with unique flex design lets you shape the ground as you like with minimal effort. A 60" blade is also available for bigger jobs.

Drag Mat, Model 08845

Breaks up soil clumps and creates a surface ready for seeding.



58" Spiker, Model 08856

Covers more turf in fewer passes. It's center pivot combined with Toro's exclusive profile tooth blades spike cleanly without ruffling turf, so greens are immediately playable. The hydraulic down pressure system allows you to penetrate even in compacted soil.

Finish Grader, Model 08867

Designed for renovation and construction of turf areas.



Rake, Model 08811

Traditional rake with 4 floating sections and cultivator bars, adapts nicely to bunkers with high curved lips.

Edger Kit, Model 08822

Mounts to Rake, Model 08811. Mechanizes edging in flat to slight undulating bunkers.

Turf Tire, Part No. 119672

Optional Turf Tire makes the Sand Pro even more versatile; recommended for use on greens.

Sand Pro® Specifications*

	SAND PRO 5000, Model 08881	SAND PRO 2000, Model 08882																
ENGINE	Vanguard®, V-twin cylinder, 4 cycle, OHV, air cooled, gas engine with cast iron sleeves. 16 hp (11.9 kW) at 3200 rpm. Displacement: 29.3 cu. in. (480 cc). Oil capacity: 1.75 quart (1.66 liter). Electronic ignition. Full pressure lubrication, oil filter. Base mounted engine and pump with 4 isolation mounts. Standard remote mounted Donaldson 3 phase element air cleaner.	Kohler M12, 4-cycle, synchro-balanced, air cooled, gas engine with cast iron sleeves. 12 hp (8.9 kW) at 3000 rpm. Displacement: 29.07 cu. in. (476 cc). Oil capacity: 5.25 pints (2.5 liters). Electronic ignition. Large capacity, dual element air cleaner. Optional remote mounted Donaldson Air Cleaner, P/N 86-4900.																
FUEL CAPACITY	5.5 gallons (21 liters) of unleaded gasoline.	4.25 gallons (16.1 liters) of unleaded gasoline.																
TRACTION DRIVE/ GROUND SPEED	Direct driven hydrostatic variable displacement piston pump to 3 hydraulic motors for 3-wheel drive. Large, front mounted hydraulic cooler and fan. Foot pedal control, forward/reverse. Infinitely variable 0-8.6 mph (13.8 km/h) forward; 4.3 mph (6.9 km/h) reverse. Optional 2-Speed Valve Kit, P/N 88-8500, for faster transport, up to 11 mph (17.7 km/h).	Direct driven hydrostatic variable speed displacement piston pump to 2 hydraulic motors for 2-wheel drive. Large front mounted hydraulic cooler. Foot pedal control, forward/reverse. Infinitely variable 0-11 mph (17.7 km/h) forward; 2.5 mph (4 km/h) reverse.																
HYDRAULIC OIL CAPACITY	3 gallon (11.4 liter) system capacity. Nylon reservoir to reduce corrosion. 25 micron replaceable cartridge.	2.5 gallon (9.5 liter) system capacity. Nylon reservoir to reduce corrosion. 25 micron replaceable cartridge.																
TIRES/WHEELS/ PRESSURE	Three 22 x 11.00-8 pneumatic tubeless tires on demountable, interchangeable wheels. Tire pressure: 4 psi (27.5 kPa).	Three 21 x 11.00-8 pneumatic tubeless tires on demountable and interchangeable wheels. Tire pressure: 4 psi (27.5 kPa).																
MAIN FRAME	Tricycle vehicle with welded rectangular tubular steel frame construction. Rear engine placement.	Tricycle vehicle with welded tubular steel frame construction. Mid engine placement. Removable refuse box.																
BRAKES	Dynamic braking through the hydrostatic transmission.																	
STEERING	Manual front wheel steering. Adjustable tilt steering wheel (infinite positions). 15" (38 cm) dia. steering wheel. Zero turning radius.	Manual front wheel steering. 15" (38 cm) dia. steering wheel. Zero turning radius.																
CONTROLS/ GAUGES	Hand operated choke, throttle, and hydraulic control for raising/lowering implements. Foot pedal controls traction forward/reverse speed. Gauges: hour meter and ammeter.																	
SEAT	Deluxe seat, one piece molded with 1/2 back support. 5.75" (14.6 cm) fore/aft adjustment with two mounting positions.	One piece molded with 1/4 back support. 5.75" (14.6 cm) fore/aft adjustment with two mounting positions. Optional Deluxe Seat.																
ELECTRICAL FEATURES	12 Volt battery, 32 amp hour, 12 volt electric starter. Console mounted ignition switch with key. Neutral interlock switch. Also provision for light kit.	12 Volt battery, 32 amp hour. 12 volt electric starter. Dash mounted ignition switch with key. Neutral interlock switch.																
SOUND LEVEL	82 dB(A) under normal operating conditions.	83 dB(A) under normal operating conditions.																
WARRANTY	One year limited warranty. Refer to the Sand Pro 5000 Operator's Manual for further details regarding this warranty. Briggs & Stratton provides a two year commercial engine warranty and a lifetime Magnetron® warranty.	One year limited warranty. Refer to the Sand Pro 2000 Operator's Manual for further details regarding this warranty. Kohler provides a two year commercial engine warranty.																
DIMENSIONS	<table border="1"> <thead> <tr> <th>Width</th> <th>Length</th> <th>Height</th> <th>Wheelbase</th> </tr> </thead> <tbody> <tr> <td>58" (147 cm)</td> <td>63" (160 cm)</td> <td>45.25" (115 cm)</td> <td>42.75" (108 cm)</td> </tr> </tbody> </table>	Width	Length	Height	Wheelbase	58" (147 cm)	63" (160 cm)	45.25" (115 cm)	42.75" (108 cm)	<table border="1"> <thead> <tr> <th>Width</th> <th>Length</th> <th>Height</th> <th>Wheelbase</th> </tr> </thead> <tbody> <tr> <td>58" (147 cm)</td> <td>60" (152 cm)</td> <td>44" (112 cm)</td> <td>40" (102 cm)</td> </tr> </tbody> </table>	Width	Length	Height	Wheelbase	58" (147 cm)	60" (152 cm)	44" (112 cm)	40" (102 cm)
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WEIGHT	Net weight (full fluids): 807 lbs. (366 kg)	Net weight (full fluids): 685 lbs. (311 kg)																

Sand Pro® Specifications* (continued)

SAND PRO ATTACHMENTS & ACCESSORIES	
TOOTH RAKE, 08812	72" (183 cm) width, with 3 rake sections, 27 prongs adjustable for depth and wear. Adjustable trowels, drawbar position for variable aggressiveness. Hydraulically raised for transport. Weights available for drag sections.
SPRING RAKE, 08813	76" (193 cm) width, with 5 individual rake heads. Hydraulically raised for transport.
WEEDER/ CULTIVATOR, 08815	38" (97 cm) width, with 5 sets of double shovels. Mounted close to rear wheels for improved ground following and reduced gouging. Hydraulically lowered, spring raised. Operates independently of Tooth Rake and Spring Rake.
RENOVATION CULTIVATOR 08818	66" (168 cm) width with 8 shovel blades. Shovel assemblies are removable without tools. 0-4" (0-10 cm) depth adjustment. Rear mounted, hydraulically operated.
DOZER BLADE, 08821	40" (102 cm) width, reversible blade. Loop handle for blade control with either hand. Transport lock-up with handle storage position. Side-to-side flex design for improved ground following. Optional 60" (152 cm) Blade also available.
DRAG MAT, 08845	6-1/2' x 6' (1.9 m x 1.8 m) Keystone drag mat with transport stands. Used in conjunction with Hitch Kit to drag greens and tees.
EDGER KIT, 08822	16" (41 cm) disk attached to arm to be mounted on Rake (08811 only). Hydraulically operated.
SPIKER, 08856	<p>Description: Spiker consists of 2 units each with 12 spiker blades and 11 hold down fingers. Each unit floats independently of the other and is hydraulically pressured into the ground and allowed to float up and down by means of a spring.</p> <p>Blade: High carbon steel, .015" (.26 cm) thick. Special profile design for minimum disturbance of soil surface when spiking, (7) 3/4" (1.9 cm), 8 points per blade.</p> <p>Specifications:</p> <p style="margin-left: 40px;">Weight: 280 lbs. (127 kg) Unit Working Width: 57.6" (146 cm) Working Depth: 1.25" (3.2 cm), max. Working lbs./Blade: 23.1 lbs. (10.5 kg)/blade Blade Spacing: 2.4" (6.1 cm)</p>
TURF TIRE, 119672	22 x 11.00-12. Tire pressure: 4 psi (27.5 kPa).
RAKE, 08811	Formed forward conditioning sections utilizing subsurface bar for breaking crust. Nine drag sections. Angle of conditioning bar adjustable for depth of penetration. Weights available for drag sections.
FINISH GRADER, 08867	Consists of box plow and scarifier. Adept at light ground maintenance and grooming. Hydraulically raised and lowered, with spring loading to regulate down pressure. <p>Dimensions:</p> <p style="margin-left: 40px;">Weight: 200 lbs. (91 kg) Length: 10" (25 cm) Width: 66" (168 cm) Height: 10" (25 cm)</p>

SAND PRO ATTACHMENT & ACCESSORY MATRIX																
	Tooth Rake 08812	Spring Rake 08813	Weeder/ Cultivator 08815	Renovation Cultivator 08818	40" Dozer Blade 08821	Rake 08811	Drag Mat 08845	Spiker 08856	Finish Grader 08867	Sand Blade 240 44900	Deluxe Seat 76-1401	Remote Air Cleaner 86-4900	2-Speed Valve Kit 88-8500	Turf Tire Kit 119672	Draw Bar 92-2330	
Sand Pro 5000, 08881	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.**	Std.	—	Opt.	Opt.	Opt.	
Sand Pro 2000, 08882	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	—	Opt.	Opt.	
Rake Mount Kit, 08814	Req.	Req.	Req.	—	—	—	—	—	—	—	—	—	—	—	—	
60" Blade, 92-3093	—	—	—	—	Opt.	—	—	—	—	—	—	—	—	—	—	
Adapter Kit**, 44901 (Required to mount blade on Sand Pro 5000, Model 08881)	—	—	—	—	—	—	—	—	—	Req.	—	—	—	—	—	
Scarifier Bar (43 fingers), 23-2750	—	—	—	—	—	—	—	—	Opt.	—	—	—	—	—	—	
Prong Rake Kit, 42-3960	—	—	—	—	—	Opt.	—	—	—	—	—	—	—	—	—	
Drag Weight, 18-7570	Opt.	—	—	—	—	Opt.	—	—	—	—	—	—	—	—	—	
Edger Kit, 08822	—	—	—	—	—	Opt.	—	—	—	—	—	—	—	—	—	

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Florida Native Wildflowers to Provide Nectar

Perennials

milkweeds (*Asclepias* spp.)
 asters (*Aster* spp.)
 Blazing star (*Liatris* spp.)
 Boneset (*Eupatorium* spp.)
 False ageratum (*E. coelestinum*)
 Goldenrod (*Solidago* spp.)
 Ironweed (*Vernonia* spp.)
 Florida Paintbrush (*Carphephorus corymbosus*)
 Pennyroyal (*Piloblephis rigida*)
 Purple coneflower (*Echinacea purpurea*)
 Stoke's aster (*Stokesia laevis*)
 Vervain (*Glandularia* spp.)
 Wild petunia (*Ruellia caroliniensis*)

Annuals

Spanish needles, or beggars ticks (*Bidens alba*)
 Seaside heliotrope (*Heliotropium curassavicum*)
 beach sunflower (*Helianthus debilis*)

Biennials

Black-eyed susan (*Rudbeckia hirta*)
 Thistle (*Cirsium horridulum*)

Shrubs

flatwoods plum (*Prunus umbellata*)
 sparkleberry (*Vaccinium arboreum*)
 Blue porterweed (*Stachytarpheta* spp.)
 Firebush (*Hamelia patens*)
 Garberia (*Garberia fruticosa*)
 Lantana (*Lantana* spp.)
 Wild sage (*L. involucrata*)
 New Jersey tea (*Ceanothus americanus*)
 Tarflower (*Befaria racemosa*)

Florida Larval Plants

Asters (*Aster* spp.)
 Cannas (*Canna* spp.)
 Carrot family (*Umbelliferae*)
 Citrus family (*Rutaceae*)
 Coontie (*Zamia floridana*)
 Dutchman's Pipe (*Aristolchia* spp.)
 Figs (*Ficus* spp.)

Laurel family (*Lauraceae*)
 Legume family (*Fabaceae*)
 Milkweed family (*Asclepiadaceae*)
 Mustard family (*Brassicaceae*)
 Passionvine (*Passiflora* spp.)
 Pawpaw (*Asimina* spp.)
 Senna & Partridge Pea (*Cassia* spp.)
 Water hyssop (*Bacopa* spp.)

This is a partial listing of native plants found throughout Florida that attract butterflies. For more specific information regarding your region, call your county extension office or the Florida Native Plant Society, (407) 299-1472.

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Chart 1: Florida Butterflies

Name	Characteristics	Food Sources	Florida Location
SWALLOWTAILS 10 Florida species			
Zebra Swallowtail	Long winged, white w/dark stripes & red spot on lower hind wings	pawpaws	All
Black Swallowtail	Small, dark rows of yellow spots, iridescent blue spots on hind wings	carrot family	All
Giant Swallowtail	Large, black & yellow	citrus family	All
Pipevine Swallowtail	Medium, dark w/iridescent blue on hind wings	various species of Dutchman's pipe	Common north of Fort Myers
Spicebush Swallowtail	Large, dark, row of yellow spots on wings, orange spot on upper edge of hind wing	laurel family, including spicebush	All
SULFURS AND WHITES 19 Florida Species			
Checkered White	Medium, white, checkered w/brown markings	mustard spp. including peppergrass	All
Cloudless Sulfur	Large, yellow	cassia spp.	All
Great Southern White	Large, white, dark markings on tips of fore wings	salt tolerant mustards	Coastal Peninsular Florida
Little Sulfur	Small, bright yellow, brown markings on fore wings	cassia spp.	All
Sleepy Orange	Rich-orange, dark brown bands	cassia spp.	All
HAIRSTREAKS AND BLUES			
Atala	Rare, once thought extinct, blue w/dark wing edges & bright orange abdomen	coontie	Extreme South
Gray Hairstreak	Small, dull gray, orange spots on lower hind wings	oaks, hawthorns, mainly pea & mallow spp.	All
Red-banded Hairstreak	Tiny, dark gray fore wings & blue markings on hind wings	wax myrtle & oaks	All
Spring Azure	Tiny, blue	woody trees & shrubs	North Florida south to Gainesville
White Hairstreak	Blue, black wing border, white M marking on hind wing	various oaks	All
METALMARKS 1 Florida Species			
Little Metalmark	Small, copper-colored	thistles	All
SNOUT BUTTERFLIES 1 Florida Species			
Snout Butterfly	Long pointed noses, orange & brown w/white spots on upper wing tips	sugarberry, other hackberry trees	All

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from eggs. These caterpillars will feed on your plant and can sometimes destroy it quickly, so observe them daily. Remove the overload and replace them, either on other plants of the same species or give some to a friend. Most elementary schools would love to have them so students can observe the caterpillars change to *chrysalis* or pupa stage and then to a beautiful butterfly.

More butter fly garden tips:

- ◆ Plant with year round blooms in mind and in sunny, warm

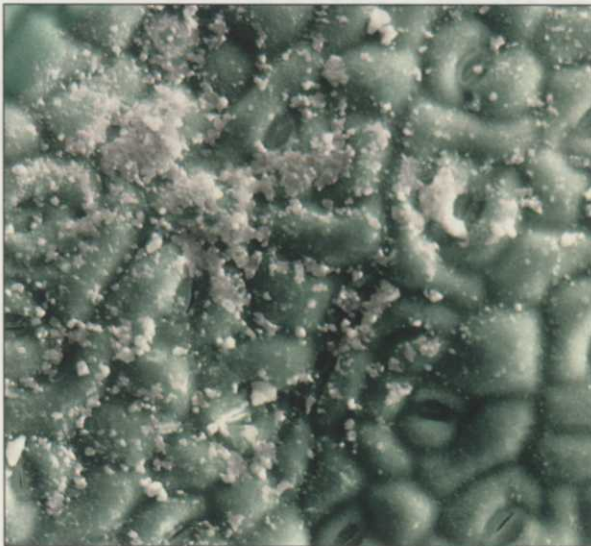
locations.

- ◆ Butterflies are cold blooded, and can fly only when their body temperatures are between 85 - 100 degrees Fahrenheit. Try placing rocks in open sunny areas of your garden as "basking" sites.

- ◆ Butterflies, like all wildlife, depend on food, water and cover. Understanding their habitat needs is necessary for a successful garden.

- ◆ At least one and preferably more watering areas should be

Please see page 48



Daconil 2787® fungicide after a 4" rain stress (SEM - 2700x)†

**DACONIL 2787
STICKS AND STAYS.**



Best-performing imitator* after a 4" rain stress (SEM - 2700x)†

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CAN WASH AWAY.**

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From mowing and watering to Mother Nature's rain, your course goes through a lot week in and week out. And because of all it goes through, you need a fungicide you can count on to stick and stay for maximum protection against fungal diseases that can so quickly destroy valuable turf and ornamental plants. That's why your choice should be Daconil 2787.®

Scanning electron microscopy of treated plant samples lets you see why for yourself. Just compare Daconil 2787, with its exclusive Weather Stik™ formulation, to one of its imitators, and you can see how much better and more evenly Daconil 2787 sticks and stays, even after the equivalent of a four inch rain.

That means you can count on Daconil 2787 even when it's wet and disease pressure is at its highest for continued, broad-spectrum, multi-site control of major turf diseases. Diseases like Leaf spot, Melting out, Brown patch, Dollar spot, Anthracnose, Rust, Red thread, and Snow mold on both warm and cool season grasses including Bentgrass tees, greens, and fairways. Plus control of ornamental plant diseases and algal scum, too.

In addition, Daconil 2787 also makes the perfect tank-mix contact fungicide for broad-spectrum support of your systemics and for disease resistance management. Remember, there's never been a documented case of disease

resistance to Daconil 2787 in over 25 years — that's one more good reason to make it the most important component in your turf management program.

With all you have to worry about, why worry about your fungicide? Just stick with Daconil 2787. You can count on it to stick with you.

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Always follow label directions carefully when using turf and ornamentals plant protection products.

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* Evade. Based on: Evade was the best-performing imitator from the 1993 University of Georgia Wash-off Field Trials. Evade is a trademark of Platte Chemical Company. † Micrographs have been colorized for demonstration purposes.

Chart 2: Florida Butterflies

Name	Characteristics	Food Sources	Florida Location
BRUSHFOOTED BUTTERFLIES 23 Florida Species			
American Painted Lady	Medium, orange w/brown, white & blue markings abundant in spring & fall	aster family	All
Buckeye	Medium brown w/purple eyespots on wings	plantains, matchheads, false foxglove & wild petunia	All
Gulf Fritillary	Bright orange w/black & silver spots	passion vines	All
Julia	orange-brown, likes edge of woodlands	passion vines	South Florida
Ruddy Daggerwing	rich orange w/thin brown lines, long thin tails, likes woodland edges	various figs	South Florida
White Peacock	medium, orange brown, dark spots & wavy lines on wings, likes moist areas	water hyssop, occasionally wild petunia	Florida Peninsula
Zebra Longwing	Black w/bold yellow stripes, likes edge of wooded areas	passion vines	All
GOATWEED BUTTERFLIES 4 Florida Species			
Florida Leafwing	Rare, medium orange-brown, mostly forest dwellers	hackberry trees	Miami area south through the Keys
Hackberry Butterfly	Medium, orange brown	hackberry trees	All
NYPHHS AND SATYRS 8 Florida species			
	small to medium, shades of brown, likes woodlands and edges	various grasses	all
MONARCH BUTTERFLIES 3 Florida Species			
Monarch	Boldly marked, orange & black, usually near coast, toxin absorbed from milkweed plants protects from predators	exotic scarlet milkweed & native milkweed vine	All
Queen	Chestnut orange w/dark margin around wings & small white spots	milkweed	All
Tropic Queen	Orange 2/black markings	milkweed	All
GIANT SKIPPERS 2 Florida Species			
	Large, moth like, dark brown w/gold markings	yucca spp.	
SKIPPERS 65 Florida Species			
Long-tailed Skipper	Medium, brown, w/long green tails	variety of legumes, including green beans	All

From page 46

included in your garden. Try a clay pot saucer with sand added and a rock in the middle, or create a depression in and around your garden and either keep water in it or let rain replenish it.

◆ Don't place your garden in an area difficult to get to or to see. Try a garden around the clubhouse, pro shop or practice putting green.

- ◆ Eliminate all chemical applications in garden area.
- For more information on butterfly gardening, contact The Xerces Society
10 Southwest Ash Street

Portland, Oregon 97204

North American Butterfly Assoc.
39 Highland Avenue
Chappaqua, NY 10514

You can also contact your local county extension agent for information on butterflies in your area.

If you're in Coconut Creek and have the time, stop by **Butterfly World** for an up-close look. West Sample Road, (305) 977-4400.



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'We protect the scrub jay by protecting their habitat. They prefer isolated sandy areas with low vegetation, preferably scrub oak and saw palmettos, which is the primary vegetation of John's Island West.'



Photo by The Nature Conservancy

Curious scrub jays will often land on carts and check out the golfers.

BY GREG PHENEGER
GOLF COURSE MANAGER
JOHN'S ISLAND WEST

The West Golf Course at John's Island Club is maintained in a very natural state. While this plays havoc with errant golf shots, it is a haven for wildlife.

The course was built on a natural sand dune with the holes on the eastern boundary running along a wetland area. The vegetation includes but is not limited to live oaks, scrub oaks, sand pines, slash pines, hickory, sabal palms and saw palmettos. At one time, paths were cut

through the vegetation to facilitate speed of play. These areas have been revegetated with native material.

All noxious vegetation is currently removed by two full-time and two part-time crew members. The noxious material is removed very selectively by hand so we do not disturb any nesting sites or food sources. We have begun a major revamping of the irrigation system around the greens to reduce or eliminate the radium of water thrown into the woods to lessen the growth of noxious vegetation. After the work around the greens is completed, the irrigation project will move to the tees, then fairways.

The course is home or a food source to many threatened species of wildlife. A bald eagle regularly fishes the pond at #18. The eagle's nest is on property adjacent to the course that is owned by John's Island but has been turned over to the county for a wildlife habitat.

Another threatened species is the scrub jay, which is very popular among members and crew. The major spot for locating them is along holes 3 and 4.

We protect the scrub jay by protecting their habitat. They prefer isolated sandy areas with low vegetation, preferably scrub oak and saw palmettos, which is the primary vegetation of John's Island West.

They are very popular due to their unique nesting habits. A breeding pair's nest is attended not only by the pair, but by other jays as well. They help feed the young, keep the nest clean and guard against other jays and predators. The same helpers tend to stay with the nest at least one to two years.

The popularity of the scrub jay has increased due to the helpers' inquisitiveness. A cart with golfers sitting fairly still will attract them to land very close. They will stand on the roof and peer under to get a good look and slowly inch right up to you.

Our membership takes great pride not only in the golf course condition, but in trying to do our best to cooperate with nature and protect the habitat, both for golf and nature.

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Creating a feeding station to attract wildlife is easy and rewarding at Tampa Palms G&CC.

BY GREG PLOTNER, CGCS

TAMPA PALMS GOLF & COUNTRY CLUB

Consistent with Tampa Palms Golf & Country Club's goal to preserve and protect the natural beauty of the forested wetland environment found on and around the golf course, it is our commitment to use native materials as much as possible in helping to aid the abundant wildlife on our course to seek shelter, food and nesting sites.

The use of native plants is encouraged, as they blend in with the beauty of the course and require less maintenance than manmade landscape settings. Some of the native vegetation communities at Tampa Palms that provide valuable cover and food sources for the variety of wildlife on the course are as follows:

Saw Palmetto (*Serenoa repens*)

Provides an abundance of cover for many species of wildlife. Spring flowers provide nectar for honeybees and the fruit is eaten by several bird species.

Sawgrass (*Cladium jamaicense*)

Provides cover for wading birds looking for food, and its seeds are eaten by some birds.

We also have an abundance of pickerelweed, bulrush and cordgrass (listed previously under aquatic plants).

These are a few of the valuable native plant communities that are present on the course at

Tampa Palms. Try experimenting with some of these plants in your next landscaping effort. The results will speak for themselves.

Why Use Native Plants?

They have been around a long time and are well adapted to the Florida environment. This means less water and maintenance is required relative to ornamentals. Native plants also offer the best food sources for wildlife as well as help preserve Florida's natural heritage.

Anytime you are planting material on your golf course, consider its value to wildlife. Does it provide a food source or cover? Try to provide a diversity (plant form, size & fruiting time) and stagger plantings so that food is provided year round.

A Note About Exotics

Exotics are foreign plants and animals imported and introduced into a new environment. The bad thing about exotics is that they have no natural enemies and they can quickly crowd out native species. Three exotics that cause problems, particularly in South Florida, are Brazilian peppers, Australian pines and Melaleucas. Melaleucas are a particular threat because they invade and overtake wetlands. In North Florida, Kudzu can overtake a small pine forest in only a few years.

The Answer? **Get Rid of Them!**

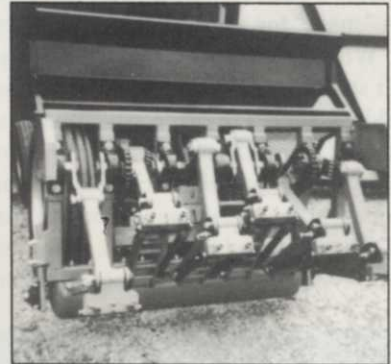


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"You're going to leave that dead tree standing by the green on No. 15! Are you crazy?"

No, you are not crazy. You are providing a source for over 22 Florida birds, not to mention other wildlife species who depend on "snags" for a place to nest, eat, sleep and raise a family.

What is a snag? A snag is a dead or partially dead tree that is left standing. Snags are valuable resources to many species of wildlife. Something for you to think about, is that more than one third of forest dwelling birds and mammals require a hole or cavity for nesting and shelter. Insects are attracted to the dying wood and lay their eggs, which in turn attract such birds as woodpeckers and nuthatches. A plus for golfers is that many of the bird species that call snags home are insect eaters.



Ospreys often build their nests in snags, such as these at Tampa Palms G&CC.



Snag heaven at Summerfield GC!

Unless a snag is a threat to safety, such as adjacent to the cart path, or in danger of limbs being blown off and falling on someone, let it be. You might receive a complaint or two. If so, take the opportunity to educate your members or golfers about the value of snags. Try reprinting a snag article in your club newsletter or posting information in the clubhouse or pro shop.

The next time you are having a shade problem and need to do some selective thinning, have root invasion problems, wind or lightning damages a tree, try a little something called "girdling".

Simply remove a 4-inch-wide band of outer and inner barks around the trunk of a tree 6 to 20 inches in diameter. Make sure the cut goes at least one inch below the bark to cut off flow of food and water between the roots and leaves. The tree will eventually die, leaving a snag to help increase the population of cavity nesting birds and mammals.

What makes a good or a bad snag?

Good snags should have decayed heartwood at the right height for a cavity. Obviously, diseased trees or trees infested with pine bark beetles should be removed and taken from the property. Outer sapwood rot with healthy interior heartwood is also bad, it's hard to excavate and shallow nests are more at risk to predators.

If you have a snag and want to help create a cavity, drill a 2-inch-diameter hole into the heartwood about 3 inches below stout limbs so that the openings point downward to provide protection from rain as well as predators.

Once a snag falls to the ground and it's not in the way, leave it there because it continues to be beneficial to wildlife as well as returns important nutrients to the soil.



Cavity-dwelling birds are attracted to snags at Colliers Reserve.

Other Florida Plants and Their Value To Wildlife

Trees

AMERICAN BEECH (*Fagus grandifolia*) grows in North Florida, fruiting season is the fall, nuts eaten by variety of birds and mammals, deciduous

BUTTONWOOD (*Conocarpus erectus*) evergreen, good cover and nesting plant, fruits from spring through winter, salt tolerant

SOUTHERN RED CEDAR (*Juniperus silicicola*) evergreen, good cover and nesting sites, blue fruit from fall through winter, grows statewide

BALD CYPRESS (*Taxodium distichum*) pest free, produces seed cones eaten by squirrels and Sandhill Cranes

FLOWERING DOGWOOD (*Cornus florida*) bright red fruit eaten by many birds, grows in North and Central Fl

HACKBERRY OR SUGARBERRY (*Celtis laevigata*) grows throughout Florida, dark fruit eaten by many birds

HAWTHORN (*Crataegus spp.*) North and Central Fla., deciduous, fruits in spring -summer, fruit eaten by birds, good cover & nesting

HOLLIES (*Ilex spp.*) fruit eaten by many species of birds, good cover, evergreen, need male and female for berries

RED MAPLE (*Acer rubrum*) seeds eaten by birds

OAK SPECIES (*Quercus spp.*) several oak varieties in Florida, acorns are a primary food source with high energy levels, provides good cover and nesting sites

SABAL OR CABBAGE PALM (*Sabal palmetto*) state tree, honeybee attractor, fruit eaten by birds, palm thatch used as nest building material

PINES (*Pinus spp.*) pine seeds have high wildlife value, provides good nesting cavities

Shrubs

BEAUTYBERRY (*Callicarpa americana*) purple fruit in the fall eaten by birds, grows in all areas of Fl.

BLACKBERRY (*Rubus spp.*) summer berries very valuable to wildlife, good cover

WILD COFFEE (*Psychotria nervosa*) red berries in summer used by a lot of wildlife species, evergreen

CORAL BEAN (*Erythrina herbacea*) valuable hummingbird nectar plant, grows in all areas of Fl.

ELDERBERRY (*Sambucus canadensis*) excellent food source, fruits year round, good cover

FIREBUSH (*Hamelia patens*) blooms spring through winter, excellent plant for hummingbirds and butterflies

NECKLACE POD (*Sophora tomentosa*) nectar plant for hummingbirds, attracts insects and in turn birds

FLORIDA PRIVET (*Forestiera segregata*) spring flowers attract insects and in turn many birds, small dark fruit spring through summer

SASSAFRAS (*Sassafras albidum*) excellent food source for songbirds, grows in North and Central Fl., dark blue fruit

WAX MYRTLE (*Myrica cerifera*) fall through winter berries attract many birds, salt tolerant, grows throughout the state

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Nestboxes



Purple martin house at CC of Florida. Each purple martin can eat up to 2,000 mosquitoes per day.

If your golf course does not have tree snags, putting up nestboxes is an alternative to helping balance the loss of natural habitat.

Development and loss of tree snags has resulted in a reduction of nesting sites for many bird species. Some cavity nesters, like the woodpecker, prefer to excavate their own holes, and most others depend on the cavities abandoned by those woodpeckers. If your golf course does not have tree snags, putting up nestboxes is an alternative to helping balance the loss of natural habitat.

Your first step should be to find out what birds you want to attract. Study your golf course and the birds that are already present. Identify areas of your site that match the preferred habitat of the birds you are trying to attract.

This is where a detailed map of your property would come in handy. Next, make sure you choose the correct nestbox. Whether you buy your boxes or make them, each species has different box requirements. Check the chart below for some of the most common cavity nesters found in Florida and their specific box requirements.

Some golf courses use birdboxes as 150-yard markers. Be sure to place them close to the rough and out of play as much as possible.

Nest boxes on golf courses can help educate

and entertain, but much more importantly than that, they can help increase bird populations.

NESTBOX TIPS:

- *Put boxes up in the summer to fall to allow them to "season" before the spring mating season
- *Place in a location familiar to you and in areas which allow easy access (for monitoring and cleaning)
- *Place openings to Southeast and angled down slightly to offer protection from rain and predators
- *Boxes that are brown, tan or gray (natural) are the most frequently used
- *Do not treat the inside at all, leave natural
- *Boxes should be hinged to allow for easy monitoring and cleaning
- *Boxes should have drainage in the bottom
- *Boxes should have holes in top for ventilation and a light source
- *The roof should overhang 2-3 inches to also help protect from rain and predators
- *During nesting season, check boxes weekly and remove any unwanted guests
- *Remove nests once the young have left (clean box)
- *Be patient! Sometimes it can take a year or two before birds will find the boxes
- *Bluebird boxes are sometimes taken over by



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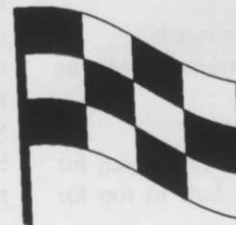
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swallows. To solve this problem, place 2 boxes, 12 ft. apart, one for the swallows and one for the bluebirds. Swallows don't mind bluebirds, but will not let other birds near nests.

*If your homeowners have a lot of cats, encourage them to put bells on their collars.

PURPLE MARTIN HOUSE:

Indians took dried gourds and hung them around their homes to keep the insects under control. Since purple martins have been known to eat 2000 mosquitos a day, having them around is not a bad idea! They are also extremely faithful to their nest sites and return each year.

Gourds are still a popular purple martin home today. To make a purple martin house out of gourds:

- *Dry the gourds thoroughly
- *Cut a 2-1/2 inch entrance hole in the middle of the side
- *Scrape out gourd seeds
- *Drill 1/2 inch holes in bottom for drainage and 1/4 inch hole in top for hanging

*Mount on pole 14 ft. high in an open field, 15 ft. from trees, building etc.. and near open water

*Replace used gourds each year

The Audubon Society of New York has plans for various birdboxes and nesting platforms. For more information, call (518) 767-9051.

MONITORING NESTBOXES

Why should you monitor nestboxes? Monitoring allows you to become familiar with the birds as well as help you determine the correct way to deal with predators, parasites or competitors. During the nesting season, check the boxes weekly or bi-weekly and make notes of birds, eggs, the number of young, etc.

The USGA and the Audubon of New York want to develop a nationwide account of wildlife on golf courses. Nestbox monitoring and annual bird counts are two ways of accomplishing this goal. As a member of the Audubon Cooperative Sanctuary System, your golf course will be sent information on nestbox monitoring and annual bird counts.

You may be saying, "I just don't have



A simple but effective nestbox for bluebirds or wrens.

Chart 3: NestBox Specifications

Species	Ent. above floor (in.)	Ent. diam. (in.)	Floor width (in.)	Cavity depth (in.)	Height above ground (ft.)	Habitat	Nesting/Breeding
Barred Owl Barn Owl	10-16	6	12x12	18-25	10-30	Forest types, hardwoods & swamps	Jan-March Sept.-June
Bluebird	6-10	1-1/2	5x5	8-10	5-6	Dry pinelands (snags)	March-June
Carolina Wren	1-6	1-1/2	5x5	8-10	5-6	Woodlands-dense understory vegetation	Feb.-August
Chickadee	6-8	1-1/8 1-1/4	4x4	8-10	5-15	Woodlands - suburbs	April-May
Crested Flycatcher	6-8	2	6x6	8-10	8-20	Woodlands	April-June
Downy Woodpecker	6-8	1-1/4	4x4	8-10	6-20	Woodlands	April-May
Flicker	14	2-1/2	7x7	16-18	6-20	Open woods & suburbs	March-May
Purple Martin	1-2	2-14 2-1/2	6x6	6	10-20	Close to water	March-July
Red Bellied & Red Headed Woodpeckers	9-12	2	6x6	12-15	8-20	Backyards-forest types Open forest, suburban woodlands	April-June May-August
Screech Owl	10-20	3	8x8	16-24	10-30	Woodlands-suburbs	March-June
Tufted Titmouse	6-8	1-1/4	4x4	8-10	5-15	Woodlands- suburbs	April-June
Wood Duck	18-20	3x4	10x10	24	water 5-25 land 10-25	Wooded wetlands	March-July



Wood duck nestboxes such as the ones at Jupiter Island GC, work best in pairs.

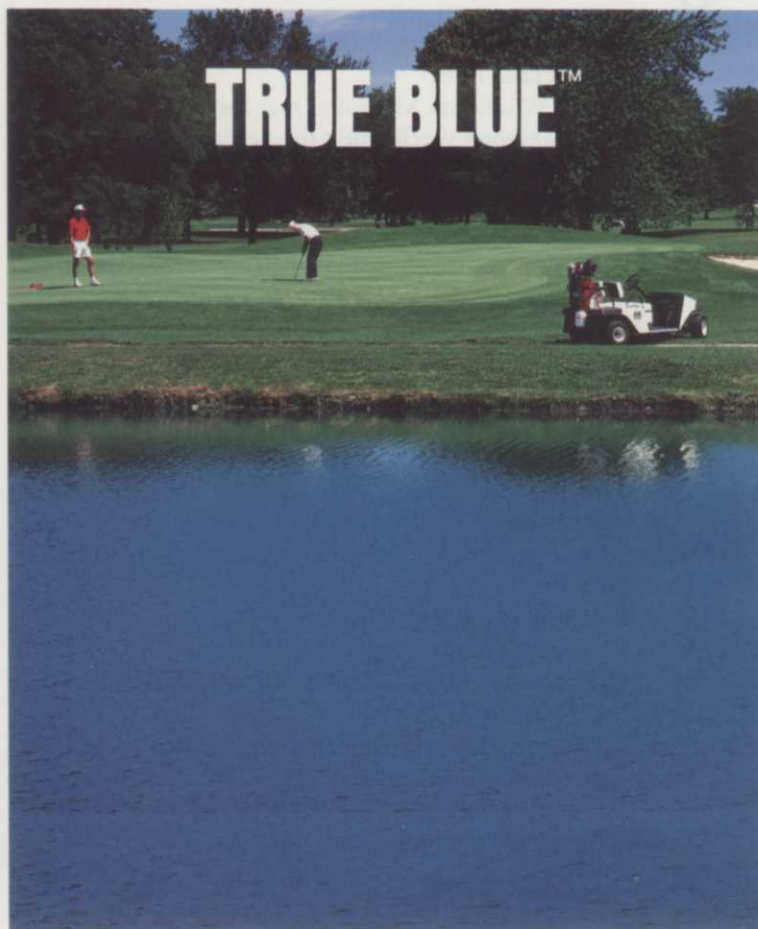
time to monitor those boxes every week," and that's okay. Here are some ideas focused around not doing all the work yourself or taking time away from a busy staff.

1) Ask golfers to participate by noting any activity they may see on a conveniently placed journal in the clubhouse or proshop.

2) Invite local bird groups or schools to help during the nesting season.

3) Start an "Adopt A Box" program, where your members or golfers can adopt one box for a year. They can donate, and/or maintain and monitor one box for a year.

4) Have your staff or crew members check the boxes on their daily trips around the course. (give them each 1 or 2 to check daily)



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Wildlife and Habitat Signs on Golf Courses

Are you having trouble getting members and golfers to realize the value of wildlife and habitat enhancement? Try a little educational tool called a sign. It's amazing how a few appropriate words can change the opinion of what someone is looking at.

Is the area by No. 12 an eyesore that needs to be mowed, or is it a "Naturalization Project Under way!"? Is the area by No. 2 fairway in need of clearing, or is it a "Critical Nesting Habitat!"?

By letting golfers know about habitat enhancement projects, they will be more supportive of changes and you will be educating them and letting them know your golf course cares about the environment.

Here are several samples of signs on golf courses around the state. If your golf course uses signs and you don't mind sharing, please send a picture or slide, or write it down on a piece of paper and send to: USGA, P.O. Box 1087, Hobe Sound, Florida 33475.

Sign ideas from the Audubon Society of New York State:

◆ "This area is being (has been) naturalized to improve wildlife habitat and environmental quality at XYZ Golf Course. The Grassy Field Habitat that you see is particularly attractive to red-tailed hawks, bluebirds and fox."

◆ "Edge Vegetation is especially valuable for wildlife. Note the variation in height of the trees, shrubs and grasses. This creates excellent opportunities for songbird nesting, feeding and protection."

◆ "As a member of the Audubon Cooperative Sanctuary System, XYZ Golf Course is undertaking naturalization projects

to enhance the environment. Estimated date of completion for this project is June 1995."

◆ "Future Wildflower Meadow: Once meadow flowers are established, we hope you'll enjoy the beauty and variety of native flowers and grasses in this area."

◆ "XYZ Golf Course is committed to providing a high degree of environmental quality while maintaining the playability and challenge of a golf course. (Mowing height of this rough is being raised to promote strong turf growth. This out-of-play area is being maintained in a natural state. Native trees in this area provide excellent wildlife food sources).

◆ "Shorebirds, like herons, egrets, ducks and geese need shoreline vegetation for food and cover. In order to provide habitat for these birds, we will be allowing taller vegetation to grow along this pond margin."

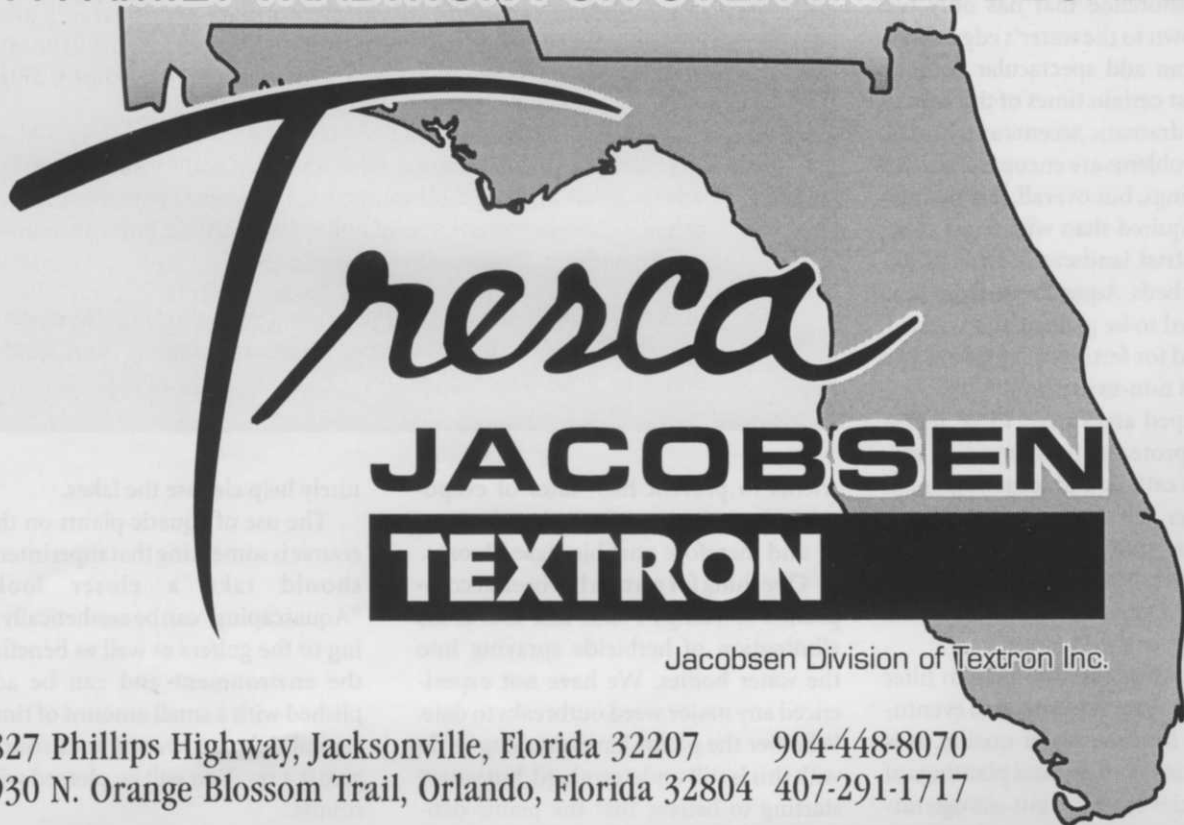
◆ "Lake buffers enhance both water quality and wildlife habitat. Please support our efforts to grow native plants/wildflowers/shrubs."

◆ "Throughout the golf course you will see a variety of bird houses. These have been specially designed to provide nest sites for "cavity nesting" birds including Eastern bluebirds, tree swallows and wrens".

◆ "These boxes help to provide roosting sites for bats. These small, insect-eating mammals are an important part of our integrated pest management program. A single brown bat can consume up to 600 mosquitos in an hour!"



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Aquascaping

*Do it for
beauty,
improved
water
quality*

BY GREG PLOTNER, CGCS

TAMPA PALMS GOLF & COUNTRY CLUB

Aside from benefits to the ecological welfare of the aquatic environments on the golf course, the planting of the shorelines of lakes and ponds can be done for purely aesthetic reasons. Relatively small plantings of these aquatic plants (*see table below*) in shallow bays and key focal points can relieve the monotonous and sterile look of a shoreline that has only turf growing down to the water's edge. These plantings can add spectacular color to the course at certain times of the year, as well as add dramatic accents and beauty.

Some problems are encountered with these plantings, but overall, less maintenance is required than with most common terrestrial landscapes such as annual flower beds. Aquatics do, from time to time, need to be pruned and weeded, but the need for fertilizer, irrigation and pesticides is non-existent.

Aquascaped areas need to be maintained and protected from invading species such as cattails and torpedograss or the invaders can overrun the aquatic plants. Hand pulling of these invaders seems to work best because herbicides, when sprayed, can damage the beneficial plants as well as the invaders.

Aquatic plants can also help to filter out nutrients from the water and eventually help to improve water quality. It is still uncertain whether mass plantings of aquatic species can filter out enough nu-

trients to prevent high rates of evapotranspiration

and therefore possible algae blooms.

One thing for certain has been accomplished at Tampa Palms and that is the elimination of herbicide spraying into the water bodies. We have not experienced any major weed outbreaks to date. Whether the plants have anything to do with this is still undetermined, but we are starting to believe that the plants defi-

nately help cleanse the lakes.

The use of aquatic plants on the golf course is something that superintendents should take a closer look at. "Aquascaping" can be aesthetically pleasing to the golfers as well as beneficial to the environment and can be accomplished with a small amount of time and capital. Select an area on your course and give it a try. You will be pleased with the results.

Aquatic Plants for Florida

SOFT RUSH (*Juncus effusus*) Seeds are eaten by various birds. Helps keep shoreline erosion in check. Reproduces by seeds and rhizomes. Can be found in wet meadows and along shorelines and provides good cover for wading birds.

GIANT BULRUSH (*Scirpus californicus*) Provides cover and nesting sites for ducks and various wading birds. Can be found along shorelines and in ditches.

YELLOW CANNA (*Canna flaccida*) Blooms in the spring and summer with showy yellow petals. Can be found in wet meadows and ditches.

BLUE FLAG IRIS (*Iris virginica*) Queen of Florida wetlands. Blooms in February and March and lets us know spring has arrived. Reproduces by seed or division.

ARROWHEAD (*Sagittaria lancifolia*) Produces tall white floral stalks in the spring and fall. Provides good cover for wading birds looking for small fish, insects or crustaceans near lake edges. Underground tubers are eaten by waterfowl, including ducks, swans, sandhill cranes and others.

PICKERELWEED (*Pontederia cordata*) Produces seeds which are eaten by some waterfowl. Also produces a showy purple floral stalk in the spring and fall. Can be found along lake shores and in wet meadows.

SOFT STEM BULRUSH (*Scirpus tabernaemontani*) Produces seeds which are a valuable food source for a wide variety of birds. Can control shoreline erosion and helps filter out nutrients and runoff. Provides a source of cover for birds.

CORDGRASS (*Spartina bakeri*) Provides good shoreline erosion control. Can be found in many locations ranging from sand dunes to fresh water lakes.



Above, Soft stem bulrush hosts food for white heron while Yellow canna, right, is a showy bloomer in the spring and summer at Tampa Palms GC&CC.



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Conclusion

The ACSP for golf courses is only a part of the Cooperative Sanctuary System. Businesses, schools and back yards can also be registered in this program. The concept is the same; programs are just geared to that particular property.

If your golf course is close to a school, why not consider helping them to become a cooperative sanctuary as well?

The back yard program can be a very effective educational tool for superintendents, as well as for homeowners. Ask the Audubon Society of New York to mail you some back yard brochures and place them in your clubhouse or proshop. Once your members become involved in this program, it won't be long before they will be saying, "Hey, why don't we implement more of these programs on the golf course!". It's a good opportunity for them to learn about the Audubon Society of New York and how the cooperative sanctuary system works.

The information presented in this article is not complete by any means, but hopefully will give you some idea of how to get started making your golf course a sanctuary for wildlife. By implementing these and other beneficial programs and by involving your golfers/members, you will be educating as well as gaining support. More tolerance and support for programs you are implementing and less complaints... you can't beat that!



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To paraphrase an oft-used quotation from Walt Disney, "You can build the finest golf course in the world with all the latest features and equipment, but it still takes *people* to make it work and come alive for our guests."

People, those imperfect biological units, bring their hopes, dreams, ingenuity, strengths, morals, ethics, humor, and problems to the workplace



The old ways can bomb in today's workplace

doorstep every day. As the person in charge, it is your responsibility to coach your employees by maximizing their strengths, minimizing their weaknesses, and in some cases even changing their behavior patterns.

From father confessor, educator, counselor and mentor to drill sergeant, judge and jury, you will wear many hats as you manage the human resources at your command. The following contributions by your fellow superintendents share some of the policies, procedures and wisdom they employ in dealing with that most challenging resource - the human being.

Some thoughts on attitude & evaluation from the Big Bend

"The longer I live, the more I realize the impact of attitude on life. Attitude, to me, is more important than facts, it is more important than the past, than education, than money, than circumstances, than failures, than successes, than what other people think or say or do. It is more important than appearance, giftedness, or skill. It will make or break a company... a church... a home.

"The remarkable thing is we have a choice every day. We cannot change our past... we cannot change the fact that people will act in a certain way. We cannot change the inevitable. The only thing

we can do is play on the one string we have, and that is our attitude.... I am convinced that life is 10 percent what happens to me and 90 percent how I react to it. And so it is with you...we are in charge of our attitudes." -Anonymous

"There are only two stimulants to one's best efforts — the fear of punishment, and the hope of reward. When neither is present, one can hardly hope that people will want to do a good job. When disappointment is not expressed that one hasn't done a better job, or when credit is withheld when one has done a good job, there is absolutely no incentive to put forth the best effort." -John Wilson

I found a good illustration in a *Calvin and Hobbes* comic strip of the kind of thinking that some members of my crew have when they receive their annual per-

formance evaluations when areas are marked "Meets expectations". The ratings are:

- 1 - Unacceptable
- 2 - Below expectations
- 3 - Meets expectations
- 4 - Exceeds expectations
- 5 - Outstanding

The comic strip went like this:

1st panel: Miss Wormwood, I protest this "C" grade! That's saying I only did an average job!

2nd panel: I got 75% of the answers correct, and in today's society, doing something 75% right is outstanding! If government and industry were 75% competent we'd be ecstatic!

3rd panel: I won't stand for this artificial standard of performance! I demand an "A" for this kind of work!

4th panel: I think it's really gross how she drinks Maalox straight from the bottle!"

Have you had your Maalox today?

Mike Osley

Hilaman Park Municipal
Big Bend Chapter

Recreation helps keep up employee morale all year

At Boca Lago Country Club, several events occur throughout the year to keep up employees' morale as well as getting the employees' families involved. Employee golf tournaments with a barbecue featuring hamburgers and hot dogs are held in the early summer and fall of each year.

Every July, the club puts on a summer picnic for the employees and their families. The event is held on a Monday when the club is closed and includes softball, volleyball and other outdoor activities. After a barbecue lunch, children's races are held on the driving range. It's great to see the parents cheering on the kids.

Although the club is quite busy in December, the board of directors hosts the annual Employee's Christmas Party in the clubhouse. Entertainment is provided by a musical group or a disc jockey. Spouses or significant others are invited for this party and enjoy an open bar and buffet dinner and dancing. Outside help is hired so all employees can attend and enjoy the evening. I think the staff has a great time at these functions and looks forward to these events every year.

David Court, CGCS

Boca Lago C.C.

Palm Beach Chapter

'My mother forgot to set my alarm' ... and other sad tales

The list of excuses by employees for absenteeism and tardiness could fill sev-

eral volumes. Just when you think you've heard them all, another great line is recorded on the seemingly endless list of excuses.

At Windsor Parke Golf Club in Jacksonville we have adopted a pain-and-gain policy toward problems with absenteeism and tardiness.

At the beginning of each month, each employee "slate" is cleared. If an employee is late to work, he or she is given an oral warning.

The second and third tardies within the 30-day period draw mandatory days (*those days!*) off without pay.

A fourth day late during the period is grounds for termination (this extreme has only been tested and used once during the past two years).

It has been our experience that our employees respond to the effects of the non-paid day off and their wallets are the way to their hearts so to speak.

Termination is rarely necessary due to tardiness.

The gain side of this policy comes at the end of the monthly pay period. Each person having not been late or absent for a scheduled work day during the month receives a paid half-day off the last Friday of that month.

The money involved in the half day off is not nearly as sweet as the Friday afternoon off — there's just something about Fridays!

The last Friday of the month has become a challenge for our staff and there's always a "bet" on who will make the grade!

We usually have 80 to 90 percent of our staff qualify monthly with this program and have found it effective in managing tardiness and absenteeism without all the excuses!

Kim Shine, CGCS

Windsor Parke G.C.

North Florida Chapter

Disney 'cast' gets OSHA orientation

All cast member new to the Walt Disney Company are given two days of

orientation called "Traditions". At that time they are given all OSHA requirements.

Upon entry into golf maintenance at Disney World, all cast members are shown the specific hazardous materials areas, MSDS locations, etc. They are required to read and sign the department Standard Operating Procedures Manual. The SOP covers the basic company objectives and outlines departmental policies from attendance to job descriptions for all the maintenance tasks.

New cast members are then given "hands on" training by Disney Trainers, foremen, or other experienced workers.

Attendance is probably the number-one shortcoming of employees. In our operation, there are five categories of attendance violations:

- 1) No call. No show.
- 2) Call in sick.
- 3) Call in absent (personal business).
- 4) Tardy.
- 5) Early release from shift.

Any combination of three of the above in a 30-day period, or five in 90 days can result in an oral reprimand entered into the employee's personnel file.

After three oral reprimands within six months, a written reprimand is in order. Additional incidents without significant improvement are grounds for review by Employee Relations and are possible grounds for termination.

Consistent documentation is a necessity.

While poor performance needs to be documented, good performance also needs to be recognized. We have a couple of awards for outstanding service:

1) **The Gold Dream Pin.** DREAM stands for Disney Resorts Experiences Are Magic. It is a monthly award nominated by hourly peers and voted on by former Gold Dream Pin winners. The winner receives a gift certificate and parking place of choice for a month.

2) **Greensmaster.** For golf maintenance staff. Nominated by management quarterly based on excellence of quality of work, quantity of work, efficiency, safety awareness, dependability, and attitude. The winner receives a plaque and

gift certificate presented by area manager/superintendent.

Pat Hennessey

Eagle Pines G.C.

Central Florida Chapter

Assistants do the hiring at World Woods of Golf

At World Woods, the superintendents have delegated the interviewing and hiring of potential new employees to the assistant superintendents. The theory here is that since the assistant will be dealing with the new employee on sometimes an hourly basis, that he/she should have the choice in whom to hire.

Before we became comfortable with our assistants' interview techniques, both Steve Hritsko and I were responsible for the process. We had our assistants witness how we interviewed prospective employees and we devised a standard list of questions to be asked during the interview.

The next step was to let our assistants run the interview in our presence. After about four or five interviews, we became comfortable with the interview skills of each assistant.

Since that time, our assistants have interviewed and hired all employees, with the exception of spray technicians, mechanics, and irrigation specialists. We still feel more comfortable with interviewing these types of key personnel, as we may be able to ask more particularly detailed, technical questions.

The Americans with Disabilities Act has made us revamp our list of questions that we used to ask prospective employees. Gone are such questions such as "Do you have any outstanding Worker's Compensation cases?" or "Do you have any back problems?"

We also will accept applications from those who have obvious impairments that could hamper job performance. If a person who is blind were to come in to ask if we were accepting applications for a spray technician position, we would answer yes and would accept the application.

The ADA has also changed the way we keep medical records for our employees. In the good old days, personnel and medical records were kept in one file. This is no longer legal. They must be kept separate.

This would include Worker's Compensation, as well as a doctor's note provided by an employee to return to work.

A key point in the ADA is to return the employee who has been injured on the job to the workplace as quickly as possible, even if the restriction would include light duty. Getting the employee back on the job obviously would keep lost income claims down.

I've heard people claim that "I have no light duty jobs on the golf course available." However, I believe that you can always find some type of light duty work (even if it's sitting on a chair and watching the grass grow!) that would allow the employee to come back on the payroll and off of the Worker's Comp claim.

This could limit the rise in Worker's Comp premiums.

World Woods Employment Interview Guidelines

• **Driver's license & social security card in hand?** Other forms of ID include: Voter's Registration Card, Birth Certificate, Florida-issued ID Card, Official Military ID, or Green Card. (Needed for I-9 form)

• **Worker's Compensation** — insurance carried by the workplace (required by law) that covers injuries incurred while on the clock. It is your responsibility (if you are hired) to report any injury regardless of how minor it may seem, to your supervisor immediately. He will start the paperwork trail to report the incident.

• **Transportation** — To & from work is a must for each employee.

• **Punctuality** — Never late, never miss a day!

• **Work Hours** — Monday through Friday, 7:00 to 3:30 or 4:00. Some weekend overtime, approximately 3-4 hours. Overtime is limited; however, some is available. Voluntary at first, then mandatory if enough don't volunteered. OT is anything over 40 hours and is calculated

at time and a half.

• **Type of Work** — Laborer position... Start at the bottom of the ladder. Walking greens mowing, weedeating, fly mowing, edging bunkers, fixing washouts. Basically, manual labor. Do you have any problems with this type of work?

• **If you show responsibility** (being here on time), doing the right job, quality and quantity, are not disruptive, etc... we will work you into more responsible jobs, such as triplex mowing, rough/trim, collar, possible fairway and rough mowing.

• **Pay** — Start at \$5.00/hour. After 90-day probationary period and a favorable evaluation, employee is entitled to up to \$.50/hour raise. Employee then will be evaluated on a yearly basis.

• **Pay Periods** — Approximately every 15 days — 24 pay periods per year, so two per month. More explained in orientation, including PTO (paid time off) system used at World Woods.

• **90-Day Probation** — Designed to protect the employer. Basically during the 90 day probation, the employer can terminate the worker with or without cause. Gives employer a chance legally, to evaluate you to see if you fit into our needs and plans.

After 90-day probationary period, employee will be evaluated on things such as attendance, work habits, skills, proficiency, safety record, attitude, etc... Possible raise awarded with status changed to permanent full-time worker. Employee would then be eligible for other benefits, i.e. paid life & health insurance, and accumulation of PTO time.

• **Check for references.** Are references up to date? Can we check those references stated on your employment application?

Bob Wagner

World Woods of Golf

Seven Rivers Chapter

Safety - is it extra work or part of your normal routine?

During the early years of The Planta-

tion Club, we were extremely busy with the golf course construction and landscaping activities for the entire development. Even though I knew the importance of safety, it seemed to be something that was hard to get a grasp on with the demanding deadlines that seemed to occur in all phases of our early development.

However, with the rising costs of Worker's Compensation insurance and numerous accidents that seemed to have a way of occurring in spite of all the training that you can provide, it was absolutely necessary to make safety a priority.

The process began by establishing a safety statement and writing out a safety policy. In reality, the policy is nothing more than simple do's and don'ts in written form.

It also began by creating safety awareness, not only with myself but also with the other department heads; e.g. assistant golf course superintendent, irrigation specialist, landscape superintendent, head mechanic, and his shop foreman and the grounds maintenance manager.

After creating awareness and establishing a written safety statement and safety policy, we began to hold regular monthly safety meetings. We documented each meeting by having all parties present sign the attendance record which then went on file.

We also included safety regulations in our employment package which each new employee has to read and sign at the time of hire. Our safety program has not only made The Plantation Club a safer environment in which to work, but it also lowered our Worker's Compensation rates drastically.

Now that we have made safety a part of our work routine, it doesn't seem to be time consuming, an added job, or an inconvenience.

David Lowe

The Plantation at Ponte Vedra
North Florida Chapter

(Editor's Note: Dave included a copy of the Plantation Club's safety documents with his article. For those clubs that do not have a formal safety program, we are sharing them here to serve as possible

guidelines in establishing your own program.)

The Plantation At Ponte Vedra Grounds And Golf Maintenance Department Safety Statement

It is the policy of The Plantation Country Club to provide a safe and healthy work environment for the protection of our most vital resource — our employees. The safety program at The Plantation's Golf and Grounds Maintenance Departments contains the following components:

1. Appoint a Safety Director and post the Director's name in a visible location so that all employees shall have access.
2. Instruct supervisors/managers of their responsibilities in providing a safe workplace for all employees.
3. Provide new employees with a safety orientation which will consist of:
 - A) The OSHA Right-To-Know law.
 - B) Hazard Communication Standard
 - C) Location and understanding of MSDS.
 - D) Location of emergency eye wash and showers.
 - E) Location of the chemical room, gas pumps, fuel shed, first aid cabinet and irrigation pump station.
 - F) Instruction of use of radios and their location so that they can contact help in case of an emergency.

4. Hold regularly scheduled monthly safety meetings and document attendance.

5. Encourage open communication of all employees to provide a hazard free workplace.

Safety Policy

TO: All Employees
FROM: David Lowe, Department
Head Golf and Grounds Maintenance
SUBJECT: Safety Policy

It is the policy of the Company to provide a safe and healthy work environment for our most vital resource — our



Environmental Waterway Management... "Preserving Your Liquid Assets"

Golf Courses have Lakes, Ponds, Canals and Water Everywhere! Many of these water bodies are used for irrigation, fishing swimming, drainage or simply as hazards to the navigating Golfer on your course. If you allow Algae, Grasses and other noxious weeds to grow unchecked, they will rapidly take over your precious waterways. Don't allow your waterway problems to get you in over your head. Just call the experts at Environmental Waterway Management.



employees. The safety of employees is of the greatest interest to all levels of management and supervision, ranking in importance above production, quality, costs and service. Therefore, effective immediately, The Plantation Grounds and Golf Course Departments will hold regular monthly safety meetings. The date for these meetings will be posted next to the time clock prior to each meeting. All employees are required to attend.

The Company's basic philosophy is that almost all personal injuries can be prevented. Responsibility and safety is shared throughout the organization. For example, Department Heads are responsible for their departments, Supervisors are accountable for the safety of their groups, and all individuals are accountable for their own safety.

All employees, at every level, are expected to fully accept responsibility for their own safety and for the safety of those with whom they work. There is no place in this organization for an unsafe employee.

We, at The Plantation are a team. Communication is the key to successful teamwork. Communicate all hazards in your workplace to your supervisor or Safety Director. The Safety Director at Plantation Maintenance is David Lowe. The Plantation will allocate the necessary resources to assure a safe and healthy work environment.

**The Plantation Country Club
Golf And Grounds Maintenance
Safety Regulations**

The Plantation at Ponte Vedra Country Club is committed to safety and has taken steps to protect you from injury on the job.

Your compliance is vital for our own protection. Please observe the following rules at all time:

1. No employees shall be under the influence of alcohol or drugs on the job.
2. Report all job accidents the same day the accident happens.
3. Obtain authorization form your supervisor for all non-emergency treatments for accidents.
4. Wear seat belts at all times in company vehicle.
5. Keep the area and equipment where

you work clean and neat at all times.

6. Do not remove or bypass any guard on any machinery at any time.

7. Ask your supervisor when you need additional equipment or instructions to get the job done safely.

8. Lift with your legs, not your back, and get assistance with loads over 50 pounds.

9. Advise your supervisor of any hazardous conditions in your workplace/ equipment.

10. No smoking in any part of the maintenance facility, trailer, greenhouse, fuel shed or area around the fuel pumps.

11. Do not smoke while handling gasoline or fuel.

12. No one is allowed in the chemical room or irrigation pump station unless they are authorized or properly trained.

13. Excavation is to be done only under authority of a supervisor to avoid accidental contact with underground utilities.

14. You must not exceed the posted speed limits both on and off the property.

15. You must have a valid Florida drivers license before operating all company owned vehicles and this license must be with you at all times.

16. No headphones/radios will be allowed.

17. Follow all other written and spoken safety rules.

For any injuries that require emergency treatment, The Plantation country Club has the right to have the employee tested for the presence of drugs/alcohol.

Employees that do not obey safety rules will be reprimanded: the reprimand, verbal/written, will be recorded in the employee's file. Employees should know that reprimands can lead to termination of employment. The employee's safety record will be reviewed at the employee's annual evaluation and will be a consideration in the amount of compensation received.

Where injury is caused by the knowing refusal of the employee to use safety equipment or obey safety rules, the workers' compensation benefits can be reduced by 25 percent . . . (Florida Statute 440.09 (04).

I have read these regulations or have

had them read to me. I understand them and will obey them for my own benefit.

Employee Signature Date

Supervisor Signature Date

Safety Meeting Attendance Record

This is a simple sheet of paper or make your own form to include:

1. Date.
2. Safety subject of discussion.
3. Safety Instructor's name.
4. List of people attending. Printed name and signature.

Training is key to quality golf course maintenance

After years of waiting, the day finally arrived. It was the first day of turfgrass school at Penn State University.

Dr. J.M. Duich, the professor whom I had heard so much about, stood in front of the class of eager "turfers" and began the first day of our formal education by drawing a large circle on the chalkboard. On this circle he drew in a small "slice of pie" (about 15% of the circle). On this small portion of the circle Dr. Duich wrote the word "turf." On the remainder of the circle (about 85% of the circle) he wrote the word "people."

The group of eager students looked around the room at each other confused about what they had just been told. It only took a short time after graduation for many of us to realize how accurate this statement was. I will probably never forget that day and the "Duich Pie" theory.

As turf managers, a major key to our success is the people who work for us.

The quality of a golf course frequently will reflect the ability of the turf manager to attract and hire quality employees and then provide them with training to perform their duties correctly and in a productive manner.

A method of training that I have found extremely valuable is the use of VHS videos in the training of all my employees. However, the videos do not take away the need to provide hands-on training, frequent supervision and the opera-



Crew members at the Olde Florida Golf Club use video tapes

Photo by Darren Davis

tor reading the owner's manual.

The videos provide a thorough method of training that is both visual and audible.

How many times have you given instructions for a task to an employee and have the individual give you a blank stare and a head shake assuring you he understands, and then find out later he had no clue of what you were talking about?

Or how many times have you taken the time and sincere effort to go in to the field to train an employee on a job and spend a good amount of time explaining the correct method for accomplishing the task, only to realize that afternoon you forgot one major point! What if that major point was watching out for hydraulic leaks and you now have dead strips on all your back nine greens?

These are some of the reasons that I use VHS video tapes religiously to train and educate employees. The use of video allows me to thoroughly educate an employee first in the office, and then go through a hands-on demonstration in the field.

I have found that a good video ensures that vital points are not missed in the training process. Before any of my employees get on a piece of large equipment, a triplex, or a walking greens or tee mower, they first sit down and view the video on the assigned task and take a written test to confirm they understood the training completely.

When using video tapes, I have found it helpful to have written material in front of the employee, such as a workbook, to accompany the video. This workbook would give an employee or supervisor a space to make notes on course policies or any changes.

After the employees view the video tape, they are then asked to complete a short written examination. After this exam is graded, and I am confident the employee learned the material, their signature is required on a sign off sheet that is stored in our files.

Employees can only perform their job to your standards if they fully understand what is expected of them. A well-trained employee is able to do their job effectively and will feel rewarded by a job well done.

If employees are not thoroughly trained and told what is expected of them, the job that they perform will most likely be unacceptable. An employee who continually performs unacceptable work will probably be continually disciplined and will never feel a sense of accomplishment. The employee's morale then goes down, decreasing productivity. No training method will ever be foolproof, but I have found videos to be a valuable tool in the training process.

Darren Davis
Olde Florida GC.
Everglades Chapter

The Point System Monitors Attendance

The human resource issue has become a time-consuming process for any industry. Whether a company is large or small, the liability to administer all employment issues in a consistent manner according to the law is an absolute must.

Having over 400 employees necessitates us to have a Human Resource Department. They assist all of our managers in the following areas: hiring, orientation, benefits, policies and procedures, training and progressive discipline. Their primary concern is that all of the areas just mentioned are administered in a consistent manner. Consistency plays a huge role in not only treating all employees the same, but also setting the precedence when legal issues take place.

One of our biggest problems in the past has been attendance. The resort has adopted a point program to deal with this problem. The following is a brief overview of our policy:

The late/absent program is to record tardiness and absences. Points are assigned for each tardy or absence from scheduled work time according to the following schedule.

Tardiness:	Points
Employee notified supervisor in advance	0.5
Did not notify supervisor in advance	1
Tardiness exceeds more than 1 hour after scheduled shift	1.5
Absence:	Points
Reported to work but left early (excludes emergencies)	1
Notified supervisor of absence 1 hour prior to scheduled shift	2
Failed to notify supervisor of absence 1 hour prior to scheduled shift	2.5
Failed to call or report for work at all, or called in to notify supervisor of tardiness and then fails to report to work	6
2. 5-4 points within a 12-month period:	
Oral warning	
4. 5-6 points within a 12-month period:	
Written warning	
6. 5-8 points within a 12-month period:	
Suspension one day without pay	

and final warning

Two suspensions within six months and the employee is fired. One complete month with perfect attendance results in one point subtracted from total points accumulated.

If an employee has sick time available, then no points will be assessed. Employees accrue .92 hours per week for a total of 48 hours per year. Employees do not receive sick pay during their probation period of 6 months and thus receive points during this time.

The bottom line is that if you don't have a problem with tardiness or absenteeism, you will not need a point program like the one at Grand Cypress.

Tom Alex

Grand Cypress G.C.

Central Florida Chapter

Team Building to Improve Employee Involvement

We are working on developing improved employee involvement as a team member in a professional environment.

Staff members are on a job-rotating program so that all staff members are knowledgeable in all areas of operations. Staff supervisors participate in the rotating program to supplement employee training.

There is a monthly staff meeting to keep employees informed. It is a roundtable discussion and everyone is encouraged to offer their views, problems, and solutions.

Employees are eligible for an "Employee of the Month" award given by the club. Also, for the golf operations department, there is a tardiness incentive program designed to reduce tardiness in the mornings and equipment down time.

We take the positive approach in training the staff, compliment the jobs well done, and supply as much educational and safety information as possible.

Tom Trammell, CGCS

MetroWest C.C.

Central Florida Chapter

Junior's on Deck— Training the Assistant

Most everyone involved in the game of golf now appreciates the work scope of a golf course superintendent. True, "Greenskeepers" just mowed grass, but as the business evolved more into a science, the yearning desire to just sit on a tractor and mow grass has long faded away like a memory. Nowadays, the work scope of a superintendent has become so managerial, even the assistant seldom "gets to just mow grass," and that is the point of this article:

Let's evaluate the work scope of an assistant golf course superintendent.

Most assistants are technically trained, college educated and striving ultimately to move upward and become a superintendent themselves.

There are very few career assistants. There is nothing wrong with being a career assistant. The industry should not frown upon this career niche. Yet, most assistants graduating from college are pursuing an ultimate superintendent's position.

By default, we are viewing the assistant's position as being relatively short term. Now, let's view this situation from the superintendent's perspective. We have already agreed the superintendent's daily work scope is intense. Now, couple that with the training of an assistant and the inevitable departure of that assistant. One can quickly see a managerial inefficiency that should frustrate upper management or owner of the organization.

In the last 10 years, I've had the pleasure and pride to be associated with three assistants that have ultimately moved onward to become very competent superintendents. The only drawback is — yes, I have lost three very competent assistants! Do I have the time to be a post-graduate training school — no!

I have, however, developed over the past few years, an in-house Junior/Senior Assistant training program that has proved to be management efficient, and cost effective yet rewarding to the recipient — the assistants.

Management will first ask: "Why do you have two assistants for just an 18 hole golf course?"

Let us now analyze the difference between the Junior Assistant and the Senior Assistant.

The Junior Assistant must be patient and possess all the true qualities to ultimately become a superintendent. The key word here is "patient." If they are not patient and their respective colleges instilled into them that they will or should become a superintendent within a year of graduation, then my system simply will not work for them.

So far, I have found Junior Assistants that are patient, and truly respect the total work scope of a superintendent and they want to take it gradually. In the long run, they will be exposed to so many issues that a university does not address.

Give me three to four years and I can equal their formal training with something that one can never put a price tag on — and that is on-the-job field-training."

The Junior Assistant will sit in the cat bird's seat watching everything the Senior Assistant does — good or bad. The Senior Assistant is responsible for the training of the Junior Assistant.

Obviously the superintendent is there to instruct both.

However, when Junior makes a mistake, Senior must bear some of the responsibility for the error — much like the rest of the world, it all flows down hill.

By the time people have worked through this program, they have just about seen it all: agronomics, budgets, staff management, peer pressure, and most importantly — politics. Generally, the formal training of college only addresses the first issue, agronomics, and it is already assumed that you understand the science of horticulture to get to these job opportunities.

Can you start to see how much the world has to offer and how a company can profit by having a Junior Assistant on the payroll? The employee will obviously be loyal and be far more effective than "just a regular worker on the staff."

Junior Assistants will participate in the applications of all pesticides, cultural renovation projects, and generally par-



Photo by Mike Bailey

Matt Quinn, senior assistant at Boca Rio CC, left, explains elevation details of the construction of a new ladies' tee to junior assistant Steve Jacaruso. Crew member Pierre Duuelsaint is in background.

ticipate as a key worker on the staff that involves more than just the simple task of "mowing grass." This person, however, must not consider themselves too good to hop on a mower and mow grass, when no one else is there and the job must still get done.

I have designed a work schedule where the Junior Assistant manages on Saturdays with the belief (and the hope) that little has gone wrong from just Friday afternoon and the Senior Assistant manages on Sunday so that if disease or whatever is developing, the more qualified individual of the two manages the latter day where the problems could be more severe.

Now mind you, Junior has on occasion overlooked an issue on Saturday that Senior will detect on Sunday, and let me tell you, Senior will show Junior their

mistakes, because ultimately Senior should not have allowed Junior to even allow the mistake to occur in the first place.

This style of management allows the Senior to be responsible for people in a key way. If the Junior Assistant is not working out, it will fall upon the Senior to figure out a way to make it work...or else.

Probably Senior is not trying hard enough to cooperate and put the effort out to make it happen, because we will not accept the excuse that "Junior just is not working out and I think we need to find a replacement."

This type of platoon management also creates a stronger management team during three-day holiday weekends and when the management staff goes on vacation. I am actually sitting by the pool at

Grand Cypress as I write this article with complete confidence that my assistant duo is competently managing the operation with virtually no problems.

Nothing should occur to overwhelm them, primarily because Senior has been on the payroll for nearly three years. He worked his way up the ladder from the Junior Assistant position just three months ago, yet I feel completely confident with his new Senior's position.

Recognizing the scarcity of new superintendent's positions that an assistant might actually be hired for, Senior appreciates the need to be fully competent before going out into the real world. Of course, I correct their youthful mistakes. They are only human. Once these issues become clearly recognizable, these common mistakes should not happen. When they ultimately become a superintendent these mistakes could be severe enough to actually jeopardize their first head superintendent position.

Therefore, an appreciation of the correct way to perform their job becomes priceless. It does not necessarily indicate my way is right or wrong but more so that they recognize their mistake for something that should have perhaps not occurred (mistake) or something that they now look back upon and realize they could have done it better.

The more involved both become, the more both respect they have for their jobs. The Junior begins to feel the pressure of "actually being in charge" and greatly respects what senior does and how he conduct himself. When Senior moves onward, Junior will now have more

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responsibility and he “better do it right” because he had enough time to watch from the catbird’s seat.

When it’s time for the change, you can usually view the obvious. Senior becomes complacent, everything seems too easy and “I can do it all!” Not really. I’m exaggerating. If I wait that long for their respective personalities to surface, I’ve waited too long to start pursuing a head position for Senior.

That is a key here. The superintendent must know that individual well enough to know when it’s time for him to move on.

Sometimes, jobs are simply not available and they must be patient. It’s even good to watch them pursue some opportunities on their own and feel the aggravation of the real world. As good as they might think they are, they might not be that marketable. After a few rejections, they might appreciate what management is trying to do to help with professional contacts.

When everything works out and Senior lands that new job, the individual has tremendous pride. The crew is usually complimentary and supportive of their career move. Junior then moves up to a new position, and the crew respects the process. The management switch is not a major ordeal.

All too often, the assistant superintendent’s departure can be a major blow to the department. With this concept, no one strikes out. Everyone hits a home run, and everyone comes out a winner.

Mike Bailey

Boca Rio G.C.

Palm Beach Chapter

Employee of the Month, Year Program

Last December, the Board of Governors of Boca Woods Country Club approved and initiated a program called “Employee of the Month” and “Employee of the Year” award for our full-time hourly employees.

Each month an employee is chosen as

“Employee of the Month.” He/she is nominated by their department head. Four employees are nominated each month from the four major departments in our club. The Personnel Committee reviews the recommendations of the department heads and selects the monthly winners of this award.

The department head makes their recommendations based on the employee’s attendance record, appearance, attitude, work ethic, initiative, safety awareness and record.

The award to the employee for being chosen “Employee of the Month” will be a special parking space and badge denoting the award. He/she will also receive remuneration in the amount of \$50 and a picture in the *Focus*, (Boca Woods’ monthly news letter), with the department head. When the award is given out, the crew puts the winner on a chair and he then gives a short speech which is then followed by major applause.

Each December, one employee will be chosen from the pool of monthly winners to be “Employee of the Year.” The award to the employee selected “Employee of the Year” will be a special parking space and badge denoting the award, and a remuneration in the amount of \$250.

Since the awards’ inception last January, it has really made a positive difference in attitude with the crew. They look forward each month to the new winner, hoping they will be the one.

John Gallagher

Boca Woods C.C.

Palm Beach Chapter

Managing Your Most Important Asset

Have you ever been asked, “What is the most difficult or challenging part of your job?” What would your answer be? Getting rid of those pesky mole crickets! The thin turf on No. 8 green caused by those pretty oak trees 20 yards from the green! The nematodes on the front nine fairways! Keeping up-to-date and in compliance with all the governmental regulations?

These are all great answers, but I firmly believe that managing people is the most challenging aspect of our profession or any profession. I have been a golf course superintendent for 17 years. If you compare managing the staff now versus 17 years ago, the job has gotten more complex with lawsuits resulting from wrongful terminations, harassment and discrimination charges, ADA regulations, and even from *not* hiring someone!

No matter how large your budget, how much new equipment you have, or how great the course design, if you don’t have a properly trained and motivated staff, you will have a difficult time getting the course in top playing condition. Once you have a properly trained staff, you have conquered the biggest challenge in managing the course. How can this be accomplished?

I don’t know of any secret formulas or techniques. Usually, some common sense can be very helpful. I try to use the golden rule: “Do unto others as you have them do unto you.” This practice has helped me tremendously in managing staffs at three different country clubs.

Building a good staff can be broken down into the following areas: Hiring, training, motivation and morale, and discipline.

1) **Hiring:** The hiring process is probably the most important step because if you get the right person for the job, the other areas of staff management should be easier. When needing to hire new staff, I have found the best source for applicants comes from your present staff.

They usually know someone who is looking for a job. They will usually give you prospects they want to work with and meet your criteria. Other methods include newspaper ads, employment services and walk-in applicants.

No matter how you get your applicants, it is imperative that you do a good job in the interview process. By asking the right questions, you can narrow down the list of prospects. Then by using your judgment based on the interview results you can make a more intelligent final decision.

Drug testing and background checks are also becoming integral parts of the hiring process. They can help weed out

potential problems and get better people on board. The bottom line on hiring is to develop and use good interviewing and screening techniques to help find the right people for the job.

2) **Training.** Training the new employee is probably the next most important process. The amount of training required will depend on the type of work and the person's prior experience in similar jobs. It is wise to have written job descriptions for each job your staff performs. This gives the new employee a visible description of what each job entails. It is then up to you or a designated trainer to instruct the new employee on how to perform the job to the department's expectations. Be sure to explain all safety, right-to-know, hazard communication, and any other programs that are in effect for your staff.

3) **Motivation/morale.** Once you get the right person hired and trained, you must be able to motivate him and maintain good employee morale. This is probably the hardest thing to do because what works for one person may not work for another. It is important to find out what makes each employee tick so you can coach them to perform to the best of their abilities.

One of the best morale boosters is to praise your staff members for good work both orally and in writing. Cook-outs, parties, and golf outings at other clubs in your area are also morale boosters.

You can do a simple survey of other clubs to compare wages and benefits. It is a good idea to promote from within whenever possible. Internal promotions encourage employees by rewarding good

One of the best morale boosters is to praise your staff members for good work both orally and in writing. Cook-outs, parties, and golf outings at other clubs in your area are also morale boosters.

work, and giving everyone an incentive to progress and accomplish more.

You must administer progressive and consistent discipline to all staff members. Inconsistent discipline can cause severe morale problems. Sometimes, just being willing to listen to your staff can work wonders with your staff.

According to many surveys, one of the most common complaint among workers is that nobody listens to them! We just completed an employee survey at our company. We got some very interesting answers. Some were predictable and some were surprising!

4) **Discipline.** Sooner or later you will have to discipline someone on your staff. Good discipline requires the right punishment, criticism, and guidance that will help prevent future mistakes and infractions. Proper reprimanding tips include:

◆ Reprimand an individual in private, never in front of others.

◆ Never reprimand when tempers are high. You might say something you may later regret.

◆ Listen to the employee's point of view. There are always two sides to everything.

◆ Try to end on a high note with encouragement.

◆ Document all reprimands. In labor disputes, the burden of proof is on the employer!

I have touched on a few items that I consider to be the keys to sound staff management. As you manage your golf course, don't forget to have a some "preventative maintenance" programs for your staff just like you do for the turf and the equipment.

As I said, "People are your most important asset!"

Hal Richburg, CGCS

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What does it mean?

Low Input Sustainable Turfgrass Management

The challenge is to keep producing high quality playing surfaces using less resources

BY GARY GRIGG, CGCS

Golf course management is an ever-changing, evolving process. The process is driven by a variety of factors that seem to change from time to time. As times change, new technologies are developed to adapt to the new management concepts.

Today the new concepts of golf course management are being driven by a number of forces. Two of these forces are our dwindling resources and our need to be environmentally responsible. At the same time there is a higher demand for quality playing surfaces than ever before.

The idea that "less is better" is receiving a lot of attention these days from the green industry in general and many golf course superintendents. However, the demand for quality is not going to go down and may even go higher. The challenge is to keep producing high quality playing surfaces using less resources.

The major driving force behind pollution and environmental topics is government regulations and public perception. Public relations alone is an important reason to emphasize pollution prevention.

We are all familiar with the term IPM, Integrated Pest Management, or Intelligent Plant Management, if you prefer. I heard of a term used in agriculture called LISA. It stands for, Low Input Sustainable Agriculture. What is the difference? IPM has come to mean in general the growing of turfgrass by proper care and culture to prevent pest and disease problems. The dictionary defines the verb sustain as, "to keep going." I define sustain for our purpose as to "keep going without excess." The characteristics of low input sustainable management provides simultaneous environmental protection. Let's take a look at some of those characteristics.

Plant Selection

Low input management begins with proper plant selection. Select those species or cultivars that can be maintained with the least amount of water, fertilizer and pesticides.

Resist the temptation to grow cool-season grasses in a hot climate and warm-season grasses in a cool-season climate. Do a lot of research on the best adapted turfgrass in your area.

Low Input works when you have a healthy plant that is not under stress. The healthier the plant is the better it will withstand invasion by all types of parasitic organisms.

Plant breeders continue to work towards producing new and better varieties that are more drought tolerant, use less water, use less nitrogen and are more salt tolerant and better adapted to utilizing waste water.

One of the most notable success stories are the new buffalograss varieties developed by Dr. Milton Engelke of Texas A & M and Dr. Terry Rirdon of the University of Nebraska.

Improvements of zoysiagrass by several researchers using selective breeding have made this species much more desirable. It shows great promise in reducing nitrogen use and seems to be salt tolerant and thus can be used with effluent water in areas where potable water is restricted.

As the need for more and more low input varieties arises, we are bound to see more work by scientists in the area of finding alternative species that require low input to produce an acceptable turf.

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Kilpatrick Turf Equipment has assembled the best turfgrass team in South Florida! Headed by Garry Callahan as Vice President & General Manager, we have an excellent customer service, support and sales team. In addition, Tim Kilpatrick will be active in the operations of Kilpatrick Turf Equipment.

Kilpatrick Turf Equipment will have an East Coast and West Coast Facility to better service your equipment needs. We're going to establish the first Service Guarantee in the industry. We're committed to providing you with competitive pricing on new equipment; the highest level of support from our factory trained mechanics; and the highest service level in the industry...guaranteed!

We would welcome the opportunity to work with you on your equipment needs.

Buffalograss, sheep fescue, tall fescue, colonial bentgrass, redtop, kentucky bluegrass, hard fescue and zoysia

Dr. Ken Diesburg of Southern Illinois University is working with a committee to take on the task of identifying functional turf for low input situations. He is looking at providing acceptable uniformity for low-management course roughs, right-of-way acreage and parks and recreation.

His work is to look at buffalograss, sheep fescue, tall fescue, colonial bentgrass, redtop, kentucky bluegrass, hard fescue and zoysia and assess their requirements for establishment and maintenance.

These types of alternative grasses are a long way from replacing the quality turf that is required to provide fine playing conditions. While waiting for these grasses to be improved we must still work at producing our current high quality turfgrasses with less input.

Water use

Use only enough water to sustain the health and vigor of the turf. Over-watering leads to many problems with nutrient uptake, fungus diseases and shallow rooting. Too much water can block or reduce the soil atmosphere. This will cause the aerobic biological system to become unbalanced in relationship with the anaerobic system. To refrain from over watering will encourage good soil structure and a healthy aerobic system. Treated sewage, or effluent water should be used whenever possible. Golf courses have been found to be a good treatment site for effluent water.

Soil Organic Matter

John Doyle, turfgrass specialist of the

Ringer Corporation, in his excellent article "Soil Amendments and Biological Control" *Golf Course Management* March, 1991 makes several excellent statements. Among them: "Changes in disease severity can be distinctly followed as soil types change from sandy to clay loam." He states that increase in organic matter decreases disease occurrence. He concludes the article: "There are materials now available that can be effectively incorporated into a management program that can reduce fungicide application frequency or enhance the effectiveness of existing fungicide programs."

It is clear from last year's turf show and from the number of organic salesmen that are calling on me that there is plenty to choose from in companies selling humus and humic acid materials. Many claims are being made. Only you can evaluate them in your program. Keep an open mind.

Soil requirements

Keep the soil pH near neutral as some nutrients will not uptake under alkaline conditions and others will not uptake under acidic conditions. Work on your soil structure with many aerations. Compacted soil demonstrates the following:

- * Reduced water penetration
- * Reduced water holding capacity
- * Reduced root growth
- * Low Oxygen levels
- * Reduced nutrient uptake
- * Increased chemical build-up
- * Reduced fertilizer efficiency
- * Loss of organic matter

Compacted or wet soils are low in oxygen and produce anaerobic systems.

Anaerobic systems do not break the lignin in the soil to humus. Anaerobic systems produce harmful chemicals to the soil and plant environment, among those chemicals are butanol, methanol, formaldehyde, cyanide and acetic acid. Anaerobic systems encourage soil borne diseases and soil pests.

A productive soil that has not been compacted nor waterlogged produces aerobic micro-organisms that make nutrients available to the turfgrass. Therefore, the plants can be sustained without the presence of large quantities of fertilizer, which can be expensive and may wind up in the environment.

Nutritional needs

Low Input Management calls for both soil testing and plant tissue analysis.

Not always do the ratios of nutrients in the soil tests correspond to the ratio in the tissue analysis. Soils are tested for available nutrients. The only way to tell for sure if it is available to your turf under your particular set of circumstances is to tissue test.

For example: Soil tests may show an adequate phosphate level in the soil test but the tissue test may show inadequate phosphate level in the tissue. The low test could be due to wet soils or soil low in pH.

Excessive nitrogen in the tissue can affect the uptake of potassium, sulfur, magnesium and calcium. Often these nutrients can become more available simply by reducing the nitrogen level in the tissue. You cannot tell the nitrogen level of the tissue from a soil test.

Low Input Management calls for the

application of only those nutrients that the tests show are needed. For example, if your tissue test showed you deficient in potassium, then potassium only needs to be applied to the turf. Don't use a full mixed analysis fertilizer to cure a single nutrient problem.

With the advent of Near Infrared reflected light tissue testing machines coupled with a computer, a superintendent can do his own tissue testing in his own shop, or he can select a good laboratory to do his work on a regular basis.

Recently more and more foliar for-

popular in the southwest desert regions in the winter. In the winter when golf is in peak season, growth can be limited by the cool night temperatures. The cool nights limit the uptake of nutrients from the soil and foliar are very efficient. In Florida, many superintendents also inject foliar through the irrigation system.

We need more research on turfgrass to correlate tissue levels and concentration of nutrients with plant health. Is it possible to correct turfgrass disease by certain nutritional concentration? Consider this:

.40% Mg and .40%S. Ellsworth states the calcium is the hardest one to get to those levels but combined with proper potassium is the essential one in increasing resistance to disease. He also finds that silica, although not an essential element, increases the strength and rigidity of plant cells, tends to reduce wilt during the initial stages of drought and increases resistance to some diseases.

All it takes to get started on the path to using less is to look at your program to see where you can begin to cut back. It may be pesticides, water or fertilizer. It

Alternative grasses are a long way from replacing the quality turf that is required to provide fine playing conditions

mulations of nutrients are showing up at our trade shows and in media advertising. Foliar sprays have a rightful place with Low Input Management. Not only can all plants absorb nutrients through the roots, but also through the foliage.

Foliar can produce quick, visible results and can increase the effectiveness of fertilizer applications to the soil, reducing total amounts of fertilizer applied.

Years ago Dr. H. B. Tukey of Michigan State University tested foliar applications of nutrients. In an attempt to evaluate the relative efficiency of foliar applications of nutrients and soil applications using radio-isotopes as tracers in the nutrients.

He concluded: "When we apply material to the leaves in soluble forms, as much as 95% of what is applied may be used by the plant. If we apply similar amounts to the soil, we find only about 10% of it used by the plants."

Foliar nutrients have a place in turfgrass management. It seems to be very

* Black-heart in celery is prevented by calcium sprays.

* Rosette of peaches is prevented by foliar zinc solutions.

* Foliar application of Urea improves fruit set of apples.

* Magnesium sprays help with fruit development in tomatoes.

* We know that potassium can aid in disease resistance in many species of plants.

* Silica sprays are used by rice farmers in the south to prevent lodging.

Dr. Robert Ellsworth of Bio Humanetics Corp. in Chandler, Ariz. has been experimenting with varying ratios of all nutrients in plant tissue. He finds the grasses healthiest when he achieves the ratio of 10N-1P-8K-3Ca-1Mg-1S with all the minors present at their optimum levels in parts per million.

If you find from tissue testing that you like your greens at 4%N, then your analysis should show .40%P 3.2%K 1.2%Ca

may be all three.

See how far you can go without reducing your desired quality. Soil and tissue tests are the maps to show you how to get started. Cut your water use a little at a time to find the minimum you need to produce the quality you desire.

Look at finding ways to sample pest populations and pick a level that is the maximum threshold you can live with. Consider getting off preventive programs and on to knowledge-based curative programs. You will find economical benefits as well as environmental rewards.

I am convinced that reduced usage of nearly everything we apply to our turf will be widely used in the decade before us. That means improved efficiency in every aspect. It also means that new researchers with fresh ideas will come forward to meet the challenge. That challenge is to keep producing the expected flawless golf courses — using less.



Photo by Joel Jackson

Mowing trials at the IFAS Research Station in Bartow indicated that Ecoturf performed best mowed at 1.5 inches every four weeks.

How does dark emerald green foliage

BY JOEL JACKSON, CGCS

That's right! Peanut turfgrass! I know it sounds weird. If you're looking for a low-growing ground cover for open areas, steep slopes, canal banks, tee slopes, and other hard-to-manage out-of-play areas, I have a plant for you!

How does dark emerald green foliage with bright yellow flowers sound? Want more flowers for a special occasion? Mow it a couple of weeks before the event.

Irrigation? None required, but it wouldn't mind a drink during a drought just like any living thing!

Fertilizer? How about a couple of pounds of SulPoMag around May. Nitrogen? It makes its own. It is a legume.

Pesticides? Maybe a little Fusilade for grass encroachment if necessary. Others? Well, it seems

that since 1936, when it was brought to Florida from Brazil, no insect, disease or nematode has taken a liking to it!

So, what are the drawbacks? Well, right now, you can't buy it commercially. It is slow to establish from sprigs, but it can be sodded!

Cold tolerance? According to the Polk County agronomists that have been working with the peanut for many years, it reacts similar to Tifway 419, so it is not an evergreen if it gets really cold! However, it is a survivor! It develops a tremendous rhizome system which makes it great for erosion control.

It isn't perfect. Nothing is! But, it bears watching as potential lawn cover requiring low management inputs as discussed in Gary Grigg's article elsewhere in this magazine.

On Aug. 18, the Polk County Extension Office

Found a peanut! Found A peanut!



Photo by Joel Jackson

The perennial peanut, *Arachis glabrata* alias *Ecoturf!* Lawn cover of the future?

with bright yellow flowers sound?

hosted a Field Day to extol the virtues and potential of the perennial peanut. The event was supported by the FTGA and the SWFWMD. Alan Puckett, FTGA board member and Ridge Chapter president represented the FTGA. Research for the event was funded by SWFWMD, Polk County Board of County Commissioners, The University of Florida involving the collaborative efforts of the departments of Agronomy, Environmental Horticulture, Agricultural Engineering and the Polk County Mined Lands Agricultural Research/Demonstration Project.

The audience was a cross section of the turf industry from superintendents and commercial lawn managers to sod producers. The agronomists were looking for an evaluation of commercial potential for the peanut from the audience, and I'd say the overall reaction was very positive.

Sections of the research plots are going to be open for bidding to sod growers so, it will be out there one of these days.

The history of the perennial peanut, pardon the pun, is "rooted" in forage crop research. Similar in nutrient value and digestibility to alfalfa, the peanut is better suited to southern climates.

The selection and breeding of peanut varieties over the past 58 years has yielded two low-growing types called Arblick and Ecoturf, which are now being explored as possible alternative, ecologically sound, lawn covers. Slides were shown at the Field Day that showed the use of the peanut as a lawn, right-of-way turf, and erosion control on road cuts.

The perennial peanut or rhizoma peanut (*Arachis glabrata*) is a member of the same genus as the eating peanut (*Arachis hypogea*).

Found a turfgrass just now!

Maintenance Cost Comparison between St. Augustinegrass and Perennial Peanut

Item	St. Augustine	Peanut
March: 16-4-8 w/minors @ 6.3 #/1,000 S.F.	\$23.76	
April 1 - November 1: Mow once/week = 30 times	750.00	
April 15 to October 15: Mow once/every 4 weeks		\$200.00
April: Spray w/Dursban @ 1.5 oz and Daconil @ 6 oz/1,000 S.F.	63.87	
May: SulPo Mag @ 2.3 #/1,000 S.F.		18.20
May: Milorganite @ 17 #/1,000 S.F.	35.40	
June: Spray w/Dursban & Daconil	63.87	
July: Fusilade @.74 oz/1,000 S.F.		64.04
August: Spray w/ Dursban & Daconil	63.87	
August: Spray w/Fusilade		64.04
September: 16-4-8 w/minors	23.76	
All year: Irrigation St. Augustine - None to Peanut	227.00	
November - March: Mow every 3 weeks = 7 times	175.00	
October 15 to April 15: Mow twice		50.00
Yearly Total	\$1,426.53	\$396.28

The perennial peanut or rhizoma peanut (*Arachis glabrata*) is a member of the same genus as the eating peanut (*Arachis hypogea*). However, it usually only produces a primitive single-celled, thin-shelled pod.

However, it usually only produces a primitive single-celled, thin-shelled pod. Reproduction commercially by seed is not practical. The plant is best reproduced by digging up some rhizome material and planting it in a new location.

The foliage texture is more coarse than one usually associates with a lawn, because of its broadleaf character, but is a beautiful dark green, and the yellow flowers give it a perennial "meadow" look. The turf rarely grows above 4-6 inches, but performs best when mowed at 1.5 inches every 4-6 weeks (*See photo*).

Jim Stricker, Polk County extension agent, did a comparison of maintenance costs between a commercially-maintained

10,000-square-foot St. Augustine (Floritam) yard and one of equal size planted in perennial peanut. You can compare the physical and financial inputs in the table.

I think the folks over in Forage and Grazing have stumbled onto something that just might be a hit for us folks in Turf and Ornamental. It certainly won't hurt to check it out!

Peanuts! Get your dark green peanuts, right here! Peanuts!

Credits: Technical and historical information provided by Dr. E. C. French, Dr. G. M. Prine, and Mr. Jim Stricker.

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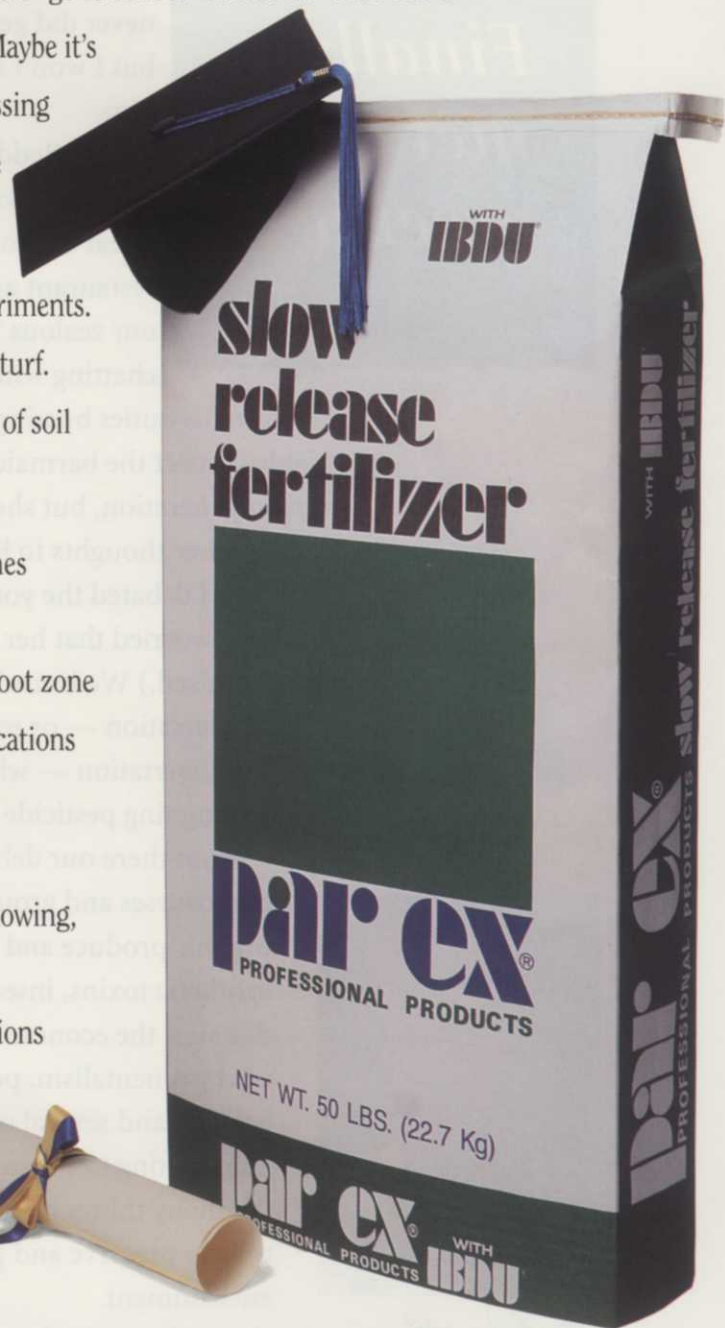
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*Finally
met a
greenie*

After all these years of reading and writing about “eco-warriors” — the nameless and faceless foot soldiers who fill the ranks of the green legions, I finally got to meet one. Well, sort of meet one. I never did get his name, but I won’t soon forget him.

Jerry Redden and I had met for a drink and a bite to eat at a local waterfront restaurant and overheard our zealous “greenie” chatting with the barmaid

between his duties bussing tables (I highly suspect the barmaid was of similar generation, but she just listened and kept her thoughts to herself while Jerry and I debated the young zealot, probably worried that her tip would be compromised.) We intruded into their conversation — or more precisely, his dissertation — when he began haranguing pesticide use on lawns.

From there our debate shifted to golf courses and groundwater, organic produce and natural vs. synthetic toxins, insect-borne diseases, the economics of environmentalism, population and growth, and several other topics, culminating in his summation of the many things he personally did to help preserve and protect the environment.

For his early age (early 20s), he was fairly knowledgeable, but only with the one-sided and all too familiar

propaganda from the major environmental organizations. Dissenting opinions were not considered — he believed what he wanted to believe and everyone else was lying and corrupt. Scientists were bought off. The EPA always compromised and did little to affect necessary changes. Business cares for nothing but profits.

When I tried explaining the ever-increasing high cost of environmental regulation and its strangling effects on the economy and people’s income, he shrugged that off with the rejoinder that “People who can’t afford it need to get better-paying jobs.” When Jerry talked about the lives saved from the use of pesticides punctuated with examples of bodies lying along the side of the road in underdeveloped parts of the world without access to pesticides, he replied, “So! Maybe we need more dead bodies lying along the road to help save this planet.”

That cold and callous remark made my blood boil at him and all the other greenies that show such concern for other species but little to none for their own. How can anyone look at another human being without some compassion, but instead, evaluate their life against a measure of their use of the earth’s resources?

How arrogant to judge themselves so deserving and worthy of life on this planet while those who don’t think and act similarly are unworthy.

Aren’t humans worthy of an effort to educate them to environmental

Mark My Words



Mark Jarrell
Mark Jarrell, CGCS
Assistant Editor

Control Summer Stress Complex*

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



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awareness? Wouldn't our dollars be better spent on this education, and on population-control measures, rather than being wasted on environmental legislation that does little or nothing for the environment, but strangles the economy? I wanted to punch the young punk out!

He was young. He was cynical. He was passionate. He was a fanatic. Passion without compassion. Though all involved in the environmental movement are not fanatics, this "elitist" attitude seems to be held by quite a few. How a movement founded on concern and compassion for living things produces adherents without concern or compassion for human beings is beyond me.

Maybe all of us have a limit to our compassion, and we have to pick and choose the objects of our care and concern. The Information Age brings the world's problems to our doorstep on a daily basis, and we just can't deal with it all. Maybe a shift from traditional reli-

gious values has made us less tolerant of others and their beliefs. Whatever the reason, it does seem like society is divided into warring camps on so many issues, with too many fanatics and too little tolerance (myself included for wanting to punch out the young Captain Planet). Fanaticism always seems to lead to conflict and violence.

The point of this article is to emphasize that there are extremists flying the environmental banner — I have finally met one face-to-face rather than just read about them — and our first reaction may be that we need to fight fire with fire. After calmer reflection and deliberation, I realize that what is needed is a continued effective, intelligent, and resolute response, gambling on the Silent Majority's ability to apply a little commonsense and logic to environmental concerns if they are given both sides of an issue.

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Cypress' prostrate growth habit is apparent in these P.V.P. trials. One picture is worth 1000 words.

TMI will be happy to send to you copies of the complete trial data for any of the trials we have mentioned below.

University of Florida 1991-92 Overseeding Trials Gainesville, Fla.		
	Mean Quality	
	Scores	Color
Cypress	7.2	7.8
Sabre	7.2	5.4

University of Arizona 1992-93 Overseeding Trials		
	Mean Quality	
	Scores	Color
Cypress	5.4	5.3
Laser	5.0	5.0

USGA Stimpmeter tests at University of Arizona revealed a higher average ball speed of 92 inches for Cypress; better than for Laser.

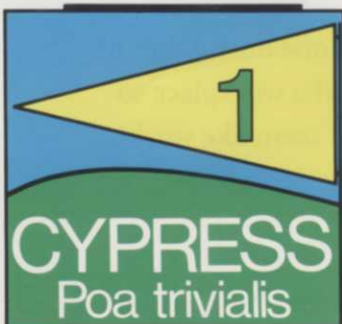
"Although Cypress and Sabre Rough Bluegrass had equal seasonal Turf Quality Ratings of 7.2, the "Cypress" cultivar had better color and less dollarspot disease in May."
Univ. of Florida Gainesville 1991-1992 overseed Trial.

Turfgrass	Monthly and seasonal mean values for turf quality on cool-season grasses overseeded on a "Tifdwarf" bermudagrass putting green from Dec. 1993 to Mar. 1994 at Gainesville, FL.				
	Dec.	Jan.	Quality Feb. Rating	Mar.	Mean
Cypress	6.8	8.2	8.0	6.8	7.25a
Colt	7.1	8.2	7.8	8.5	7.19a
PT-GH-92	6.3	7.8	8.0	7.1	7.19a
LPT-CT (Loft)	6.6	7.8	8.0	6.8	7.16a
PT-GH-89 C11 (Dark Horse)	8.1	7.3	7.8	7.0	6.97a
Danish Common	7.5	8.2	7.5	5.8	6.94a
LPT-HWY (Loft)	6.6	7.7	7.9	8.2	6.88a
Winterplay	6.6	7.5	7.8	6.3	6.88a

Quality mean based on eight visual ratings on a scale of 1-9 where 9 = best

Establishment rate of Poa trivialis varieties overseeded on dormant bermudagrass in Florida (data from Dr. A.E. Dudeck, Univ. of Florida)			
days:	7	14	21
	—% ground cover—		
1991			
Cypress	2	23	79
Sabre	2	17	70
1992			
Cypress	87	93	86
Laser	36	58	83

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Dream Team

My hat is off to those thousands of golf course employees who come to work every day, on time, and with a positive attitude. They do the best they can with the resources and direction provided. They use their initiative to stay productive if their equipment fails and no one is available to direct them. They see the big picture.

They communicate freely with all members of the staff. They don't hold grudges. They lend a hand whenever some one needs help. They operate and maintain the equipment safely and properly. They take pride in their work and get satisfaction from a job well done. They make suggestions and have ideas to improve the operation. They pay attention to details.

They are courteous to members, guests and fellow employees. They go the extra mile without being asked. They are honest. They will make mistakes, but they learn from them and don't repeat them. They ask questions when they don't understand directions or when they are curious about the job at hand. They earn my trust and respect.

Green Side Up



Joel D. Jackson
Joel Jackson, CGCS
Editor

They have a sense of humor.

The boss needs a sense of humor when the same few repeat offenders trot out a new generation of maladies and illnesses to replace the old, worn out, broken-alarm-clock and flat-tire stories. Remember, truth is stranger than fiction!

Mechanical Malaise. Day 1: "I can't come in today. Rain is forecasted and my windshield wiper motor is broken." Day 2: "Still waiting for that wiper motor to come in. Hope it clears up soon. I need the money." Remedy: Open an account at the NAPA store.

Silica Sillycosis. "We were stranded at the beach. I saw Mark drop his keys in the sand. I told him he'd better pick them up or they'd get lost. He didn't. They did!" Remedy: Bend over.

Intestinal Insensitivity. "Something I ate last night didn't agree with me." "What did you eat?" "Six dozen shrimp!" Remedy: Join Jenny Craig. She only gives you six shrimp!

Sick Child Syndrome. "I can't come in today. I have to take the baby to the doctor." "Can't your wife take the baby?" "No! She works!" Remedy: Hire the wife!

Ouch! That last one hurt didn't it? Maybe you make the workplace so pleasant it doesn't seem like work!
Carpe diem!

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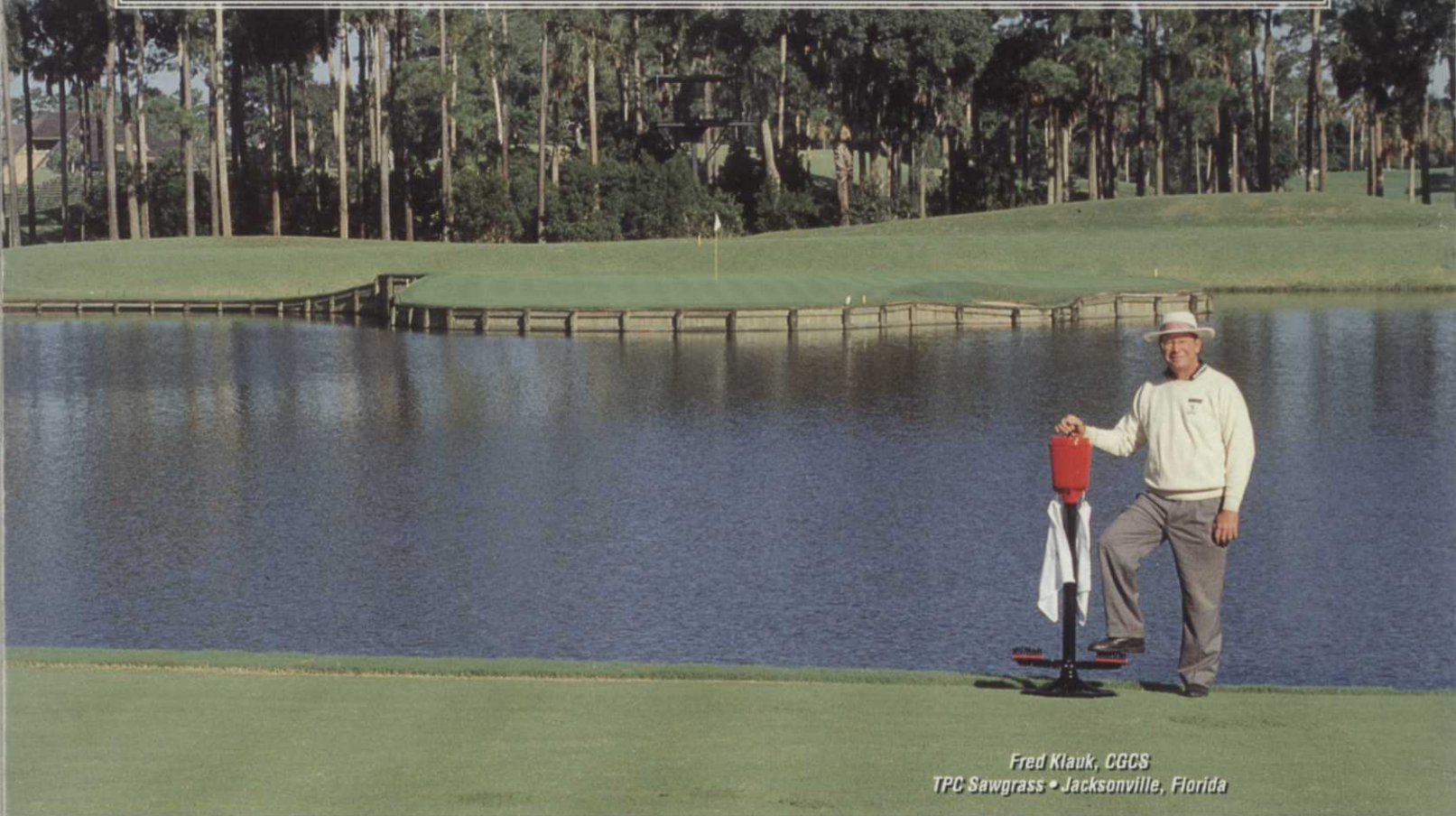
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