

The ability to take that to the classroom and share it with our youth is rewarding and enjoyable.”

By creating a sanctuary on school grounds, students, faculty and parents are able to learn first-hand the techniques that lead to success.

To become certified in the program, schools must meet established requirements in environmental education, wildlife habitat management, waste management and resource conservation. Individuals from the community, such as golf course superintendents provide resources, expertise and supervision to transform school facilities into a certified sanctuary.

Projects include recycling, bird nest boxes, butterfly gardens and nature trails, among others.

“This is a unique opportunity for Rain Bird to take an active role in providing schools with hands-on environmental curriculum,” says Rain Bird President Anthony La Fetra. “Rain Bird is well known for its commit-

ment to the environment, so this project is a natural for us.”

Along with the Audubon Cooperative Sanctuary Program for golf courses, sponsored by the United States Golf Association, the school program was born in 1991 to protect and enhance the quality of the environment on the golf course.

Golf course superintendents are largely responsible for implementing the activities that will lead to certification — a status golf courses achieve by meeting requirements in Environmental Planning, Public Involvement, Integrated Pest Management, Wildlife Food Enhancement, Wildlife Cover Enhancement, Water Conservation and Water Enhancement.

Today, more than 1,800 golf courses participate in the Audubon Cooperative Sanctuary Program for golf courses.

In late 1995, AI and GCSAA began discussing how to share the expertise and success on the golf course with educational institutions.

Rain Bird expressed a desire to be-

come involved in the program in 1996, resulting in a partnership that continues to gain momentum. GCSAA chapters and individual members are adopting schools and developing fund-raising mechanisms to guarantee long-term viability. All parties agree, the success of the program lies not only in implementing sound practices, but continuing for the benefit of others.

For additional information about the ACSP for Schools, contact Audubon International at 46 Rarick Road, Selkirk, N.Y. 12158, 518/767-9051 or GCSAA at 1421 Research Park Drive, Lawrence, Kan. 66049, 800/472-7878.

Editor's Note: This is the third and final GCSAA syndicated article that was distributed nationwide to help promote the superintendent's image to the general public. The next public relations emphasis will be on educating influential golfers and owners at golf courses about the value of the superintendent to the total operation.

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Do-It-Yourself Calendar Funds Wildlife Projects

BY DARREN J. DAVIS, GCS

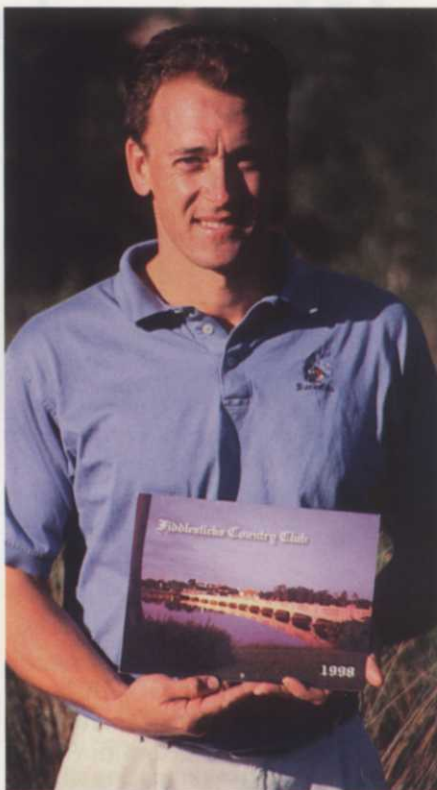
Scott Lavis, Golf Course Superintendent at Fiddlesticks Country Club in Fort Myers combined his desire to enhance the environment at his golf course, with a very effective public relations project. The project is a "wildlife enhancement calendar".

The "flip style" wall calendar features twelve scenic photos of the beautiful surroundings that create the highly regarded, Fiddlesticks Country Club. The pin-up calendar is being purchased primarily by the members and guests of Fiddlesticks Country Club at a selling price of only \$10.

The low cost is certainly a very good deal for the golfers that purchase one. However, it is even a better deal for the bluebirds, red bellied woodpeckers, flycatchers, wrens, purple martins, bats, fish and other wildlife that make their home on, or near the Fiddlesticks golf course.

Scott explained, "Half of the money that is raised will be used to construct and maintain birdhouses, fish habitats, and for the planting of wildlife cover and food sources at Fiddlesticks."

The calendar also has numerous side benefits besides being a first-class calendar that will provide twelve months



Scott Lavis, golf course superintendent at the Fiddlesticks Country Club in Ft. Myers shows off the wildlife enhancement calendar created by the maintenance staff. Photo by Darren Davis.

of enjoyment for those who purchase it.

"The project has instilled a lot of pride in the crew members," Scott said. "They are certainly very proud of the calendar featuring their golf course that can be hung on their wall. They also have pride in the fact that they, the golf

The pictures used to create the calendar are the products of a photo contest held among the golf course crew members.

course maintenance staff, created this calendar that is being sold to the members."

The pictures used to create the calendar are the products of a photo contest held among the golf course crew members. The crew members are also all pictured in a group picture on the last page of the calendar. The picture is located beneath the phone numbers to all of the departments of the Club... and they even included golf course maintenance!

Lavis also realizes the calendar provides a great public relations tool for his staff and himself. The calendar provides his bosses, "the members" a reminder every time they look at the calendar that the golf course superintendent and his staff do a lot more than just "cut the grass."

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True Grit(s)

Dikki-Jo Mullen of Orlando wrote an interesting letter to the Orlando Sentinel last January. The letter talked about floating fire ant nests that rising water levels have made into drifting hazards. The part of the letter that took me by surprise was her remedy for fire ant control on the lakeshore.

Mullen writes:

"I dreaded putting conventional poison on the mound, right at the edge of the water. A folk story told by an Alabama farmer long ago came to mind. He said that if grits – dry, uncooked, plain grits – were placed on a completely dry fire ant mound, the ants would all be dead the next day.

"I tried it, pouring an envelope of instant cheese grits, as I didn't have the old fashioned kind. It worked beautifully. The next day the ants were all dead, and I didn't have to resort to using an environmentally dangerous poison."

I applaud Mullen for her environmental awareness. I promise to try this remedy on the next fire ant mound in my yard and report results in a future issue and the same goes for anyone else out there.

Question: Does the Quaker Oats Company now have to have an EPA registration number for grits?

Joel D. Jackson

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Bermudagrass Speeds

Can FAST Greens be GREEN?

Differences among varieties were significant statistically, but of small practical value

BY PHILIP BUSEY, PH.D.
AND SUSAN BOYER

University of Florida, Fort Lauderdale

Ball-roll distance, otherwise known as "green speed," is an important physical characteristic of putting surfaces.

By Newtonian physics, the distance a ball rolls is inversely proportional to the coefficient of rolling resistance of the surface. In our case, the surface is grass. The smoother the green, the farther the roll.

Smooth surfaces make ball-roll direction sensitive to topography and spin, factors exploited by skillful golfers who "read" the green. Close mowing generally increases greens speed, that is, reduces the friction of ball roll (see Figure 1).

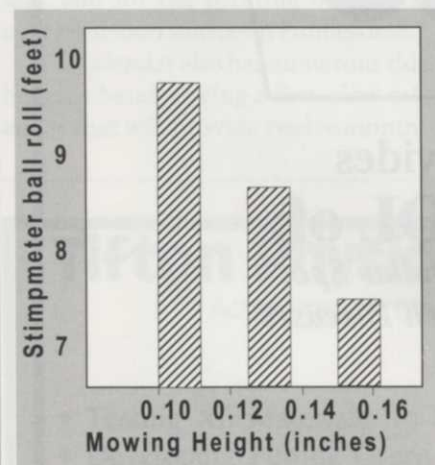


FIGURE 1. The closer the cut, the faster the ball speed, although closely mowed greens may be severely damaged. Data from Gaussoin, R., J. Nus, and L. Leuthold, 1995. A modified Stimpmeter for small-plot turfgrass research. *HortScience* 30:547-548.

Golf courses often reduce mowing height in preparation for tournaments and member-guest events, providing extra challenge. Drier greens also tend to be faster, but are susceptible to other problems.

Unfortunately, bermudagrass is damaged by the practices used to increase greens speed. In Florida, mowing too closely conspires with damp summer weather to bring on bermudagrass decline.

Is greens speed a grass characteristic? Are some grasses naturally "faster?"

We systematically measured and compared green speeds of 12 bermudagrass varieties. were mowed at 1/8 to 5/32 of an inch.

Bermudagrasses included commercially promising *Cynodon transvaalensis* (African bermudagrass) lines developed by Dr. Charlie Taliaferro of Oklahoma State University as well as TifEagle (formerly T-72) developed by Dr. Wayne Hanna at the USDA in Tifton, Georgia.

Tifgreen and Tifdwarf were obtained from the Georgia Seed Development Commission, managed by Dr. Earl Elsner. We thank Mr. Marcus Prevatte for managing the plots, under supervision by Dr. Monica Elliott, and

with the support of the Florida Golf Course Superintendents Association.

Differences in greens speed were highly significant statistically, but of small practical value (see Table).

For example, during the few months that Tifgreen (328) survived the close cutting, it was 4 percent slower than dwarf and ultradwarf greens types (Quality Dwarf, Classic Dwarf, and Tifdwarf). During the cool spring of 1995, when the *Cynodon trans-*

USGA Stimpmeter Estimated Ball Roll							
	1995			1996		Mean	
	Feb.	Apr.	Nov.	Apr.	Jun.		
Mowing Ht (mm)	3.8	3.2	3.2	4.0	3.9		
	English						Metric
Quality Dwarf	8'5"	8'4"	10'3"	7'10"	8'1"	8'7"	263 cm
Classic Dwarf	8'4"	8'1"	10'2"	7'11"	8'2"	8'6"	261 cm
PF-11	8'5"	8'4"	9'9"	8'0"	8'0"	8'6"	260 cm
T596	8'4"	8'0"	10'0"	8'2"	8'0"	8'6"	260 cm
TifDwarf	8'1"	7'11"	9'10"	7'10"	8'1"	8'4"	256 cm
TifEagle	8'2"	7'10"	9'7"	7'10"	8'2"	8'4"	254 cm
CTR2570	8'2"	7'1"	8'11"	7'5"	7'7"	7'10"	241 cm
Tifgreen	8'1"	7'8"					
CTR3048	8'7"	7'1"	8'9"				
CTR2747	8'4"	7'2"					
CTR1111	8'3"	7'0"	8'4"				
CTR2352	8'1"	7'1"					
Mean of top six grasses	8'4"	8'1"	9'11"	7'11"	8'1"	8'5"	259 cm

Table 1. Each tabular value is based on the average of three pairs of values ("upslope" and "downslope," see text) from four replicated plots. Estimated USGA (76-cm) Stimpmeter distances were calculated by a transformation from the value for the 19-cm Stimpmeter which we used. This is explained in the full report, Busey, P. and S.E. Boyer. 1997. Golf ball roll friction of *Cynodon* genotypes. *International Turfgrass Society J.* 8:59-63.



Dr. Roch Gaussoin, University of Nebraska loaned us these "modified" Stimpmeters for small plot research.

vaalensis plants were still growing healthily, they were 14% slower than dwarf and ultradwarf types.

However, the slower grasses were in-

appropriate for the site.

By the summer of 1995, Tifgreen and *Cynodon transvaalensis* underwent an adaptive tailspin. The combination of

close mowing and moisture caused them to thin and die back. By November 1995, when the maximum speeds were recorded (10 feet 3 inches for Quality Dwarf), sev-



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eral *C. transvaalensis* grasses had already died out.

Ignoring the poor performance of *Cynodon transvaalensis* and Tifgreen, the range of average greens speeds of varieties was less than 4%, with TifEagle the slowest at 8 feet 4 inches and Quality Dwarf the fastest at 8 feet 7 inches.

Not much of a range!

Seasonal variations had much more effect on green speed than did grass variety. The fastest green speeds recorded in November, 1995 (based on top six grasses) were 25% faster than the slowest overall speeds recorded in April 1996.

Considering that the plots were only 8 feet by 10 feet, including alleyways, you may wonder how we were able to overcome the problem of finding sufficiently wide areas to collect the data.

This was accomplished with the help of Dr. Roch Gaussoin, University of Nebraska, who loaned us a set of shortened Stimpometers developed by Dr. Larry Leuthold, Kansas State University, and

reported in 1995 in HortScience (30:547-548) along with Dr. Jeff Nus, Golf Course Superintendents Association of America.

We used a 19-cm stimpometer for greens speed measurement and adjusted our measurements to predict the distances for a standard 76-cm USGA Stimpometer.

We also used the slope correction of Dr. Doug Brede, also based on Newton's laws of physics. Although there was effectively no slope in the plots, wind was unavoidable. With the slope correction and repeated sub-sampling, our coefficient of variation was extremely small, only 1.75%.

We hypothesize that rolling friction is primarily a characteristic of the compressibility of the turf canopy, which reflects the thickness and health of the turf. As an example, we also measured green speed on a RoundUp-killed plot. The ball roll was the fastest of any of our records, 11 feet 6 inches. Most Florida greens committees do not want brown

greens, even though the close mowing practices to achieve speed often accomplish brown greens.

Only a few practices seem to increase green speeds without seriously compromising turf quality. They are: (1) rolling; (2) double-cutting; and (3) light, frequent topdressing. In the personal experience of one of us (S. E. Boyer), "slimming," the application of a viscous wetting agent, may help increase surface slickness and improve moisture uptake under the relatively dry conditions that seem to favor speed.

While the search for a "fast" greens variety may go nowhere, there is certainly value in using varieties such as Tifdwarf, Quality Dwarf, and TifEagle that can more-or-less withstand the 1/8 to 5/32 mowing heights of our study. Greens committees should also take a look at the Roundup "green" and realize that if you want real speed, you need something other than grass.



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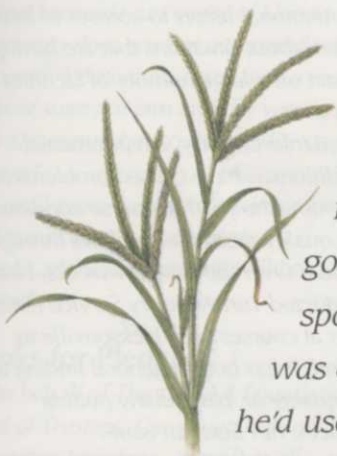
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A problem as common as goosegrass shouldn't promote a panic. But it did.



Here in Florida, a goosegrass escape isn't exactly front page news. But when a super who I've dealt with for years called me in something close to panic because his goosegrass treatment was leaving ugly brown spots, it got my attention. Seems the problem was caused by an old fashioned herbicide that he'd used for years. I suggested he change to an Illoxan® Herbicide postemergent program to control goosegrass right through the year. He liked the idea, incorporating it into his IPM program. Even sent me a goose call in the mail, just in case the problem should ever reoccur. Fortunately, it hasn't.



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*Brian MacCurrach,
AgrEvo Sales Representative*

**Supers Can't Create Sunlight,
Say UF Turf Pathologist,
USGA Agronomist**

Editor's Note: As spring unfolds and some of our turf remains thin and less than ideal, we should not forget the lessons two of our leading turf authorities, Dr. Monica Elliott, turf pathologist from the University of Florida and John Foy, director USGA Green Section Florida Region, tried to teach us during the disastrous winter weather patterns.

While some club officials have reportedly derided these facts of nature as excuses, intelligent golfers understand that this has been an abnormal winter and they appreciate the extraordinary efforts of superintendents to provide good playing conditions. You can lead a person to the facts, but you can't make them think! Here is a summary of the facts for those who care to think!

TO: Florida Golf Course Superintendents

FROM: Monica L. Elliott, Turfgrass Pathologist

I have just spent three days examining courses in Broward, Palm Beach, Lee and Collier counties, and I feel like I have spoken with a superintendent in every county. This letter has...purposes. First, to inform superintendents that your situation is probably not much different from your neighbor's. Second, to inform the golfing public why this weather pattern is not conducive for growing grass.

Plant Physiology

...Photosynthesis is the process by which plants use energy from sunlight to breakdown water and carbon dioxide to produce the carbohydrates (starch and sugars) needed for a plant to grow.

...Bermudagrass requires significantly more sunlight than bentgrass to fix CO². That is why bermudagrass is not looking very healthy in our current weather patterns. It needs full sunlight, especially in the winter when sunlight is reduced due to short days and long shadows.

...The rainfall in December was above normal. It actually flooded some areas. After only a week into 1998, the rainfall

Letters..

...to the Editor

is already above normal for January! This situation has been aggravated by cool temperatures and overcast days. Nothing can be done about the weather.

Algae Slime Mats

...The primary problem observed on bermudagrass greens that have thinned is the development of algae... Algae have all the same growth requirements that bermudagrass does, but algae love water and, even more important, fix CO² like a bentgrass plant. So, it would be expected for algae to become a problem under current circumstances.

Nutrition

...Since many of the putting greens are water saturated or close to it, the amount of oxygen present in the root zone is probably quite limited. It also means those pesky root pathogens may be active. This means the root system is not functioning adequately. One of the purposes of roots is to absorb nutrients in the soil. Without nutrients, the plant will not be as healthy.

Cutting Height

...I know golfers hate to hear this solution, but it really does work! By increasing the height of cut, the plant has more green leaves which means there are more leaves for photosynthesizing (See Plant Physiology 101 above) which means the plant can produce more carbohydrates which means the plant will be healthier and grow better. There are ways to increase the cutting height and maintain decent speed (note I didn't say tournament speed): frequent light topdressings, or rolling 3 or 4 times a week are examples.

**And from the USGA Green Section,
Florida Region Director, John Foy**

RE: 1997/1998 Florida Winter Golf Season

From time to time, USGA Green Section offices have sent out informational letters to courses to inform golfers about situations that are having an impact on a large number of facilities in their area.

...Unfortunately, environmental conditions... have caused problems in providing the level of course conditioning and quality desired at facilities throughout Florida. Over the past few weeks, I have conducted Turf Advisory Service (TAS) visits at courses from Jacksonville to Miami. It has been a general finding that the quality of, particularly putting surfaces, has been an issue.

Certainly by this point everyone has heard about the El Nino situation in the Pacific Ocean that is having an impact on weather across the country... an abnormal weather pattern has been prevailing. Along with the early onset of cool temperatures, frequent rainfall and numerous heavily overcast days has had a significant impact on turf health and the level of course conditioning and quality. This is true for both overseeded and non-overseeded bermudagrass putting surfaces.

In the South Florida area where winter overseeding operations are not as common a practice, again, the cool, wet and overcast weather has had a big impact on the base bermuda turf cover. Especially at courses where extremely low heights of cut are dictated to maintain fast putting speeds, a progressive thinning of turf density was often experienced and this was followed by a rapid invasion of surface algae.

Then, regardless of efforts, problems were encountered with producing a recovery response. It has also been a common finding on TAS visits that the impacts of the weather have been further accentuated in locations where other turf growth-limiting factors such as shade, concentrated traffic patterns and/or restricted drainage exist."

All too often when the subject of weather is brought up, some golfers are of the opinion that excuses are being made. However, as with every other agricultural endeavor, environmental conditions play a major controlling role in turf growth and

in turn the type of course conditioning that can be provided. On a positive note, the base bermuda turf cover of Florida golf courses does possess a tremendous recuperative potential. Thus, with a few weeks of sunny, warm and dry weather, a good turn-around in course quality can be achieved.

...until more favorable environmental conditions occur, some degree of patience and understanding will be required.

Thanks for Pledge

On behalf of The GCSAA Foundation Board of Trustees, Campaign Cabinet and Committee Members, as well as all superintendents, I thank you. Your recent pledge of \$300 will allow The GCSAA Foundation to support projects in applied research and education programs to help advance the superintendent profession within the ever developing game of golf.

We will report on successes that are a direct result of this campaign through

GCSAA publications. Please know that these are a result of your generosity.

Jamie Ortiz-Patino
Campaign Chairman

The "Investing in the Beauty of Golf" endowment fund campaign is perhaps misnamed. Maybe it would be better to call it "Investing in the Future of Golf."

I see this drive as another way to diversify and maximize our resources for funding turf research in the future.

We will always focus on supporting in-state fundraising. But, we will also be able to submit Florida projects for funding from this \$3.5 million dollar war chest. Donations from the member level will be vital to the success of this venture.

With Toro's generous matching funds challenge, my donation is now worth \$600.

Sign up today!

Joel Jackson, CGCS
GCSAA Class A Retired Member

Must-Read Magazine

This note goes out to Joel Jackson, Mark Jarrell and the others responsible for "The Florida Green." I'd just like to commend you on the general excellence of your magazine. It's certainly a must-read for me, a writer who covers the industry. Great job.

If ever you have any suggestions or input for Golf Course Management magazine please give me a call or drop me an e-mail.

Mike Perrault
Staff Writer

Golf Course Management

On behalf of our Florida Green team, thanks for the kudos. we couldn't do it without the support of the FGCSA members.

Joel D. Jackson, Editor

(NOTE: I have accepted an invitation to serve on GCSAA's Publication committee for 1998.)

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