

wildlife and natural biofilters for many environmental contaminants.

The good news for the water reductions is that bermudagrass is drought tolerant and goes dormant until regular rainfall occurs. The bad news is that lush, green playing conditions cannot be sustained in such conditions. Localized dry spots initially occur, causing a leopard-like pattern of brown and green turf and, eventually the entire area becomes brown.

Water restrictions prioritize water use to primary play areas, with putting greens receiving highest priority. Teeing grounds are next, with fairways (particularly landing areas) ranking third. Roughs and non-play areas (like driving ranges) receive lowest priority among playing surfaces and should receive the least amount of water. As a result, many non-play areas and roughs are in various stages of drought dormancy on many golf courses at this time.

Several guidelines for managing drought-stressed turf were listed in the previous regional update and it is recommended to implement these important strategies. Also, normal cultivation practices like core aeration and verticutting on tees, fairways, and roughs may need to be postponed until normal rainfall occurs and water restrictions are lifted. Having some flexibility in scheduling is important to ensure that these necessary cultural practices are implemented at a later date.

Unlike residential properties that are restricted to set times and days of the week for landscape irrigation, golf courses are required to reduce consumption by 15 percent and 30 percent for Phase 1 and Phase 2 restrictions respectively, based on their water-use permits. While warm-season turfgrasses such as bermudagrass and seashore paspalum have very good drought tolerance, having to manage with 30 percent less water will have an impact, especially on aesthetic characteristics. At courses in Central to South Florida where large-acreage, winter-overseeding programs are



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conducted, avoiding a rapid transition also will be a challenge. Appropriate and good quality overall course conditioning can still be provided when Phase 1 and Phase 2 water restrictions are in effect.

The following is a review of some basic agronomic principals for managing turfgrass during a drought:

**Control Traffic.** Develop a traffic-control program if one is not already in place. Heavy traffic on grass under wilt/drought stress can cause permanent damage. Restrict cart traffic to paths, minimize traffic on roughs to the extent possible, do not allow crossover of the “90 degree rule” and encourage walking. The less traffic, the better. Drought-stressed turf will not tolerate traffic very well.

**Raise Mowing Heights and Mow Less Often.** After all, the grass should be growing more slowly.

**Use Plant Growth Regulators.** Where appropriate, apply or continue using growth-regulating chemicals. These products can reduce water use rates by as much as 30 percent. PGR use can improve root development and conserve soil moisture through top growth reduction.

**Pest Management.** On a positive note, insect (mole crickets) and disease activity is greatly reduced during drought conditions. However, infestations of plant parasitic nematodes can further compound drought-stress problems and the need to conduct nematicide treatments. Herbicide treatments should be performed with extra care anywhere the turf is drought stressed.

**Fertility.** Defer fertilizer applications, especially granular, readily-available nitrogen materials until the weather moderates. Guard against stimulating too much growth. Sprayable forms of fertilizers can be beneficial when applied in a timely fashion. Maintaining adequate potassium is helpful for increasing the turf’s stress tolerance.

**Irrigation Water Quality.** Regardless of the source, check the irrigation water for sodium/salt buildup. In several locations, salt intrusion is a growing

**PLANTS OF THE YEAR**

Launched in 1998, the Florida Plants of the Year program links growers with garden enthusiasts by designating plants friendly to each of Florida’s three geographic regions as Florida Plants of the Year. For 2007, five plants were selected by a jury representing different facets of the state’s diverse nursery and landscape industry. The Florida Nursery, Growers & Landscape Association (FNGLA) is pleased to announce the following plant as one the program’s 2007 inductees:

***Galphimia gracilis***

**Common Name:** Shower of Gold

**Zones:** North as a perennial, Central & South

**Mature Height and Spread:**

Generally 6’ x 4’, but can vary

**Classification:** Shrub

**Landscape Use:** as hedge, mass, accent or foundation plant

**Characteristics:** A drought-tolerant, evergreen shrub with blue-green foliage, *Galphimia gracilis* is loaded year-round with yellow clustering flowers growing



Use as a hedge, mass planting or accent plant. Photo credit: Grandiflora

up to an inch in diameter.

This plant was formerly assigned the genus *Thryalis* and many times is referred to as such.



The plants are long blooming, easy-to-grow, and fast growing, thrive in full sun, and like ample room to grow. Branches are brittle, so use in areas where traffic is minimal. To maintain a great-looking plant, prune 1-2 times annually.

**Possible Insect/Disease Problems:**

In south Florida susceptible to powery mildew

**Propagation:** by cutting or seed

**The Florida Plants of the Year program is administered by FNGLA: 800-375-3642; www.fngla.org**

concern. Evaluate the irrigation system as inefficient operation wastes water. Evaluate irrigated area and determine which portions of the course are most important to play, i.e. up the middle from tee to green.

**Renovation/Reconstruction.**

Rethink renovation or reconstruction projects. In general, do not disturb the turf unless you have the ability to irrigate these areas. Be patient, wait for better weather, and monitor district and local regulations covering renovation and turf establishment.

**Landscaping.** Trees and other plantings also need attention during drought. Some tree species require considerable amounts of water and may slowly go into decline during drought. Assess tree conditions regularly. Periodic deep soaking may be necessary

to save desirable trees.

Remember that all golf courses represent the turfgrass industry and the game of golf. Respect irrigation regulations and requests for voluntary conservation. While individual conditions vary, we are in a serious drought, and unfortunately, no relief is in sight. Good luck and let’s pray for rain.

**EDITOR’S NOTE:** *These guidelines are excerpted from John Foy, USGA Florida Region Director’s USGA April Florida Regional Update mentioned by Lowe. Tropical Storm Barry which grazed Florida June 1-2 seems to have kicked off our traditional summer “wet” season. The moral of the story is that droughts will come again, so learn how to prepare for the next time and don’t forget the lessons of the recent past.*



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*The Audubon Green Golfer Challenge gives everyday golfers the chance to become stewards of the other birdies on a golf course. Photo by Joe Hubbard.*

## TaylorMade-adidas, 30 Golf Courses Commit to Audubon Green Golfer Challenge

By Mary Jack

The first 30 golf courses have announced their commitment to support the “nature of the game” by participating in Audubon International’s “Green Golfer Challenge.” Throughout 2007, Audubon International is inviting golfers and golf courses in the United States, Canada, and around the world to take part in the “Audubon Green Golfer Challenge.” The challenge is simple — have golfers pledge to become an Audubon Green Golfer by taking steps to support environmental stewardship while playing the game.

“We’re excited about the early commitment and look forward to more golf courses — including their owners, managers, staff, and the golfers themselves — getting involved through this simple golfer pledge for the environment,” says Kevin A. Fletcher,

Ph.D., executive director of Audubon International. “At the same time, we’re happy to see organizations such as the Florida State Golf Association, Iowa State Golf Association, Oregon State Golf Association, and sponsors like TaylorMade-addidas stepping up to support this effort as well.”

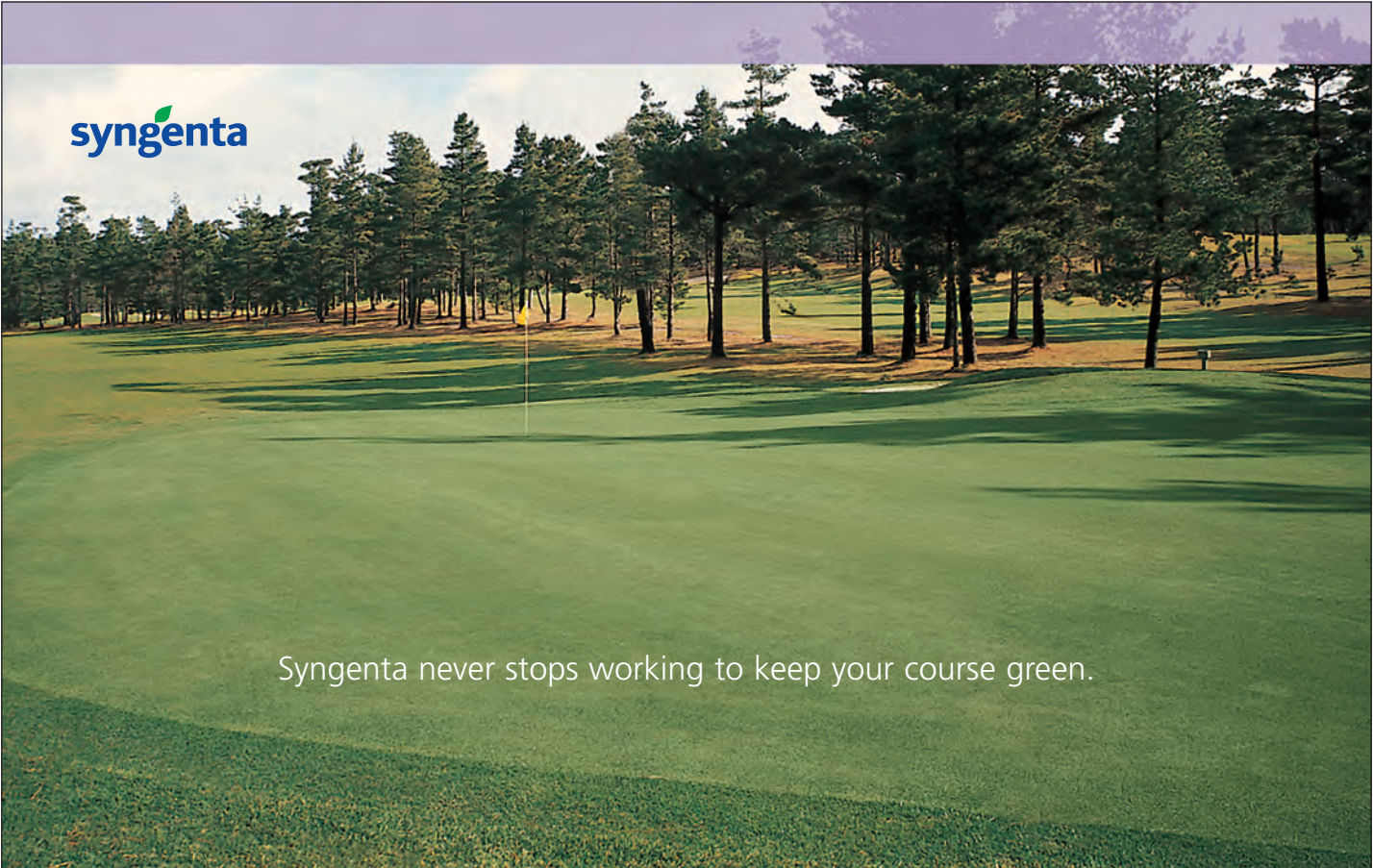
Throughout the year, the pledges from participating golf courses will be collected and counted by Audubon International with ongoing totals posted online. Prizes will be awarded to golf courses with the most golfers signed up by November 15, and winners will be announced at the end of 2007. Finally, golfers who take the pledge will also become eligible for a random drawing of prizes at the end of the year — including golf gear from TaylorMade-addidas among others.

Becoming an “Audubon Green Golfer” and getting golfers involved is

a simple way for golf course owners, managers, superintendents, PGA Professionals, and golfers to help carry on golf’s tradition of preserving the nature of the game. Golf courses interested in participating and organizations interested in supporting the Audubon Green Golfer Challenge should visit [www.GolfandEnvironment.org](http://www.GolfandEnvironment.org).

### ABOUT AUDUBON INTERNATIONAL

Audubon International is a not-for-profit 501(c)(3) environmental education organization dedicated to providing people with the education and assistance they need to practice responsible management of land, water, wildlife, and natural resources. Since 1991, Audubon International has been working with the United States Golf Association, The PGA of America, Club Managers Association of America, and the Golf Course Superintendents Association of America to promote environmental education and stewardship in the game and on the course. Currently, more than 2,100 golf courses across the United States and in two dozen countries are working with Audubon International.



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## STEWARDSHIP

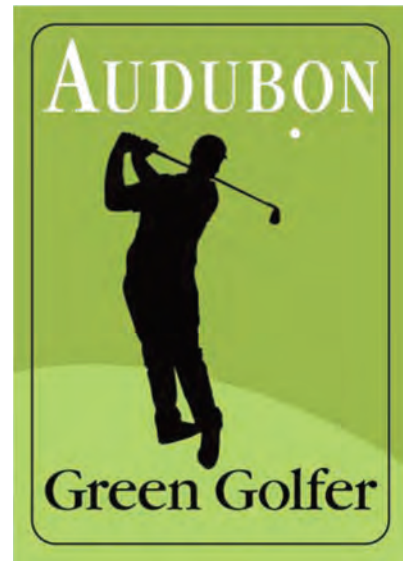
# Audubon International, PGA, USGA Launch 'Green Golfer Challenge' Program

Audubon International, with support from the PGA of America and the USGA, has launched the Audubon Green Golfer program, which asks golfers to take the "Green Golfer Pledge."

"From the early wind-swept fields of Scotland to the modern-day experience, the game of golf is intimately tied to the natural environment," says the preface. "As a golfer, you play a key role in ensuring that golf courses continue to preserve the nature of the game."

Golfers are asked to pledge eight points:

- Be kind to the course: repair ball marks and replace divots to help maintain playability.
- Walk, rather than use a cart, when



possible. Walking promotes physical fitness, healthy turf, and a clean environment.

- Look for consistent, true ball roll on greens, rather than speed. Lower mowing heights required for fast greens are at the root of many turf and environmental problems.

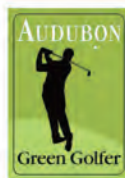
- Keep play on the course and stay out of natural areas. Respect designated environmentally sensitive areas and wildlife habitats within the course.

- Use trash and recycling receptacles and encourage others to do the same. If you see trash, don't pass it up... pick it up!

- Appreciate the nature of the game. Watch for wildlife as you play and support the course's efforts to provide habitat.

- Educate others about the benefits of environmentally responsible golf course management for the future of the game and the environment.

- Encourage the golf course to be an active participant in environmental programs for golf courses, such as those offered by Audubon International.



### Become an Audubon Green Golfer

From the early wind-swept fields of Scotland to the modern-day experience, the game of golf is intimately tied to the natural environment. As a golfer, you play a key role in ensuring that golf courses continue to preserve the nature of the game.

#### Take the Audubon Green Golfer Pledge.

- "I value the nature of the game and accept my responsibility to ensure that golf courses are managed in harmony with the environment. I pledge to:
- Be kind to the course: repair ball marks and replace divots to help maintain playability.
  - Walk, rather than use a cart, when possible. Walking promotes physical fitness, healthy turf, and a clean environment.
  - Look for consistent, true ball roll on greens, rather than speed. Lower mowing heights required for fast greens are at the root of many turf and environmental problems.
  - Keep play on the course and stay out of natural areas. Respect designated environmentally sensitive areas and wildlife habitats within the course.
  - Use trash and recycling receptacles and encourage others to do the same. If you see trash, don't pass it up... pick it up!
  - Appreciate the nature of the game. Watch for wildlife as you play and support the course's efforts to provide habitat.
  - Educate others about the benefits of environmentally responsible golf course management for the future of the game and the environment.
  - Encourage the golf course to be an active participant in environmental programs for golf courses, such as those offered by Audubon International."



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*Eight-point pledge reminds golfers that they "play a key role in ensuring that golf courses continue to preserve the nature of the game" and reminds them that the game "...is intimately tied to the natural environment."*

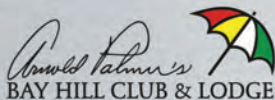
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# Cooperative Research Funding

We have traditional fundraising tournaments and events each year and the stated purpose for the proceeds is most often to help fund turf research. Once the clubs are put away and the fun and excitement of the event are forgotten we sometimes lose track of the results of those efforts. It does matter that you participate in and sponsor these events. Here is an accounting of where your money goes.

The following 2007-2008 Research Proposals have been approved by the FGCSA and FTGA Research Committees from a list of possible projects submitted this year. As in the past several proposals that had wide application were submitted to GCSAA for co-funding and is seeking approval for funding on the following projects. Only one project received co-funding from the GCSAA this year; it will be listed last. Once again we have many groups working together. They are listed below with each project.

### 1. Rapid Turfgrass Disease Diagnosis Assistantship

\$26,711 One Year Study  
 \$26,711 Total Cost

FTGA	\$8,903.67
FGCSA	\$8,903.67
SRGCSA	\$8,903.67 (Seven Rivers GCSA)

### 2. Comparative Maintenance of Paspalum and Bermuda Grasses\*\*

\$13,392 First Year  
 \$13,392 Second Year  
 \$13,392 Third Year  
 \$40,176 Total Cost

FTGA	\$6,696.00	First Year
FGCSA	\$6,696.00	First Year
FTGA	\$6,696.00	Second Year
FGCSA	\$6,696.00	Second Year

*\*\*The Florida State Golf Association (FSGA) and the CMAA will be providing support for the study, in the form of maintenance surveys for clubs that have Paspalum and like clubs with Bermuda. The FSGA will provide support for the study by providing ratings teams to rate the playability of Paspalum as compared to Bermuda grass.*

### 3. Evaluation Of Salt And Plant Growth Regulator Applications For Bermuda Grass Control In Seashore Paspalum

\$5,778.18 First year  
\$5,778.18 Second year  
 \$11,556.36 Total Cost

*Note: The FGCSA decided not to fund this project and the amount is not factored into the overall funding chart.*

### 4. Support For The Installation Of A Linear Gradient Irrigation System To Establish Comparative Water-Use Requirements @ West Florida Research And Education Center

\$12,796.63 One Year Study  
 \$12,796.63 Total Cost

FTGA	\$4,265.54
FGCSA	\$4,265.54
FSGC	\$4,265.54

### 5. Bermudagrass And Goosegrass Control In Seashore Paspalum

\$6,131.86 First year  
\$6,433.78 Second year  
 \$12,565.64 Total Cost

FTGA	\$3,065.93	First Year
FGCSA	\$3,065.93	First Year
FTGA	\$3,065.93	Second Year
FGCSA	\$3,065.93	Second Year

### 6. Breeding Bahiagrass For Reduced Flowering Period And Dwarfness

\$7,281.86 First Year  
 \$6,433.78 Second Year  
\$6,735.72 Third Year  
 \$20,451.36 Total Cost

FTGA	\$3,640.93	First Year
FGCSA	\$3,640.93	First Year
FTGA	\$3,216.89	Second Year
FGCSA	\$3,216.89	Second Year
FTGA	\$3,367.86	Third Year
FGCSA	\$3,367.86	Third Year

### 7. Breeding Bermudagrass For Improved Response To Sting Nematode

\$ 32,035.04 First Year  
 \$ 32,760.55 Second Year  
\$ 33,507.82 Third Year  
 \$ 98,303.41 Total Cost

FTGA	\$16,017.52	First Year
FGCSA	\$16,017.52	First Year
FTGA	\$16,380.28	Second Year
FGCSA	\$16,380.28	Second Year
FTGA	\$16,753.91	Third Year
FGCSA	\$16,753.91	Third Year



**8. Biological Control Of Sting Nematodes On Golf Course Turf With Pasteuris Usgae**

\$19,333.33 First Year  
 \$19,333.33 Second Year  
 \$19,333.33 Third Year  
 \$ 58,000.00 Total Cost

GCSAA \$9,666.67  
 FTGA \$4,834.00  
 FGCSA \$4,834.00  
 GCSAA \$9,666.67  
 FTGA \$4,834.00  
 FGCSA \$4,834.00  
 GCSAA \$9,666.67  
 FTGA \$4,834.00  
 FGCSA \$4,834.00

First year  
 First year  
 First year  
 Second Year  
 Second Year  
 Second Year  
 Third Year  
 Third Year  
 Third Year

**Total Costs:**

**Year One:**  
 FTGA \$53,201.77  
 FGCCSA \$53,201.77  
 GCSAA \$9,666.67  
 SRGCSA \$8,903.67  
 FSGC \$4,265.54

**Year Two**  
 FTGA \$39,971.28  
 FGCSA \$39,971.28  
 GCSAA \$9,666.67

**Year Three**  
 FTGA \$24,955.77  
 FGCSA \$24,955.77  
 GCSAA \$9,666.67

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# Photos to the Editor

## *Honey Combs to Mud Flats*

*The latest buzz: You can now add beekeeper to the list of many jobs held by assistants and superintendents. A swarm of honey bees built a hive in a valve box near the parking lot on the Duran G. C. in Viera. Jeff Von Eschen, assistant superintendent lifts the lid to show the activity. In the last issue we talked about creating habitat for native pollinators. Guys, this is above and beyond. Photo by Eric Reiter, GCS.*



*Shane Bass, CGCS at the St. James Bay G.C. in Carrabelle in North Florida sent this photo of a helicopter using one of his water hazards to fill up and fight a nearby brushfire this spring. Golf courses also played roles in helping control fires back in 1998. Photo by Shane Bass.*

