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By Tim Murphy, Daniel L. Colvin, Ray Dickens, John W. Everest, David Hall and Lambert B McCarty

Weeds of Southern Turfgrasses is an easy-to-use practical weed identification guide that contains 437 color photographs of 193 weed species that are found in southern turfgrasses. The book was developed specifically for turfgrass managers; however, it will be useful to anyone interested in identifying weeds of southern turfgrasses. Taxonomic descriptions accompany each species and emphasize important identification characters.

Through the guide is most applicable to the South, many of the weeds species shown are found across the United States. Consequently, the geographical range of each weed species is listed for the United States as well as the world.

Weeds of Southern Turfgrasses will be a valuable identification guide for golf course superintendents, lawn care companies, roadside managers, sod growers, recreational facility managers, chemical company representatives, extension agents, vocational agriculture teachers, turfgrass students and anyone interested in weed identification.

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Finding the proper soil pH

From the Superintendent’s Journal

Are you getting the biggest bang for your fertilizer buck?

When you spend money for product and labor to apply fertilizer to your golf course you and your superiors want to see “green” results. You also want a healthy dense stand of turf with good roots to withstand grooming pressure, drought, and pest attacks.

Fertilizing a golf course takes a lot of planning and a little bit of luck to avoid interfering with play and fooling Mother Nature. Not everyone has the luxury of closing Mondays like some of the private clubs to take care of such critical tasks. Because it can be such an onerous job under heavy play pressure or changing weather conditions, you want to get the maximum benefit for your effort.

One of the most basic factors for good fertilizer interaction with your turf is the proper soil pH. The graph (shown on the right) shows how the availability of nutrients is affected by different pH levels. The ideal level for bermudagrass is centered around 6.5. A low pH can be raised one unit at a time by applying one ton of lime per acre. Conversely, a high pH can be lowered by applying one ton of sulfur per acre. Because sulfur has the potential to burn the turfgrass, it may be wise to limit application to the cooler months of spring and fall. Depending on the product used, split applications at half rates may be advisable. Lime is relatively safe, but is often a dusty nuisance during application.

Case in point: The soil used to build two new courses at Disney’s Bonnet Creek Golf Club, Eagle Pines and Osprey Ridge, had a background pH of 4.5 - 5.0. Prior to planting the course the pH was not properly adjusted. We have been persistently applying Granulime to correct the situation. Unfortunately, pH adjustments are sometimes painfully slow. This low pH condition resulted in a longer than normal grow-in period, and poorly rooted turf in many areas that were severely damaged by a recent hollow tine aerification. We’re closed for a few weeks for some post-construction renovation, and we’ll be applying more lime to raise the pH up to an acceptable level.

One of our sister courses at the Disney Inn, The Palm Course, has rebuilt its greens this summer. Their greens with a proper pH in the soil mix are almost totally covered with two to three weeks growth.

The moral of the story is to make sure that your soil pH is in the proper range so that all the nutrients you apply will be available to your turfgrass plant. Soil sampling can be done by the superintendent or by one of his regular fertilizer vendors. The relatively inexpensive pH test can be a significant tool in helping to maximize your fertilization program. – Joel Jackson
Spray Stoller's N-HIB GA + TRUE-FULLY + UREA NITROGEN in the same application for healthy, long lasting emerald green turf. N-HIB GA stabilizes urea nitrogen so it remains available to turf plants, instead of evaporating as a gas, or leaching. TRUE-FULLY feeds essential chelated iron and manganese. TRUE-FULLY Fe + Mn is the top performer in all soil conditions. It has no to little stain factor. TRUE-FULLY Fe + Mn is fast becoming the turf professional's choice for the 90's.

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Audubon Cooperative Sanctuary Program

Not only has it gained support among golf course superintendents, but the USGA has donated funds

BY KIT BRADSHAW

Ron Dodson — founder, booster, educator and ombudsman for the Audubon Cooperative Sanctuary Program — has a goal for 1992. He wants 1,000 golf courses in the country as participants in this program by the end of the year. So far, 450 courses have signed up for the program.

Dodson told a group of Florida golf course superintendents who met at John's Island West on June 19 that even with the remarkable success of the Audubon Cooperative Sanctuary Program in a little over a year, the Audubon Society is still out on a limb.

"When I left my vice presidential post with the national Audubon Society and went to the New York Audubon Society as president, I wanted to make the Society reach out in a positive way," Dodson said. "This program does this. But because we are the first conservation or environmental group to cooperate with golf courses to enhance the environment, we've taken our shots from these other groups and they are watching this program closely."

The Audubon Cooperative Sanctuary Program for golf courses allows any course the opportunity to enhance its wildlife habitats, practice sound conservation activities, have environmental planning and utilize effective Integrated Plant Management. The unique part of the program is although the goal is universal — the active environmental enhancement of the golf course — the plan for each course is customized.

Ron Andrews, golf course manager of Grand Harbor in Vero Beach, pointed out that "John's Island West was built in a natural setting, and has great potential in this program. But the best part about the cooperative sanctuary program is that even a course with parallel holes can be a little better environmentally with the program."

"And, the golf course superintendent doesn't have to do all the work," Andrews added. "At my course, I intend to enlist the support of the residents who want to maintain the bluebird boxes, for instance, and have them be part of the program."

Not only has the program gained support among golf course superintendents, but the USGA has donated funds toward the program which enabled Dodson to expand the activities and the staff to promote the cooperative sanctuary program.

Dodson says the involvement of the USGA has been significant.

"The program started when an upstate New York golf course called because they had problems with skunks running on the property. We helped them eliminate the skunk dens, so the skunks moved elsewhere. Through word of mouth, other golf courses contacted us for help in making their courses more conducive to increased wildlife activities without damaging the course."

"Then, I happened to talk with the USGA, and not only told them about our small successes to that point, but our vision of what could be accomplished with the cooperation of golf courses. We already had programs for schools, businesses and individuals, and we felt golf courses were an excellent place to continue our conservation effort. The USGA agreed, and in 1991, it make a $30,000 donation on the condition that I devote a significant portion of my time to developing the program. These funds also provided us with the printed materials to distribute."

Dodson's efforts resulted in 280 courses joining the program last year, and with that success came the need for additional staff. The USGA donated $100,000 to the program for 1992, 1993 and 1994, Dodson said, which provides for additional staff and printed materials.

Dodson's involvement hasn't stopped with his nearly continual traveling to educate golf course superintendents about the program. He is moving the program forward in several directions. Among these are:

- The On Course with Nature publication, funded with a USGA grant, which will provide an comprehensive ecosystem map and corresponding information about native plants and their benefits in each ecosystem. It will be available in early 1993.
- A 15-minute video describing the Audubon Cooperative Sanctuary Program for golf courses which will be distributed to every golf course in the country beginning in August.
- A expansion of the program for developers and golf course architects before a golf course is built. The foundation of this expanded program are the Audubon Sustainable Resource Management Principles, which cover a variety of areas of conservation and environmental awareness and make them part of
How to enlist in the Audubon Cooperative Sanctuary Program

Want to be part of the Audubon Cooperative Sanctuary Program? Here's How:
1. Register by sending $100 to the program in care of Audubon Society of N.Y. State, Inc., Hollyhock Hollow Sanctuary, Route 2, Box 121, Selkirk, NY 12158.
2. The ACSP will send you a resource inventory questionnaire, which you will use to provide information on your property. You can augment this inventory with topography maps, photographs, elevation maps, etc.
3. Upon receipt of the resource inventory, the ACSP will review the information, call for clarification, if needed and then provide you with a conservation report that is specific to your golf course. The report will give suggestions and guidelines for environmental enhancement projects that will improve wildlife habitat, conserve water, etc.
4. After receiving the report, you will form a resource committee composed of your staff members, players, citizens in the area, the cooperative extension consultant, etc. This committee will review the recommendations from the ACSP to determine which projects are financially and logistically feasible. When this is determined, you then send the ACSP the list of your committee members and the committee's environmental plan of action.
5. If the committee determines that you want certification, you can obtain it by following the recommendations in seven areas:
   A. Environmental planning
   B. Public involvement
   C. Integrated Plant Management
   D. Wildlife cover enhancement
   E. Wildlife food enhancement
   F. Water conservation
   G. Water enhancement
6. You may work on one or two of the seven areas at one time, and then, as feasible, work for certification in other areas. The implementation of the ACSP suggestions remain with the golf course superintendent and the course officials.
7. For further information, call the Audubon Society of N.Y. State at 518-767-9051.

Florida's 44 members of the Audubon Cooperative Sanctuary Program

Alaqua Country Club  Longwood
Amelia Island Plantation  Amelia Island
Bent Pine Golf Club  Vero Beach
Country Club at Jacaranda West  Venice
Country Club of Florida  Village of Golf
Countryside Executive Golf Course  Clearwater
Deering Bay Yacht & Country Club  Miami
Disney World: Eagle Pines Golf Course  Lake Buena Vista
Lake Buena Vista Club  Magnolia Golf Course
Oak Trails Golf Course  Osprey Ridge Golf Course
Palm Golf Course  Daluola Pines
Don Shula's Hotel & Golf Club  Miami Lakes
El Conquistador  Bradenton
Errol Country Club  Apopka
Fort Myers Country Club  Fort Myers
Fiddleticks Country Club  Marco Island
Golf Club at Marco  Eastpoint
Green Point Golf Resort Community  Greenslefe
Grenlefe Golf & Tennis Resort  Vero Beach
Hawk's Nest Golf Club  Naples
Hole-In-The-Wall Golf Club  Winter Park
Hunter's Creek Golf Course  Jupiter
Island Country Club  Jupiter
John's Island Club  Lauderdale
Jupiter Hills Club  Hobe Sound
Lauderhill Golf Course  Jupiter
Loblolly Pines  Stuart
Loxahatchee Club  Vero Beach
Marriott Orlando World Center  Orlando
Martin County Golf & Country Club  Stuart
Matanzas Woods Golf Club  Palm Coast
Meadows Country Club  Sarasota
Oak Tree Country Club  Fort Lauderdale
Oceanside Country Club  Ormond Beach
Old Marsh Golf Club  Palm Beach Gardens
Orange Tree Golf Club  Orlando
Pelicans Nest  Bonita Springs
Pine Oaks of Ocala  Ocala
Pipers Landing Country Club  Palm City
Quail Ridge Country Club  Boynton Beach
Sawgrass Country Club  Ponte Vedra Beach
Sebastian Municipal Golf Course  Sebastian
TPC at Sawgrass  Tampa
TPC at Sawgrass  Ponte Vedra Beach

the construction of the course and its buildings. Those developers who cooperate in the program and utilize the staff recommendations for the project will earn Audubon Signature Status.

"We still have obstacles to overcome with the program," Dodson told the superintendents. "This ranges from apathy to concern that the Audubon Society will use the information obtained in the course survey to undermine the golf course. There has been the perception that we are sneaks and will use the information to stop permitting. But, as the program grows, and the superintendents become educated about it, I think this program will help change this perception."
Jacklin Seed Co. has donated seed-testing laboratory equipment worth more than $7,000 to Beijing Agricultural University. The equipment, custom manufactured by Hoffman Manufacturing Co. of Albany, Ore., will help the university develop seed testing standards and procedures which will be standardized with the United States.

Brandell Products, manufacturer of 19th Hole brand practice putting cups and other golf-related items, has been sold to an unidentified group of Chicago investors who will continue to operate the Lake Bluff, Ill.-based firm under its current name and format.

Randy Rogers is a new senior market specialist for Lebanon Turf Products. He will specialize in training and service to Lebanon's distributor network. Lisa Dacey and Rick Miller have joined the domestic marketing department at Jacklin Seed Co. in Post Falls, Idaho.

Linda Van Der Zee has been promoted to manager of education and seminars for the Florida Foliage Association. She has been succeeded as advertising specialist by Elaine Hudson.

Arthur Hills of Toledo, Ohio, was elected president of the American Society of Golf Course Architects during the organization's recent 46th annual meeting at the Southampton Inn on Long Island, N.Y.

Hills has designed more than 100 courses and renovated more than 70 others throughout the United States and abroad during the past 25 years. He has more than 20 Florida courses to his credit, including three recently featured on Florida Green covers; Wilderness CC in Naples, Coral Oaks Municipal GC in Cape Coral and Tampa Palms (in this issue).

Other officers elected at the meeting were Gerald Matthews, Lansing, Mich., vice president; Donald Knott, Palo Alto, Calif., secretary, and Jeff Brauer, Arlington, Texas, treasurer. Alice Dye of Delray Beach is the only Florida architect on the ASGCA board of governors.

Two Florida architects were among seven associate members elected to regular membership: Jack Nicklaus of North Palm Beach and Steve Smyers of Tampa. Among the five courses Smyers completed as an ASGCA associate were Crescent Oaks in Tarpon Springs (Mike Swinson, 7 Rivers GCSA) and Highlands Ridge in Sebring (Dan Smokestab, Ridge GCSA). Nicklaus did not submit any Florida courses for evaluation. Other new members elected to regular membership were Fred Bliss, Santa Rosa, Calif.; Bruce Charlton, Palo Alto, Calif.; Ron Kern, Noblesville, Ind.; Jay Moorish, Tulsa, Okla.; and Kyle Phillips, Palo Alto, Calif.

Mariana Nork is the new manager of The Club Foundation, an educational subsidiary of the Club Managers Association of America.

Michele M. Thomas of Shawnee Hills, Ohio, has won the inaugural $1,000 scholarship offered by the Turf and Ornamental Communicators Association "to encourage people of ability to consider green industry journalism as a career." Thomas is a horticulture major at Ohio State University.

Product News: EPA has approved a supplemental label for M-Pede insecticide, allowing use of the fatty acid insecticide on turf for control of soft-bodied pests, including mole crickets and cinch bugs. M-Pede is manufactured by Mycogen Corp., San Diego. EPA has approved ConSyst fungicide, which has both contact and systemic actions, for use on all types of ornamental turf.
Grasses and many ornamentals. Con-Syst is manufactured by Regal Chemical Co., Alpharetta, Ga. International Seeds and Jacklin Seed Co. have released C.E.O., a creeping bentgrass blend of Cobra, Putter and Emerald. It is recommended for overseeding bermudagrass.

Golf Course Builders Assn. of America initiates certification

As many as 40 of the nation’s leading contractors may become the world’s first Certified Golf Course Builders this summer at the Golf Course Builders Association of America’s summer meeting in St. Louis Aug. 12-14.

Before a builder may use the designation “Certified Golf Course Builder,” he first must complete an application packet and then pass an examination of 100 objective questions covering 14 topics related to golf course construction.

The examination will be the final event in the three-day meeting which will feature two days of educational programs and social events in conjunction with the PGA Championship at Bellerive CC.

Examination topics will include history of golf course design and layout, clearing, earthmoving, finish grading, drainage, green construction, trap construction, irrigation, fertilization, seeding, soil structure, regulations, building structures and cart paths, and grow-in.

Before taking the examination, a builder must first 1) establish that he has been in the golf course construction business for at least five years and has completed three golf course projects within the last five years; 2) provide references from individuals in five of the following categories: course owner/developer, golf course architect, engineer, irrigation designer, golf course superintendent, municipality, certified golf course builder; 3) provide references from each of the following: financial institution, credit references, insurance company, bonding company.

To retain certification, a builder will have to attend at least one GCBAA education session per year. “Builders will have to re-certify periodically — at least every five years and maybe as often as every three years,” said Phil Arnold, GCBAA executive vice president. “The board hasn’t set the term yet.”

Education programs at the summer meeting will focus on the Allied Associations of Golf and technological developments in construction and golf course operations. Among the speakers lined up is Jim Snow, director of the USGA Green Section.

“The point of the certification program is to identify competent, trustworthy golf course builders. The examination shouldn’t be considered like a bar exam. A competent, experienced golf course builder should have no trouble passing it,” said Arnold.

The questions will be drawn from a pool of 300 gathered by a committee whose members sought advice from scientists, engineers, superintendents, developers and architects.

“Some of the best questions came from our own members,” Arnold said.

The certification program comes on
the heels of the successful launch of the charter membership program designed for companies that wish to support the GCBAA programs.

Less than a month after the directors approved the new membership category, five companies had paid the one-time charter fee (minimum $5,000): Perry O. Dye Designs International, Inc., Perry Dye; Dye Construction of California, Neil Iverson; Wadsworth Golf Construction Co., Paul Eldredge; Jacklin Seed Co., Doyle W. Jacklin; and Irrigation Supply Co., James J. Kirchdorfer.

Arnold announced that the GCBAA has agreed to continue the tradition of conducting its summer meeting in conjunction with the PGA Championship for at least the next three years.

The Golf Course Builders Association of America was founded in 1970 to provide comprehensive programs and services to all segments of the golf course construction industry in the rapidly changing regulations and technology of golf course construction.

**Education courses offered through UF Extension Service in Sanford**

The University of Florida Cooperative Extension Service educational programs for 1992-93 are designed to disseminate the most recent and relevant educational information to the commercial turf industry. Courses are co-sponsored by the University of Florida Cooperative Extension Service, Central Florida Research and Education Center, Sanford. For information about any course listed below, contact Uday K. Yadav, extension director and commercial horticulturist at 407-323-2500, Ext. 5559.

**Educational Programs**

- **Sept. 11 - 12, 1992 - National Horticulture Short Course**, sponsored by the Florida Nurserymen & Growers Association in cooperation with the University of Florida Cooperative Extension Service at the Orange County Civic Center, Orlando. For information contact Linda Adams at FNGA, 407/345-8137.
- **April 23, 1992 - Insects That Feed on Trees & Shrubs**, sponsored by the U. of Florida Cooperative Extension Service, Seminole Community College, Sanford.

**Trends in Resort and Daily Fee Golf, 1992 Edition**, is a statistical review from the National Golf Course Owners Association incorporating 1991 operating and financial data on approximately 100 daily fee, resort, and semi-private golf courses throughout the United States.

The publication shows revenue per round, average income and expenses, golf course maintenance expenses, maintenance costs per hole, average expense variations 1991 v 1992, and food and beverage revenue per round. Data are reported by region and by type of course: resort, daily fee and semi-private.

The report was designed with the assistance of Pannell, Kerr and Forster to complement the NGCOA's *Uniform System of Accounting for Daily Fee and Resort Golf Courses*, which allows for the direct comparison of financial information between operations.

*Trends* is $50 to NGCOA members and $75 to nonmembers; the *Uniform System* is $20 to members and $30 to nonmembers. Contact NGCOA at 800-933-4262.

**Turfgrass Technical Manual** by Jacklin Seed is a step-by-step guide to selecting, planting and maintaining its varieties.

The publication is designed to assist golf course superintendents and turf professionals in identifying the varieties, blends and mixtures, recommended seeding rates, and planting instructions best suited to a variety of golf course applications.

Published in a loose-leaf binder, it also contains troubleshooting information to help diagnose and treat common turfgrass diseases and maintenance problems.

The manual is free from Jacklin; telephone 208-773-7581 or fax 208-773-4846.

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**Turfgrass Quiz**

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