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1999 Florida Plants of the Year - Part 2

Editor's Note: Second in a three-part series showcasing the Florida Nursery Growers' 1999 selections of underutilized but proven Florida plant material.

Common Name: Desert Cassia

Botanical name: *Senna polyphylla*

Hardiness: Zones 9B-11

Mature height x spread: 8' x 6'

Classification: Large shrub or small tree

Landscape Use: Specimen shrub

Characteristics: Golden-yellow flowers

Usually multi-trunked, although It Is possible to hold it to a single stem. The arching branches carry a profusion of tiny leaves which are practically hidden for most of the year by golden-yellow flowers. Full sun and a moderately rich, well-drained soil are the ideal conditions for growth. The long blooming period makes it an ideal choice as a feature plant for a choice spot in full sun in the landscape.

Common Name: Winged Elm

Botanical Name: *Ulmus alata*

Hardiness: Zones 5-9

Mature height x spread: 45' x 40'

Classification: Tree

Landscape Use: Shade or street tree

Characteristics: Deciduous tree with winged twigs

Medium-large size together with a moderate growth rate and attractive habit are bringing this native tree to the attention of urban street tree planners. It tolerates a range of soil environments including some alternation between wet and dry conditions. The dense and rounded appearance of the head in summer gives way to an attractive winter look when the winged branches add to the tree's interest. Forest specimens of up to 70 feet in height have been reported.

Common Name: B. J. Freeman Aglaonema

Botanical Name: *Aglaonema* 'B. J. Freeman'

Hardiness: Zones 10-11

Mature height x spread: 30" x 24" in 10" pot

Classification: Ornamental foliage plant

Interior/landscape use: Specimen plant for large location

Characteristics: Rich, green leaves overlaid with pewter. Good basal branching to give a full, upright plant

Outstanding for interior use under low light conditions. Grown on the dry side, it is long-lived with little change in size, but under greenhouse conditions in a 14" pot it will make a full, dense 40" x 30" specimen.

FTGA Update

Conference and Show to Emphasize Ties with UF/IFAS

The dust has hardly settled on the 1998 event and already plans and excitement are growing for the 1999 conference in Gainesville. The FTGA is modeling the '99 conference and show after other successful statewide turfgrass associations like Pennsylvania, Michigan and Ohio that partner strongly with their state university systems. This year, the FTGA wants everybody to "Experience the Connection" with the University of Florida by holding the 1999 conference and show on the Gainesville campus.

The Aug. 9-13 dates will fall between semesters, so it will be easy to get around town and the campus. Access to and tours of the G.C. Horn turf plots and the Envirotron will offer a unique experience for conference attendees. Laboratory and classroom demonstrations will provide a real hands-on atmosphere for the conference. Costs for attending the conference should be significantly reduced from recent years with lower set-up costs for the vendors and many reasonably priced hotels nearby.

It should be an exciting debut for a new era in Conference and Show strategy. Once again seminar plans are being made to offer a wide range of topics to meet the needs of all members of the turf industry. Look for superintendent panel discussions for practical information on issues you face everyday. Start planning now to attend this inaugural event.

Allied Association Committee

Building on the momentum of a successful 1998 conference and show, the Florida Turfgrass Association has set its sights 1999 on fulfilling its role as the umbrella organization for all facets of the turf industry.

With the formation of the Allied Association Committee at the fall board meeting last October, Chairman Vernie Pickardt of United Horticultural Supply and his committee will be looking for input and common goals of sod producers, lawn care businesses, pest control companies, sports turf managers, parks and recreation managers and vendors. Finding the keys to unlock the potential for an expanded membership base and participation by these allied associations will be a challenging task for this new committee.

Greg Norman Research Event

More than 80 players converged at Greg Norman's Medalist Club in Hobe Sound in August to participate in a turfgrass fund-raising tournament. The event was organized by David Barnes, immediate past president of the FTGA with the blessings of Greg Norman. It was a natural fit since Barnes heads the Greg Norman Turf Company in Avon Park.

Dr. George Snyder and Dr. Brian Skully from the University of Florida were on hand to meet and thank the players for supporting turf research. Norman generously donated the use of the Medalist Golf Club and stopped by after the event to hand out prizes and congratulate the winners. Norman, who was recuperating from shoulder surgery at the time, joked with the players and posed for pictures and signed autographs.

The course was in great shape but played tough as evidenced by Joe Ondo's winning score of 80. Norman ribbed the crowd by saying, "I thought you guys were supposed to be good!" As he received his prize Ondo responded, "Well, we don't play golf for a living!"

Greg Norman presents Joe Ondo with the first place prize at the Greg Norman Turf Research Tournament.

As the event drew to a close, Barnes reported that nearly $8,000 had been raised from the outing. Hopefully, this will become one of several annual events involving golf celebrities in turf research fund raising.

Editor's Note: *Greg Norman returned to tournament golf competition in November, partnering with Steve Elkington at the Franklin Templeton Greg Norman Shootout in Thousand Oaks, Cal. Norman and Elkington won the event. It was Norman's first time to win the event in its 10-year history.*

Florida Golf Alliance

FSU Conducts State Golf Economic Impact Study

FGA President Ron Garl and Treasurer Jack Brennan have been in contact with the Florida Sports Authority and the Florida Chapter of the Golf Course Owners Association to solidify membership and support for the survey.

Working with Larry Pendelton of the Sports Authority, The FGA has been in contact with Dr. Joe Cronin of Florida State University, who has embarked on conducting the golf economic impact study.

FGA board members were given a copy of an outline of the survey format for comment and suggestions. The board has pledged contact and informational support to Dr. Cronin to help facilitate the data-gathering process. At the same time board members are contacting all viable Florida golf associations about joining the Florida Golf Alliance.

Arsenic in Old Space

Addressing the Problem Presents Costly Options

By J. Chris Herin, P.G.
Environmental Consultant, ERM South, Inc., Boynton Beach

Historical use of arsenic-containing pesticides and fertilizers has been blamed for the presence of elevated levels of arsenic in soil and ground water at some golf courses. The presence of elevated arsenic levels can lead to enormous expenditures to address the problem and can impair the ability of a golf course to operate.

The presence of arsenic at some of Florida's golf courses is attracting attention from EPA, the State of Florida and local government. In fact, several of these agencies recently organized a group to evaluate agency policy on this matter. Overlaid onto this is the fact that the State of Florida is taking a much more conservative view of arsenic and is considering making its arsenic cleanup criteria more stringent.

Having worked with several golf course owners who are dealing with recent findings of arsenic in the ground, we have developed a decision-making process to select a strategy for working with the state toward a practical solution.

Let's consider a case study. In this example, routine groundwater monitoring within a maintenance area (required for this golf course) found elevated arsenic levels. The owner was faced with a request from the Florida Department of Environmental Protection to delineate the extent of elevated arsenic levels in soil and ground water by further testing. FDEP's objective for additional testing is to gain enough information to make a decision on how to address the elevated arsenic levels.

In planning the required work, we discussed several options which the owner could choose from. The pros and cons of each are provided below to show the thought process.

Option 1: *Address the arsenic as a localized problem in the maintenance area.*

If an isolated, relatively small affected area is identified, the FDEP will probably require management according to existing generalized state guidance. With this option, our plan for testing would attempt to focus only on delineation of arsenic excesses near the maintenance area. We would avoid looking elsewhere in the golf course.

Pros: The assessment portion of the project cost would be minimized. If we could show a delineated localized problem, then FDEP would likely require some form of active cleanup (e.g.: soil removal or capping and possibly ground water cleanup). With this option, the problem could hopefully be resolved relatively quickly (within a couple of years).

Cons: The cleanup portion of the project cost could be expensive (e.g.: the FDEP indicated a preferred remedy would be excavation and disposal of arsenic contaminated soil, which can cost well over $100/ton). Also, there would still be an unresolved issue of potential arsenic presence at the rest of the golf course (a long history of applying arsenic-containing compounds made this a possibility) which could affect the owner if it needed to pursue refinancing or decided to sell the golf course.

Option 2: *Address the arsenic impacts as a golf-course-wide problem. The testing plan would be designed to investigate the possibility that elevated arsenic levels are present throughout the golf course.*

Pros: This approach would likely delay the expenditure of cleanup costs and may possibly avoid some of the typical cleanup costs. Although no policy has been finalized, some FDEP staff feel it may be impractical to require cleanup of such a large area.

Cons: The assessment cost would be expensive (testing throughout the golf course). There would not be a quick resolution of the matter. FDEP indicated it does not have a policy for dealing with golf courses which have widespread arsenic, and this may delay a final decision on how to address the problem. FDEP indicated to me that progress on the development of a policy is slow and it feels the final policy may come from proposed resolutions that originate from the golf course industry. We do not know the financial impact of dealing with

FDEP indicated it does not have a policy for dealing with golf courses which have widespread arsenic, and this may delay a final decision on how to address the problem.

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FDEP's final policy, although we do know the policy will be more conservative if ground water in the area is used for drinking water.

Option 3: *Position ourselves to perform a risk assessment.*

Whether Option 1 or 2 is selected, it was worthwhile considering a risk assessment. For this effort, our testing would include collection of site-specific information that would enable us to evaluate the potential human health risk due to exposure to the elevated arsenic levels.

Pros: This work would enable us to present a better technical basis for whatever remedy we propose depending on whether or not undue risk is present. A risk assessment would probably be required by FDEP anyway if the desire is to propose a nonstandard remedy to resolving the problem (for example, proposing no cleanup and monitoring only or minimal cleanup) and if the plan is to propose arsenic cleanup criteria that are less stringent than the State's.

Cons: This adds another step and additional front-end cost to the project. The risk assessment may or may not prove successful in minimizing the total costs to resolve this problem. Also, this assessment (which would be in the public record) would present estimated risks to golfers, workers and others in the area.

In this example, the owner decided to evaluate the presence of arsenic throughout the golf course and to pursue a risk assessment. Hopefully, an argument can ultimately be made for a low-cost remedy. This outcome may be strengthened by the fact that the presence of arsenic is probably due to the legal use of pesticides and/or fertilizers. Whereas the FDEP may require cleanup for an isolated problem, some FDEP officials seem reluctant to require cleanup of a golf course-wide problem.

It is possible that more and more owners may be faced with these types of decisions (no one knows how prevalent this problem is throughout Florida). The opportunity is there for owners to have a say in how this matter will be addressed in the future. Since the State of Florida is in the process of policy development, there is an immediate need for the golf course industry to actively work with the State toward a policy that is comfortable for both sides. It is worth expending some effort on this and the State is willing to listen.

Editor's Note: *Chris is working on behalf of several golf course owners to negotiate solutions with FDEP regarding the presence of elevated arsenic levels at golf courses. He is a member of a state task force charged with development of new environmental cleanup guidelines in Florida. As information comes to light which could be of use to the golf course industry, he plans to share this with the FGCSA. If you have any information (experiences at other golf courses, etc.) which could help him reach a practical solution to the arsenic matter, feel free to contact him at (561) 736-4648 or via e-mail at ermsjch@aol.com.*

FQPA Update

Environmentalists Get Off TRAC!

The Environmental Working Group (EWG), the most vocal anti-pesticide activist organization in the FQPA controversy, has resigned from the FQPA Tolerance Reassessment Advisory Committee (TRAC).

In a letter to Vice President Al Gore, EWG complained the Administration has failed to take "any tangible action to actually protect children from pesticides" and sharply criticized recently passed legislation that delays the phase-out of methyl bromide. EWG also claimed the Administration has been unwilling to act to reduce pesticide risks "in deference to economic concerns of agribusiness groups, pesticide companies and food processors."

EWG had threatened to pull out of the process earlier this year when USDA and EPA agreed to extend the TRAC sessions into 1999.

•The FQPA science issues framework was published in the Oct. 29 *Federal Register.* The framework is a schedule for the issuance of a series of nine science policies to implement FQPA provisions. The framework is a direct result of TRAC discussions and comments on each interim science policy document will be invited through separate notices in the *Federal Register.*

•Idaho, Michigan, Pennsylvania, California and others are working on state resolutions supporting the industry position on FQPA that real exposure data should be used by EPA and that the law's deadlines should be extended to allow time to collect the data.

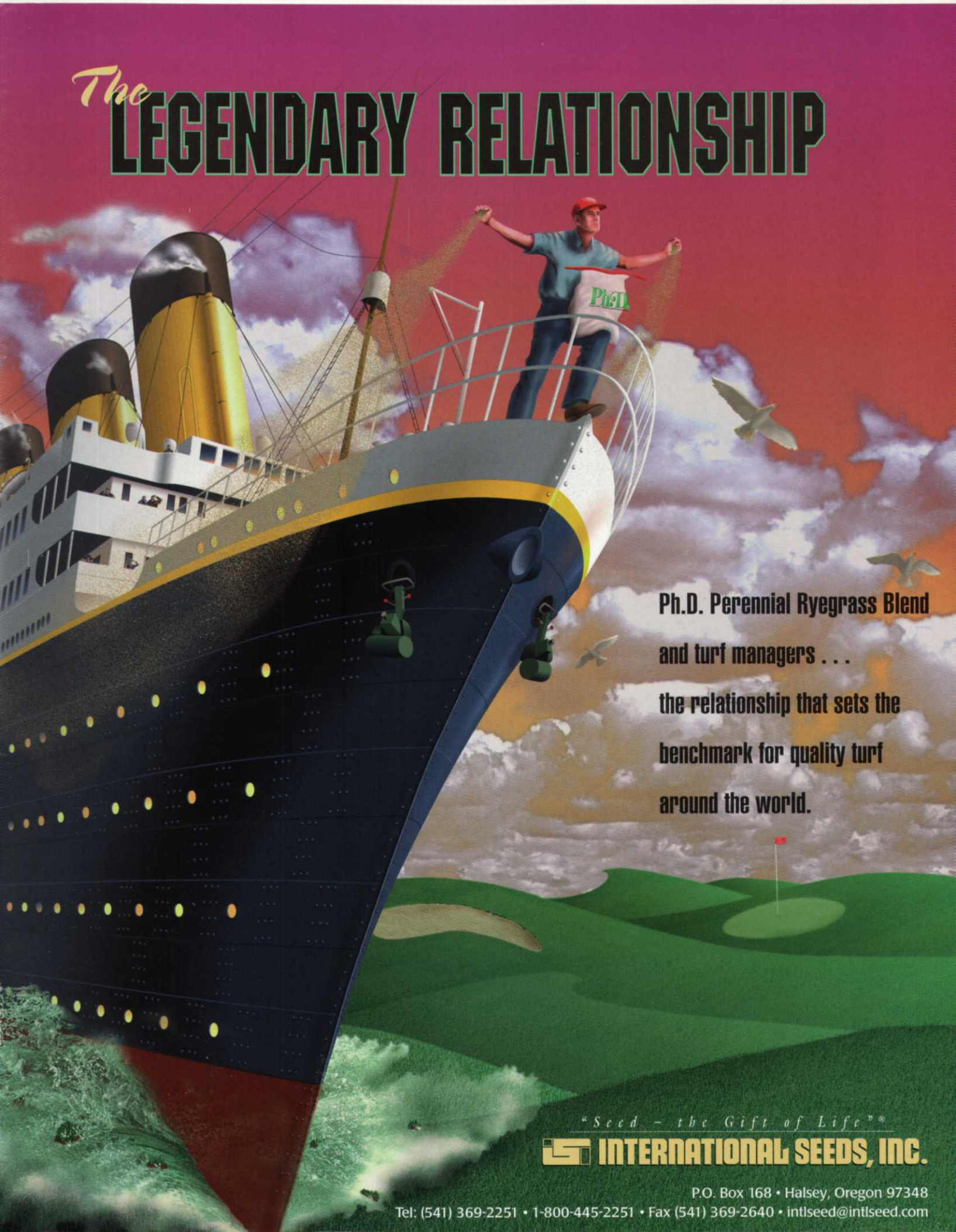
•The Western States FQPA Coalition will ask EPA to remove nonfood and nonfood-type uses from risk cup calculations in an issue paper being prepared by the group, reports the American Crop Protection Association (ACPA). Nonfood uses include sod production, ornamental nursery stock, and crops grown for seed. The position paper maintains nonfood uses do not pose dietary risk and that their removal from the process would allow for more efficient implementation of FQPA.

Reprinted from GCSAA's Government Relations Greens & Grassroots No. 47.

FQPA Letter Offer

The Dialogue Continues

FQPA Implementation won't go away and neither should we! We need to keep emphasizing a scientific and realistic process to Congress. Joel Jackson, FGCSA Director of Communications will prepare a letter to your representative and senators for your signature on your club's letterhead. Just send three sheets of your club's letterhead and a self-addressed stamped envelope to Joel Jackson, FQPA, 6780 Tamarind Circle, Orlando FL, 32819. The letters will be returned to you for your signature and mailing to your legislators to keep the pressure on EPA to use good science and common sense in enacting the law.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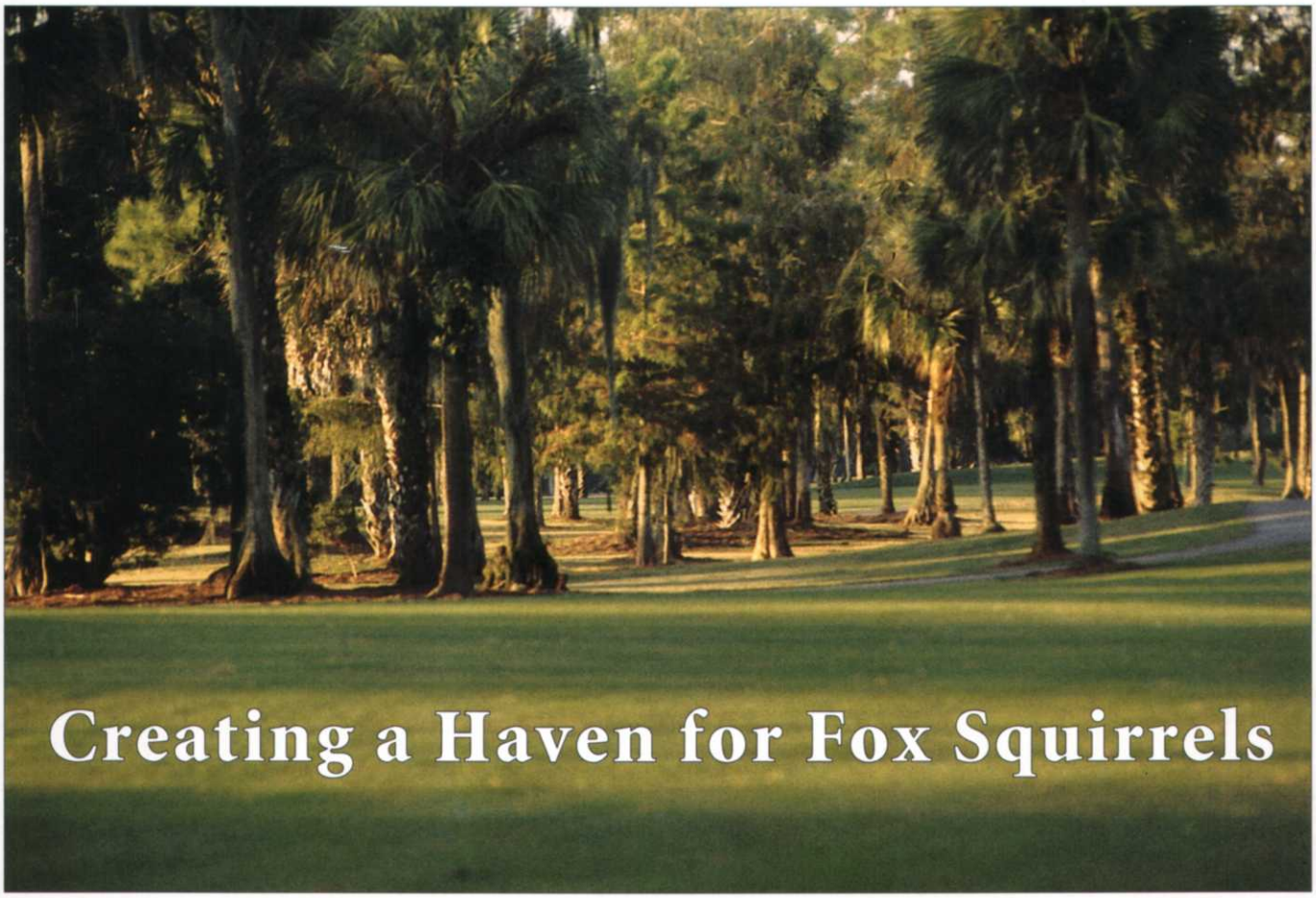

Creating a Haven for Fox Squirrels

A mixed tree stand dominated by native species, with an open understory and full palms, is a rich habitat for feeding and nesting. Photo by Rebecca Ditgen

Only a Few Courses Offer Habitat Suited for Large Populations

BY REBECCA SELFRIDGE DITGEN
University of Florida, Department of Wildlife Ecology and Conservation

From August 1995 to December 1997 I was fortunate to spend my days on 60 golf courses in south west Florida. I was there not to play golf but to search for and study one of my favorite animals, the Big Cypress fox squirrel (*Sciurus niger avicennia*).

The Bureau of Nongame Wildlife, Florida Game and Fresh Water Fish Commission, funded the study to see if golf courses can offer long-term refuge to these native squirrels which do not survive the pressures of dense development.

Squirrels and golfers know that all golf courses are not alike. The 30 months of field work clearly showed that some courses provide much finer habitat for fox squirrels than others.

On the larger scale, it became clear that planning and design strategies are critical to fox squirrels. Squirrel population levels are affected by isolation and clustering of courses, by traffic flow within and around a course, and by the density of development in and around a course.

On a smaller scale, at the level of course management, it is clear that tree species, ground cover, and human interactions can strongly influence squirrel numbers. Only a small number of courses offer habitat suitable for relatively high numbers of squirrels, and even these may not be secure for the long term. Given the variation in landscape quality, I was able to identify management practices which can enhance habitat for fox squirrels if the species is present on a course.

Managing portions of a golf course for fox squirrels requires that you attempt to mimic elements of their native habitat. In southwest Florida fox squirrels live in open pine forests and make use of cypress stands, hammocks and occasionally the mangrove edges along the Gulf. They frequently move

Editor's Note: *The Florida Green has followed and reported on this study in two previous articles since its inception in 1995. We are pleased to present Ms. Ditgen's results and suggestions for ways golf courses can enhance the fox squirrel habitat.*

and feed on the ground and so benefit from an open understory. Managing the roughs and forested stands within a course with these habits in mind enhances opportunities for fox squirrels to feed and nest.

A consideration of tree species, understory management, palm trimming, and human activities will serve as a short introduction to landscape practices that can benefit these colorful squirrels.

Vegetation types

Pines appear to be a key element in fox squirrel habitat. Squirrels harvest the annual crop of cones, feeding on the seeds and depositing the stripped cores at the base of trees. The trees are also used for nesting, escape routes and resting.

Important though pines are, fox squirrels need a variety of tree species to flourish. Native cypress trees can furnish a high quality food source as soon as the trees are old enough to produce their small round cones. The grand old cypress trees gracing the fairways of fortunate clubs provide excellent nesting sites in the large airplants clinging to their main branches and in cavities found high in their broad trunks.

Native oaks produce excellent food, as do figs, maples and a range of native trees and shrubs. Cabbage palms can offer safe nest sites and food. Whether nesting in palms, cavities, stick nests or airplants, fox squirrels use Spanish moss to line their nests whenever it is available. The maintenance or development of mixed wooded areas of native species, complete with airplants and Spanish moss, creates critical habitat for fox squirrels.

A wide variety of non-native species supplement wildlife feeding on some of the older courses in southwest Florida. Few of these tree species are being planted today and so I will not

In southwest Florida fox squirrels live in open pine forests and make use of cypress stands, hammocks and occasionally the mangrove edges along the Gulf. They frequently move and feed on the ground and so benefit from an open understory.

Another study subject enjoys a large fungus dug from the rich litter layer beneath an open pine stand. Photo by Rebecca Ditgen

elaborate on them. I would instead encourage concentration on planting native species, both trees and shrubs, as they often require less care and water and they can provide food and shelter for native wildlife.

Understory

An open understory in tree stands is critical for the success of fox squirrels. Creating and maintaining an open understory is controversial and not part of the landscape plan of every course, but it is an essential landscape element in fox squirrel habitat. It benefits the squirrels even if all the trees are not native species. Native saw palmetto can be present but fox squirrels are not favored in a landscape with a heavy palmetto understory.

The open understory is most helpful to fox squirrels if it is covered with a layer of pine needles. The needle layer provides excellent areas for burying pine cones and acorns for later consumption. The acidic pine litter layer also appears to enhance the growth of mycorrhizal fungi which facilitate nutrient uptake by tree roots. The fungi are vital to pine survival and they provide a much-used food source for fox squirrels. Recent studies have shown that squirrels spread the fungal spores as they defecate, providing further inoculation of pine roots. This is a good story for trees, fungi and squirrels.

Palm trimming

One of the easiest management techniques for fox squirrels, and a host of other native wildlife, is moderation in palm trimming, especially the native palms. Cabbage palms — by no accident the Florida state tree — have the look and grace of wild Florida. The layered leaves and long leaf bases of a cabbage palm provide a wonderfully protective shelter from tropical rains and winds, creating homes for native wildlife.

I was fortunate to witness more than one litter of fox squirrels starting life in the shelter of some rather full cabbage palms. The fullness of the palms was accomplished without distracting from the beauty of well-maintained courses.

The tropical palm trim so common on a number of courses may provide a "clean" look, but it turns our state tree into a useless remnant of a palm as far as wildlife is concerned. There are compromises in palm trimming. The extreme trim may be used on a few palms placed at dramatic points around the course if members prefer that look and the palms in more secluded areas or near pine stands may be left with fuller crowns.

You do not need to stop trimming palms altogether to create usable habitat, but save enough leaves so that a dense upper crown remains and also keep long leaf bases in the crown to create a protected shelter in the top of the tree.

A few non-native palms found on golf courses can provide some of the benefits of the cabbage palms. Though I would not encourage you to plant the non-native palms, if you already have queen palms you know the fruits are highly sought after by fox squirrels.

The queen palm fruits can help the squirrels in the low food season of late winter and early spring. If you want to cut off the fruits so they will not litter the ground around the trees you might try placing them in an out-of-the-way area where squirrels can get to them for feeding.

Human interactions

Because golf courses are essentially human places, people who play there and squirrels who live there will eventually meet. Everyone will benefit and be happier if some thought is given to what people can do for and to squirrels.

Feeding — I have been on several courses where fox squirrels were common yet they were still wary of humans. They did not approach carts and they ran for cover when people or carts approached. That is the healthiest situation for both squirrels and humans. Squirrels should never be fed from golf carts or otherwise handfed by people. They must never associate food and people.

Once fed from carts or otherwise by hand, fox squirrels become pests. They hang around tees and greens waiting for distracted golfers and then make off with the food supply. Cart-fed squirrels have a greatly increased risk of dying in a one-sided cart-squirrel accident or being pounded over the head by a golf club. They become unpopular and members may even lobby for their removal.

It is of course best to have an ongoing understanding and notices for members