

## Central Florida Research and Education Center

## **Cut Foliage Research Note**

CFREC Cut Foliage Research Note RH-99-A

### Foliage Plants For Use as Florists' "Greens"

Robert H. Stamps<sup>1</sup>

Florida is the leading supplier of cut foliage (florists' greens) to U.S. florists and also exports product to Europe and Japan. The 1997 wholesale crop value in Florida was estimated to be \$86 million and accounted for over 81% of all cut cultivated greens production in the United States (29). Improved production practices, marketing techniques and the introduction of "new" cut foliage varieties has in the past and will in the future help Florida cut foliage producers remain competitive. Leatherleaf fern is the main cut foliage crop produced in Florida; however, there are many other crops that are or could be grown commercially in Florida for florists' use. Many of these plants, the so-called "exotic" greens (22) or tropicals, are already being grown as landscape plants in south Florida and throughout the state as potted foliage plants for indoor use. Although a few of these plants are subtropical in origin, most are true tropicals and must be protected during the winter in Florida.

The list that follows includes some foliage plants that are already commercially successful florists' "greens". Some plants listed require further evaluation and may prove to be uneconomical to produce for cut foliage or may have some other undesirable characteristics such as poor shipping ability. Shortcomings of the plants listed are given when known. However, other plants on the list may become profitable and popular cut foliage crops in the future. This list is by no means complete, but is intended to make readers aware of the potential of foliage plants for cut foliage use and to stimulate growers to look for new crops to produce.

Horticultural and common names are those listed in *The New Royal Horticultural Society Dictionary of Gardening* (23). Additional common names listed in the 1998–1999 FNGA Locator (Florida Nurserymen & Growers Association, 1533 Park Center Drive, Orlando, FL 32835-5705), *Hortus Third* (2) and/or used in the cut foliage industry may also be listed.

A **\*\*** or **\*** following a genus name indicates that at least one member of that genus is nonindigenous and included on the 1999 list of Florida's most invasive plants published by the Florida Exotic Pest Plant Council (1). The **\*\*** means that the genus contains Category I plants — "Species that are invading and disrupting native plant communities in Florida". A single **\*** indicates Category II plants — "Species that have shown a potential to disrupt native plant communities". The same symbols used after the botanical name of a plant indicates that it is specifically on the Florida Exotic Pest Plant Council's list. Those plants *should not be grown* unless they can positively be contained (for example, in a greenhouse) and kept from spreading

<sup>&</sup>lt;sup>1</sup> Professor of Environmental Horticulture and Extension Cut Foliage Specialist, University of Florida, Institute of Food and Agricultural Sciences, Central Florida Research and Education Center, 2807 Binion Road, Apopka, FL 32703-8504.

The Institute of Food and Agricultural Sciences is an Equal Employment Opportunity — Affirmative Action Employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, age, handicap or national origin. COOPERATIVE EXTENSION WORK IN AGRICULTURE, HOME ECONOMICS, 4-H YOUTH, SEA GRANT, STATE OF FLORIDA, IFAS, UNIVERSITY OF FLORIDA, U.S. DEPARTMENT OF AGRICULTURE, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING.

by asexual and sexual means. When plants are being regularly harvested they may not be invasive because they are not allowed to get large and may not be able to reproduce sexually. Some, for example *Eucalyptus* and *Hedera*, may not even produce mature foliage when they are regularly harvested. However, once harvesting is discontinued, some plants can become a problem.

On the other hand, a after the name of a genus of plants indicates that one or more species in that genus are endemic (native) to Florida. That same symbol is used after the binomial (scientific) name of a particular plant to indicate that it is native to Florida.

A • indicates that the growth and/or reproduction of the genus or specific plant is such that it *should not be harvested from the wild*. In other words, it is thought that harvesting would harm existing populations and would not be sustainable. If allowed by law, these plants should be brought into cultivation via asexual or sexual propagation methods.

• (maidenhair ferns) - There are about 200 species of maidenhair ferns (16) and most are delicate looking with soft green pinnules (leaflets). Many have attractive purplish-black stipes (petioles, leaf stalks). Maidenhair fern have been used as cut foliage for many years, but have never been widely used due to their short vase life of a few days. However, holding cut fronds of *Adiantum raddianum* (delta maidenhair fern) in solutions containing ethylene inhibitors (silver ions or aminooxyacetic acid) has been shown to increase vase life 3 to 5-fold (10) suggesting that pulsing with silver ions and other ethylene inhibitors might improve the commercial vase life of maidenhair fern. Proper handling and disposal (recovery) procedures for silver containing materials should be followed to prevent this heavy metal from causing environmental damage. Most cultivars come true from spores, including the variegated ones (23).

Aglaonemas are grown for their variegated leaves and colorful petioles. These shade-loving groundcover plants for tropical regions are also durable indoor house plants. Although aglaonemas are relatively pest free, they are reportedly quite susceptible to nematodes (12). There are many species and cultivars of aglaonemas. In fact, thirty-five cultivars are listed in the 1998–1999 *FNGA Locator*. Cut leaves of many aglaonemas will last for 15 days in decorative arrangements. New aglaonema cultivars with new leaf patterns, shapes and colors continue to be introduced and some may prove popular as cut florists' greens. Since some aglaonema leaves sustain chill damage at air temperatures as high as 50 to 55°F [10 to 12.8°C] (14), it is not possible to store or ship those aglaonema leaves in mixed loads with cut foliage crops that are shipped and stored at about 40°F [4.4°C]. However, research has shown that there is a wide range of chilling sensitivity among aglaonema cultivars (13) and some cultivars may be compatible with traditional shipping methods.

Alocasia (elephant's-ear plant) - Alocasias offer many highly ornamental leaf forms that are great for adding a tropical look. However, they are generally cold sensitive, and thus subject to the same restrictions as mentioned for aglaonemas. Alocasias are also seasonal in that little foliage is produced during winter. The plant sap of alocasias is reportedly poisonous (28). The species tested to date have exhibited marginal vase life (1 to 2 weeks) in preliminary studies; however, postharvest dip treatments may increase postharvest longevity.

(ginger lily, shellflower, shell ginger) - Many alpinia have lanceolate green, Ininia red-purple and variegated leaves that are attractive as cut foliages. Alpinia are grown outdoors throughout the state but are killed to the ground during freezes unless they are protected (11). Although they can be grown in full sun, they are more attractive and have better color when grown under 30–50% shade. Tests show that the very attractive green and yellow leaves and stems of the variegated shell ginger (*A. zerumbet* 'Variegata') are fairly durable. This plant also seems to be quite pest free.

Anthurium (flamingo tlower, tallflower, - Alliference and purple waxy flowers. for their showy white, green, pink, red, and purple waxy flowers. Dried anthurium flowers often turn an attractive tannish-brown color and can be used without further treatment in decorative arrangements. In addition to their fame for their flowers, the glossy green or white-veined, velvety leaves of many anthuriums are attractive and long-lived as cut foliages. The slow growth rate of many anthuriums may preclude economic production as cut foliages unless florists were willing to pay for their beauty and durability.

Arachniodes (East Indian holly fern) - Arachniodes aristata 'Variegatum' [formerly Aspidium aristatum, Polystichum aristatum] (variegated East Indian holly fern) has attracted interest because the pinnae have a white band down the center. This plant has been sold as "variegated leatherleaf fern", but is not as durable as true leatherleaf fern (*Rumohra adiantiformis*) in longevity tests. In addition, East Indian holly fern are quite prolific producers of fertile (spore-producing) fronds, a characteristic not popular with florists. Fertile fronds should be harvested as soon as they are hardened off and when the sori (sporangia-containing structures) are as immature as possible to help reduce the release of spores on the customer's tabletop.

**\*\*** (coralberry) - The decorative dark green leaves with undulate margins raisia crenata [formerly A. crenulata] and the persistent bright red fruit of Ardisia crenata [formerly A. crenulata] **\*\*** (coralberry) make it an attractive cut foliage. This small shrub grows well in shade and is especially prized for use during winter holidays when sales of common cut foliages like leatherleaf fern and tree "fern" are slow. Since sales are quite seasonal, pricing should reflect the limited yield per unit area of production.

# Asparagus (baby smilax, bamboo "fern", basket "fern", deflexus, fern asparagus, foxtail, lace "fern", meyers asparagus, meyerii, ming "fern", plumosa, pyramidalis, smilax asparagus, sprenger

asparagus, sprengeri, tiki, tree "fern", string smilax and zigzag asparagus) - The cut foliage industry in Florida started around 1896 with the shipping of delicate looking Asparagus setaceus [formerly *A. plumosus*] (fern asparagus, lace "fern", plumosa) sprays (17). The dwarf cultivar Nanus has been preferred by fern asparagus producers and is still popular today, in spite of the presence of spines. More recently, growers have been growing the cultivar Pyramidalis which has a looser and bluer look. Temperatures should not be allowed to go below about 28°F [-2°C] for more than a short period or damage to these crops will occur (21). Members of the Sprengeri Group of *A. densiflorus* **\*\*** (emerald "fern", sprenger asparagus, sprengeri) have also been grown for years and are still popular despite their spinyness. A. densiflorus 'Myers' (foxtail "fern", meyers asparagus, meyerii) is valued for its linear cone-shaped stems. A. macowanii (zigzag asparagus, ming "fern") is also quite popular because its "poodled" cladophyll (leaflike branches) arrangements add an elegant or oriental flair to arrangements. Because ming "fern" is fairly slow growing, rarely flowers, and is not know to produce viable seed in Florida, it is not

CFREC Cut Foliage Research Note RH-99A Page 3 of 10

likely to become a plant pest. Foxtail and zigzag asparagus command fairly high prices due to their unique shapes and slow growth. A. virgatus (tree "fern") has been widely planted and is used in as a cut foliage because of its symmetrical shape and lacy appearance. Although tree "fern" is not yet on the EPPC's list of invasive plants, it produces seeds readily and has the potential to become an exotic pest plant. A. falcatus (bamboo asparagus, sickle thorn), another species which has spines, has been suggested for use as a cut foliage crop (8). In recent tests, the postharvest longevity of this crop was similar to that of tree "fern". Another asparagus that has recently become popular is basket asparagus. It is similar to sprengeri but is more delicate looking and does not have spines. Plants from seed being sold as A. crispus and also A. scandens 'Deflexus' are being used to produce graceful flowing stems for use in floral arrangements (6). A. asparagoides [formerly A. medeoloides] (baby smilax, smilax asparagus, string smilax) is the most labor intensive ornamental asparagus grown for cut foliage use. Multiple plants are trained to grow up strings and twine together to form garlands. When the plants reach a certain height the strings are cut and the garlands are shipped.

**Spidistra** (castiron plant) - Aspidistra elatior is a slow growing cut foliage plant that requires fairly heavy shade for best production. The unstable cultivar Variegata has particularly attractive white streaked leaves. Variegata is harder to grow than the green form and variegation patterns are highly variable, even on the same plant. Production of this cultivar appears to be reduced under heavy shade while yield of the all-green variety is not (26). To sustain production of variegated leaves, leaves that revert to all-green should be pruned out or the all-green leaves will out compete the variegated ones. Less striking in appearance but more stable variegated cultivars exist. Variegata Ashei has irregular white streaks. Cultivars Milky Way and Starry Night both have small, light-colored dots and dashes on their green leaves. Leaves of these cultivars tend to be narrower than the species and, according to some, produce more leaves. Untreated leaves of the castiron plant exhibit excellent longevity, generally three to five five weeks, as cut greens. Postharvest dips containing oils may cause leaves to looked blotchy and water-soaked.

The beautiful green-, pink-, red- and white-leaved caladiums are aladium popular pot, bedding and perennial landscape plants. Less well known in the United States is the use of fancy caladium leaves as cut foliage, as is done in Europe. More than a hundred varieties of caladiums are produced in Florida (30) and tissuecultured plants can be forced year-round. Shade is required for optimum production of the vivid colors that make caladiums so popular. Research is underway to find postharvest dip treatments that will prolong the vase life of this crop.

(emerald feather, peacock calathea, rattlesnake plant, rose-painted alathea) - The colorful leaves of several species of calathea are grown for cut foliage use. Calathea makoyana (peacock calathea) is one of the most commonly grown species. *C. insignis* (rattlesnake plant), *C. louisae* (emerald feather) and *C. roseopicta* (rose-painted calathea) are also grown commercially for use as cut foliages. Calathea are not so easy to grow as many other cut foliage crops and are quite susceptible to mite, fluoride damage and several leaf diseases. Some growers have successfully used commercially available biological control agents, such as predatory mites, to maintain mite control. As for caladiums, postharvest treatments to reduce water loss are needed to maximize postharvest longevity.

**Chamaedorea** (bamboo paim, cat pain, cinco, cincian, paino, paino, response paim) - Chamaedorea elegans (chico, emerald, parlor palm) is (bamboo palm, cat palm, chico, emerald, parlor palm, reed

widely used by florists and is commonly grown as a potted house and landscape plant in Florida. However, it is hard for Florida to economically compete in the production of this and other *Chamaedorea* foliages despite quality and supply problems of product from Mexico, Guatemala and elsewhere. This is because the leaves are harvested from the wild so there are no production costs. In addition, labor costs in those other countries are much lower than in the United States. The same situation exists for Chamaedorea erumpens (bamboo palm, jade). Parlor palm, C. cataractarum (cat palm) and C. seifrizii (reed palm) have exhibited excellent vase life in preliminary testing (4). Sales of many chamaedorea palm fronds, as well as other large-leaved cut foliage crops, have been declining because of reduced demand for funeral arrangements (22).

(areca palm) - Chrysalidocarpus lutescens (areca palm) *ITUSALIDOCATPUS* (areca paint) - Chryshimocurpus intescens (areca paint) is another palm frequently grown in Florida that may be durable enough to use as a florists' green. Production under shade is recommended because leaves grown in full sun tend to be yellowish green. Areca palm is one of the faster growing palms.

(croton) - Codiaeum variegatum (croton) are some of the more colorful odiaeum foliage plants available and have been shown to have good postharvest longevity (4, 13). Many croton cultivars are available, with those bred for interiorscaping probably best suited for cut foliage use because they hold their color well. Readily available cultivars Norma, Gold Dust, and Petra have exhibited very good vase life (25) and there are undoubtedly other cultivars that will perform equally well. Crotons must be protected from freezing temperatures or damage will occur.

(ti plant, ti) - Some Cordyline terminalis cultivars (ti plant) currently grown for cut foliage production include Baby Doll, Blackie and Kiwi. These and other colorful cultivars are good specialty cut foliage items. Suggested shade level for good coloration is 63-73% [3,000-3,500 foot-candles] (18). Cordylines are very susceptible to fluoride and cold (below about  $32^{\circ}F[0^{\circ}C]$ ) damage (12, 18).

🗱 (umbrella plant, paper plant, papyrus) - Cyperus alternifolius 🗮 nerus (umbrella plant) is the "papyrus" most commonly grown as a cut foliage in Florida. This specialty crop grows well in sun or shade provided water is readily available. However, it is not a very durable cut foliage. Unstable variegated clones are available that are quite attractive. While umbrella plant grows to a height of 4 to 6 feet [1.2 to 1.8 meters] or more, there are shorter species that are used as cut folages. One, *C. haspan*, has a height of around 2 to 3 feet. Another "dwarf" Cyperus, C. prolifer, is not a native species, has spread to many lakes from homeowner plantings, and may become problem in the future (3).

(holly fern) - Cyrtomium falcatum is a true fern with dark green **UTTOMUUM** pinnae on fronds up to 2.5 feet long. The slow growth rate and shorter vase life than leatherleaf fern are a few drawbacks to this attractive, easy to grow plant. Like leatherleaf fern, holly fern is susceptible to fern anthracnose (27) and may be damaged during freezes unless it is protected. Irrigation can be used to cold protect this crop.

Davallia solida is a true fern whose infertile fronds are similar in appearance to leatherleaf fern (Rumohra adiantiformis). It is fairly fast growing during hot weather and does well under about 73–80% shade. However, this tender fern grows poorly during Florida winters and cannot be freeze protected using water as is done with holly and leatherleaf fern. This crop has been produced as a cut crop in Costa Rica and Africa, as well as a potted foliage crop here in Florida.

CFREC Cut Foliage Research Note RH-99A Page 5 of 10

**Dieffenbachia** (dumb cane) - Dieffenbachias, like aglaonemas, are most often considered as pot foliage plants even though the foliage of some cultivars has adequate vase life for use as a cut crop. There are numerous varieties available exhibiting a variety of variegation patterns. The name dumb cane refers to the irritant effect that calcium oxylate crystals and other substances in the leaves have if eaten. The crystals cause irritation and swelling of tissues of the mouth that could be fatal so *this crop must be used* with considerable caution.

Dracaenas are similar in appearance to cordylines and are also valued **TACACHA** for their durable, colorful foliage. Like cordylines, dracaenas are fluoride sensitive. D. deremensis and D. surculosa [formerly D. godseffiana] are two dracaenas commonly grown for cut foliage use. There are several attractive cultivars of both species.

**\*** (pothos) - *Epipremnum aureum* [formerly *Pothos aureus*, then **DIDTEMNUM** Scindapsus aureus] is a very popular potted foliage plant that has yellow-green (golden pothos) or white-green (cultivar Marble Queen) variegated leaves that may grow to 2½ feet [0.8 meter] or longer (2). Both the heart-shaped juvenile and the much larger incised mature leaves of this liane (climbing vine) are used in decorative arrangements. Pothos may be damaged by temperatures below 55°F [13°C] (12).

Fatsia/Fatshedera (Japanese fatsia) - Unlike most of the tropical foliage plants on this list, Japanese fatsia (Fatsia japonica) is subtropical in origin and is frost tolerant and can endure temperatures down to about 23°F [-5°C] (23). The large, glossy, deeply lobed leaves of fatsia are useful as background or filler in large arrangements (15). Fatsias are fairly slow growing, prone to mite damage and reported to have somewhat weak root systems (12). × Fatshedera lizei (fatshedera) is an intergeneric hybrid between Fatsia japonica 'Moseri' and Hedera hibernica. Due to its Hedera parent, fatshedera is more cold tolerant and has smaller leaves than Japanese fatsia.

**\***, **\*\*** (fig) - There are many cultivars of *Ficus elastica* (rubber tree) that have FICUS potential as cut foliage crops. The leathery leaves come in many sizes and colors. Other species of ficus, such as *Ficus lyrata* (fiddle-leaf fig), have leaves with interesting shapes and good postharvest longevity (4). The variegated form of *Ficus altissima* **\*** (council tree) is particularly attractive. Leaves of listed *Ficus* are durable and generally last 2 to 4 weeks. Since there are about 800 species of *Ficus*, there surely are many others with foliage suitable for use in decorative arrangements. However, many of these plants have or could become invasive in warmer parts of Florida and, therefore, must be grown to prevent establishment outside the nursery.

(English ivy, Algerian ivy) - Hedera helix (English ivy) cultivars, especially Hedera (English ivy, Algerian ivy, Heaved ones, have long been popular as cut and potted variegated and fancy-leaved ones, have long been popular as cut and potted foliage crops. There are hundreds of English ivy cultivars to choose from and many are very easy to grow. Cultivars tested to date have held up extremely well, even when held in floral preservatives (25) which is unusual for a foliage crop. Cultivars have variable susceptibility to the two-spotted spider mite and Xanthomonas leaf spot, the primary arthropod pest and disease, respectively, of English ivies (20), so care should be taken in selecting cultivars to grow commercially. Hedera canariensis (Algerian ivy), both green and variegated, is also occasionally used as a cut foliage. Most production for cut foliage use is done in hanging containers.

(prayer plant) - Maranta leuconeura 'Kerchoviana' (prayer plant, green Aaranta maranta) and Maranta leuconeura 'Erythroneura' (red-vein prayer plant,

red maranta) are two very decorative foliage plants. Caterpillars and mites are common pests of marantas. Marantas do best if temperatures are kept below 90°F (32°C] and above 50°F [10°C] (12). The attractive leaves of these relatives of the calatheas are durable enough for cut foliage use but may benefit from treatment with antitranspirants to prevent water loss.

(ceriman, swiss-cheese plant) - Besides having an edible fruit with a **1011** banana/pineapple flavor, the large (up to 3 feet [0.9 meter] wide) leaves of Monstera deliciosa (ceriman, swiss-cheese plant) are used as an exotic florists' green. This vining plant may grow more than 30 feet [9 meters] long. Like pothos, as ceriman grows its vines become woodier and the leaves get bigger and more incised. There are several interesting variegated cultivars.

(nagi) - Nageia nagi (formerly Podocarpus nagi) is a tree with glossy, dark green 2 leathery leaves that hold up very well as florist's greenery. Nagi is often used as a replacement for Danaë racemosa (Italian ruscus). Nagi grows slowly and is susceptible to magnesium deficiency but otherwise is fairly free of pests and disease problems. Nagi can grow in full sun but tolerates heavy shade. Nagi is also fairly cold tolerant, having tolerated temperatures down to 24°F [-4.4°C] with no signs of damage.

**\*\*** Nephrolepis exaltata (sword fern) is the foundation of the indoor foliage plant industry in Florida (24). According to one author (19), sword fern lasts longer as a cut foliage than Oregon/western sword fern (Polystichum *munitum*) or leatherleaf fern (*Rumohra adiantiformis*). Our tests do not confirm that claim and indicate that some *N. exaltata* cultivars do not even have as good a vase life as the species. Sword fern are fast growing and easy to produce.

Philodendrons, some of the best foliage plants, can also be Philodendron used as cut foliages. However, some people are sensitive to the plant and can react adversely after handling the plant, especially if they come in contact with the sap. In addition to the ubiquitous *Philodendron scandens oxycardium* (heart-leaf philodendron), some of the larger-leaved species and hybrids are fairly durable cut foliages. Examples include cultivars Black Cardinal with dark green leaves, Painted Lady with yellow speckled leaves, Red Empress with reddish brown incised leaves, and Xanadu with incised green blades on long petioles. Xanadu leaves last extremely well in arrangements and plants have survived recent winters in the landscape in central Florida without significant damage.

Pittosporum is often thought of as a woody landscape plant in Ittosporum Florida, but is also sold as an indoor foliage plant (18). Pittosporum tobira (Japanese pittosporum) is an established cut foliage crop that accounted for about 5% of the U.S. market in 1983 (22). Green and variegated (cultivar Variegata) pittosporum are both used as cut foliages. The variegated form is more popular and commands a slightly higher price than green pittosporum (5). Production of both Japanese pittosporums is about equal and highest under 47% shade (7); however, vase life may be increased slightly if production occurs under heavier (70%) shade (25). Care should be taken when controlling aphids on this crop so that beneficial parasites and mite predators are not harmed; severe outbreaks of mites may occur if they are. For the same reason, mites should be controlled using miticides and not using broad-spectrum insecticides. When controlling foliar diseases, fungicide(s) should be selected that will control both Cercospora (angular leaf spot) and Alternaria leafspots. The reason for this is that using products that will only control one of the two could lead to more severe infection by the other due to a reduction in competition by other fungi.

Another pittosporum, *P. tenuifolium* (tawhiwhi, kohuhu), especially the variegated forms, have attracted recent attention in Florida. However, these plants do not seem to do well under Florida conditions.

(bigleaf podocarp, kusamaki, podo, Japanese yew, southern yew) odocarpus - Podocarpus macrophyllus, while not as popular as pittosporum, is commonly grown as a cut foliage crop. There is at least one variegated form of southern yew in cultivation in Japan (9) and it might have potential as a new cut foliage. Neophyllaphis podocarpi (podocarpus aphid) is a recurring problem on bigleaf podocarpus. Bigleaf podocarp is subtropical and hardy to USDA zone 7 (11).

(aralia) - Aralias have exhibited acceptable vase life in preliminary *luscias* (aralia) - Aralias nave exhibited acceptable vase file in premium, studies. Aralia species with fastest growth rates are the most promising for use as cut foliage crops. There are numerous species and cultivars of *Polyscias* that are used as foliage plants. These plants have leaves that come in various shapes, colors and variegation patterns.

(leatherleaf, Baker fern) - Rumohra adiantiformis (leatherleaf fern) is Rumohra occasionally sold as a potted foliage plant, but it generally does not do well under interior conditions. It is, however, the predominant cut foliage used by florists and accounts for about 66% of the value of cut foliage shipped from Florida (29). Leatherleaf fern is favored by florists because it is durable, readily available, and relatively inexpensive. However, prices cannot stay as low as they have been in the recent past because production costs have increased dramatically for several reasons. First, fern anthracnose, caused by the fungus Colletotrichum acutatum, is now widespread and has reduced yields and increased fungicide and labor costs markedly. Second, much of the leatherleaf fern now being shipped is being treated with costly postharvest dip materials to ensure long vase life. Third, the cost of most other production inputs continue to rise.

**\*** (snake plant, mother-in-law's tongue) - Several sansevieria are anseviente durable potted foliage plants and many have thick variegated Although slow growing, sansevieria are trouble-free to grow - except when leaves. temperatures approach freezing. Sansevieria trifasciata is the most commonly used species. It has leaves that are long and linear for a great line effect in arrangements. Variegated cultivars add additional interest.

**\*\*** (Australian ivy-palm, false aralia, octopus tree, schefflera, Chettlera umbrella tree, scheffy) - Schefflera actinophylla **\*\*** [formerly Brassaia actinophylla (Australian ivy-palm, octopus-tree, Queensland umbrella tree) is a popular indoor foliage plant that has some potential as a cut foliage crop. However, the palmately compound, glossy leaves may lack the versatility and shipability of some other cut foliage crops. This plant is often grown in full sun in warmer parts of Florida. Schefflera arboricola (dwarf schefflera) and Schefflera heptaphylla [formerly S. octophylla] (chiang mao, fukanoki, ivy-tree) have foliage and vase lives similar to S. actinophylla (4). There are cultivars of S. arboricola with variegation and different leaf shapes. Another Schefflera of interest is S. elegantissima [formerly Dizygotheca elegantissima] (false aralia) that has attractive dark red-brown serrately lobed leaves. False aralias are relatively slow growing and do best when grown in partial shade. This plant is somewhat cold tolerant and reportedly can tolerate temperatures as low as  $40^{\circ}$ F [ $4.4^{\circ}$ C] (12).

**Spathiphyllum** (peace lily) - The peace lily is the number one potted foliage plant produced in Florida. The long, glossy green leaves

Page 8 of 10 CFREC Cut Foliage Research Note RH-99-A

of the many commercially produced spathiphyllum cultivars are somewhat similar in appearance to the leaves of the previously mentioned castiron plant (*Aspidistra*). The leaves are durable, but not so durable as those of aspidistra. Peace lilies can tolerate temperatures down to about 40°F [4°C] (12).

(nephthytis, arrow-head vine) - Syngonium is another popular Sungonium potted foliage crop that is occasionally used for cut foliage. There are many popular cultivars with white-variegated or various color-hued leaves and many of these cultivars are available from tissue culture. The vase life of the species, Syngonium podophyllum, appears similar to that of Cyperus alternifolius (only about 1 week). At least one hybrid (Jenny) has been tested that seems to hold up longer.

#### Literature Cited

- Austin, D. F., K. C. Burks, N. Coile, J. Duquesnel, D. Hall, T. O. Hendrickson, K. Langeland, 1. J. Maguire, M. McMahon, R. Pemberton, D. B. Ward, and R. P. Wunderlin. 1999. List of Florida's Most Invasive Species. Florida Exotic Pest Plant Council.
- Bailey, L. H. and E. Z. Bailey. 1976. Hortus Third. MacMillan Publishing Co., Inc., New 2. York, NY.
- 3. Burks, K. C. 1996. "Dwarf papyrus" — NOT! Aquatics 18(2):14–15.
- Broschat, T. K. and H. Donselman. 1987. Potential of 57 species of tropical ornamental 4. plants for cut foliage use. HortScience 22:911–913.
- 5. Buchanan, H. B., B. R. Sanchez, and A. D. Kunz. 1985. Marketing Florida ornamental crops, fresh flowers and ferns, summary 1983-84 season. Federal-State Market News Service, Winter Park, FL 32790.
- California Cut Flower Council. 1999. Consumer information: Up-and-coming cut ferns 6. (http://www.ccfc.org/contents/ferns.htm).
- 7. Conover, C. A. and R. T. Poole. 1980. Effects of light and fertilizer levels on cut foliage production. Proc. Fla. State Hort. Soc. 93: 210–212.
- Conover, C. A., R. T. Poole, and C. A. Robinson. 1978. Bamboo fern a new cut fern crop? 8. Fla. Orn. Growers Assoc., Inc. Newsletter 1(3):2.
- 9. Creech, J. L. 1986. Cephalotaxus and podocarpus look for bigger roles in western gardens. Amer. Nurseryman 163(2):63–65.
- 10. Fujino, D. W. and M. S. Reid. 1983. Factors affecting the vase life of fronds of maidenhair fern. Scientia Hort. 21:181–188.
- 11. Gilman, E. F. 1996. Betrock's Florida Plant Guide. Betrock Information Systems, Hollywood, FL.
- 12. Griffith, Jr., L. P. 1998. Tropical Foliage Plants: A Grower's Guide. Ball Publishing, Batavia, IL.
- 13. Henley, R. W., R. J. Henny, and J. Chen. 1998. Chilling injury on twenty Aglaonema cultivars. Proc. of So. Nursery Assoc. Research Conf. 43:117–121.
- 14. Henny, R. J., A. R. Chase and L. S. Osborne. 1991. Aglaonema. Univ. of Fla., Inst. of Food and Agr. Sci., Central Fla. Res. and Ed. Cntr. Foliage Plant Res. Note RH-91–2.
- 15. Hunter, N. T. and H. Mitchell. 1994. The Art of Floral Design. Delmar Publishers, Albany, NY.

- 16. Lakela, O. and R. W. Long. 1976. Ferns of Florida An Illustrated Manual and Identification Guide. Banyan Books, Miami, FL.
- 17. Manning, R. D. 1984. From orange to green "gold": the roots of the asparagus fern industry in Florida. The Fla. Historical Quarterly 62(4):464–484.
- 18. McConnell, D. B., R. W. Henley, and R. L. Biamonte. 1981. Commercial foliage plants, p. 544–593. In: J. N. Joiner (ed.). Foliage Plant Production. Prentice-Hall, Englewood Cliffs, NJ.
- 19. Moretz, J. 1985. Know your foliages. Florists' Review 176(4567):24, 26.
- 20. Osborne, L. S. and A. R. Chase. 1985. Susceptibility of cultivars of English ivy to twospotted spider mite and Xanthomonas leaf spot. HortScience 20: 269–271.
- 21. Platt, W. J., Jr. 1952. Asparagus fern culture. Fla. Agr. Ext. Serv. Bul. 153.
- 22. Robertson, J. L., L. Chatfield, and T. Prince. 1983. All about foliage. Flor. Rev. 172(4458): 18–22.
- 23. Royal Horticultural Society. 1992. The New Royal Horticultural Society Dictionary of Gardening. The Stockton Press, New York, N.Y.
- 24. Shofner, J. H. 1982. The transition from farming to agribusiness: economic developments, 1919–1941, p. 217–234. History of Apopka and Northwest Orange County, Florida. Rose Printing Co., Tallahassee, FL.
- 25. Stamps, R. H. 1985. Effects of production shade level, foliage maturity, antitranspirants, floral preservative and cultivar on vase life of woody cut foliage crops. Proc. Fla. State Hort. Soc. 98:99–100.
- 26. Stamps, R. H. 1995. Effects of shade level and fertilizer rate on yield and vase life of *Aspidistra elatior* 'Variegata' leaves. J. Environ. Hort. 13:137–139.
- 27. Strandberg, J. O. 1996. Pathogenicity of the leatherleaf fern anthracnose fungus, *Colletotrichum acutatum*, on other wild and cultivated ferns. Univ. of Fla., Inst. of Food and Agr. Sci., Central Fla. Res. and Ed. Cntr. Res. Rpt. SAN 96-05.
- 28. Sunset Books. 1997. Sunset National Garden Book. Sunset Books, Menlo Park, CA 94025.
- 29. U.S. Dept. of Agriculture. 1998. Floriculture Crops, 1997 summary. U.S. Dept. Agr., Natl. Agric. Stat. Serv., Agr. Stat. Board, Washington, D.C.
- 30. Wilfret, G. J. and G. T. Hurner, Jr. 1982. A survey of caladium cultivars grown in Florida and their characteristics as potted plants. Proc. Fla. State Hort . Soc. 95:190–194.