

# PRODUCTION OF SELECTED ORNAMENTAL SPECIES IN SOUTH FLORIDA

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## INTRODUCTION

According to the U.S. census of agriculture, the 8 southeastern states in the U.S. (Ala., Ark., Fla., Ga., Ky., Miss., Tenn., and Va.) sold nearly \$47 million worth of nursery products in 1969. The value of these sales for the 8 states rose some 458% between 1949 and 1969 (5). These data, as reported, are considerably less than the actual values for the whole ornamentals industry because the census did not cover all the firms engaged in the nursery business, such as turf, foliage, plants and flowers. A more recent report (4) indicates that the value of woody ornamentals sold in Florida during 1974 amounted to about \$38 million. During the same year, the Florida flower industry sold some \$66 million worth of products, the Florida foliage industry some \$65 million, and the turf industry some \$30 million, for a combined total of \$199 million for the total ornamentals industry in Florida in 1974.

The ornamentals industry has been one of the fastest expanding segments of agriculture in Florida. It has enormous potential for future expansion as people from all over the nation rediscover the value of plants in making our environments more livable. The tropical foliage industry of Florida has increased more than 100% in the past 3 years and today accounts for over 50% of the national sales (4).

Because of the importance of ornamental plants in Florida, the University of Florida's Institute of Food and Agricultural Sciences has established on-going research projects in ornamentals at Gainesville, Monticello, Apopka, Bradenton, and Ft. Lauderdale. Because of its location on campus, the Gainesville station has active teaching and research programs in all areas of ornamental horticulture, whereas the branch Research Centers are research-oriented and tend to focus on facets of the industry which are more localized. Thus, the Monticello staff works on hardy woody ornamentals, Apopka on foliage, Bradenton on flowers, and Ft. Lauderdale on turf and semi-tropical woody ornamentals.

Research information generated from the Research Centers is disseminated through publications of the faculty members doing the research, through the extension service in its publications, and from the county extension agents.

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Because of the importance of the tropical foliage industry, and because many people from more northern areas are not as familiar with foliage plants as with temperate zone woody ornamentals, the main emphasis of this report is on the foliage plant industry as it exists in southern Florida.

## SOUTH FLORIDA PLANT PRODUCTION

Between 80 and 90% of the total nursery production in Florida is in containers ranging in size from 2-in plastic pots costing a few pennies to fiberglass or plastic containers 4 to 6 ft across (so called 90 gal size) costing over \$40 each. Field growing operations typically sell a good proportion of their production to landscapers for local consumption as balled and burlapped stock or, after planting the stock in a container, to allow it to adjust to the shock of being dug. After a period of time in a conditioning house, some field production is also sold in the foliage market as containerized material.

A number of landscape plants in south Florida are also used as foliage plants for "interiorscaping" in the north. Table 1 lists 30 of the plants most commonly grown for landscape purposes in south Florida and indicates whether or not the plants are also utilized for foliage purposes indoors.

Most of the larger tropical foliage plants produced in south Florida are monocotyledons and fall into several families: Agavaceae, which includes *Yucca*, *Dracaena*, *Cordyline*, and *Sansevieria*; Araceae, which includes *Dieffenbachia*, *Philodendron*, and *Spathiphyllum*; and Palmae, including *Chrysalidocarpus*, *Howea* (*Kentia*), and *Chamaedorea*. The main dicotyledons include various *Ficus* species, members of the aralia family (*Dizygotheca*, *Brassaia*, *Polyscias*), and several cultivars of crotons (*Codiaeum*). Two members of the gymnosperms grown in the south are *Podocarpus* and *Araucaria*.

**Table 1.** Some of the most commonly grown landscape ornamentals in south Florida.

Scientific Name	Common Name	Also Used for Indoor Foliage Plants
<i>Araucaria excelsa</i> R. Br.	Norfolk Island pine	Yes
<i>Acalypha wilkesiana</i> Muell. Arg.	Copperleaf	No
<i>Asparagus sprengeri</i> Regel.	Sprengeri Asparagus fern	Yes
<i>Bauhinia blakeana</i> Dunn	Hong Kong orchid tree	No
<i>Brassaia actinophylla</i> Endl.	Schefflera	Yes
<i>Bucida bucerus</i> L.	Black olive	Occasionally
<i>Callistemon rigidus</i> R. Br.	Bottle Brush	No
<i>Carissa grandiflora</i> A. DC.	Natal palm	Some cultivars
<i>Caryota mitis</i> Lour.	Clumping fishtail palm	Yes
<i>Chrysalidocarpus lutescens</i> Wendl.	Madagascar palm; Areca palm	Yes

**Table 1. (continued)**

<i>Coccoloba uvifera</i> L.	Sea grape	Occasionally
<i>Codiaeum variegatum</i> Blume	Croton	Yes
<i>Dizygotheca elegantissima</i> Vig. & Guill	False aralia	Yes
<i>Dracaena marginata</i> Lam.	Red edge dracaena	Yes
<i>Ficus benjamina</i> L.	Benjamin fig	Yes
<i>Ficus elastica</i> Roxb.	Rubber tree	Yes
<i>Ficus retusa</i> L.	Cuban laurel, Nitida	Yes
<i>Hibiscus calycinus</i> Willd.	Yellow hibiscus	No
<i>Hibiscus rosa-sinensis</i> L.	Red or Chinese hibiscus	No
<i>Ixora coccinea</i> L.	Red ixora	No
<i>Jasminum volubile</i> Jacq.	Wax jasmine, ( <i>J. simplicifolium</i> )	No
<i>Ligustrum japonicum</i> Thumb.	Waxleaf privet; 'Recurvifolia'	No
<i>Murraya paniculata</i> Jack	Chalcas, Orange jessamine	No
<i>Philodendron selloum</i> C. Koch	Self-heading philodendron	Yes
<i>Phoenix roebelenii</i> O'Brien	Pygmy date palm	Occasionally
<i>Pittosporum tobira</i> Ait.	Japanese pittosporum	Occasionally
<i>Podocarpus macrophylla</i> D. Don.	Podocarpus	Yes
<i>Roystonea regia</i> H.F.K. Cook	Cuban royal palm	No
<i>Swietenia mahagoni</i> (L.) Jacq.	West Indian mahogany	No
<i>Viburnum suspensum</i> Lindl.	Sandankwa viburnum	No

## PROPAGATION METHODS OF SELECTED SPECIES

*Yucca*, *Dracaena*, and *Cordyline* are propagated by rooting leafless cane cuttings or leafy cane tips commonly called "heads." Seeds of these plants are rare and are not normally used for propagation material. Rooting hormones are not generally needed because the canes and heads root easily in 3 to 5 weeks without any such treatment. If canes are used, mist is not necessary; it is not essential with heads, but if not used, considerable leaf fall or desiccation can occur during dry weather. Satisfactory rooting media range from peat moss to sawdust to sand; mixtures of these and other materials are also used. Bacterial cane rots which sometimes develop in *Dracaena* can usually be controlled with foliar sprays and/or drenches of streptomycin.

*Sansevieria* is grown out-of-doors in extreme south Florida. It is propagated by rhizome divisions or through leaf cuttings. *Sansevieria* leaves are severely damaged by temperatures near, but above freezing; however, the rhizomes produce new foliage fairly quickly when warmer weather returns.

*Dieffenbachia* is grown in a few areas in the extreme south part of the state under shade and requires winter protection, as temperatures below 45 to 50° F. (7 to 10°C) will cause severe damage to the foliage. Reproduction is primarily by cane tip cuttings, although air layering may be done on a limited scale.

The selloum type philodendrons are grown from seed or bought as seedlings from liner nursery outlets. Bacterial soft rots which occasionally develop in young plants may usually be controlled with streptomycin sprays.

Spathiphyllum is a very hardy indoor-type plant and will even flower indoors. Acreage devoted to it is limited, although the demand is high. It is reproduced by divisions of the crown, by seed, or by root cuttings. It takes about 2 years to grow a quality plant, hence the turnover rate is considerably slower than for many other foliage plants.

Palms are collectively propagated from seed. Seeds of certain palm species lose their viability within a matter of days after harvest, others in a few weeks to months, while others may not germinate for several years after planting. A portion of the seeds of *Chamaedorea* will germinate in the first 9 months to a year after planting, with another increase in germination noted about a year later, and a small portion a year after that. Bottom heat of 80 to 90° F. (26 to 32°C) can often be used to increase the rate of germination of palm seeds. Depending on species, palm seeds may be imported or grown and harvested locally. Seeds of the *Howea* palm are imported from New Zealand, where they take 7 years to mature on the plant. Planting beds for palms may be outdoors, under shade, in a greenhouse on a raised bench, or seeds may be sown directly into small pots. A highly organic but well-drained medium is usually used. Seedling diseases are not often a problem, although red spider mites are occasionally.

Plants of most *Ficus* species have the potential of growing quite large, very rapidly. Two of the most popular species, *F. benjamina* and *F. retusa*, are propagated by leafy cuttings under mist. The larger-leaved species such as *F. lyrata* and *F. elastica* are more often air-layered, because the large leaf area causes quick desiccation of cuttings, and because once an air layer is removed from the mother plant it can be established and sold within 60 days. *Ficus* plants are well adapted to growth in containers and can tolerate root binding which might severely set back more sensitive plants. *F. retusa* is very susceptible to thrips damage, otherwise most are relatively resistant to disease and pest infestations.

False aralia (*Dizygotheca*) and schefflera (*Brassaia*) are grown primarily from seed, some of which is gathered locally. Seed may be broadcast on raised bench beds in shade covered areas or sown into individual containers. False aralia may also be grown from cuttings, but the leaves undergo a change in morphology as the age of the shoot increases, which results in a coarser looking plant than one produced from a seed. Spider mites can be a critical problem on schefflera at times.

The so-called aralias (actually members of the genus *Polyscias*)

are propagated by cuttings and root readily in 3 to 6 weeks. These plants are also sensitive to cold, being defoliated by temperatures below 45 to 50° F. (7 to 10°C). Near freezing temperatures kill fairly large plants if they continue for more than a few hours.

Crotons (*Codiaeum*) are grown for their spectacularly colored leaves, and there are many cultivars available. Seeds are produced by mature plants but do not come true-to-type, hence tip cuttings are commonly used. These are rooted under mist in from 3 to 5 weeks. A small amount of production is also obtained from air-layering. Diseases are not much of a problem with crotons, but spider mites can be severe.

*Podocarpus* is used in south Florida primarily as a landscape plant. Nevertheless, considerable quantities of seed are gathered and sold locally for seedling production for use in terrariums and dish gardens. Tip cuttings may also be used to produce a more compact, heavy plant in a shorter period than can be obtained from a seed. Some podocarpus plantings are sheared to obtain greens for the floricultural trade. An aphid and an eriophyid mite can be limiting factors in production.

In south Florida, *Araucaria* is grown almost exclusively from seed although numbers of them are grown from terminal cuttings in Europe. The seed set locally does not germinate; thus seed or liners are imported from Hawaii, Puerto Rico, or other warmer areas. Seed must be freshly harvested and sown immediately, as it has a relatively short life of several weeks. Germination occurs rapidly. About 5 to 10% of the seedlings that emerge are albinos and these, of course, die in the seedling stage. Young plants grow fairly slowly, taking about a year to reach an overall height of 15 inches (38 cm) in a 6 inch (15 cm) pot, but thereafter, in a 10 inch (25 cm) diameter pot, they grow to 4 to 6 feet (120 to 181 cm) during the next 12 to 18 months. Plants may be grown in full sun or under light shade; a more compact plant results under full sun, but a richer, darker green plant is obtained under partial shade.

Many other types of foliage plants and landscape plants are, of course, grown in south Florida nurseries, but due to space limitations these cannot be discussed here. The reader is referred to 3 general publications about foliage plants listed at the conclusion of this paper (1, 2, 3). Unfortunately, there is no one textbook or reference which contains all of this information.

#### LITERATURE CITED

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