RECOMMENDED GRADES & STANDARDS FOR FOLIAGE PLANTS



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Preface

For many years, the tropical foliage plant industry has recognized the need for developing specifications and a common vocabulary that can be used in the purchasing and merchandising process. A standardized approach and terminology will result in a better understanding of the marketability and retail value of specific crops.

A joint task force representing the Florida Nurserymen and Growers Association, Inc., and the Floral Marketing Association has compiled recommended grades and standards for tropical foliage plants into a format that is clear, simple, and relatively easy to use. The task force was made up of prominent industry leaders from throughout the United States, encompassing growers, retailers, brokers, and academic horticultural researchers. Due to this diversity, the manual takes into consideration the wide range of growing conditions that exists in different areas of the country.

Although characteristics and dimensions may vary on individual species and cultivars, the result is a format that is specification-driven by commonly recognized and accepted comparative criteria. The focus of this program is based on the characteristics and dimensions of the plant itself, not on the size of the pot it is sold in.

Using this guide establishes a common vocabulary and criteria that is applicable to growers and sellers alike. It is meant to be a starting or reference point in the dialogue between supplier and retailer. By establishing a point of reference on each product, buyers and sellers will be in a much better position to initiate productive communication.

This manual includes photo-charts, product histories, botanical and habit information, a glossary of terms, and product specifications by variety and cultivar.

Regular use, acceptance and adherence to these voluntary guidelines in the buyer/seller relationship will result in better communication and mutual understanding. This manual is meant to facilitate the buyer/seller relationship and does not in any way preclude the negotiated sale or purchase of product that is outside of the criteria noted. Buyers may also find that a supplier will not handle all the grades for a given crop.

This manual was introduced in December 1994 with 15 crops. Grades and standards for additional crops will be sent to registered owners of this manual (at no additional charge) as they are completed. When complete, this manual will include over 25 crops.

Key to Recommended Light Levels

The grades and standards for each crop include recommended light levels. Although these light levels are provided so that floral retailers might help the ultimate consumer make more informed plant selections, buyers might also use the recommendations found in this manual when deciding where and under what lighting conditions to display foliage plants. The following is a key to the light levels found at the top of the specification charts:

LOW LIGHT	
LOW TO MEDIUM LIGHT	
MEDIUM LIGHT	
MEDIUM TO HIGH LIGHT	
HIGH LIGHT	

HISTORY

Most aglaonema species are native to the rain forests of tropical Asia. Commonly called "Chinese evergreen," *Aglaonema modestum*, introduced around 1900, is believed to be the first aglaonema in the United States. Some nurserymen are known to have grown one or more aglaonemas during the 1930s. Prior to the 1960s, most of the cultivated aglaonemas in the United States foliage industry were either species or selected sports from species. Since that time, most of the aglaonemas in the trade have been hybrids developed by plant breeders. Since aglaonemas are one of the few aroids that do not propagate readily through tissue culture procedures, build up of new cultivar stock is done in beds that provide terminal stem cuttings for potted plant production. Most of the new hybrid aglaonemas have been developed by Florida plant breeders.

Because aglaonemas have few pests and tolerate relatively low-light levels and fluctuations in potting medium moisture, it is anticipated that they will remain one of the preferred plants for indoors. Many new cultivars of aglaonema will be released during the 1990s, adding greater diversity in color and plant growth habit to this important group of plants.

DEFINITIONS

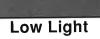
- 1. Potted aglaonemas should have one to several shoots per container. Shoots may consist of the stem of the original cutting or the stem of the original cutting plus side shoots developing from it. The quantity of cuttings used per pot will vary, depending on pot size. Shoots should be distributed uniformly around the pot or centered in small pots.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions include plant height which is measured from the base of the pot to the upper level of the foliage. Plant width is the average of two measurements made at the widest point of the foliage. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

Approximately 50 species of aglaonemas, which belong to the species *Aglaonema* and are a member of the arum (*Araceae*) family, are from tropical Asia. Aglaonemas are low-growing herbs with upright fleshy stems and leathery leaves which are usually lance-shaped or oval-shaped, some with variegated patterns. Stems of some aglaonemas produce shoots underground that emerge and form additional aerial stems. The inflorescence, consisting of a spathe and spadix, are not regarded as showy.

SPECIFICATIONS

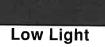
- 1. Aglaonema plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, mealybugs, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Aglaonemas are sensitive to temperatures below 55° F. Most cultivars will tolerate temperatures down to 50° F with the exception of Silver Queen and Lillian, which will be damaged below 55° F. Even short durations below 50° F will produce damage in all cultivars.
- 8. Aglaonemas are superior medium-to-low light interior plants. They are tolerant of low moisture conditions as well.



AGLAONEMA SP.

SMALL TYPES: 'COMMUTATUM,' 'MARIA - EMERALD BEAUTY,' 'MARIA CHRISTINA'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 9-12" Width: 6-8"	1-4	Fullness at base: 40%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 12-16" Width: 14-18"	4-8	Fullness at base; 70-95%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 16-20" Width: 16-20"	6-12	Fullness at base: 70-95%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 18-26" Width: 20-26"	9-15+	Fullness at base: 70-95%



AGLAONEMA SP.

MEDIUM TYPES: 'SILVER QUEEN,' 'LILLIAN,' 'MARIA - EMERALD BEAUTY,' 'RHAPOSDY IN GREEN'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea Height: 9-12" Width: 6-8"		1-4	Fullness at base: 40%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 16-20" Width: 16-20"	4-8	Fullness at base: 60-80%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 18-24" Width: 18-24"	6-12	Fullness at base: 60-80%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 22-28" Width: 24-28"	9-15+	Fullness at base: 60-80%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 26-36" Width: 26-36"	12-15+	Fullness at base: 60-80%



AGLAONEMA SP.

LARGE TYPES: 'B.J. FREEMAN,' 'BLUE RIBBON,' 'QUEEN OF SIAM'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
7 1/2-inch azalea,		Height: 20-28" 3-6 Width: 20-28"		Fullness at base: 30-50%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10- inch standard, 3 gallon	Height: 24-34" Width: 26-36"	5-8	Fullness at base; 30-50%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 30-36" Width: 30-36"	8-14	Fullness at base: 50-70%

Aglaonema

AGLAONEMA



SMALL TYPE

Aglaonema

'Maria - Emerald Beauty'



MEDIUM TYPEAglaonema 'Silver Queen'



LARGE TYPE
Aglaonema 'Queen of Siam'

HISTORY

Large scale production of potted anthuriums with showy inflorescences (flowers) is a relatively new phenomenon. However, cut anthurium inflorescences have been used extensively in floral arrangements for many years. In Hawaii and Europe prior to the 1980s, most anthurium breeding was focused on developing plants with outstanding cut inflorescences and high flower productivity. Plant size and the attractiveness of the foliage was given little consideration by early anthurium breeders. Interest in developing new anthurium cultivars for indoor potted plants has intensified since the 1980s. Some of the present breeding objectives for potted anthurium breeders include: a dark green and dense foliage canopy; attractive inflorescence form and color; early flowering; and production of numerous long-lived inflorescences displayed above the foliage. Because there is a significant number of anthurium species used in breeding programs, the potential for obtaining many new combinations of plant characteristics in commercial cultivars is excellent.

Adoption of the potted anthurium as a crop has been closely linked to advances in tissueculture technology. Anthurium plants grow slowly, with few branching stems for cutting propagation, and therefore would have little commercial potential without the evolution of plant tissue culture. Several laboratories currently propagate hybrid anthurium cultivars and sell small plantlets rooted in cavity trays to plant finishers who grow them in pots until they flower.

DEFINITIONS

- 1. Potted anthurium plants are grown with one to three tissue-cultured plantlets per pot, depending upon cultivar and pot size.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy, not including the height of the flowers. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.

DEFINITIONS (cont.)

- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.
- 5. The term "flower" in the text is technically incorrect. It is the inflorescence, composed of the spathe and the spadix, which collectively are very showy. Since the term flower has been widely adopted in the floral industry, it has been used here in place of inflorescence.

BOTANICAL INFORMATION:

Anthurium is a genus of the family Araceae which includes all the aroids. The technical name for the genus Anthurium is also used as the common name. Anthuriums are indigenous to tropical America. Botanists estimate the number of Anthurium species to be over 700. Some species are herbaceous epiphytes, growing on tree trunks, branches, and other supporting surfaces. Other anthuriums are terrestrial, growing in moist, well-drained, highly organic soils.

Some anthuriums have vine-like stems while others are short, with no visible stem displayed between the leaf bases. The leaves of anthuriums have prominent primary veins, most of which are connected by a vein that is positioned near the leaf margin. A few species of anthurium have a showy inflorescence, with a large colored spathe and spadix. However, the inflorescences of most anthurium species are not showy.

SPECIFICATIONS

- 1. Anthurium plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.

SPECIFICATIONS (cont.)

- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips. Anthuriums are epiphytic plants and often have vigorous aerial root systems. They require low amounts of water.
- 5. Most anthurium varieties will continue to bloom under proper lighting conditions. Plants at sale time from the nursery will have several stages of flower development ranging from tight bud to open bloom.
- 6. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 7. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 8. Anthuriums are new to the industry and are constantly being improved upon for foliage and flower qualities.



ANTHURIUM HYBRIDS

SMALL TO MEDIUM TYPES:

'LADY JANE,' 'PINK PRINCESS,' 'PURA VIDA RED,' 'PINK ARISTOCRAT,' 'PATTY ANN,' 'PINK FROST,' 'LADY ANN,' 'JULIA' AND MORE TO COME

Product Designation	Commonly Available In	Product Dimension	Number of Shoots*	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 10-16" 1-3 Width: 9-12"		Fullness at base: 30- 50%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 14-20" 3-5 Width: 14-18"		Fullness at base: 30-50%
Large	8-inch pot 7 1/2-inch azalea 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 18-26" Width: 18-26"	4-7	Fullness at base: 30-50%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height 24-30" Width: 24-30"	4-7	Fullness at base: 30-50%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 28-34" 9-15 Width: 28-34"		Fullness at base: 30-50%

^{*} The number of shoots is influenced by the cultivar and cultural conditions during production. As the plant matures, the number of stems and leaves increase, providing fullness at base.

ANTHURIUM HYBRIDS

MEDIUM TO LARGE TYPES: 'ROYAL RED,' 'ROYAL ORANGE,' 'ROYAL PINK,' 'MARY JEAN' AND MORE TO COME

Product Designation	Commonly Available In	Product Dimension	Number of Shoots*	Characteristics
Medium	6-inch pot 5 1/2-inch standard, 6-inch bulb pan, 6-inch azalea, 6 1/2-inch azalea, 1 gallon	Height: 14-20" Width: 10-16"	1-3	Fullness at base: 30- 50%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 1 gallon	Height: 18-26" Width: 16-22"	1-5	Fullness at base: 30-50%
Extra-Large	10-inch pot 10-inch azalea 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 24-30" Width: 20-26"	3-5	Fullness at base: 30-50%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 28-34" Width: 26-32"	4-7	Fullness at base: 30-50%

^{*} The number of shoots is influenced by the cultivar and cultural conditions during production. As the plant matures, the number of stems and leaves increase, providing fullness at base.





SMALL TO MEDIUM TYPES



MEDIUM TO LARGE TYPES

ARECA PALM

HISTORY

The areca palm, also called butterfly palm, is native to Madagascar. It is used extensively in landscaping in tropical climates (hardiness zone 10B) and has also been used for many years as an interior plant for bright light locations. The plant does not perform as well under low-light intensity indoors as some *Chamaedorea* species (*C. elegans*, *C.* 'Florida Hybrid' and *C. seifrizii*) and the kentia palm (*Howea fosteriana*). However, it is used because it is relatively easy for nurserymen to grow, and it will withstand dry conditions indoors rather well. The plant begins to exhibit some character as it is finished in 10-inch pots and larger. Planting an excessive number of seeds per pot results in plants with many leaves, but few which develop strong trunks with basal branching and character. The areca palm can be produced under full sun, but it has darker green foliage if it is finished in partial shade.

DEFINITIONS

- 1. Areca palms should have multiple shoots per container which develop from individual seedlings. As plants grow in size, side shoots usually develop from the larger plants in the community pot and some of the smaller plants will die from mutual competition.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions include plant height which is measured from the base of the container to the upper level of the foliage. Plant width is the average of two measurements made at the widest point of the canopy. The second width measurement is made after rotating the container on its base 90 degrees after the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.
- 5. Pinnate leaflet arrangement describes leaflets arranged along a central stem-like axis called the rachis. The number of leaflets per leaf is controlled by the age of the plant and the quality of the plant environment. Generally the number of leaflets increases with each successive leaf as the plant develops in a favorable environment.

ARECA PALM

BOTANICAL INFORMATION

The areca palm (*Chrysalidocarpus lutescens*), a member of the palm family (*Palmae*), was previously listed as *Areca lutescens*, a name which gave rise to the most widely accepted common name. The plant will produce several basal side shoots given time and good growing conditions. The primary limitation of basal shoot development in this species is crowding from adjacent seedlings (too many plants per pot). Areca palm leaves are compound with leaflets arranged in pinnate configuration. Mature areca palms in the landscape may have 80 to 100 leaflets; however, indoors with smaller plants and less light, the number of leaflets per leaf is considerably less. The foliage color is medium green to yellow green, a trait which accounts for another common name - yellow palm, which is occasionally used in the literature.

SPECIFICATIONS

- 1. Palm plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, tip burn, leaf spots, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. As pot and plant sizes increase, areca palms will typically lose shoot count relative to pot diameter, but gain in actual shoot caliper. The effect one should look for in any size pot is a bushy palm. Whether that effect is achieved with 15 thin shoots in a 4-inch pot or 15 thick shoots in an 8-inch pot, the "look" should be a full, bushy palm.

High Light

ARECA PALM

CHRYSALIDOCARPUS LUTESCENS

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea Height: 8-12" 10-15 Canopy: 3-6"		10-15	Fullness at base: 60-75%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 16-24" Canopy: 8-12"	15-25	Fullness at base: 60-75%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 24-32" Canopy: 18-24"	15-30	Fullness at base: 60-75%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 36-48" Canopy: 26-40"	25-50	Fullness at base: 60-75%
Jumbo	14-inch pot 14-inch standard, 7 gallon	Height: 54-72" Canopy: 40-48"	10-15 (Fewer trunks of larger diameter)	Fullness at base: 50-70%

Areca Palm

CHRYSALIDOCARPUS LUTESCENS



HISTORY

The name Boston fern is an over-used name because it initially applied to a single cultivar of sword fern which reportedly was found in a Boston greenhouse in 1894. That particular selection had fronds (leaves) which were approximately three feet long and made a huge plant which had to be elevated with a stand or suspended from above to avoid having the fronds touch the floor level. Today, most of the foliage plant market has shifted to smaller, more compact cultivars of sword ferns which show little resemblance to the true Boston fern. Even though the Boston fern is a very small niche in the sword fern market, the name Boston fern has stuck and is used by many individuals when referring to all cultivars of sword ferns.

Sword fern, *Nephrolepis exaltata*, cultivars were the primary plant of the foliage plant industry from approximately 1913 through 1935, after which additional foliage plants were added to the product mix. During the period when the ferns were dominant, many ferns were produced in lathhouses (structures covered with cypress lath which permitted about 25 percent of the light to pass). Initially plants were shipped as bare-root plants which had been pulled from the rhizomes of established plants growing in ground beds. As the industry matured, the market demanded finished potted plants and then finished hanging baskets.

DEFINITIONS

- 1. Potted ferns or hanging baskets should have foliage covering the upper pot surface as one views the plant from above. The number of identifiable plants per container is not important if sufficient density of fronds is present to constitute a full plant.
- 2. Product dimensions of potted plants refer to plants measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Plant height is measured from the base of the pot to the upper level of the foliage. Plant width is the average of two measurements made at the widest point of the foliage. The second width measurement is made after rotating the container on its base 90 degrees after the first measurement.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

The sword fern, *Nephrolepis exaltata*, and its cultivars belong to the polypody (*Polypodiaceae*) family. Representatives of *Nephrolepis exaltata* have been found and described from many areas of the world, including North America. Fronds are erect but may be pendulous on plants with very long fronds. Fronds are divided into pinnae arranged along the midrib (rachis). In some cultivars the pinnae may be divided up to five times, making the frond broader and the appearance very fine textured. The name of the plant which the species and all its cultivars are collectively called is *Nephrolepis exaltata* 'Bostoniensis,' the Boston sword fern. Over 50 cultivars of *Nephrolepis exaltata* have been described.

SPECIFICATIONS

- 1. Boston fern plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 6. Boston ferns will tolerate a wide range of temperatures from the upper 30° F to the upper 90° F.
- 7. Major pests are few but caterpillars can be a problem. Most Boston fern types can be dusted with standard tomato plant insecticide should the homeowner develop a caterpillar problem.
- 8. Presence of spores is common in some varieties.



NEPHROLEPIS EXALTATA

SMALL TO MEDIUM TYPES: 'DALLAS,' 'BOSTON COMPACTA,' 'FLUFFY RUFFLE'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 6-10" Width: 6-10"	Multiple shoots to fill pot	Fullness at base: 100%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6-inch hanging basket, 5 1/2-inch hanging basket, 6 1/2-inch hanging basket	Height: 12-14" Width: 14-16"	Multiple shoots to fill pot	Fullness at base: 100%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 8-inch hanging basket	Height: 16-20" Width: 18-24"	Multiple shoots to fill pot	Fullness at base; 100%
Extra-Large	10-inch pot 10-inch bulb pan, 10-inch hanging basket	Height: 20-30" Width: 24-30"	Multiple shoots to fill pot	Fullness at base: 100%



NEPHROLEPIS EXALTATA

LARGE TYPES: 'MASII,' 'SWORD,' 'PETTICOAT,' 'FISHTAIL'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 10-14" Width: 10-14"	Multiple shoots to fill pot	Fullness at base: 100%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6-inch hanging basket, 5 1/2-inch hanging basket, 6 1/2-inch hanging basket	Height: 14-20" Width: 16-20"	Multiple shoots to fill pot	Fullness at base: 100%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 8-inch hanging basket	Height: 20-40" Width: 24-34"	Multiple shoots to fill pot	Fullness at base: 100%
Extra-Large	10-inch pot 10-inch bulb pan, 10-inch hanging basket	Height: 30-40" Width: 30-46"	Multiple shoots to fill pot	Fullness at base: 100%

Boston Fern

NEPHROLEPIS EXALTATA



SMALL TO MEDIUM TYPE *Nephrolepis Exaltata* 'Dallas'



LARGE TYPE
Nephrolepis Exaltata 'Massii'



SMALL TO MEDIUM TYPE *Nephrolepis* 'Boston Compacta'



LARGE TYPE *Nephrolepis Exaltata* 'Sword'

HISTORY

Bromeliads have been valued for many years in the tropical and mild subtropical areas of the United States for their color and unique form in the landscape. Bromeliads have also been used to a limited degree as interior plants for many years. During the late 1970s and 1980s, there was increased use of bromeliads indoors for a number of reasons. The improved quality of potting media insured good drainage and aeration which consequently helped consumers avoid over-watering their plants, a major cause of plant failure indoors. Additionally, many improved bromeliad cultivars were selected by nurserymen and plant breeders. Also, there were no high volume producers until the mid-1980s when several large bromeliad nurseries emerged to meet the growing demand for plants. The use of tissue-cultured bromeliads also significantly increased the availability of hybrid plants which would not come true from their own seed. As professional interiorscape designers began to specify the use of bromeliads for color and interest in shopping malls, office buildings, hotels, and other commercial buildings, retail consumer interest in bromeliads increased further.

DEFINITIONS

- 1. Bromeliads are usually grown with a single plant per pot to obtain a radially symmetrical pattern of leaves. Old plants may develop basal side shoots or "pups" which give the appearance of additional plants.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

Six of the most popular genera of bromeliads in the family *Bromeliaceae* appear in this section and their representatives are listed with their common name(s) and botanical name.

FLOWERING BROMELIADS

Those bromeliads which are sold primarily for their colorful inflorescences (flowers) or the brightly colored leaves which develop at the time of flowering.

Common	Name
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Aechmea

Aechmea

Amazon Zebra Plant Friedericke Bromeliad

Silver Vase

Guzmania

Amaranth Guzmania
Carine Guzmania
Cherry Guzmania
Claret Guzmania
Denise Guzmania
Fiesta Guzmania
Grapeade Guzmania
Hilde Guzmania
Irene Guzmania

Ruby Guzmania Symphony Guzmania Vella Guzmania

Luna Guzmania

Vella Red Guzmania

Botanical Name

Aechmea tessmanii Aechmea chantinii Aechmea 'Fredericke' Aechmea fasciata

Guzmania 'Amaranthe'
Guzmania 'Carine'
Guzmania 'Cherry'
Guzmania 'Claret'
Guzmania 'Denise'
Guzmania 'Fiesta'
Guzmania 'Grapeade'
Guzmania 'Hilde'
Guzmania 'Irene'
Guzmania 'Luna'
Guzmania 'Ruby'
Guzmania 'Symphony'

Guzmania 'Symphony' Guzmania 'Vella' Guzmania 'Vella Red'

Common Name

Neoregelia

Blushing Bromeliad Fireball Bromeliad Meyendorffii Bromeliad Meyendorffii Flandria Bromeliad Perfecta Tricolor Bromeliad

Royal Burgundy Bromeliad Tricolor Blushing Bromeliad

Tillandsia

Pink Quill

Vriesea

Blaze Vriesea Favorite Vriesea Odenrode Vriesea Splendide Vriesea

Botanical Name

Tillandsia cyanea

Vriesea 'Blaze' Vriesea 'Favorite' Vriesea 'Odenrode' Vriesea 'Splendide'

NONFLOWERING BROMELIADS

This group includes those bromeliads sold primarily for their colorful or interestingly-patterned foliage. Flowering is secondary to their foliage characteristics.

Common Name

Cryptanthus

Black Mystic Star Dwarf Rose-Stripe Star Marian Oppenheimer Star Ocean Mist Star Pink Starlite Star Starlite Star Ruby Star

Botanical Name

Earth Stars, Stars

Cryptanthus 'Black Mystic'

Cryptanthus bivitatus 'Minor'

Cryptanthus 'Marian Oppenheimer'

Cryptanthus 'Ocean Mist'

Cryptanthus bivitatus 'Pink Starlite'

Cryptanthus bivitatus 'Starlite'

Cryptanthus bivitatus 'Ruby'

SPECIFICATIONS

- 1. Bromeliad plants should have clean foliage and be free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests. As the container size increases, the leaf count may not increase significantly. The leaf blades, however, will become longer and wider.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 6. There is a wide range of bloom types and heights. For example, an Aechmea inflorescence will be well above the foliage and a Neoregelia will bloom down in the vase.
- 7. Blooms are long lasting and colorful. Bromeliads lend themselves to forced bloom in a wide range of container sizes.



FLOWERING BROMELAIDS: AECHMEA, NEOREGELIA, GUZMANIA, TILLANDSIA, VRIESIA AND OTHERS

NONFLOWERING BROMELIADS: CRYPTANTHUS

Product Designation	Commonly Available in	Product Dimension	Height of Bloom Spike*	Number of Plants per Pot	Number of Leaves per Plant
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 7-12" Width: 12-16"	7-14"	1	8-20
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea,	Height: 10-20" Width: 20-26"	10-24"	1	12-36
Large	8-inch pot 7 1/2-inch azalea 8-inch bulb pan, 8-inch azalea, 8-inch standard,	Height: 22-28" Width: 26-32"	22-30"	1	20-40
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 36-48" Width: 36-48"	36-54"	1	20-40

^{*} Not applicable to *Neoregelia* and *Cryptanthus*, which do not have bloom spikes.

Bromeliads



Four Different Stages of Bromeliad Inflorescence Development



STAGE 1



STAGE 2



STAGE 3



STAGE 4

CALATHEA

HISTORY

Several species of potted calatheas have been available in limited quantities from specialty nurseries in Florida during the 1970s and before. Virtually all the plants which were sold during this period were grown from plant material collected from native habitats in the tropical Americas. The practice of collecting native plants during that period was not an environmentally friendly process. Furthermore, during holding and shipping operations, pathogens and physiological stress resulted in postharvest decline of the collected plant parts. These problems resulted in uncertain yields and economic losses for growers, mostly in Florida.

During the 1980s, a few plant tissue culture laboratories began to sell tiny calathea plants in cavity trays to nurseries; many growers then began to produce calatheas on a regular basis. Since most of the finished calathea today are grown from tissue-cultured plantlets, growers have experienced fewer problems with disease and physiological disorders.

During the tissue-culture process, there are occasional variations which occur in some plants, an event which has led to selection of some uniquely different and attractive new cultivars of calathea. Today, several species and cultivars of *Calathea* are commonly available in pot sizes ranging from 4- to 8-inch diameter.

DEFINITIONS

- 1. Potted calatheas should have several plants per pot. The number will vary depending on the size of the container.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

CALATHEA

BOTANICAL INFORMATION

The genus *Calathea* includes approximately 100 species of tropical American herbaceous plants. *Calathea* is a member of the maranta family, *Marantaceae*, which includes the marantas and *Stromanthe*. Most calatheas have a clump habit of growth, producing individual leaves from the clump base. Most calatheas in the marketplace have beautiful variegated foliage with patterns of green, red, pink, silvery gray, grayish green, yellow, and white.

SPECIFICATIONS

- 1. Calathea plants should have clean foliage which is free of dirt and other conspicuous residues. Foliage has a tremendous range of colors and patterns. Plants grow as wide spreading rosettes, (i.e. *C. roseo picta* 'Medallion,' *C. rotundifolia*, *C. roseo picta* 'Royale') or as upright clumps, (i.e. *C. concinna*, *C. ornata*, *C. makoyana*, etc.)
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, mealy bugs, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.





CALATHEA SPECIES & CULTIVARS

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 8-12" Width: 8-12"	4-8	Fullness at base: 40-90%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 12-18" 5-8 Width: 12-18"		Fullness at base: 40-90%
Large	8-inch pot 7 1/2-inch azalea 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 18-24" Width: 18-24"	6-10	Fullness at base: 40-90%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height 24-36" Width: 24-36"	8-14	Fullness at base: 40-90%

Calathea CALATHEA SPECIES AND CULTIVARS





ROSETTE TYPE

UPRIGHT TYPE

CHAMAEDORA

HISTORY

These palms can be thought of collectively as reed palms or bamboo palms because the slender stems branch at the base grow upright, producing a clump of stems and foliage resembling certain reeds or bamboos. During the early 1970s and earlier, the bamboo palm (*C. erumpens*) was the palm most widely available. Since that time Florida hybrid bamboo palm and reed palm have nearly displaced the bamboo palm because both *C.* 'Florida Hybrid' and *C. seifrizii* are more disease resistant.

These palms are grown from seed in shadehouses, primarily in southern Florida. The plants are sought after for their unique design qualities - an upright columnar form with strong vertical lines provided by the stems and soft texture of the foliage. These plants are generally placed at floor level because, by the time they develop branched stems and begin to show character, they are usually several feet high. With proper care these plants will last several years indoors.

DEFINITIONS

- 1. Potted reed and bamboo palms should consist of several plants per pot with the planting position scattered around the pot. The quantity of stems will depend upon number of plants used, age of plant, container spacing, and light intensity during production.
- 2. Product dimensions of a potted plants refer to the measurements made prior to sleeving or six hours after plants have been unsleeved.
- 3. Plant height is measured from the bottom of the pot to the top of the foliage canopy. Plant width is an average of two measurements taken at the widest portion of the foliage canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

CHAMAEDORA

BOTANICAL INFORMATION

The bamboo, *C. erumpens*, and the reed palm, *C. seifrizii*, are relatively small palms with slender upright shoots which branch at the base producing additional shoots which are shorter than the initial shoot. The leaves of both species are pinnately compound. The bamboo palm is indigenous to Guatemala and Honduras and its leaflets (pinnae) are broader than those of the reed palm. The reed palm is native to the Yucatan Peninsula. Although some nurserymen believe that The Florida Hybrid bamboo palm is a cross between *C. erumpens* and *C. seifrizii*, other authorities believe it is another species. The important characteristic of Florida Hybrid bamboo palm is that it is intermediate in growth characteristics between *C. erumpens* and *C. seifrizii*.

SPECIFICATIONS

- 1. Palm plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage is dark green in color. Plants will have both juvenile and mature foliage at the same time. Juvenile foliage has more narrow leaflets. The foliage should be free of mechanical damage, tip burn, leaf spots, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively. Taller, more mature plantings will display exposed canes at the base of the plants.
- 4. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips. Seifrizii and 'Florida Hybrid' are rhizomous growing plants and will fill in the container by suckering.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The care tags should be botanically specific to the genus unless othe wise specified and agreed upon.
- 7. As pot and plant sizes increase, the number of shoots per pot will increase and stem caliper will decrease. The effect one should look for in any size pot is a bushy palm. The reason for the increase in shoots is due to rhizomous-type growth.
- 8. Plants should be properly acclimated to interior shade conditions.



CHAMAEDOREA

CHAMAEDORA PALM CHAMAEDOREA SEIFRIZII and CHAMAEDOREA 'Florida Hybrid'

Product Designation*	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	8-inch pot 7 1/2-inch standard, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 28-36" Width: 14-18"	5-7	Fullness at base: 50%
Medium	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 36-48" Width: 24-30"	7-11	Fullness at base: 50%
Large	12-inch pot 12-inch standard, 5 gallon	Height: 42-60" Width: 24-32"	9-15	Fullness at base: 50%
Extra-Large	14-inch pot 14-inch standard, 7 gallon	Height 52-72" Width: 36-42"	20-25	Fullness at base: 60%
Jumbo	17-inch pot 17-inch standard, 10 gallon	Height: 66-84" Width: 42-48"	25-32	Fullness at base: 60%

^{*}This is typically a large plant, columnar in appearance.

Chamaedora CHAMAEDOREA PALM



CHAMAEDOREA 'Seifrizii'



CHAMAEDOREA 'Florida Hybrid'

CHINA DOLL

HISTORY

China doll, *Radermachera sinica*, entered the foliage plant industry during the 1980s, and commercial production of the plant began. Although the plant is considered a small evergreen tree, it is grown for the house plant market with several seedlings per pot, usually in a shadehouse or greenhouse. Crowding and reduced light intensity cause the plants to elongate rapidly and become too tall to be of commercial value. Plants with exceptional vigor are good candidates for having a chemical growth retardant applied during production.

China doll has very attractive, finely divided foliage which appeals to consumers.

DEFINITIONS

- 1. Potted China doll should have several plants per pot. The number will vary depending on the size of the container.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is an average of two measurements taken at the widest portion of the foliage canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

CHINA DOLL

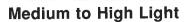
BOTANICAL INFORMATION

Radermachera sinica is one of about 30 species of the genus *Radermachera* which have indigenous ranges from India to China, Java and Celebes Island to the Philippine Islands. The range of *R. sinica*, however, is restricted to China. *R. sinica* is a member of the bignonia family, *Bignoniaceae*.

Leaves of this plant have a pinnate arrangement of leaflets and each individual leaflet is further divided into a pinnate pattern. This twice pinnately compound leaf presents an attractive pattern of subdivisions.

SPECIFICATIONS

- 1. China Doll plants should have clean foliage and be free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests. China Doll has light, feathery, pinnate foliage that is blue-green in color. Plants are aromatic with a distinctive earthy fragrance.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Plants should be properly acclimated to interior shade conditions.



CHINA DOLL

RADERMACHERA SINICA

Product Designation	Commonly Available in	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 9-12" Canopy: 6-9"	Multi	Fullness at base: 60-90% Foliage to soil line
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 14-22" Canopy: 12-18"	Multi	Fullness at base: 60-80% Foliage to soil line
Large	8-inch pot 7 1/2-inch azalea 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 22-30" Canopy: 22-26"	Multi	Fullness at base: 70-90% Foliage to soil line
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height 30-40" Canopy: 30-36"	Multi	Fullness at base: 70-90% Foliage to soil line

China Doll RADERMACHERA SINICA





HISTORY

Although the croton is thought to be native to Malaya and adjacent Pacific islands, it is grown in virtually all tropical and subtropical climates as a landscape plant. Crotons were introduced to the United States during the late 1800s. By the late 1940s and 1950s there was extensive interest in croton cultivars among nurserymen who could not keep up with the demand. As the interior foliage plant industry began to develop rapidly during the late 1960s, crotons became a part of the product mix. It was later discovered that many of the varieties used in landscaping did not have the ability to survive indoors. Over time a few cultivars have evolved as superior plants for indoors. Some of the more recently adopted cultivars were hybridized in Europe for their vigor and good color under greenhouse production. Today most of the cuttings used for growing crotons for the house plant market are harvested and imported from stock plants growing in Central America, South America, the Caribbean Basin, and other tropical areas. To ensure consistent leaf characteristics as the final few leaves develop, a few nurseries in the Sun Belt grow their own shade-grown stock in small pots.

Crotons remain one of the most colorful, woody-stemmed shrubs used for indoor foliage.

DEFINITIONS

- 1. Potted crotons should consist of one or more plants per pot, equally distributed around the pot or centered in the pot. The quantity of plants per pot will vary, depending on pot size. Pots containing more than one plant should have a symmetrical shape.
- 2. Product dimensions of potted plants refer to plant measurement made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions include plant height which is measured from the bottom of the pot to the upper level of the foliage. Plant width is the average of two measurements made at the widest part of the foliage. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.



BOTANICAL INFORMATION

Crotons grown as indoor foliage plants are woody shrubs classified as *Codiaeum* variegatum, which is a highly variable species belonging to the spurge (*Euphorbiaceae*) family. Members of the genus *Codiaeum* are native to tropical Asia. Croton leaves are simple (not divided into separate segments), highly variable in shape and color, and alternately arranged on the stems. Many hybrids and selections have been developed and given cultivar names.

SPECIFICATIONS

- 1. Croton plants should have clean foliage which is free of dirt and other conspicuous residues. Foliage should be vibrant, not pale or bleached-out in appearance.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests. Mites and mealybugs are the two most frequent pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively. Plants should be well-balanced and symmetrical in appearance.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips. Crotons have somewhat brittle leaves and care must be taken in handling to avoid physical damage.
- 5. The potting mix should be free of weeds and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

High Light

CROTON

CODIAEUM VARIEGATUM 'PETRA' AND 'NORMA'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 8-10" Width: 4-6"	1-2 Single stem or pinched	Fullness at base: 20-40% Foliage to the soil line
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 15-20" Width: 12-16"	2-4 Single stem or pinched	Fullness at base: 65-90% Foliage to soil line
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 22-30" Width: 20-26"	3-6 Single stem or pinched	Fullness at base: 65-90% Foliage to soil line
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 24-32" Width: 24-30"	4-8 Single stem or pinched	Fullness at base: 65-90% Foliage to soil line
Jumbo	14-inch pot 14-inch standard, 7 gallon	Height: 36-40" Width: 38-42"	3-7 Single stem or pinched	Fullness at base: 75%

Croton Petra

CODIAEUM VARIEGATUM



DIEFFENBACHIA

HISTORY

Dieffenbachia, also known as dumbcane, have increased in popularity in the United States as new hybrids and sports have become available. The processing of plant tissue culture has had a great impact on the industry by providing plant finishers and propagators with plant material free of systemic diseases. Virtually all present commercial dieffenbachia cultivars are either hybrids developed by plant breeders or sports from hybrids or species.

DEFINITIONS

- 1. Potted dieffenbachia plants consist of one or more cuttings or plugs per pot, equally distributed around the pot or centered in the pot. To ensure proper anchorage, the stem bases should be inserted to at least half the pot depth.
- 2. Product dimensions of pot plants refer to plants prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions include plant height which is measured from the base of the pot to the upper level of the foliage. Plant width is the average of two measurements made at the widest point of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tag should give product name and user care information for water, light, temperature, and other pertinent information.

DIEFFENBACHIA

BOTANICAL INFORMATION

Dieffenbachia sp. are members of the aroid (Araceae) family which is indigenous to the tropical Americas. They are upright herbaceous plants with thick stems which have large solitary leaves with entire margins. Most commercial cultivars have leaves with colorful variegated patterns.

SPECIFICATIONS

- 1. Dieffenbachia plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

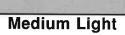


DUMBCANE

DIEFFENBACHIA SPECIES

SMALL TYPES: 'CAMILLE,' 'NELLY,' 'PERFECTION COMPACTA,' 'SARAH'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Plant Height: 10-14" Canopy Width: 8-10"	5+
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Plant Height: 14-22" Canopy Width: 10-14"	7+
R-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon		Plant Height: 22-30" Canopy Width: 22-30"	7+



DUMBCANE

DIEFFENBACHIA SPECIES

MEDIUM TYPES: 'TROPIC ALIX,' 'BAUSEI,' 'MEMORI-CORSII,' 'PARADISE,' 'TIKI,' 'VICTORY'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Plant Height: 10-14" Canopy Width: 8-10"		
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Plant Height: 14-22" Canopy Width: 10-14"	3-7	
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Plant Height: 22-30" Canopy Width: 22-30"	5+	
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Plant Height: 28-38" Canopy Width: 26-34"	5+	



DUMBCANE

DIEFFENBACHIA SPECIES

LARGE TYPES: 'TROPIC SNOW,' 'BALI HAI,' 'GOLDEN SUNSET'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard,	Plant Height: 10-14" Canopy Width:	1-3
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	8-10" Plant Height: 14-22" Canopy Width: 10-14"	1-3
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Plant Height: 22-30" Canopy Width: 22-30"	1-5
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Plant Height: 28-38" Canopy Width: 26-34"	1-7
Jumbo	14-inch pot 14-inch azalea, 14-inch standard, 14-inch squat pot, 7 gallon	Plant Height: 34-44" Canopy Width: 30-38"	1-7

TYPICAL FORM OF DIEFFENBACHIA IN 4-, 6-, 8-, 10-, AND 14-INCH POTS

SIZE CATEGORIES OF MAJOR DIEFFENBACHIA CULTIVARS*

Small Dieffenbachia Cultivars:

Dieffenbachia 'Camille'

Dieffenbachia 'Nelly'

Dieffenbachia 'Perfection Compacta' (same as 'Compacta')

Dieffenbachia 'Sarah'

Medium Dieffenbachia Cultivars:

Dieffenbachia amoena 'Tropic Alix'

Dieffenbachia 'Bausei'

Dieffenbachia 'Hilo'

Dieffenbachia 'Memori-Corsii'

Dieffenbachia 'Paradise'

Dieffenbachia 'Tiki'

Dieffenbachia 'Victory'

Large Dieffenbachia Cultivars:

Dieffenbachia amoena 'Tropic Snow'

Dieffenbachia 'Bali Hai'

Dieffenbachia 'Golden Sunset'

^{*}The three size categories are used to provide a general guide to the relative plant height and leaf size which various cultivars can achieve given time and good growing conditions.

Dumbcane

DIEFFENBACHIA SPECIES



SMALL TYPE *Dieffenbachia* 'Camille'



MEDIUM TYPE *Dieffenbachia* 'Tiki'



Medium Type *Dieffenbachia* 'Paradise'



LARGE TYPE *Dieffenbachia* 'Tropic Snow'

DRACAENA

HISTORY

A number of dracaena species and cultivars have become popular interior foliage plants because of their attractive foliage, unique growth habit, and excellent adaptability to medium- to low-light intensities. During the past 20 years, the supply of high-quality, terminal cuttings (tips) and thick, leafless stem cuttings (cane) growth has become abundant and the supply and quality more reliable. There have also been several new cultivars that have evolved through sports that have occurred in cultivation. Plant breeding and tissue culture technology have not played a significant role in the importance of dracaenas in the foliage plant mix. Collectively, dracaenas rank among the top ten most popular genera of foliage plants.

DEFINITIONS

- 1. Potted dracaena plants are grown with one or more terminal cuttings or cane cuttings per pot, depending upon species, pot size, and market demand.
- 2. Product dimension of pot plants refer to plants prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions include plant height which is measured from the base of the pot to the upper level of the foliage canopy. Plant width is an average of two measurements taken at the widest portion of the plant canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Plants and shoots per pot vary widely with the species and the size of plant being produced. Plants grown from terminal cuttings generally have the same number of plants per pot as shoots because shoots rarely branch if left unpruned. Plants grown from cane cuttings usually produce from one to four shoots which normally form near the top of each cane.
- 5. Fullness at base refers to the requirement that foliage be present on plants grown from terminal cuttings.
- 6. Care tags should provide plant name and user care information for water, light, temperature, and other pertinent information.

DRACAENA

BOTANICAL INFORMATION

Dracaenas, a collective common name for several species, was derived from the botanical name of the genus *Dracaena*. Of the approximately 40 species of *Dracaena*, several are used as ornamentals but only a few are grown in large quantity for use as indoor foliage plants. Dracaenas are members of the agave (*Agavaceae*) family.

SPECIFICATIONS

- 1. Dracaena plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The canes should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

Medium Light

DRACAENA MARGINATA

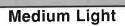
DRACAENA MARGINATA

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 9-14" Canopy width: 6-8"	1-2	Healthy foliage Fullness at base: 100% Healthy root system
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 14-20" Canopy width: 10-15"	2-4	Healthy foliage Fullness at base: 90% Healthy root system
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 20-32" Canopy width: 15-24"	3-4	Healthy foliage Fullness at base: 90% Healthy root system
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 30-48" Canopy width: 24-32"	3-5	Healthy foliage Fullness at base: 90% Healthy root system
Jumbo (Bush Type)	14-inch pot 14-inch standard, 7 gallon	Height: 60-70" Canopy width: 30-36"	5-7+	Fullness at base: 20-30%
Jumbo (Cane Type)	14-inch pot 14-inch standard, 7 gallon	Height: 65-72" Canopy width: 24-30"	6-8+	Fullness at base: 30-40%

Dracaena Marginata

DRACAENA MARGINATA





CORN PLANT

DRACAENA FRAGRANS, DRACAENA FRAGRANS 'Massangeana' AND OTHER CULTIVARS

Product Designation	Commonly Available In	Product Dimension*	Canes and Shoots	Minimum Cane Diameter (inches)	Characteristics
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Cane length: 10 & 12" Overall height: 18-20"	Canes: 1 Shoots: 2-4	1.25	Fullness at base: 50%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Cane length: 10 & 20" Overall height: 22-28"	Canes: 2 Shoots: 4-8	1.25	Fullness at base: 50%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Cane length: 15 & 30" Overall height: 30-40"	Canes: 2 Shoots: 4-8	1.50	Fullness at base: 50%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Cane length: 10 & 20 & 30" Overall height: 34-44"	Canes: 3 Shoots: 6-12	1.50	Fullness at base: 50%
Jumbo	14-inch pot 14-inch standard	Cane length: 36 & 48 & 60 Overall height: 60-72"	Canes: 3-5 Shoots: 8-20	1.50	Fullness at base: 50%

^{*}Cane length is measured from base of pot to top of cane. A minimum of 50 percent of the shoot should have a minimum diameter of 10 inches.

Corn Plant

DRACAENA FRAGRANS 'Massangeana'



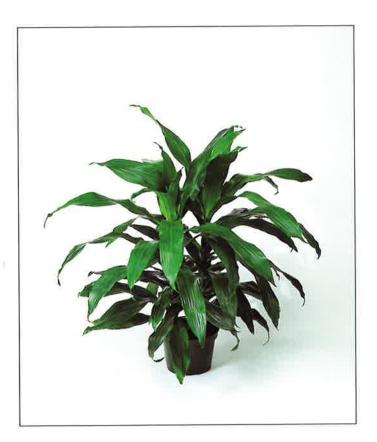


JANET CRAIG DRACAENA and WARNECKII DRACAENA

DRACAENA DEREMENSIS 'Janet Craig' and DRACAENA DEREMENSIS 'Warneckii'

Product Designation	Commonly Available In	Product Dimension	Plants per Pot	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 9-14" Canopy width: 8-12"	1-2	Healthy foliage Fullness at base: 100% Healthy root system
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 14-24" Canopy width: 12-16"	1-2	Healthy foliage Fullness at base: 100% Healthy root system
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 22-30" Canopy width: 16-24"	2-3	Healthy foliage Fullness at base: 100% Healthy root system
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 30-42" Canopy width: 24-32"	3-4	Healthy foliage Fullness at base: 100% Healthy root system
Jumbo	14-inch pot 14-inch azalea, 14-inch standard, 14-inch squat pot, 7 gallon	Height: 36-44" Canopy width: 36-44"	3-5	Fullness at base: 95%

Janet Craig and Warneckii Dracaena



DRACAENA DEREMENSIS
'Janet Craig'



DRACAENA DEREMENSIS
'Warneckii'

FALSE ARALIA

HISTORY

This upright woody shrub is occasionally used in the tropics and mild subtropics as a landscape plant where its height may exceed 20 feet. It is also a minor crop of the foliage plant industry. The plants are grown from seeds which are sown directly in cavity trays or small pots. False aralias have a single upright trunk when young that persists under shaded conditions or indoors. Several seedlings are planted in each container because individual plants are very narrow and upright.

Many false aralias were sold during the 1970s in small pots and used in dish gardens. Because false aralia is very sensitive to over-watering, maintaining them in small pots or community containers with other plants having higher moisture requirements usually causes the false aralia's demise.

Those who use plants creatively indoors recognize the unique design qualities of false aralia. The strong vertical stem lines combined with the fine thread-like horizontal lines of the dark burgundy and green foliage make it a very desirable plant.

There are a few dwarf cultivars of false aralia which have smaller leaves than the standard plant and stems which produce side branches. The best known of the dwarf types is Castor. Dwarf cultivars are grown from terminal stem cuttings and fewer plants are used per pot.

DEFINITIONS

- 1. Potted false aralias should have several plants per pot. The number will vary depending on the size of the container.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is an average of two measurements taken at the widest portion of the foliage canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature and other pertinent information. One care tag should be attached to each potted unit.

FALSE ARALIA

BOTANICAL INFORMATION

The botanical name of the false aralia is *Dizygotheca elegantissima*. Botanists originally classified the plant as *Aralia elegantissima*. The change in botanical nomenclature accounts for the present common name.

False aralia is native to New Caledonia and Polynesia. It belongs to the family *Aracea*, along with the other foliage plants English ivy, fatsia, and schefflera. Stems of the plant are woody and usually unbranched when grown in shade. Leaves are palmately compound, with long petioles attached to several long narrow leaflets forming a whorled pattern. As the plants physiologically mature and when under bright light conditions, the shape of the juvenile foliage changes. The leaflets of mature plants are much broader and the plants will flower. Virtually all false aralias which are sold as foliage plants through retail outlets have juvenile foliage.

SPECIFICATIONS

- 1. False aralia plants should have clean foliage and be free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites and other pests. Foliage is burgundy in color, leaves are palmate with slender serrated fingers that are quite distinctive. Petioles are mottled.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

Medium to High Light

FALSE ARALIA

DIZYGOTHECA ELEGANTISSIMA

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea,	Height: 9-12" Width: 4-6"	6-10	Fullness at base: 30-50%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch standard, 1 gallon	Height: 16-20" Width: 9-12"	6-10	Fullness at base: 30-50%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch standard, 2 gallon	Height: 26-32" Width: 16-20"	6-10	Fullness at base: 30-50%
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 32-48" Width: 20-24"	5-7	Fullness at base: 30-50%
Jumbo	14-inch pot 14-inch standard, 7 gallon	Height: 60-72" Width: 28-36"	5-7	Fullness at base: 30-50%. Foliage will be very large at top giving an umbrella effect or appearance.

False Aralia DIZYGOTHECA ELEGANTISSIMA



FICUS BENJAMINA

HISTORY

The weeping fig is the most widely used indoor tree. The common weeping fig in use today was first promoted as a foliage plant during the late 1960s. Before that time, there were some other cultivars or species that resembled the weeping fig that were sold in limited numbers. During the late 1970s and continuing to this day, there have been at least ten cultivars of *Ficus benjamina* introduced by growers to the United States. Many of these "new" cultivars, including several with variegated leaves, were imported from Europe where there has been an active *Ficus* selection program for several years. Some of the most beautiful weeping figs are "tree forms" which have a considerable amount of exposed trunk and branches, adding color and interest to the plant. Other plants, particularly smaller plants, have dense foliage over most of the plant and are usually referred to as "bush forms."

DEFINITIONS

- 1. Potted weeping figs may have one to several shoots that originate from the base of the container. Multiple cuttings or tissue-cultured plantlets provide full, bush-like plants with branches and foliage to pot level. Other plants are grown with a more open configuration to expose the trunk and major branches.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Plant height is measured from the base of the pot to the upper level of the foliage. Plant width is an average of two measurements taken at the widest portion of the plant foliage. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

FICUS BENJAMINA

BOTANICAL INFORMATION

The weeping fig is technically known as *Ficus benjamina*. All species of *Ficus* belong to the Mulberry (*Moraceae*) family. Weeping figs are native to India, parts of southeast Asia, and northern Australia. The species has several different forms, some of which have been given cultivar or variety names. Weeping figs ultimately become large, widespreading trees with pendulous perimeter branches. Leaves are small, dark green, elliptical, and are arranged alternately on slender twigs.

SPECIFICATIONS

- 1. Ficus plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Plants should be properly acclimated to interior shade conditions. A good indicator of this important process is a wide glossy leaf as opposed to a small curled leaf.

Medium to High Light

BENJAMIN FIG

FICUS BENJAMINA

BUSH TYPE

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 8-12" Canopy: 4-6"	3-7	Fullness at base: 60-80%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch standard, 6-inch azalea, 6 1/2-inch azalea, 1 gallon	Height: 16-22" Canopy: 10-14"	5-8	Fullness at base; 60-80%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 22-32" Canopy: 18-26"	6-10	Fullness at base: 60-80%
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 34-48" Canopy: 24-36"	8-14	Fullness at base: 60-80%
Jumbo	14-inch pot 14-inch azalea, 7 gallon	Height: 40-48" Canopy: 30-36"	8-14	Fullness at base: 60-80%

Medium to High Light

BENJAMIN FIG

FICUS BENJAMINA

STANDARD TREE TYPE

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 18-22" Canopy: 8-10"	1 trunk	Trunk caliper: 3/8-5/8"
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 24-32" Canopy: 10-16"	1 trunk	Trunk caliper: 1/2-3/4"
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 40-60" Canopy: 18-24"	1 trunk	Trunk caliper: 3/4-1 1/2"
Jumbo	14-inch pot 14-inch azalea, 7 gallon	Height: 60-72" Canopy: 30-42"	1 trunk	Trunk caliper: 1 1/2" or more

Medium to High Light

BENJAMIN FIG

FICUS BENJAMINA

BRAID TYPE

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 18-22" Canopy: 8-10"	3-4 trunks	Trunk caliper: 3/8-5/8" each
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 24-32" Canopy: 10-16"	3-4 trunks	Trunk caliper: 1/2-5/8" each
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 22-32" Canopy: 18-26"	3-4 trunks	Trunk caliper: 1/2-3/4" each
Jumbo	14-inch pot 14-inch azalea, 7 gallon	Height: 60-72" Canopy: 30-40"	3-4 trunks	Trunk caliper: 3/4-1" each

Benjamin Fig

FICUS BENJAMINA



BUSH TYPEFicus Benjamina



STANDARD TREE TYPE
Ficus Benjamina



BRAID TYPEFicus Benjamina

FICUS ROBUSTA

HISTORY

One of the first figs to be used as a house plant, *Ficus elastica* was frequently grown from seed, although it could be propagated from air layers. Once the cultivar *Ficus elastica* 'Decora', the decorative rubber plant, with its shorter, broader and more showy foliage, was introduced to the United States, it quickly displaced the species. By the late 1970s, some nurseries were beginning to grow the cultivar Robusta, which resembled Decora, but had more closely ranked leaves and the ability to branch more freely than Decora. Robusta is presently the most popular of the green leaf cultivars. Several other cultivars which have the Decora leaf shape are also quite popular because of their colored foliage ranging from burgundy red to numerous multicolored variegated patterns.

Until tissue culture procedures were utilized for propagation of some rubber tree cultivars, most of the plants produced in the United States were started from air layers imported from the tropics. Although a number of producers still grow rubber trees from air layers, an increasing number of growers prefer the plants from tissue culture. This is because a single plantlet will generate several branches, while the nonpruned plants from air layers usually continue to grow as a single stem from the base.

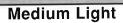
- 1. Potted rubber plants should have either one tissue-cultured plantlet or one-to-several, air-layered shoots per container, depending upon container size. The plant should be centered in a container or, in the case of multiple plants in a container, the plants should be uniformly distributed.
- 2. Product dimensions of potted rubber plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Plant height is measured from the base of the pot to the upper level of the foliage. Plant width is an average of two measurements taken at the widest portion of the plant foliage. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

FICUS ROBUSTA

BOTANICAL INFORMATION

The rubber plant, *Ficus elastica*, is native to Nepal and Burma where it grows to be a large tree. Leaves are dark green, thick, elliptical, and approximately 12 inches long. The leaves are arranged alternately on thick twigs which contain a white latex sap that is evident when either leaves or twigs are broken. The genus *Ficus* belongs to the mulberry (*Moraceae*) family.

- 1. Ficus plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Plants should be properly acclimated to interior shade conditions. A good indicator of this important process is a wide glossy leaf as opposed to a small curled leaf.
- 8. Robusta have somewhat brittle leaves, and care must be taken in handling to avoid physical damage.



RUBBER PLANT

FICUS ELASTICA 'Robusta'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics	
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height:8-12" Canopy: 4-6"	3-5	Fullness at base: 40-70%	
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6- inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 16-22" Canopy: 4-6"	3-7	Fullness at base: 40-70%	
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 24-30" Canopy: 20-28"	3-7	Fullness at base: 40-70%	
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 34-40" Canopy: 30-36"	3-9	Fullness at base: 40-70%	
Jumbo (Bush Type)	14-inch pot 14-inch standard, 7 gallon	Height: 40-48" Canopy: 30-38"	3-9	Fullness at base: 90%	
Jumbo (Standard Type)	14-inch pot 14-inch standard, 7 gallon	Height: 60-72" Canopy: 30-46"	1	Trunk caliper: 1 1/2" or more	

Rubber Plant

FICUS ELASTICA 'Robusta'



FIDDLE-LEAF FIG

HISTORY

Use of the fiddle-leaf fig as an indoor tree gained momentum from the 1950s through the 1970s. Early propagation was accomplished through air-layering large field-grown stock plants. Most of the air-layered plants had a single trunk and lacked the desired vigor. As commercial tissue-culture laboratories began to grow the plant in large numbers during the 1980s, many more growers produced the fiddle-leaf fig. Plants from tissue-culture had adequate vigor, grew with multiple stems from the base, and produced large leaves. There are several named cultivars of fiddle-leaf fig. Although a number of producers still grow fiddle-leaf fig from air layers, an increasing number of growers prefer the plants from tissue culture. Whereas a single plantlet will generate several branches, the nonpruned plants from air layers usually continue to grow as a single stem from the base.

The large, dark-green fiddle-back-shaped leaves combined with the fiddle-leaf fig's irregular branching habit gives the plant a distinctive character. Designers consider this tree useful in many situations where height and coarse texture (large leaves) are required.

- 1. Potted fiddle-leaf figs are usually grown with several stems per pot because most plants branch at the base. The number of stems per pot will vary depending on the size of the container. Small pot sizes usually have one multiple-branched plant while some large containers may have two or more branched plants.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six hours after the plant has been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature and other pertinent information. One care tag should be attached to each potted unit.

FIDDLE-LEAF FIG

BOTANICAL INFORMATION

The botanical name of the fiddle-leaf fig is *Ficus lyrata*. Some plant books may use the former name *Ficus pandurata*. Fiddle-leaf fig, along with several other ornamental figs and the edible fig, belong to the genus *Ficus*. *Ficus* is a member of the mulberry family *Moraceae*. There are approximately 800 species of figs which include woody vines, shrubs, and trees. The fiddle-leaf fig is a medium-size tree with large, glossy dark-green fiddle-shaped leaves up to a foot or more in length. The tree is native to tropical West Africa.

- 1. Ficus plants should have clean foliage which is free of dirt and other conspicuous residues. Ficus lyrata foliage tends to be dark green with sometimes numerous light green flecks that are naturally occurring organs of the leaf structure.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests. Healthy ficus lyrata plants will have actively growing terminals at the end of each branch.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. Ficus lyrata are produced as single shoots or clumps (multiple shoots) from tissue culture.
- 6. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 7. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

Medium to High Light

FIDDLE-LEAF FIG

FICUS LYRATA BUSH FORM

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea,	Height: 10-14" Width: 8-12"	1-5	Fullness at base: 10-30%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 16-22" Width: 12-16"	2-5	Fullness at base: 10-30%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 22-30" Width: 16-20"	3-5	Fullness at base: 10-30%
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 34-48" Width: 20-30"	3-7	Fullness at base: 10-30%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 60-66" Width: 28-32"	3-7	Fullness at base: 10-30%

Medium to High Light

FIDDLE-LEAF FIG

FICUS LYRATA TREE FORM

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan,	Height: 48-54"	3-7	Soil line to canopy will have 22-26"
	10-inch standard, 3 gallon	ch standard, Width: 20-30"	of bare cane.	
Jumbo	14-inch pot 14-inch standard,	Height: 60-66"	3-7	Soil line to canopy will have 28-30"
	14-inch azalea, 14-inch squat pot, 7 gallon	Width: 28-32"		of bare cane.

Fiddle-Leaf Fig

FICUS LYRATA





BUSH FORM

TREE FORM

HISTORY

The heartleaf philodendron, *Philodendron scandens oxycardium*, formerly named *Philodendron cordatum*, was for many years the most popular of the tropical vines grown for indoor use. During the late 1970s, pothos surpassed it in popularity. However, heartleaf philodendron continues to be an important indoor vine with growers producing it in small pots, hanging baskets, totems, and combination planters. Growers propagate the plant from "single eye"cuttings (cuttings consisting of a section of stem with one leaf and one bud). Through the 1960s, most of the cuttings were supplied by Florida growers. As the industry grew, and a large supply of cuttings became available from other tropical sources, most growers began to realize that it was more profitable to use imported cuttings.

- 1. Potted philodendron should have multiple shoots per container which usually develop individually from most of the single-eye cuttings stuck in the pots or hanging baskets. The quantity of cuttings stuck per container will vary depending upon container size. The number of shoots developing from a given container is an important consideration.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Plant height is not an important consideration for finished heartleaf philodendron. Sufficient vines should be present to provide a full appearance when viewed from above. The vines should be long enough so that all the outside vines touch the base upon which the container is resting. Leaf size should be as uniform as possible among others of the same container.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

A member of the arum (Araceae) family, the heartleaf philodendron is technically named Philodendron scandens Subsp. oxycardium. Horticulturists adopted the change from Philodendron oxycardium when Hortus Third was published in 1987. Several years earlier the technical name of the plant was Philodendron cordatum. The heartleaf philodendron is native to eastern Mexico. The plant which is finished by foliage growers is the juvenile stage of the plant. Older plants which are permitted to grow for long periods on trees or other supporting structures will produce larger leaves with a slightly different shape. All the plants grown in pots, hanging planters, and totems are still in the juvenile stage.

- 1. Philodendron plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

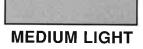


PHILODENDRON SCANDENS OXYCARDIUM

FREE-STANDING AND HANGING BASKETS

Product Designation	Commonly Available In	Product Dimensions*	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Canopy diameter: 5-7"	6-10	Fullness at base; 100%
Medium	6-inch pot 5 1/2-inch azalea, 5 1/2-inch hanging basket, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6-inch hanging basket, 6 1/2-inch hanging basket	Canopy diameter: 8-14"	10-15	Fullness at base: 100%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch hanging basket	Canopy diameter: 12-18"	20-30	Fullness at base: 100%
Extra-Large	10-inch pot 10-inch hanging basket	Canopy diameter: 15-22"	25-35	Fullness at base: 100%

^{*}Height of most potted heartleaf philodendron is no taller than the height of the foliage which develops from prostrate vines.



PHILODENDRON SCANDENS OXYCARDIUM

TOTEM POLES

Product Designation	Commonly Available In	Product Dimensions*	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Pole length: 8-12"	Fullness at base: 100%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea	Pole length: 18-24"	Fullness at base: 80%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch hanging basket	Pole length: 24-36"	Fullness at base; 100%
Extra-Large	10-inch pot 10-inch standard, 3 gallon	Pole length: 30-48"	Fullness at base: 100%

^{*}Totems should be full with no pole visible on the lower 80 percent of the pole. Pole length extends from the base of the pot to the top of the pole.

Heartleaf Philodendron

PHILODENDRON SCANDENS OXYCARDIUM





HISTORY

Cultivars (cultivated varieties) of *Hedera helix* have been selected for many years for unique characteristics that differentiate them from other existing cultivars. Although this process has resulted in over 400 named cultivars, fewer than 20% of the known cultivars are actually of commercial value due to growth rate or aesthetic considerations. Popular sizes of ivy grown for interior applications are sold in 3- to 8-inch pots and in 6- to 10-inch hanging baskets. Many small plants are also utilized in dish gardens and other combination planters. A few ivy specialists grow a variety of topiary plants on supporting frames, a diverse system beyond the scope of this publication. During the 1980s, English ivy increased in popularity until it ranked among the top 20 genera of foliage plants based upon the number sold.

- 1. Potted ivy plants may consist of different numbers of actual plants per container, depending on leaf size, foliage density along stem, degree of natural branching along the stem, and grower preference. Since additional branching can be obtained from cutting back shoots and forcing additional branches, the actual number of cuttings per pot is not as important as the number of vines which develop.
- 2. Product dimension of potted ivy plants refers to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Since most of the commercial potted ivy are prostrate vines and not upright in their growth habit, the height of finished ivy above the container is not considered in the product dimensions. Vine length over the container should be sufficiently long to touch the base surface supporting the container. There should be sufficient vines per pot or hanging basket to give a uniformly full appearance when viewed from above.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.



BOTANICAL INFORMATION

English ivy, *Hedera helix*, is a member of the aralia (*Araliaceae*) family, which is composed of approximately five species of woody vines with evergreen, alternately-arranged leaves. There are many cultivars of English ivy grown as house plants, and some are also utilized as ground covers in exterior landscaping. Unlike most other foliage plants which are true tropicals, English ivy, and the closely related Algerian ivy, are temperate zone plants which will withstand freezing temperatures if the plants are gradually acclimatized to low temperatures. Horticulturists have classified English ivies according to leaf shape, variegation, leaf size, degree of branching, and other features. The cultivars are propagated from stem cuttings with one to several leaves. In most cases, propagation from cuttings yields plants true to type.

- 1. Ivy plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags will be botanically specific to the genus unless other wise specified and agreed upon.



HEDERA HELIX

Hedera may be divided into two groups for our purposes:

- 1. Small or petite varieties which are suitable for 4- and 6-inch pots
- 2. Large varieties which are suitable for 6-inch and larger pot sizes

Small Leaf Cultivars		Large Leaf Cultivars		
Green	Variegated	Green	Variegated	
Green Finger	Esther	Asterisk	AnneMarie	
Florida	Ingrid Liz	California	Bettina	
Needlepoint	Jubilee	Green Ripple	Eva	
Shamrock	Kolibri	Hahns	Glacier	
	Silver Dust	Ideal	Gold Child	
		Ralf	Gold Dust	
		Telecurl		

Because ivies have been so popular and have been in production over a wide geographical range, there are literally hundreds of varieties and even more total names than total varieties. Many growers will nickname a variety to suit their own purposes. The above list contains some of the more common/popular items and names generally recognized by the American Ivy Association. The canopy should be roughly symmetrical and, for the purpose of determining a range of acceptable grades, 180 degrees of pot coverage should be considered minimum symmetry and 360 degrees of pot coverage is perfect symmetry.

In the following tables, you will notice that height is not used as a dimension. The qualities that are important in a premium Hedera are the density of the "head" and the spread of the canopy.

Medium Light

ENGLISH IVY

HEDERA HELIX

REGULAR POTS AND HANGING BASKETS

Product Designation	Commonly Available In	Product Dimension	Number of Vines	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Canopy width: 6-12" Canopy symmetry: 60-100%	6-13	With or without pinched vines to affect 100% soil coverage.
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6-inch hanging basket, 5 1/2-inch hanging basket, 6 1/2-inch azalea	Canopy width: 12-18" Canopy symmetry: 60-100%	18-30	With or without pinched vines to affect soil coverage. Vines to the bottom of the pot.
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch hanging basket	Canopy width: 16-24" Canopy symmetry: 60-100%	30-65	With or without pinched vines to affect soil coverage. Vines to the bottom of the pot.
Extra-Large	10-inch pot 10-inch bulb pan, 10-inch hanging basket	Canopy width: 20-30" Canopy symmetry: 60-100%	50-80	With or without pinched vines to affect 100% soil coverage. Vines to the bottom of the pot.

Medium Light

ENGLISH IVY

HEDERA HELIX

SPECIALTY POTS

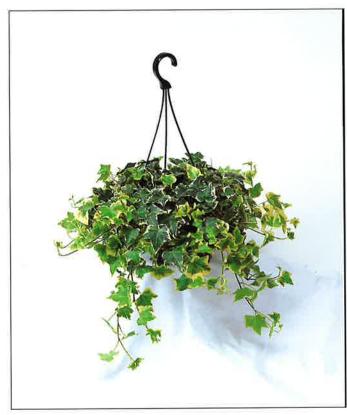
Product Designation	Commonly Available In	Product Dimension	Number of Vines	Characteristics	
Small	4-inch specialty pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	7" diameter ring	6-13	Pot coverage 100% at soil line, metal support should not be visible.	
Medium	6-inch specialty pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea	9 1/2 to 12" diameter ring	18-30	Pot coverage 100% at the soil line, metal support should not be visible.	
Large	8-inch specialty pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea	13-17" diameter ring	30-65	Pot coverage 100% at soil line, metal support shoul not be visible.	
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan	18-21" diameter ring	50-80	Pot coverage 100% at soil line, metal support shoul- not be visible.	

English lvy

HEDERA HELIX
Hanging Baskets



GREEN IVY Hedera Helix



VARIEGATED IVY
Hedera Helix

MAJESTY PALM

HISTORY

The majesty palm is a relatively new introduction to the interior plant market. It is a native of Madagascar and has been grown by nurserymen in large numbers since the mid-1980s. It is a rather fast-growing species which partially accounts for its present popularity. The plant does not exhibit much character until it reaches the size appropriate for a 10-inch pot or larger. Since the plant grows without producing basal branches, it is regarded as a tree form and is usually grown with one plant per pot.

- 1. Potted majesty palms should have one plant per container. If more than one plant is used per pot, there will eventually be considerable crowding as the trunk base enlarges with age.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions include plant height which is measured from the bottom of the pot to the upper level of foliage. Plant width is the average of two measurements made at the widest point of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

MAJESTY PALM

BOTANICAL INFORMATION

The majesty palm has a single, unbranched trunk which swells extensively with age. Most plants grown for the indoor plant industry have not developed robust trunks by the time they are sold into retail markets. The majesty palm is a member of the palm (*Palmae*) family. The leaves are pinnately compound.

There is some uncertainty among plant taxonomists as to whether the plant presently sold as the majesty palm is *Ravenea rivularis* or *Ravenea glauca*. Because the horticulture industry is presently using the *Ravenea rivularis*, it will be used in these grades and standards.

- 1. Palm plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, tip burn, leaf spots, other blemishes, diseases, insects, mites, and other pests. Foliage should not have yellow streaks or other signs of chlorosis.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

Medium Light

MAJESTY PALM

RAVENEA RIVULARIS

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6- inch azalea, 6 1/2-inch azalea, 1 gallon	Height: 18-24" Canopy: 10-18"	1-3	Fullness at base: 25-50%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 26-36" Canopy: 22-28"	1-3	Fullness at base: 25-50%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 40-54" Canopy: 30-42"	1-3	Fullness at base: 25-50%
Jumbo	14-inch pot 14-inch azalea, 7 gallon	Height: 60-84" Canopy: 60-66"	1-3	Fullness at base: 25%

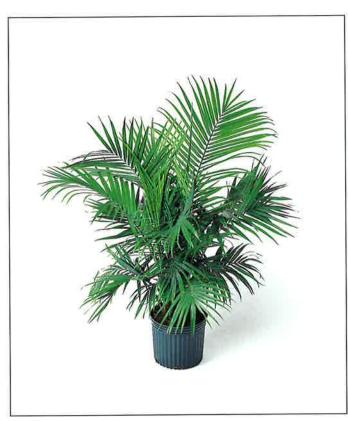
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Majesty Palm

RAVENEA RIVULARIS



SINGLE STEM *Ravenea Rivularis*



MULTIPLE STEM
Ravenea Rivularis

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HISTORY

The parlor palm was used extensively in Europe before interior plants became popular in the United States. The fact that it is tolerant of rather low humidity, cool temperatures (down to 50°F), and moderately low light accounts for its popularity as a house plant.

The parlor palm is a miniature palm native to Mexico and Guatemala. Seeds collected from mature plants in their native habitat and plants cultivated elsewhere in the tropics and subtropics are germinated by nurserymen and grown in greenhouses and shadehouses to finished sizes ranging from small pots for dish gardens and other community planters up to 14-inch diameter pots used by interiorscapers. Because the parlor palm grows with a single, nonbranched stem, it is necessary to use several plants per container to obtain a full, finished potted plant.

- 1. Potted parlor palms should consist of several plants per pot with the plants centered or scattered around the pot. The number of plants per pot will vary depending on the pot size.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

Parlor palm have changed names several times. The accepted botanical name is *Chamaedorea elegans*. Prior to that, botanists classified it as *Collinea elegans* and *Neanthe bella*. *Neanthe bella* has been adopted as the common name.

There are over 100 species of *Chamaedorea*, primarily native to the rain forests of Mexico and Central America where they grow in the shade of large trees. Some species, like *Chamaedorea elegans*, grow with a single, narrow bamboo-like trunk, while other species branch at the base producing multiple trunks. The foliage of the parlor palm is pinnately compound; individual mature leaves have a single stem-like structure or rachis which supports 11 or more leaflets (pinnae) on either side. Young nursery-grown plants often have fewer leaflets. Although established plants in a tropical landscape may grow 4 or 6 feet tall, large nursery-grown plants rarely exceed 2 feet above the potting medium.

- 1. Palm plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, tip burn, leaf spots, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively. This plant is very bushy in appearance as opposed to the Seifrizii, which is columnar in appearance.
- 4. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. As pot and plant sizes increase, the number of shoots per pot will decrease and stem caliper will increase. The effect one should look for in any size pot is a bushy palm. Whether that effect is achieved with 15 thin shoots in a 4-inch pot or 15 thick shoots in an 8-inch pot, the palm should appear bushy.

BOTANICAL INFORMATION

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HISTORY

The parlor palm was used extensively in Europe before interior plants became popular in the United States. The fact that it is tolerant of rather low humidity, cool temperatures (down to 50°F), and moderately low light accounts for its popularity as a house plant.

The parlor palm is a miniature palm native to Mexico and Guatemala. Seeds collected from mature plants in their native habitat and plants cultivated elsewhere in the tropics and subtropics are germinated by nurserymen and grown in greenhouses and shadehouses to finished sizes ranging from small pots for dish gardens and other community planters up to 14-inch diameter pots used by interiorscapers. Because the parlor palm grows with a single, nonbranched stem, it is necessary to use several plants per container to obtain a full, finished potted plant.

- 1. Potted parlor palms should consist of several plants per pot with the plants centered or scattered around the pot. The number of plants per pot will vary depending on the pot size.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

Medium to High Light

NEATHE BELLA PALM

CHAMAEDOREA ELEGANS

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard,	Height: 9-12" Width: 4-6"	9-12	Fullness at base: 40%
Medium	4 1/2-inch azalea, 6-inch pot 5 1/2-inch azalea, 6-inch azalea, 6-inch bulb pan,	Height: 16-22"	18-24	Fullness at base: 40%
	6-inch standard, 6 1/2-inch azalea, 1 gallon	Width: 12-20"		
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 22-32" Width: 18-24"	18-30	Fullness at base: 40%
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 26-40" Width: 24-36"	18-30	Fullness at base: 50%
Jumbo	14-inch pot 14-inch standard, 7 gallon	Height: 40-48" Width: 38-48"	28-40	Fullness at base: 50%

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Neanthe Bella Palm

CHAMAEDOREA ELEGANS



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HISTORY

The Norfolk Island pine is native to the Norfolk Islands in the South Pacific. It was discovered by Captain Cook. The plant has been cherished as a house plant in the United States throughout the twentieth century.

Although much of the early propagation of Norfolk Island pine was from upright terminal cuttings, the primary means of commercial propagation today is by seeds which are collected from rather old, cone-bearing plants in the fall, distributed to nurserymen, and sown soon afterwards. Most plants produced prior to the mid-1980s were grown as specimens with one plant per pot. After that time, demand developed for pots with three to five plants. The overall effect of multiple plants in a container is a unit which has a denser canopy and less conspicuous defects in the branching symmetry. Plants are available from nurseries with one to five plants per container, depending upon market preferences.

DEFINITIONS

- 1. Potted Norfolk Island pines are grown singularly or with several plants per pot. The number of plants per pot will vary depending on the pot size.
- 2. Product dimensions of potted plants pines refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

Norfolk Island pine belongs to the genus *Araucaria*. There are approximately 15 species *Araucaria* indigenous to the Southern Hemisphere, some in South America and the rest in Australia and the Pacific Islands. Since *Araucaria* belong to the family *Araucariaceae*, the Norfolk Island pine is not closely related to the pines of the Northern Hemisphere which belong to the genus *Pinus*, family *Pinaceae*. The Norfolk Island pine, *Araucaria heterophylla*, is the species which is used extensively in the foliage industry. *Araucaria excelsa* was used as the common name until it was changed to *A. heterophylla*.

The Norfolk Island pine has a distinctive upright pyramidal form with prominent, widely-spaced whorls of horizontal branches along a single trunk which eventually develops to robust proportions. Old landscape plants may exceed heights of 100 feet in tropical and mild semitropical areas. The leaves are about one-half-inch long, awl-shaped, incurved forward, and soft to the touch. The foliage color is medium green when grown in full sun and considerably darker on plants in light shade.

SPECIFICATIONS

- 1. Norfolk Island Pine plants should have clean foliage which is free of dirt and other conspicuous residue.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests. Foliage is medium to dark green and needle-like.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively. Generally, plants will be produced as multiple shoots (3-5) in smaller sizes and as multiple or single shoots in larger sizes.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Plants should be properly acclimated to interior shade conditions.

BOTANICAL INFORMATION

Norfolk Island pine belongs to the genus *Araucaria*. There are approximately 15 species *Araucaria* indigenous to the Southern Hemisphere, some in South America and the rest in Australia and the Pacific Islands. Since *Araucaria* belong to the family *Araucariaceae*, the Norfolk Island pine is not closely related to the pines of the Northern Hemisphere which belong to the genus *Pinus*, family *Pinaceae*. The Norfolk Island pine, *Araucaria heterophylla*, is the species which is used extensively in the foliage industry. *Araucaria excelsa* was used as the common name until it was changed to *A. heterophylla*.

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SPECIFICATIONS

- 1. Norfolk Island Pine plants should have clean foliage which is free of dirt and other conspicuous residue.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests. Foliage is medium to dark green and needle-like.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively. Generally, plants will be produced as multiple shoots (3-5) in smaller sizes and as multiple or single shoots in larger sizes.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Plants should be properly acclimated to interior shade conditions.

HISTORY

The Norfolk Island pine is native to the Norfolk Islands in the South Pacific. It was discovered by Captain Cook. The plant has been cherished as a house plant in the United States throughout the twentieth century.

Although much of the early propagation of Norfolk Island pine was from upright terminal cuttings, the primary means of commercial propagation today is by seeds which are collected from rather old, cone-bearing plants in the fall, distributed to nurserymen, and sown soon afterwards. Most plants produced prior to the mid-1980s were grown as specimens with one plant per pot. After that time, demand developed for pots with three to five plants. The overall effect of multiple plants in a container is a unit which has a denser canopy and less conspicuous defects in the branching symmetry. Plants are available from nurseries with one to five plants per container, depending upon market preferences.

DEFINITIONS

- 1. Potted Norfolk Island pines are grown singularly or with several plants per pot. The number of plants per pot will vary depending on the pot size.
- 2. Product dimensions of potted plants pines refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

ARAUCARIA HETEROPHYLLA

Product Designation	Commonly Available In	Product Dimension	Number of Shoots*	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea,	Height: 10-14" Width: 4-6"	3-5	Multiple stem plantings will be fuller, softer appearing
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 18-24" Width: 10-16"	3-5	Multiple stem plantings will be fuller, softer appearing
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 24-36" Width: 18-22"	1 or 3-5	Single stem plantings will produce robust thick trunks of heavy caliper
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 36-48" Width: 22-30"	1 or 3-5	Single stem plantings will produce robust thick trunks of heavy caliper
Extra-Extra Large	12-inch pot 12-inch standard, 12-inch bulb pan, 12-inch azalea, 5 gallon	Height: 56-72" Width: 26-36"	1 or 3-5	Single stem plantings will produce robust thick trunks of heavy caliper
Jumbo	14-inch pot 14-inch standard, 7 gallon	Height: 60-84" Width: 36-42"	1 or 3-5	Single stem plantings will produce robust thick trunks of heavy caliper

	2 9	

Norfolk Island Pine

ARAUCARIA HETEROPHYLLA



HISTORY

Philodendrons have occupied an important niche in the foliage plant product mix for many years. Prior to 1950, there were a few reports of hybridized philodendrons which became popular plants. During the early 1950s, Robert McColley began to assemble *Philodendron* species he collected from the tropical Americas. With this he began a long history of hybrid philodendron development that resulted in the introduction of numerous plants with ornamental characteristics superior to existing plants in the industry. He continued to hybridize philodendrons until his death in 1978, at which time his business partner, Howard Miller developed a few additional hybrids and introduced them successfully before he retired.

Commercial propagation of species *Philodendron* was generally from seed. Plants from seed had a progression of larger leaves as the plant developed in size. This leaf enlargement progression resulted in plants which could be matched with proper scale containers, a fact which made the plant marketable in a number of different sizes. With the availability of excellent hybrid vining plants which did not come true from seed, it was necessary to propagate from cuttings which usually had to be potted in 6-inch or larger pot sizes for rooting and finishing. The self-heading hybrids which were developed were so compact in growth habit, that there was not enough stem between the leaves to make cutting propagation a profitable operation, a fact which delayed their introduction to large scale production until tissue-culture laboratories began to propagate them.

With the application of tissue-culture technology to hybrid philodendron propagation, the nature of the products which nurserymen could grow changed dramatically. Seed-grown and tissue-cultured plants can be finished in 6-inch and under pot sizes as well as in larger pot sizes because of the progression of leaf sizes.

Many of the non-vining philodendrons make attractive specimen plants either as table-top plants or as free-standing planters at floor level. Those plants which form vines are useful as small specimens, and the larger plant sizes are excellent for large hanging baskets, totems, and ground cover application in large-scale interiorscapes.

DEFINITIONS

- 1. Potted philodendron plants are grown with one or more plantlets per pot. The number of plants per pot will vary depending upon the cultivar and the pot size.
- 2. Product dimensions of potted plants refers to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

There are approximately 200 species of *Philodendron* which are native to the tropical Americas and belong to the family *Araceae*. The plants are herbaceous, and most climb on the trunk of trees or other surfaces with a system of aerial roots. A few *Philodendron* species have very robust stems and very short internodes and can support themselves for a period of time

SPECIFICATIONS

- 1. Philodendron plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests. This group represents a wide range of leaf shapes, colors, and sizes.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips. Philodendrons, both self-heading and vining, produce prolific aerial roots.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

A PARTIAL LIST OF SPECIES AND HYBRID CULTIVARS

Species: *Philodendron bipennifolium (P. panduraforme)*

Philodendron pedatum (P. laciniatum)

Philodendron selloum

Philodendron selloum 'Hope' Philodendron squamiferum

Hybrids: *Philodendron* 'Black Cardinal' (pp 5355)

Philodendron 'Emerald Duke' (pp 3397) Philodendron 'Emerald Prince' (pp 6489)

Philodendron 'Green Emerald'

Philodendron 'Hope'

Philodendron 'Imperial Green' Philodendron 'Imperial Red' Philodendron 'Majesty' Philodendron 'Moonlight'

Philodendron 'Prince Albert' (pp 6246) Philodendron 'Prince Dubonnet' (pp 3398) Philodendron 'Prince of Orange' (pp 6797)

Philodendron 'Red Emerald'

Philodendron 'Red Empress' (pp 6293)

Philodendron 'Royal Queen' Philodendron 'Xanadu' (pp 7030)

Similar species: Monstera deliciosa - juvenile form incorrectly called *Philodendron*

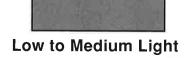
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PHILODENDRON SPECIES & CULTIVARS

SMALL TO MEDIUM SELF-HEADING TYPES: 'ROYALTY' SERIES (i.e., 'PRINCE OF ORANGE' AND 'BLACK CARDINAL'), 'XANADU' AND MORE

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea,	Height: 8-12" Width: 9-14"	1-3	Fullness at base: 20-60%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 14-20" Width: 14-20"	1-3	Fullness at base: 20-60%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 18-24" Width: 18-24"	2-3	Fullness at base: 20-60%
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 24-30" Width: 24-30"	2-3	Fullness at base: 20-60%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 34-42" Width: 36-48"	3-5	Fullness at base: 20-60%



PHILODENDRON SPECIES & CULTIVARS

MEDIUM TO LARGE SELF-HEADING TYPES: 'SELLOUM' AND 'SELLOUM HOPE'

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Medium	6-inch pot 5 1/2-inch standard, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 18-22" Width: 16-20"	1-3	Fullness at base: 50-70%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 1 gallon	Height: 24-32" Width: 20-28"	1-3	Fullness at base: 50-70%
Extra-Large	10-inch pot 10-inch azalea 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 28-36" Width: 24-36"	3-5	Fullness at base: 50-70%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 42-48" Width: 42-48+"	3-5	Fullness at base: 50-70%



PHILODENDRON SPECIES & CULTIVARS

VINING TYPES FOR TOTEM POLES; 'PANDURAEFORME,' 'RED EMERALD,' 'GREEN EMERALD,' 'RED BRISSEL,' 'PERTUSSUM' AND MORE

Product Designation	Commonly Available in	Product Dimension*	Number of Shoots	Characteristics
Medium	6-inch pot 5 1/2-inch standard, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Pole length: 18-24"	5-10	Fullness at: 70-90%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 1 gallon	Pole length: 24-36"	8-12	Fullness at: 70-90%
Extra-Large	10-inch pot 10-inch azalea 10-inch bulb pan, 10-inch standard, 3 gallon	Pole length: 30-48"	10-15	Fullness at: 70-90%

^{*} Totems should be full with little or no pole visible on the lower 80 percent of the pole. Pole length extends from the base of the pot to the top of the pole.

Philodendron

PHILODENDRON SPECIES AND CULTIVARS



'XANADU'



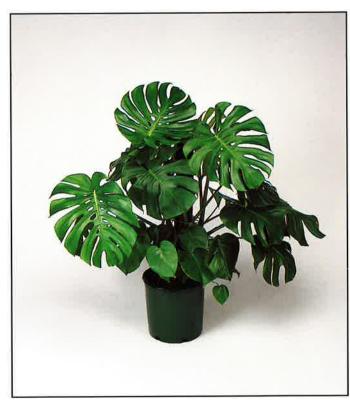
HYBRIDS

Philodendron

PHILODENDRON SPECIES AND CULTIVARS



'SELLOUM'



MONSTERA DELICIOSA (also known as 'Pertussum)



HISTORY

During the 1970s, golden pothos and its cultivars became the most popular tropical vine for use indoors, replacing the heartleaf philodendron which previously held that distinction. As more experience was gained with pothos, nurserymen realized with a little extra care, particularly avoiding chilling of the plant in any stage of development, the plant finished more rapidly and reliably than heartleaf philodendron. This fact, plus the greater aesthetic appeal of the bright green and yellow pattern of golden pothos, accounts for its present status.

Pothos is used indoors as small potted specimen plants, dish gardens, hanging baskets, other types of planters for cascading plants, bedded ground covers, basal plantings around large plants in free-standing planters, and totems.

DEFINITIONS

- 1. Potted golden pothos should have several shoots per container. The number of shoots will vary with the container size and the product type (potted plant, hanging basket, or totem). Plants usually produce one shoot for each healthy cutting stuck in the potting medium. If plants are cut back to the container level, additional shoots frequently develop from the original plant. The number of vines produced per container is the important consideration. The vines should be uniformly distributed over the potting medium surface of large containers or centered in small pots.
- 2. Potted plants should be measured before sleeving or six to eight hours after the plants have been unsleeved.
- 3. Product dimensions refer to the length of vines beyond the pot rim. Plant height is not an important consideration with pothos in pots and hanging baskets. Vine height is an important measurement with plants grown as totems.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

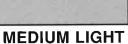


BOTANICAL INFORMATION

Golden pothos, *Epipremnum aureum*, a member of the arum (*Araceae*) family, is native to the Solomon Islands. Obsolete botanical names for the plant include *Scindapsus aureus*, *Pothos aureus*, and *Raphidophora aurea*. The plant is a vigorous vine with fleshy stems that produce numerous roots along its length which root into potting medium or grow onto supporting materials (poles, tree branches, and other porus materials). Most golden pothos plants remain in the juvenile condition when grown from single-eye cuttings (cuttings with a short section of stem, one leaf, and a bud). If vines are permitted to grow for long periods on stakes, posts, or trees, the leaf size increases dramatically, and under bright-light conditions, the leaves may emerge with deep sinuses ("slashes") along the margin, which indicates the plant changed to the mature condition.

SPECIFICATIONS

- 1. Pothos plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.



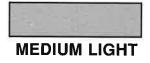
POTHOS

EPIPREMNUM AUREUM, EPIPREMNUM AUREUM 'Marble Queen' EPIPREMNUM AUREUM 'Jade' AND OTHER CULTIVARS

FREE-STANDING AND HANGING BASKETS

Product Designation	Commonly Available In	Product Dimensions*	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Canopy diameter: 5-7"	6-10	Fullness at base: 100%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6-inch hanging basket, 5 1/2-inch hanging basket, 6 1/2-inch azalea	Canopy diameter: 8-14"	10-18	Fullness at base; 100%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch hanging basket	Canopy diameter: 12-18"	20-30	Fullness at base: 100%
Extra-Large	10-inch pot 10-inch hanging basket	Canopy diameter: 15-22"	25-35	Fullness at base: 100%

^{*}Height of most potted pothos is no taller than the height of the foliage which develops from prostrate vines.



POTHOS

EPIPREMNUM AUREUM, EPIPREMNUM AUREUM 'Marble Queen' EPIPREMNUM AUREUM 'Jade' AND OTHER CULTIVARS

TOTEM POLES

Product Designation	Commonly Available In	Product Dimensions*	Characteristics
Medium	6-inch pot 5 1/2-inch azalea, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea	Pole length: 18-24"	Fullness at base: 80%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch hanging basket	Pole length: 24-36"	Fullness at base: 100%
Extra-Large	10-inch pot 10-inch standard, 3 gallon	Pole length: 30-48"	Fullness at base: 100%

^{*}Totems should be full with no pole visible on the lower 80 percent of the pole. Pole length extends from the base of the pot to the top of the pole.

Pothos EPIPREMNUM AUREUM



HANGING BASKET



TOTEM POLE Epipremnum Aureum 'Golden Pothos' Epipremnum Aureum 'Golden Pothos'

HISTORY

The common schefflera, *Brassaia actinophylla*, has been a popular interior plant for many years. In the tropics and mild semitropics it is used as a landscape plant where it frequently attains heights of 30 feet. The alternative common name umbrella tree is derived from the leaf shape which resembles an open umbrella. The plant has a whorled arrangement of leaflets at the end of a long, stiff petiole.

Nurserymen growing the common schefflera for the interior plant market propagate it from seed and grow the potted plants primarily in greenhouses and shadehouses; some of the very large sizes are grown in full sun for part of the production cycle. Because individual plants of schefflera have widely spaced leaves with long petioles, growers use several seedlings per container to obtain a finished product with a dense canopy of foliage.

DEFINITIONS

- 1. Potted scheffleras should have several plants per pot. The number will vary depending on the size of the container.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy, not including the height of the flowers. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

The botanical name for common schefflera is *Brassaia actinophylla*; the common name is derived from the former botanical name, *Schefflera actinophylla*, which appears in older plant literature. As the alternate common names (Australian or Queensland umbrella tree) suggest, the plant is indigenous to Queensland, Australia.

Brassaia is a member of the aralia family, *Araliaceae*, which includes several other groups of foliage plants including: aralias, English ivy, false aralia, fatsia, and dwarf schefflera (*Schefflera arboricola*). Common schefflera features a palmately canopy of medium green leaves with long petioles which terminate with 7 to 13 leaflets arranged in a whorled pattern.

SPECIFICATIONS

- 1. Schefflera plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. Leaves are typically light green in color. The foliage should be free of mechanical damage, blemishes, insects, mites, and other pests.
- 3. Stems should be sufficiently stiff to support the foliage without bending.
- 4. Plants should have healthy roots that are free of evident decay. Schefflera produces aerial roots on larger, more mature specimens.
- 5. The potting mix should be free of weeds, and the level of the mix in pots should not be less than 90 percent of the height of the pot. The potting mix should be kept moist.
- 6. One judge of plant quality is the distance between internodes. The greater this distance, the "softer" or weaker the plant growth. Soft plants are more prone to damage in transit.
- 7. Foliage should cover the stems to the bottom of the pot except when larger (12-14" container) specimen types are purchased.

SPECIFICATIONS (cont.)

- 8. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 9. Schefflera produced from seed will typically be in a clump or multiple-stemmed. Those produced from tissue cultures are single-cane plants; however, in some cases more than one tissue-culture plant may be used per container.
- 10. Some of the differences between tissue-culture and seed-produced plants are as follows:
 - a. Tissue-culture plants tend to be more open and less dense than seed-produced plants.
 - b. The leaf is thicker in texture on tissue-culture plants.
 - c. The canopy of tissue-culture plants appears flat; the canopy of seeded- plants appears conical.
 - d. Tissue-culture plants tend to be columnar in appearance and seeded- plants tend to be bushy or blocky.

Medium to High Light

SCHEFFLERA

BRASSAIA ACTINOPHYLLA FROM SEED

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea,	Height: 9-12" Width: 6-10"	Multi	Fullness at base: 50-80%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Height: 16-20" Width: 10-14"	Multi	Fullness at base: 50-80%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 24-32" Width: 16-24"	Multi	Fullness at base: 50-80%
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 34-48" Width: 24-36"	Multi	Fullness at base: 50-70%
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 54-72" Width: 40-48"	Multi	Fullness at base: 50-70%

Medium	to	High	Liaht

BRASSAIA ACTINOPHYLLA FROM TISSUE CULTURE

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch standard, 2 gallon	Height: 28-36" Width: 20-26"	3	Stem/cane prominent - Leaves to the soil line
Extra-Large	10-inch pot 10-inch standard, 10-inch bulb pan, 10-inch azalea, 3 gallon	Height: 36-48" Width: 24-36"	3-4	Stem/cane prominent - Leaves to the soil line
Jumbo	14-inch pot 14-inch standard, 14-inch azalea, 14-inch squat pot, 7 gallon	Height: 54-78" Width: 32-40"	4-5	Stem/cane prominent - Leaves to the soil line

Schefflera BRASSAIA ACTINOPHYLLA







FROM TISSUE CULTURE

SCHEFFLERA ARBORICOLA

HISTORY

The dwarf schefflera, *Schefflera arboricola*, became a popular plant almost immediately upon its introduction to the foliage plant industry during the early 1970s. The leaf size of this species is smaller than most other scheffleras, and the stems are generally rather slender, limiting its application to small plants and shrub forms. Tree forms can be achieved through training and staking.

During the early years, seed sources were meager, and most of the plants (at that time only the common solid green forms were available) were propagated from cuttings consisting of two or three nodes, and a few were propagated from air layers. As time passed, seed became more abundant, and propagation of the common green schefflera by cuttings and layers was abandoned. Consequently, seed propagation became the dominant means of starting the crop. During the late 1970s and the 1980s, several colorful variegated cultivars and unusual leaf shape, green-leaved cultivars were imported from Europe where the plant had been in cultivation for several years. The named cultivars are primarily propagated from cuttings. and the common green type (the species) is generally propagated from seed.

DEFINITIONS

- 1. Potted dwarf scheffleras should have several shoots per container. The number will vary depending upon the container size and cultivar. Shoots would be distributed uniformly around the pot or centered in small pots.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Plant height is measured from the base of the pot to the upper level of the foliage. Plant width is an average of two measurements taken at the widest portion of the plant foliage. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

SCHEFFLERA ARBORICOLA

BOTANICAL INFORMATION

Dwarf schefflera, *Brassaia arboricola*, is a member of the *Araliaceae* family. Some times known as Hawaiian schefflera, this dwarf plant has shiny, compound leaves. Regular pruning produces a compact, bushy plant. This schefflera is more resistant to spider mites than the common schefflera, *Brassaia actinophylla*, and more important is its superior ability to grow under lower indoor light levels.

SPECIFICATIONS

- 1. Dwarf schefflera plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Dwarf schefflera should have dense foliage starting at the soil line. Shape and spatial aesthetics range from short and blocky to tall and columnar.

Medium Light

SCHEFFLERA ARBORICOLA

BRASSAIA ARBORICOLA

Product Designation	Commonly Available In	Product Dimension	Number of Shoots	Characteristics
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 9-12" Canopy: 5-7"	3-5	Fullness at base: 70-98%
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch standard, 6-inch azalea, 6 1/2-inch azalea, 1 gallon	Height: 14-20" Canopy: 10-15"	4-8	Fullness at base: 70-100%
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon	Height: 22-30" Canopy: 18-24"	8-20	Fullness at base: 70-100%
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 24-36" Canopy: 24-36"	10-25	Fullness at base: 70-100%
Jumbo	14-inch pot 14-inch standard, 7 gallon	Height: 42-48" Canopy: 40-44"	10-25	Fullness at base: 95%

Schefflera Arboricola

BRASSAIA ARBORICOLA



SOFT HERBACEOUS PLANTS

HISTORY

The term "soft herbaceous plants" or "soft foliage plants" is plant industry jargon for a group of plants of diverse botanical classification, different families, genera, species, and cultivars. These plants generally lack large amounts of fibrous tissue in the stems and leaves and have leaves which are relatively brittle or easily torn. This group of plants does not include the succulents often grown with cacti in bright light conditions. Many of the soft herbaceous plants are not well adapted for long-term use indoors, primarily because of their preference for high humidity.

There was an exceptional demand for soft herbaceous plants during the period starting in the late 1960s and continuing through the mid-1970s. During those years, both growers and consumers were becoming acquainted with many plants with which they had had no prior first-hand knowledge. This was also a period when growing plants in terrariums was very popular, and many of the soft herbaceous plants are well suited to carefully managed terrariums. Today, soft herbaceous plants are still an important group of foliage plants, but they represent a smaller percentage of the total product mix than during the late 1960s.

DEFINITIONS

- 1. Soft herbaceous plants are usually grown with several plants per pot, depending on species and pot size.
- 2. Product dimensions of potted soft herbaceous plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

SOFT HERBACEOUS PLANTS

BOTANICAL INFORMATION

Baby Tears

Plants in this group are placed into four categories based on growth habit and listed below with their common name(s), botanical name, and family name. The plant growth habit is a good indicator of the best application for a particular plant.

	a good indicator of the best application for a particular plant.			
	Common Name	Botanical Name	Family Name	
Growth Habit: Upright, Medium Full				
	Piggyback Plants:			
	Piggyback Plant	Tomiea menziesii	Saxifragaceae	
	Variegated Piggyback Plant	Tomiea menziesii 'Variegata'	Saxifragaceae	
	Begonias			
	Iron Cross Begonia	Begonia masoniana	Begoniaceae	
	Rex Begonias (many cultivars)	Begonia 'Rex-Cultorum'	Begoniaceae	
	D'I			
	<u>Pileas</u> Aluminum Plant	D:11:	TT	
	Dwarf Aluminum Plant	Pilea cadieri	Urticaceae	
	Dwarf Alummum Plant		Pilea cadieri	
	Friendship Plant	Pilea involucrata	Urticaceae	
	Moon Valley Pilea	Pilea 'Moon Valley'	Urticaceae Urticaceae	
	William Valley I fied	Thea Wooli Valley	Orncaceae	
Growth Habit: Upright, Very Full				
	Peperomias			
	Oval-leaf Peperomia	Peperomia obtusifolia	Piperaceae	
	Marble Oval-leaf Peperomia	Peperomia obtusifolia 'Marble'	Piperaceae	
		Peperomia obtusifolia 'Variegata'	Piperaceae	
	Red-edge Peperomia	Peperomia clusiifolia	Piperaceae	
	Rainbow Red-edge Peperomia	Peperomia clusiifolia 'Variegata'	Piperaceae	
	Growth Habit: Cascading, Medium Full			
	Baby Tears			
	Baby Tears	Pilea depressa	Urticaceae	
		I wen nepressu	Ornicaleae	

Soleirolia soleirolii

Uricaceae

SOFT HERBACEOUS PLANTS

Common Name	Botanical Name	Family Name		
Episcia				
Episcia	Episcia cupreata (many cultivars)	Gesneriaceae		
Lipstick Vine				
Lipstick Vine	Aschynanthus radicans (A. lobbianus)	Gesneriaceae		
Purple Passion				
Purple Passion Plant	Gynura aurantiaca 'Purple Passion'	Compositae		
Wandering Jew				
Wandering Jew	Tradescantia fluminensis	Commelinaceae		
Wandering Jew	Zebrina pendula	Commelinaceae		
Growth Habit: Cascading, Very Full				
Bridal Veil:				
Bridal Veil	Gibais geniculata	Commelianaceae		
Fittonias: Fittonia, Nerve Plant and Mosaic Plant				
Silver Nerve Plant	Fittonia verschaffeltii	Acanthaceae		
	var. argyroneura			
Dwarf Silver Nerve Plant	Fittonia verschaffeltii var. argyroneura nana	Acnathaceae		
Red Nerve Plant	Fittonia verschaffeltii	Acanthaceae		
	var. verschaffeltii (F. rubrvenosa)			
Spider Plants: Spider Plant, Spider Ivy, Ribbon Plant				
Green Spider Plant	Chlorophytum comosum	Liliaceae		
White-edge Spider Plant	Chlorophytum comosum 'Variegatum'	Liliaceae		
White-striped Spider Plant	Chlorophytum comosum 'Vittatum'	Liliaceae		
Strawberry Begonias:				
Strawberry Begonia	Saxifragia sarmentosa	Saxifragaceae		
Tricolor Strawberry Begonia	Saxifragia sarmentosa 'Tricolor'	Saxifragaceae		

SOFT HERBACEOUS PLANTS

Common Name

Botanical Name

Family Name

Swedish Ivies:

Swedish Ivy

Variegated Swedish Ivy

Plectranthus australis

Plectranthus australis 'Variegatus'

Labiatae

Labiatae

SPECIFICATIONS

- 1. Plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth evident by the white-to-cream color of the root tips.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.

The soft or herbaceous plant varieties were among the first items in the expanding foliage industry. They are still very popular and perhaps are one of the largest groups in terms of sheer numbers of varieties. Because of this diversity, it is necessary to group varieties according to growth habit and form.

Upri	ight	Cascading					
Medium Full	Very Full	Medium Full	Very Full				

SOFT HERBACEOUS PLANTS

SPECIFICATIONS (cont.)

The following includes the more common varieties separated according to the above growth habit groups:

Upright Medium Full

Piggyback, Begonias, Pileas

Upright Very Full

Peperomias

Cascading Medium Full

Wandering Jew, Purple Passion, Baby Tears, Lipstick, Epescia

Cascading Very Full

Swedish Ivy, Bridal Veil, Spider Plant, Strawberry Begonia, Fitonia

Medium Light

SOFT HERBACEOUS PLANTS

		A STATE OF	Produc	t Dimension	
Product Designation	Commonly Available In	Upright Medium Full	Upright Very Full	Cascading Medium Full	Cascading Very Full
Small	4" pots only	Height: 6-10" Width: 6-8"	Height: 5-10" Width: 6-10"	Width: 6-8"	Width: 6-8"
Medium	6" pots and hanging baskets	Height: 10-12" Width: 12-15"	Height: 9-12" Width: 14-20"	Width: 8-12"	Width: 8-12"
Large	8" hanging baskets only	Height: 12-15" Width: 16-20"	Height: 15-18" Width: 16-24"	Width: 10-15"	Width: 16-24"
Extra Large	10" hanging baskets only	Heigth: 15-18" Width: 20-24"	Height: 18-20" Width: 24-28"	Width: 15-18"	Width: 18-26"

Soft Herbaceous Plants



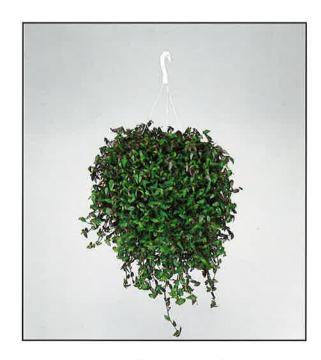
PIGGY-BACK



SPIDER



JEWS



BRIDAL VEIL

SPATHIPHYLLUM

HISTORY

Spathiphyllum are tropical herbaceous plants that produce attractive arching leaves from a crown. Some spathiphyllum are propagated from seed but most cultivars are propagated by tissue culture. The popularity of spathiphyllum in the United States increased dramatically as growers developed programs to produce plants in flower on a year-round basis. Plant breeding efforts and selection of more desirable variants by plantsmen have extended the range of plant characteristics and improved spathiphyllum acceptability among consumers.

DEFINITIONS

- 1. Spathiphyllum pot plants consist of one or more seedlings or tissue-cultured liners per pot equally centered in the pot.
- 2. Product dimensions of pot plants refer to plants prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Plant height is measured from the bottom of the pot to the top of the foliage canopy. Plant width is an average of two measurements taken at the widest portion of the foliage canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tag should give product name and user care information for water, light, temperature, and other pertinent information.

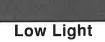
SPATHIPHYLLUM

BOTANICAL INFORMATION

Spathiphyllum are members of *Araceae* (aroid) family which are primarily indigenous to tropical Americas. A few plants are known to originate in the South Pacific. These herbaceous plants have lance-shaped leaves with entire margins and long petioles that develop basal stems. The large shield portion of the inflorescence (spathe) is usually white, but may be partly or entirely green, and is supported on a long stem.

SPECIFICATIONS

- 1. Spathiphyllum plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems of spathiphyllum are disk-like structures, at or below the potting medium surface, which support the growth of closely arranged leaves. Plants should have sufficient branching of the stems to provide fullness at the base.
- 4. Plants should have healthy roots that are free of visually evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of the mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Spathiphyllum are frequently sold with fully developed flowers. Plants which have not initiated flowers or are in the very early stage of flower development will not exhibit evidence of flowering but are considered excellent foliage plants. Depending upon the requirement of a market, plants may be sold in various stages of flower development. Many buyers prefer to purchase plants with several spikes (inflorescence which are elongating, but have not begun to open) because it usually permits shipping in shorter cartons, and the spikes continue to elongate and open, providing the longest period of floral display for the consumer. Well-illuminated retail displays are essential for maximum quality flower development.
- 7. Consumer care tags or labels should be placed with each plant unless otherwise specified and agreed upon. These tags should be botanically specific to the genus unless otherwise specified and agreed upon.



PEACE LILY

SPATHIPHYLLUM SPECIES

SMALL TYPES: 'Petite' ('Bennett') and 'Starlight'

Product Designation	Commonly Available In	Product Dimension	Characteristics*		
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard,	Height:10-14" Canopy Width:	Fullness at base: 40-70%		
	4 1/2-inch azalea	8-12"			
Medium	6-inch pot 5 1/2-inch azalea,	Height: 14-20"	Fullness at base: 50-70%		
	6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Canopy Width: 14-22"			
Large	8-inch pot 7 1/2-inch azalea,	Height: 22-30"	Fullness at base: 50-70%		
	8-inch bulb pan, 8-inch azalea, 2 gallon	Canopy Width: 16-28"			

^{*}The number of shoots or basal stems is influenced by culitvar and cultural conditions during production. As the plant matures, the number of stems and leaves increase providing fullness at the base. The "fullness at base" measurement is the percentage of potting medium covered by leaf bases.



PEACE LILY

SPATHIPHYLLUM SPECIES

MEDIUM TYPES: 'LINDA,' 'LYNISE,' 'MAUNA LOA,' 'MAUNA LOA SUPREME,' 'PETITE,' 'SUPREME,' 'TASSON,' 'VISCOUNT'

Product Designation	Commonly Available In	Product Dimension	Characteristics Fullness at base: 50-70%		
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan,	Height: 14-20"			
	6-inch azalea, 6-inch standard, 6 1/2-inch azalea, 1 gallon	Canopy width: 14-22"			
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan,	Height: 22-30"	Fullness at base; 50-70%		
	8-inch azalea, 2 gallon	Canopy width: 16-28"			
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan,	Height: 26-36"	Fullness at base: 50-70%		
	10-inch standard, 3 gallon	Canopy width: 26-34"			

^{*}The number of shoots or basal stems is influenced by cultivar and cultural conditions during production. As the plant matures, the number of stems and leaves increase providing fullness at base. The "fullness at base" measurement is the percentage of potting medium covered by leaf bases.



PEACE LILY

SPATHIPHYLLUM SPECIES

LARGE TYPES: 'LINDA,' 'LYNISE,' 'MAUNA LOA,' 'MAUNA LOA SUPREME,' 'SENSATION,' 'SUPREME'

Product Designation	Commonly Available In	Product Dimension	Characteristics*			
Extra-l arge 8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 2 gallon		Height: 22-30" Canopy width: 16-28"	Fullness at base: 50-70%			
Extra-Large	10-inch pot 10-inch azalea, 10-inch bulb pan, 10-inch standard, 3 gallon	Height: 26-36" Canopy width: 26-34"	Fullness at base: 70-90%			
Jumbo (Medium Leafed Variety)	14-inch pot 14-inch standard, 14-inch squat pot, 7 gallon	Height: 36-48" Canopy width: 30-46"	Fullness at base: 70-90%			
Jumbo 14-inch pot (Large 14-inch standard, Leafed 14-inch squat pot, Variety) 7 gallon		Height: 40-60" Canopy width: 30-46"	Fullness at base: 50-70%			

^{*}The number of shoots or basal stems is influenced by cultivar and cultural conditions during production. As the plant matures, the number of stems and leaves increase providing fullness at base. The "fullness at base" measurement is the percentage of potting medium covered by leaf bases.

Spathiphyllum Cultivars



SMALL CULTIVAR *Spathiphyllum* 'Starlite'



MEDIUM CULTIVARSpathiphyllum'Lynise'



LARGE CULTIVAR
Spathiphyllum 'Sensation'

Four Different Stages of Spathiphyllum Inflorescence Development



STAGE 1 Emerging spike stage



STAGE 3
Spikes above the canopy



STAGE 2
Spikes in the canopy



STAGE 4
Open flower above canopy

SYNGONIUM

HISTORY

With few exceptions, the commercial cultivars of *Syngonium* are hybrids or sports selected from commercial cultivars propagated from tissue culture. Until the 1980s when tissue culture became the most widely used means of propagation of *Syngonium*, propagation was either from single-node cuttings or seed collected in the tropics.

Selections of syngonium have been grown as house plants for many years. Most of the early cultivars were either grown from single-eye cuttings (cuttings consisting of a short, leafless section of stem with a single bud) or from seeds. Most of the early cultivars tended to grow as vigorous vines with long internodes and no branching of the stems unless they were cut back severely. Depending upon the cultivar selected, one can obtain a plant with strong vine-like habit or one which branches extensively from the base and produces shoots which have very short internodes. Modern syngonium cultivars are available in green and variegated patterns including gold, red, grayish green, white, brown, and intermediate colors.

DEFINITIONS

- 1. Potted syngonium should have several shoots per container. This number will depend upon the container size and the cultivar. Vines and foliage shoots should be distributed uniformly over the pot as viewed from above.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Plant height is measured from the bottom of the pot to the top of the foliage canopy. Plant width is an average of two measurements taken at the widest portion of the foliage canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product name and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

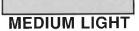
SYNGONIUM

BOTANICAL INFORMATION

The genus *Syngonium*, formerly called *Nephthytis*, is a member of the arum (*Araceae*) family. The fact that the genus was once called *Nephthytis* accounts for one of the common names (nephthytis) which is still used in the industry. Species of *Syngonium* are indigenous primarily to Central America and the Caribbean Basin. Approximately 20 species of *Syngonium* have been described, and most are stout, climbing vines with leaves parted into three or more segments as the plant progresses from the juvenile state (leaves usually arrowhead shaped) to the mature form when leaves become parted.

SPECIFICATIONS

- 1. Syngonium plants should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage should be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. The stems should be sufficiently stiff to support the foliage without bending excessively.
- 4. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth which is evident by the white-to-cream color of the root tips.
- 5. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 6. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 7. Plants should be compact/full and almost blocky in appearance. Leggy or stretched plants will have a short shelf life and generally perform poorly for the consumer.
- 8. Syngoniums are prone to stress in transit and are very photo- and geo-tropic. They will tend to look worse just after being unsleeved. Given six to eight hours, they will return to their premium condition and appear as they were when packaged at the nursery. Syngoniums are used in a variety of other ways, such as in combinations and other specialty products like trellises, that are not covered in this text.



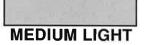
NEPHTHYTIS

SYNGONIUM SPECIES

FREE-STANDING AND HANGING BASKETS

Product Designation	Commonly Available In	Product Dimension	Number of Tissue Culture Liners	Characteristics
Small*	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea	Height: 10-12" Canopy width: 8-10"	1	Compact, dense foliage to soil line, 80-100% coverage.
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6-inch hanging basket, 5 1/2-inch hanging basket, 6 1/2-inch azalea	Height: 12-14" Canopy width: 14-18"	1-3	Compact, dense foliage to soil line, 80-100% coverage.
Large	8-inch pot 7 1/2-inch azalea, 8-inch bulb pan, 8-inch azalea, 8-inch hanging basket	Height: 16-18" 16-24" Canopy width: 20-24"	3-4	Compact, dense foliage to soil line, 80-100% coverage.
Extra-Large	10-inch pot 10-inch bulb pan, 10-inch hanging basket	Height: 18-20" Canopy width: 24-28"	4-5	Compact, dense foliage to soil line, 80-100% coverage.

^{*}Some small grade are still done form leaf tips or eye cuttings. The range of varieties is vast. However, the predominant source is from tissue culture.



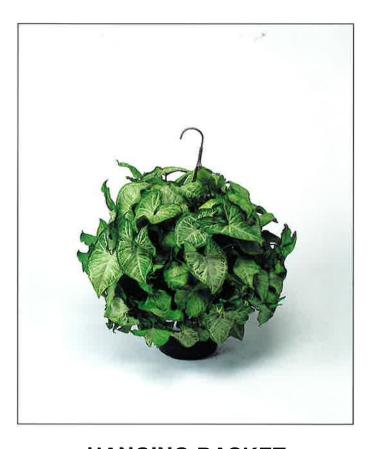
NEPHTHYTIS

SYNGONIUM SPECIES

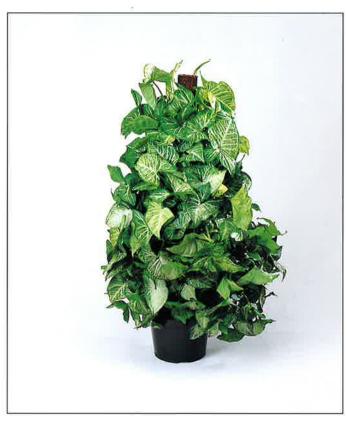
TOTEM POLES

Product Designation	Commonly Available In	S. 307	oduct nension	Number of Tissue	Characteristics		
		Totem Pole Height	Height Covered	Culture Liners			
Medium	6-inch pot 5 1/2-inch azalea, 6-inch bulb pan, 6-inch azalea, 6-inch standard, 6 1/2-inch azalea .	18-24"	75-95%	2-3	There should be no totem pole visible below the canopy of foliage.		
Large	8-inch pot 7 1/2-inch azalea, 8-inch azalea	30-36"	75-95%	3-5	There should be no totem pole visible below the canopy of foliage.		
Extra-Large	10-inch pot 10-inch standard, 3 gallon	36-48"	75-95%	5-8	There should be no totem pole visible below the canopy of the foliage.		

Nephthytis SYNGONIUM SPECIES



HANGING BASKETSyngonium 'White Butterfly'



TOTEM POLESyngonium 'White Butterfly'

HISTORY

Many fern species have been utilized extensively as house plants. This indoor usage was especially prolific during the Victorian period but later waned. When the foliage plant industry experienced rapid growth in the United States from approximately 1965 through 1980, many species and cultivars of potted ferns were produced during the first half of that period. From the middle of that period to the present day, a few species tend to dominate the market and the majority of the species and cultivars experience reduced production. In most cases, the ferns which remain popular today are better adapted to the indoor environment than those which are no longer readily available. Many ferns perform poorly indoors where the humidity is low and other environmental factors may be suboptimal. Customer satisfaction with some of the more durable ferns have insured them a lasting place in the market.

DEFINITIONS

- 1. Potted fern plants have different growth habits, depending upon the species. Many have a spreading crown lacking visible stems above the potting medium (table ferns, maidenhair ferns) while others have conspicuous surface rhizomes (rabbit's-foot ferns). The spreading types may have one or more plants per pot depending upon the container size. A few ferns (bird's-nest ferns and some tree ferns) develop with a single upright stem which dictates that one plant per container is desirable to maintain the radial symmetry of foliage.
- 2. Product dimensions of potted plants refer to plant measurements made prior to sleeving or six to eight hours after plants have been unsleeved.
- 3. Product dimensions refer to plant height which is measured from the bottom of the pot to the top of the foliage canopy. Plant width is the average of two width measurements taken at the widest portion of the canopy. The second width measurement is made after rotating the container on its base 90 degrees from the first measurement.
- 4. Care tags should provide product names (common name and scientific name) and user care information for water, light, temperature, and other pertinent information. One care tag should be attached to each potted unit.

BOTANICAL INFORMATION

The ferns, family Polypodiaceae, in this section are placed in one of three growth habits and listed below with their common name(s) and botanical name. The growth habit is a good indicator of the best application for a particular plant.

Common Name

Botanical Name

Upright Growth Habit

Bird's-Nest Ferns:

Bird's-Nest Fern Asplenium nidus

Japanese Bird's-Nest Fern Asplenium nidus 'Antiquum' Lasagne Bird's-Nest Fern Asplenium nidus 'Crispafolium'

Staghorn Ferns:

Common Staghorn Fern Platycerium bifurcatum

Elk's-Horn Fern Platycerium hilli

Dwarf Tree Ferns:

Dwarf Tree Fern Blechnum gibbum

Semi-Spreading Growth Habit

Mahogany Fern:

Mahogany Fern Didymochlaena truncatula

Maidenhair Ferns:

Australian Maidenhair Fern Adiantum hispidulum

Fritz Luth Maidenhair Fern Adiantum raddianum 'Fritz Luth' Pacific Maid Maidenhair Fern Adiantum raddianum 'Pacific Maid'

Leatherleaf Fern:

Leatherleaf Fern Rumohra adiantiformis

(Polystichum adiantiforme)

Table Ferns:

Mayii Table Fern Pteris cretica 'Mayii'

Silver Leaf Table Fern Pteris ensiformis 'Victoriae' Silverlace Table Fern Pteris quadriaurita 'Argyraea'

Wimsett Table Fern Pteris cretica 'Wemsettii'

Variegated Table Fern Pteris cretica 'Albo lineata'

Common Name

Botanical Name

Spreading Growth Habit

Button Ferns:

Button Fern

Yellow Button Fern

Pellaea rotundifolia

Nephrolepis duffii (N. cordifolia 'Duffii')

Rabbit's-Foot Fern and similar types:

Ball Fern, Rabbit's-Foot Fern

Rabbit's-Foot Fern

Squirrel's-Foot Fern

Davallia mariesii

Davallia fejeensis 'Plumosa'

Davallia trichomanoides

SPECIFICATIONS

- 1. Table ferns should have clean foliage which is free of dirt and other conspicuous residues.
- 2. Plants should have healthy foliage with growth typical of the cultivar. The foliage shall be free of mechanical damage, other blemishes, diseases, insects, mites, and other pests.
- 3. Plants should have healthy roots that are free of evident decay. Healthy roots exhibit some new growth.
- 4. The potting mix should be free of weeds, and the level of mix in the pots should not be less than 90 percent of the pot height. The potting mix should be kept moist.
- 5. Consumer care tags should be placed with each plant unless otherwise specified and agreed upon. The tags should be botanically specific to the genus unless otherwise specified and agreed upon.
- 6. Table ferns will tolerate a wide range of temperatures from the upper 40° F to the upper 90° F.
- 7. Ferns reproduce by spores which are typically borne on the margins or the underside of mature leaflets. Sometimes the spore cases may be mistaken for insects or deformities.
- 8. Table ferns are produced commercially from tissue and spore culture in laboratory conditions.

SPECIFICATIONS (cont.)

Because the table ferns encompass such a wide variety of forms and colors, we have separated them according to their growth habits into three groups.

Upright Growth Habit

These are plants having foliage that originates from a narrow base and radiates upward and slightly outward. Included in this group are: Birds Nest Ferns ('Victoria', *Antiquum nidus*, 'Japanese,' 'Lasagna,' and more), Staghorn Ferns, and Dwarf Tree Ferns.

Semi-Spreading Growth Habit

These are plants that are roughly equal in height and width. They include: Pteris Ferns ('Silver Lace,' 'Tricolor,' 'Mayii,' 'Wimsetta,' 'Noweri,' 'Alba Lineata,' 'Evergemiensis'), Mahogany, Leatherleaf, Maidenhair ('Rosey,' 'Pacific,' 'Fritz Loopy,' 'Fragrans,' 'Bronze Venus'), and Autumn.

Spreading Growth Habit

This group of plants continues to grow laterally faster than they grow vertically. Plants in this group include: Rabbit's Foot and Button Ferns ('Lemon Button,' 'Poleya').

By definition of the term "table fern," these plants are commonly used as table top decorations and, therefore, are only commonly grown in 4-inch and 6-inch containers. Some of the varieties grown as table ferns are produced as hanging baskets also but will not be discussed at this time.

Medium Light

TABLE FERNS

Product Designation		Product Dimension								
	Commonly Available In	Upright	Semi- Spreading	Spreading						
Small	4-inch pot 3 1/2-inch standard, 4-inch azalea, 4-inch standard, 4 1/2-inch azalea,	Height: 6-10" Width: 10-15"	Height: 7-12" Width: 10-15"	Height: 5-8" Width: 10-15"						
Medium	6-inch pot 5 1/2-inch azalea, 6-inch azalea, 6-inch bulb pan, 6-inch standard, 6 1/2-inch azalea	Height: 12-16" Width: 20-26"	Height: 14-18" Width: 18-24"	Height: 9-12" Width: 12-18"						

Fullness at base will range from 20% to 90%.

Table Ferns



UPRIGHT TYPES



SEMI-SPREADING TYPES



SPREADING TYPES

Glossary

Acclimate - Climatic adaptation of a plant moved to a new environment. Plants

which have been properly acclimatized stand a better chance of survival

when removed from the nursery.

Aerial Root - Root structure which occurs above ground.

Air Layer - A means of asexual propagation by which roots are induced to form on

an above-ground part of the plant. Once roots have formed, the section

is removed from the mother stock and planted separately.

Azalea Pot - Slightly more shallow with a wider upper lip than a standard pot.

Bulb Pan - A pot which is considerably wider than it is deeper.

Caliper - The thickness of a stem or cane.

Cane - A leafless section of a stem.

Canopy - Upper portion of a plant at its widest point.

Cavity Tray - A plastic tray divided into many separate sections; used in propagation.

Character - Descriptive term most often used to describe a developed trunk stem or

branching habit. A palm such as Areca or Majesty with a developed

basal section is said to have character.

Cultivar - Special form of a species originating in cultivation.

Hanging Basket - Can be any type of pot with a hanger attachment.

Hybrid - A plant resulting from a cross between parents that are unalike.

Inflorescence The flowering portion of a plant and the mode of its arrangement.

Internode - The space on a stem between two joints.

Juvenile Stage - A stage of plant growth during which the plant is unable to reproduce.

Leaf and Eye - A means of sexual propagation using a section of stem and one or more

leaves.

Palmate -

Veins or leaflets radiating from tip of petiole.

Pathogen -

An infectious agent that causes disease.

Petiole -

The stem-like portion of the leaf.

Pinnae -

Leaflets.

Pinnate -

Separate leaflets arranged along the side of a leaf stalk.

Pinnately

Compound -

The leaf stem (rachis) is divided, with secondary stems on both sides of the primary stem, and leaflets are arranged on both sides of the secondary stems.

Prostrate Vine -

A vine growing flat along the ground.

Rhizome -

A horizontal stem on, or just under, the soil.

Rosette -

A cluster of leaves radiating in a circle around a crown or center, usually near the ground.

Self-Heading -

Non-climbing, short internodes and self-supporting stems; usually refers to philodendrons.

Shoot -

An upright stem.

Side Shoot -

Arising from basal or auxiliary position of a stem.

Single-Eye

Cuttings -

Cuttings with a short section of stem, one leaf, and one bud.

Sleeve -

Used primarily to prevent mechanical damage during shipment and to reduce shipping costs by allowing more units per box. Generally made of paper or plastic.

Spadix -

A fleshy spike bearing tiny flowers. Often surrounded by a spathe.

Spathe -

Partially surrounding an inflorescence. A flower-like bract, often col-

ored or showy.

Specimen -	A d	escriptiv	e t	term	used t	to d	lesc	ribe a	a pla	ant	large en	ough to make a	an
			-			_							

immediate significant contribution to a planting.

Spike - Elongated flower stem and flower that is above the foliage canopy.

Spores - The minute reproductive structure of flowerless plants, e.g., ferns.

Usually found on the underside of foliage.

Sport - A mutation; a spontaneous variation from the normal pattern which is

inherited and transmitted to progeny.

Stock Transplant - A plant grown for the purpose of harvesting cuttings, seeds, or other

means of propagation.

Tissue Culture - A means of asexual propagation by which plant tissue is cultured in

vessels using microbe-free nutrient medium.

Topiary - Technique of shaping plants into recognizable shapes or figures.

Totem - Used to describe vining varieties which have been trained up an upright

support. Generally made of wood or styrofoam.

Whorl - Three or more leaves, branches, or flowers growing in a circle from a

node.

Woody - Refers to plants which develop hard fibrous stems or spikes.