

## Magnolias<sup>1</sup>

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### DESCRIPTION AND DISTRIBUTION

Magnolias encompass a group of about 80 species of trees and large shrubs. They are native to eastern Asia and the eastern Americas north of the equator. Magnolias are both temperate and tropical, evergreen and deciduous. They characteristically have showy, fragrant flowers that are white, pink, purple, green, or yellow. The flowers are followed by showy red or pink fruits displaying red, orange, or pink seeds, each of which hangs from the fruit by a thread-like strand.

Magnolia species are found in a wide range of soils and climates but are most often associated with moist soils in mixed deciduous-coniferous woodlands. Magnolias have been harvested for timber and medicinal uses but are usually cultivated for their beautiful flowers, fruits, foliage, and plant forms.

### HISTORY

The magnolia family is very ancient with fossil remains dating between 36 and 58 million years ago. The unusual distribution of existing magnolia species resulted when Ice Age glaciers destroyed ancient European forests but not those in Asia or America.

Surviving magnolia species represent some of the more primitive flowering plants. Magnolia flowers do not have true petals and sepals but are composed of petal-like tepals. Flowers do not produce true nectar, but attract pollinating beetles with fragrant, sugary secretions. Magnolia flowers are primarily pollinated by beetles of the *Nitidulidae* family because magnolias evolved long before bees and other flying pollinators.

Magnolias were well known and widely used by ancient cultures in Asia and the Americas. The beautiful flowering tree, *Magnolia denudata*, was known as "Yu-lan" ("Jade Orchid") to the ancient Chinese and has been cultivated since the 7th century. The Japanese have grown *Magnolia stellata* for centuries as flowering pot plants called "Shidekobushi" ("Zigzag-petalled Kobushi Magnolia"). The Aztecs knew *Magnolia macrophylla* var. *dealbata* as "Eloxochitl" ("Flower with Green Husk").

Europeans were not familiar with magnolias and they first discovered them while exploring the Americas. In 1688, Sweet Bay (*Magnolia virginiana*) was the first magnolia introduced to Europe. Unaware of Amerindian or Asian names for the species, 18th century taxonomists named magnolias

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to commemorate Pierre Magnol, a 17th century French botanist.

## USES

Asians have long cultivated *Magnolia* species for their flowers. Asian species were first introduced to Europe and America in 1780. As additional species were introduced, this group of free-flowering magnolias became immensely popular. Intensive breeding programs began hybridizing magnolias to develop more floriferous and hardy forms with a wider range of flower colors. The hybrids and crosses produced by these breeding programs, still on-going, have resulted in many superior ornamental trees. These magnolias are now among the 10 most popular flowering trees in the U.S.

Other magnolias are grown for their value as shade trees. The American tree, Southern Magnolia, *Magnolia grandiflora*, was introduced to Europe in 1731. This tree quickly became popular because of its glossy evergreen foliage, large beautiful flowers and elegant form. *Magnolia grandiflora* also was found to be widely adaptable to different climates, soils, and exposures. Thus, it was the first magnolia to be planted widely and is now considered the most widely planted ornamental evergreen tree in the world.

Aside from their ornamental value, several species are harvested for timber. The Asian species, *Magnolia hypoleuca* and *M. kobus*, are used for furniture. The North American species, *M. acuminata*, *M. grandiflora*, *M. macrophylla* and occasionally *M. virginiana*, have been used similarly. Flower buds of *M. liliiflora* and bark of *M. officinalis*, *M. liliiflora*, and *M. kobus* (in Asia) and *M. grandiflora* and *M. virginiana* (in America) have been used in infusions as a tonic. Flower tepals have been used for food. Wildlife feed on the magnolia's seeds and flower tepals.

## PESTS IN FLORIDA

Magnolias are less susceptible to pests than many other ornamentals. Soft and armored scales are common in woods and landscapes and can occasionally damage plants. Magnolia root borer (*Euzophera magnolialis*) has caused problems in nurseries but is not a significant landscape problem.

Several nematodes can infest magnolia roots. Wildlife eat the seeds and flower tepals.

Several diseases affect magnolias, but none are serious. Stem cankers, powdery mildew and many different leaf spots are occasional problems. Root and wood rots occur as well as a verticillium wilt.

## PROPAGATION

### Seeds

Magnolias grown from seed often vary in crown structure, size, vigor, and flower and foliage characteristics. Seed-grown plants usually take much longer to flower than asexually propagated plants.

Magnolia fruits are 2 to 6 inches long and ripen in late summer to late fall. When mature, individual follicles in the fruit split to expose red or orange seeds. Fruits should be promptly harvested when seeds are mature. Alternatively, fruits with immature seeds may be ripened in a warm room. Seeds should be macerated in water to remove the red seed coat and fleshy pulp. Soaking macerated seeds in water for a few days may help in pulp removal. Freshly cleaned seeds may be sown right away but germination may be improved if seeds are stratified at 40°F for 2 to 4 months. Seeds may be stored for several years in sealed containers at 32 to 40°F.

### Cuttings

Cutting propagation is preferred for most magnolias. However, rooting potential of cuttings varies considerably among cultivars as well as among species. *Magnolia denudata*, *M. acuminata*, and *M. grandiflora* are considered difficult to root from cuttings.

Soft to semi-hardwood cuttings should be taken from juvenile plants whenever possible. Wounding may be beneficial. Cuttings should be treated with 5,000 to 10,000 ppm IBA and placed under intermittent mist. Cuttings usually root within 6 to 12 weeks.

### Layering

Layering is the ancient, traditional way of propagating magnolias. In its simplest form, branches

are bent and pegged to the ground in late winter or early spring. A slit or cut is usually made in the buried portion of the stem. The terminal portion of the bent branch should be staked vertically. Magnolias may also be air-layered. Layered plants can be cut from the mother plant 1 to 2 years later.

### Grafting

Grafting and budding are effective ways of propagating large numbers of a desirable magnolia. Understocks should be 3 to 4-year old plants. Many different magnolia species may be used as understocks.

Grafting is possible from late summer through early spring. Side and veneer grafts are commonly used.

Magnolias may be chip budded at any time of the year. The buds should be tied and waxed or wrapped with polyethylene film. A warm, humid environment will speed callusing. After budbreak, the stocks are cut back. Magnolias may also be T-budded.

### Micropropagation (Tissue Culture)

There has been success in micropropagating magnolias. Reportedly, shoot proliferation is slow and yields are low.

## MAGNOLIAS FOR FLORIDA

### Cucumbertree Magnolia, Cucumber Magnolia (*Magnolia acuminata* and *M. a. var. subcordata*)

#### Description and Uses

Cucumber Magnolia is a fast growing deciduous shade tree ultimately reaching 60 to 80 feet in height and 30 feet in width. Young trees are pyramidal but become oval or rounded with age. Lower branches are pendulous and may even touch the ground. Light green, oval leaves are 6 to 10 inches long with downy undersides. Slightly fragrant, greenish-yellow to yellow flowers occur in late spring and early summer. On most plants, the 3-inch flowers are almost inconspicuous because they open after the leaves have expanded. Flowers are followed by slightly elongated, 4-inch dark red fruits.

The variety *subcordata* grows to be a medium tree and usually has smaller fruits and shorter and more rounded leaves than the species.

#### History

Cucumber Magnolia derives its common name from the green, immature fruits that somewhat resemble a cucumber. Cucumber Magnolia is valued for its light, durable timber. It was used by Native Americans to construct canoes and bowls. It has the widest range of all North American magnolias but in Florida is found only in 3 Panhandle counties. Curiously, the variety *subcordata* was first discovered in 1790 but was lost in the wild until rediscovery in 1910.

Yellow-flowered forms of *Magnolia acuminata* and *M. a. var. subcordata* have been selected and hybridized to produce much-sought true-yellow flowering magnolias. The variety *subcordata* has been especially valued for its smaller stature. Breeders particularly strive to develop cultivars that flower before leaves appear.

#### Culture

As with other magnolias, Cucumber Magnolia grows best in full sun or partial shade on moist, well-drained soils. This tree is also quite tolerant of wet and alkaline soils.

#### Cultivars

This tree is difficult to propagate asexually. Thus, many cultivars are not yet widely available.

In Florida, the yellow-flowered cultivars tend to produce flowers that are very pale yellow. Our warm winters and bright sunlight prevent the yellow pigment from developing fully.

'Butterflies' (*Magnolia acuminata* x *M. denudata* 'Sawada's Cream') - Deep yellow flowers appear before the leaves on an upright tree. These flowers are the deepest yellow of any cultivar thus far.

'Elizabeth' (*Magnolia acuminata* x ] *M. denudata*) - This pyramidal shaped tree displays creamy, yellowish, fragrant flowers in spring before leaves appear.

'Evamaria' (*Magnolia x brooklynensis* [*M. acuminata* x ] *M. liliiflora*]) - Unopened flower buds are purple, green, and yellow. Open flowers are magenta rose shaded with orange and yellow.

'Miss Honeybee' (*Magnolia acuminata* var. *subcordata*) - This small tree produces 4-inch diameter flowers that are light to medium yellow. The plant blooms and leafs out at the same time.

'Yellow Bird' (*Magnolia x brooklynensis* 'Evamaria' x ] *M. acuminata* var. *subcordata*) - Light yellow, cup-shaped flowers are produced simultaneously with new leaves.

Other yellow-flowered magnolias are 'Golden Glow' (*M. acuminata*), 'Koban Dori' (*M. acuminata*), 'Ellen' (*M. acuminata* var. *subcordata*), 'Yellow Lantern' (*Magnolia acuminata* x ] *M. x soulangiana* 'Alexandrina'), and 'Hattie Carthan' (*Magnolia x brooklynensis* 'Evamaria' x ] *M. x brooklynensis*).

### **Ashe Magnolia, Cow Cucumber Magnolia (*Magnolia macrophylla* var. *ashei*)**

#### **Description and Uses**

Ashe Magnolia can be considered a smaller form of Bigleaf Magnolia, *Magnolia macrophylla*. Ashe Magnolia is a large shrub or small tree (to about 25 feet) with large, light green leaves with whitish undersides. The leaves are slightly smaller than leaves of Bigleaf Magnolia: up to 2 feet long and 1 foot wide. The 6 to 8-inch diameter flowers occur in late spring and are white with rose-purple blotches on the inner tepals. The reddish, cylindrical fruits are about 3 inches long. Significantly, Ashe Magnolia

flowers at an earlier age than Bigleaf Magnolia. Plants as small as 1 foot tall commonly bloom.

#### **History**

Ashe Magnolia is found only in the Florida Panhandle and is considered threatened. It grows in the understory on slopes of ravines often in association with American Hophornbeam (*Ostrya virginiana*), Two-winged Silverbells (*Halesia diptera*), and Red Buckeye (*Aesculus pavia*).

#### **Culture**

Ashe Magnolia transplants poorly and seems to be short-lived in many landscape sites unless its cultural requirements are closely met. Partial shade and well-drained soil are required. It will not tolerate wet soil or drought. Sheltered sites are best since strong winds can shred the papery leaves and break the brittle branches. The large leaves decompose slowly after falling and may be considered a litter problem.

### **Southern Magnolia, Bull Bay Magnolia (*Magnolia grandiflora*)**

#### **Description and Uses**

Southern Magnolia is native to moist soils of the Coastal Plain of the southeastern U.S. This large tree grows up to 90 feet tall and 30 to 40 feet wide. The crown is pyramidal to ovoid in shape although crown shape and density vary greatly. Southern Magnolia has glossy, leathery, evergreen, oval-shaped leaves that are 5 to 8 inches or more long and half as wide. The upper leaf surface is dark green and the lower surface is often covered by brown, dense, felt-like hairs. The fragrant white flowers are 8 inches in diameter, appearing in late spring and intermittently throughout the summer. The flowers are followed by reddish, 3- to 5-inch long, oblong-shaped fruits displaying red seeds ripening in late fall. This species is extremely variable in size, shape, habit, growth rate, canopy density, leaf color, and flowering season. This variability has allowed a large number of cultivars to be selected.

Southern Magnolia is used as a specimen plant, street tree, shade tree, screen or windbreak. This tree also can be grown as an espalier.

## History

Southern Magnolia was introduced to Europe in 1731. This tree was quickly popularized for its glossy evergreen foliage, large beautiful flowers and elegant form. *Magnolia grandiflora* also was found to be widely adaptable to different climates, soils, and exposures. It was the first magnolia to be widely planted and is now considered the most widely grown ornamental evergreen tree in the world.

In the southern U.S., Southern Magnolia was often planted in front of early homesteads. While most trees were limbed up to provide shade, the lower limbs of Southern Magnolia were retained. These were often pegged to the ground so that they rooted. With the tree anchored by several such rooted branches, it resisted virtually any strong wind. The layered branches also provided replacement trees in the event that the main tree died.

## Culture

Adapted throughout north and central Florida, Southern Magnolia grows best in moist, rich soils in full sun. It also is adapted to partial shade and wet or clay soils. Southern Magnolia is considered very drought tolerant when grown in areas that allow extensive root growth. It is moderately drought tolerant in areas with poor, dry soil or where its root system is restricted. Because field-grown trees often transplant poorly, they should be moved in winter and spring and irrigated regularly for several months.

## Cultivars

Many cultivars have been selected. The following list highlights some of the better or more well-known cultivars for Florida.

'Bracken's Brown Beauty' - Considered one of the best selections for foliage and plant form, the lower leaf surface is a rich, dark brown.

'Little Gem' - This dwarf, compact tree has a narrow, upright form. Although slow-growing, it blooms when very small. Flowers are smaller than the species but open throughout a 5-month

period over summer. The small leaves are lustrous dark green with bronze-colored undersides. This is an excellent small tree, hedge, or espalier plant.

'Saint Mary' - Slow-growing and compact, 'Saint Mary' blooms when very small and has lustrous, oval-shaped, wavy-margined leaves. This cultivar originated as a seedling purchased by Glen St. Mary Nursery in Glen St. Mary, Florida.

'Samuel Sommer' - Fast growing and vigorous, this cultivar produces flowers up to 14 inches in diameter.

Other cultivars are 'Alabama Everlasting,' 'Angustifolia,' 'Baby Doll,' 'Cairo,' 'Charles Dickens,' 'Claudia Wanamaker,' 'D.D. Blancher™,' 'Edith Bogue,' 'Exionensis,' 'Exmouth,' 'Ferruginea,' 'Gloriosa,' 'Goliath,' 'Hasse,' 'Lakeside,' 'Lanceolata,' 'Madison,' 'Monlia' (Majestic Beauty™), 'Pioneer,' 'Praecox Fastigiata,' 'Russet,' 'Saint George,' 'Santa Cruz,' 'Springhill,' 'Monland' (Timeless Beauty™), 'Variegata' and 'Victoria.' In addition, *Magnolia grandiflora* has been bred with *M. virginiana*, Sweetbay Magnolia. From this hybrid, two cultivars have been selected: 'Freeman' and 'Maryland.' Despite the Sweet Bay parentage, these cultivars resemble Southern Magnolia in foliage, form and size. The hybrids flower at a younger age than Southern Magnolia. The flowers also are intermediate in size between the two parents with the fragrance resembling that of Sweet Bay.

## Pyramidal Magnolia (*Magnolia fraseri* var. *pyramidata*)

### Description and Uses

Pyramidal Magnolia is a pyramidal-shaped small tree growing to 35 feet. This deciduous tree has smooth, oval leaves 8 inches long and half as wide. Leaves are arranged in whorls at the ends of branches. The fragrant white flowers are 3 to 4 inches

in diameter, opening in late spring. Pyramidal Magnolia flowers when quite young. Reddish fruits follow the flowers and ripen sooner than fruits of any other magnolia. Pyramidal Magnolia is native to parts of the Southeast's Coastal Plain, including the Florida Panhandle.

### History

Pyramidal Magnolia appears to be a smaller-statured, lowland counterpart of Fraser Magnolia (*Magnolia fraseri*), native to the hills and mountains of the South. It is considered rare because of its limited distribution.

### Culture

Cultural requirements of Pyramidal Magnolia are similar to those of Ashe Magnolia. This tree is found in moist woods and is known to be intolerant of poorly drained soils.

### **Umbrella Magnolia (*Magnolia tripetala*)**

#### Description and Uses

Umbrella Magnolia is a small to medium deciduous tree native to eastern North America including Florida. This upright-growing tree is often multi-stemmed. The leaves are up to 20 inches long and 10 inches wide. Umbrella Magnolia derives its common name from these large leaves that are arranged in clusters at the ends of branches. Cream-colored flowers up to 8 inches in diameter open in late spring after the foliage. Trees begin flowering when as young as 7 years from seed. The 4-inch long fruits are the brightest red of the American magnolias.

### History

Umbrella Magnolia is distinguished by having extraordinarily foul-smelling flowers. Even its wood has a disagreeable smell when cut.

As with Bigleaf Magnolia, Umbrella Magnolia is valued for its large leaves which lend a tropical appearance in temperate climates.

### Culture

Umbrella Magnolia is found growing in rich, moist soils of sheltered woods and ravines. This tree should grow best with partial shade and well-drained, slightly acid soil.

### Cultivars

Although probably unavailable in commerce, the cultivars 'Bloomfield' and 'Woodlawn' were selected in the 1970s.

*Magnolia tripetala* is the parent of a number of hybrids including 'Silver Parasol' (*M. hypoleuca* x ] *M. tripetala*) and 'Charles Coates' (*M. sieboldii* x ] *M. tripetala*). Similarly, *Magnolia x thompsonianana* 'Urbana' was selected from the progeny of *M. tripetala* x ] *M. virginiana*.

### **Sweetbay Magnolia, Sweet Bay (*Magnolia virginiana*)**

#### Description and Uses

Sweetbay Magnolia is a beautiful semi-evergreen to evergreen tree eventually growing 40 to 60 feet tall and about half as wide. Sweetbay Magnolia is very striking when the glossy green leaves flutter in the wind exposing the whitish undersides. The narrow oblong leaves are 3 to 5 inches long and 1 to 2 inches wide. Extremely fragrant, white flowers are 2 1/2 inches in diameter and occur throughout mid to late summer. The lemon-scented flowers tend to become cream-colored with age. Fruit cones turn red in late summer and expose bright red seeds that contrast with the glossy foliage. Plants will flower when as young as 3 years old from seed. Occasional trees are multi-stemmed but most trees have a single, dominant central leader.

Two varieties of Sweetbay Magnolia occur: *virginiana*, a smaller, almost deciduous form in its northern range and *australis*, a larger, more evergreen type found in the South. The variety *australis* should be grown in Florida.

Sweetbay Magnolia is best used as a patio or specimen tree. This beautiful tree should be planted more often.

## History

Common names of *Magnolia virginiana* reflect its nativity to wet woodlands and swamps of mid-Atlantic and southeastern North America. Other common names are Swamp Bay, Swamp Laurel, Swamp Magnolia, Swamp Sassafras, Beaver Tree, and Beaverwood. These last 2 names refer to the observed feeding preference of beavers for the stems and roots of this species. Early settlers made a tincture from the bark to treat coughs, colds and fevers.

In 1688, Sweetbay Magnolia became the first magnolia introduced to Europe.

## Culture

Although native to low, wet woodlands, Sweetbay Magnolia grows best in moist, well-drained soils and full sun to partial shade. This tree tolerates wet soils and also is somewhat tolerant of alkaline soils.

## Cultivars

The cultivars *Magnolia virginiana* var. *australis* include:

'Crofts' - Cold hardiness and glossy leaves are characteristic of this tree.

'Henry Hicks' - This cultivar remains evergreen throughout the species' range.

'Willowleaf Bay' - This fast-growing, narrowly pyramidal tree has narrower leaves than the typical variety.

In addition, Sweetbay Magnolia has been bred with Southern Magnolia, *Magnolia grandiflora*. Refer to the section on Southern Magnolia for a discussion of this hybrid.

## Deciduous Flowering Magnolias (*Magnolia* Selections and Hybrids)

### Description and Uses

This group of deciduous trees is known for its spectacular display of flowers appearing before the foliage in late winter and early spring. Considered some of our most beautiful flowering trees, this broad grouping encompasses cultivars bred from several Asian magnolia species.

Deciduous flowering magnolias generally are considered small trees with slow to moderate growth rates. Smaller cultivars may be grown as large shrubs and some larger trees may eventually grow 40 to 70 feet tall. Tree shape characteristically is upright to rounded when young and becoming rounded or broad-spreading with age. The medium green leaves are oval to circular in shape and vary in size from 3 to 10 inches long and 2 to 10 inches wide. Leaves turn a nondescript yellow to brown before falling. The trunk has smooth, tan or grey bark and branches exhibit large, fuzzy flower buds.

The fragrant flowers open before the foliage and range in color from white to pink to purple. Often flowers display one color on the outer side of the tepal and a lighter color inside. Tepals also may shade from a dark color near the base to a lighter color at the tepal tip. Characteristics vary with the cultivar but flowers range from 3 to 12 inches in diameter. Peak bloom occurs around the first week of February in Gainesville. Some cultivars produce flowers sporadically through the summer and fall. Reddish fruits sometimes develop in the fall.

Deciduous flowering magnolias are best used as small patio, specimen or accent trees. Smaller-sized cultivars may be incorporated into foundation plantings or shrub borders or grown in containers.

### History

Many parents of today's deciduous flowering hybrid magnolias were widely grown by the ancient Chinese and Japanese. The beautiful flowering tree, *Magnolia denudata*, was known as "Yu-lan" ("Jade Orchid") to the ancient Chinese. Its flower was considered a symbol of purity and the tree has been

cultivated in temple gardens since the 7th century. The Chinese also cultivated "Hou-phu" (*Magnolia officinalis*) for the bark's medicinal qualities, and "Mu-lan" ("Woody Orchid"; *Magnolia liliiflora*) for grafting stock. The Japanese have grown *Magnolia stellata* for centuries as flowering pot plants called "Shidekobushi" ("Zigzag-petalled Kobushi Magnolia"). These container-grown magnolias were brought into Japanese homes during their bloom season in order to fully appreciate their flowers and fragrance.

The first of these Asian species was introduced to Europe in 1780 and subsequently to America. As additional species were introduced, this group of free-flowering magnolias became immensely popular. Intensive breeding programs produced late-blooming, more floriferous forms with a wider range of flower colors. A primary goal of these breeding programs was to develop late-blooming cultivars whose flowers would avoid being damaged by late frosts. Famous breeders were Frenchman Etienne Soulange-Bodin in the early 19th century, Englishmen Peter C. M. Veitch in the early 1900's and Charles Raffill in the 1940's, and most recently American D. Todd Gresham in the 1950s and '60s.

These breeding programs have relied heavily on *M. liliiflora*, *M. kobus* var. *stellata*, and *M. denudata* for parentage. Other species incorporated include *M. campbellii*, *M. kobus*, *M. salicifolia* and *M. sprengeri*. Because the Chinese and Japanese probably selected superior variants and natural hybrids of their native magnolias, the genetic heritage of these species, hybrids and crosses is very complex and confused. Genetically, the species, hybrids and crosses have shown various levels of ploidy from the normal diploid (2n) through octoploid (8n).

The hybrids and crosses produced by these breeding programs, still on-going, have resulted in many superior ornamental trees. These magnolias are now among the 10 most popular flowering trees in the U.S. Further improvements in flowering magnolias can be expected. Other Asian species continue to be introduced into cultivation. Most tropical species are still relatively unknown and are untapped resources for future breeding programs.

## Culture

Deciduous flowering magnolias are adapted to USDA Hardiness Zone 8 and cooler microclimates in Zone 9. In Florida, they grow best in full sunlight to partial shade on moist, well drained soils. Acid to neutral soils are preferred but slightly alkaline soils are also suitable for growth. Although adaptable to clay, loam or sand soils, these magnolias are intolerant of wet or poorly drained soils. Well-established plants are moderately drought tolerant. Avoid exposed, windy locations because strong winds can damage large flowers and the typically brittle branches.

## Hybrid Groups, Selections and Cultivars

### *Magnolia stellata* Cultivars and Hybrids

Star Magnolia, *Magnolia stellata*, has become the best known species because it is widely adaptable and blooms when very small. Star Magnolia is a slow-growing, broad spreading, small tree or large shrub, ultimately reaching 20 feet tall. Its flowers are 3 to 5 inches in diameter with 12 to 40 tepals. Flowers are white, although a few cultivars have pinkish flowers.

Star Magnolia's characteristics have made it popular as a parent of many hybrids. Breeding it with *M. kobus* has produced the "Loebner Hybrids" and hybrids with *M. liliiflora* have produced the U.S. National Arboretum's "Little Girl Hybrids." Star Magnolia and its progeny are the best adapted to Florida of all deciduous flowering magnolias. They can be grown successfully through Zone 9a about as far south as Tampa. The following list contains cultivars that are grown successfully in Florida.

'Centennial' (*Magnolia stellata*) - Some consider this the best *M. stellata* cultivar for Florida. Flowers are white with a pinkish cast.

'Rosea Jane Platt' (*Magnolia stellata*) - This cultivar produces pink flowers that hold their color well in Florida.

'Leonard Messel' - This Loebner Hybrid is less vigorous than others. Purple buds open to pink, 5-inch diameter *M. stellata*-type flowers.

"Little Girl Hybrids" - 'Ann,' 'Betty,' 'Judy,' 'Randy,' 'Ricky,' 'Susan,' 'Jane,' 'Pinkie' - These are listed in order of their flowering sequence ('Ann' flowers about 2 weeks after *M. stellata* with 'Pinkie' flowering about 4 weeks later). These cultivars were bred by Francis DeVos and William Kosar at the National Arboretum. Their growth habit is similar to *M. stellata*. Flower characteristics vary with the cultivar and range from 2 to 6 inches in diameter with 6 to 18 pink to purple tepals. These cultivars thus bring dark pink and purple flowers to a *M. stellata*-type plant. 'Ann,' 'Susan,' and 'Jane' are being produced in Florida. 'Susan' is the favorite of many growers.

'Merrill' - This Loebner Hybrid is a vigorous, broad spreading tree sporting 4 to 6 inch white flowers about 4 weeks later than *M. stellata*.

'Royal Star' (*Magnolia stellata*) - White, 4-inch flowers are produced about a week later than ordinary *M. stellata*. It is widely grown because of its cold hardiness.

'Waterlily' (*Magnolia stellata*) - At least 3 distinct forms carry this name. Each is vigorous, flowers 1 to 2 weeks later than ordinary *M. stellata*, and has flowers with a pinkish cast.

### Soulangiana Group

Etienne Soulange-Bodin first bred *Magnolia denudata* with *M. liliiflora* in the early 1800's. This hybrid has been repeated thousands of times, producing over 100 cultivars. Labelled *M. x soulangiana*, this group constitutes the largest and best known category of deciduous flowering

magnolias. In general, these are broad, spreading small trees that are well-adapted to northern Florida. Flowers vary by cultivar but may be goblet-, cup- or saucer-shaped and white to pink to purple. Since these hybrids are early-blooming, flowers are often damaged by early freezes. A few cultivars adapted to Florida are listed below.

'Alexandrina' - Several clones share this name. Generally, the flowers are fragrant, tulip-shaped, white inside and pink-purple outside.

'Brozzonii' - This plant has pale pink flowers that are white inside.

'Deep Purple Dream' - Beautiful dark red-purple buds open into lighter red-purple, bowl-shaped flowers. Plant has a shrubby habit.

'Grace McDade' - Large white flowers are shaded with purple-pink and appear about 2 weeks later than other cultivars.

### Gresham Hybrids

D. Todd Gresham bred magnolias in Santa Cruz, California, in the 1950's and 1960's. Using 8 species and hybrid groups for parentage, he developed over 30 cultivars and selections, and others are still being named and released over 20 years after his death. Generally, these cultivars grow the largest and have the largest flowers of all deciduous flowering magnolias. Flowers tend to be goblet-shaped the first day of bloom. On the second day, they open into a saucer-shaped flower up to 12 inches in diameter. Leaves are in scale with flowers and are circular in shape and up to 10 inches in diameter. Trees are generally upright when young but may become rounded in shape as they grow to medium sized trees. Unfortunately, most of these cultivars don't begin flowering until plants are much larger than other deciduous flowering magnolias, perhaps 6 feet or more tall. Many cultivars are still being evaluated,

but those in the following list are some of the best now growing in Florida.

'Dark Shadow' - Reddish purple flowers are produced on a shrubby tree.

'Darrell Dean' - The 12 inch, saucer-shaped flowers are orchid pink outside and white inside.

'Elisa Oldenwald' - Flowers are creamy white with light pink tones at the base of the tepals. They are up to 12 inches across.

'Full Eclipse' - Flowers with outer tepals red purple and inner tepals white develop on an upright tree.

'Heaven Scent' - Fragrant, pinkish lavender flowers are produced on this tree.

'Jon Jon' - This produces very large, creamy white flowers with a red purple at the base. Blooming later in the spring than any other Gresham, the flowers usually avoid damage from late frosts.

'Joe McDaniel' - This cultivar has dark burgundy buds that open to dark red flowers with cream interiors.

'Peter Smithers' - The 10-inch flowers are bright rosy pink outside and white inside.

'Pink Goblet' - Beautiful goblet-shaped flowers are pink outside and white inside.

'Raspberry Ice' - Flowers are 9 inches across and are pinkish white with violet shading at the base. Plant has a shrubby habit.

'Royal Crown' - Large 10 to 12 inch flowers are violet red outside and white inside. This early-blooming plant blooms over a 3-week period and at a younger age than other cultivars. It often re-blooms in the fall.

'Sangreal' - Large red purple flowers develop on a vigorous tree.

'Tina Durio' - Flowers are 10 inches in diameter and are white with a slight pink tinge at the base of the tepals.

'Todd Gresham' - This fast growing tree produces dark burgundy buds opening to large flowers with dark pink exteriors and white interiors.

'Winelight' - The late-blooming flowers are large, luminescent white with a pinkish tinge at the base.

### Other Cultivars

'Diva' (*Magnolia sprengeri*) - 'Diva' is the parent of a number of hybrids. It produces 8-inch, rosy-pink flowers with pale pink interiors when as young as 5 to 7 years.

'Galaxy' (*M. liliiflora* 'Nigra' x ] *M. sprengeri* 'Diva') - This National Arboretum release bears tulip-shaped, reddish purple flowers in

mid-season on a fast-growing pyramidal shaped tree.

'Spectrum' (*M. liliiflora* 'Nigra' x ] *M. sprengeri* 'Diva') - Another National Arboretum release, 'Spectrum' produces large tulip-shaped, deep reddish purple flowers with a white interior on a broad, rounded tree. Flowers are larger than on 'Galaxy' and bloom later.

'Vulcan' (*Magnolia campbellii* 'Lanarth' x ] *M. liliiflora* 'Nigra') - 'Vulcan' bears 10-inch, ruby red flowers on a small, narrowly rounded tree.

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