

Magnolia grandiflora: Southern Magnolia¹

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Introduction

This large, stately, native North American evergreen tree with its large, beautiful, saucer-shaped, fragrant flowers is almost a Southern landscape tradition. It has been selected as the state tree of Mississippi. Capable of growing at a moderate rate to a height of 80 feet or more with a 30 to 40-foot spread, southern magnolia forms a dense (more open in the shade), dark green pyramidal shape, the lower branches often bending to the ground. However, form and growth rate on seedlings is incredibly variable. Some are dense and make great screens, others are very open with large spaces between branches; some have a narrow, almost columnar form, others are as wide as they are tall. Select from the many available cultivars to ensure the desired shape and density. The trunk on large specimens can grow to more than three feet in diameter, and frequently grows straight up through the center of the crown. Branches are typically numerous and small in diameter. Remove those few branches which occasionally form weak, tight crotches.

General Information

Scientific name:

Pronunciation: mag-NO-lee-uh gran-dih-FLOR-uh

Common name(s): southern magnolia

Family: *Magnoliaceae*

USDA hardiness zones: 7A through 10A (Figure 2)



Figure 1. Full Form - *Magnolia grandiflora*: southern magnolia
Credits: UF/IFAS

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Origin: native to the southeastern United States

UF/IFAS Invasive Assessment Status: native

Uses: shade; specimen; street without sidewalk; screen; espalier; tree lawn > 6 ft wide; highway median



Figure 2. Range

Description

Height: 60 to 80 feet

Spread: 30 to 40 feet

Crown uniformity: irregular

Crown shape: pyramidal, oval

Crown density: moderate

Growth rate: moderate

Texture: coarse

Foliage

Leaf arrangement: alternate

Leaf type: simple

Leaf margin: entire

Leaf shape: elliptic (oval), ovate

Leaf venation: brachidodrome, pinnate

Leaf type and persistence: evergreen, broadleaf evergreen

Leaf blade length: 4 to 8 inches

Leaf color: dark green and glabrous on top, paler green and covered with a dense, rusty pubescence underneath

Fall color: no color change

Fall characteristic: not showy

Flower

Flower color: creamy white

Flower characteristics: very showy; very fragrant; saucer-shaped

Flowering: spring and summer



Figure 3. Leaf - *Magnolia grandiflora*: southern magnolia
Credits: UF/IFAS



Figure 4. Flower - *Magnolia grandiflora*: southern magnolia
Credits: UF/IFAS

Fruit

Fruit shape: elongated

Fruit length: 3 to 5 inches

Fruit covering: dry or hard

Fruit color: green to bright red with maturity

Fruit characteristics: attracts birds; showy; fruit/leaves a litter problem

Fruiting: fall



Figure 5. Flower - *Magnolia grandiflora*: southern magnolia
Credits: UF/IFAS



Figure 6. Ovary - *Magnolia grandiflora*: southern magnolia
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Trunk and Branches

Trunk/branches: branches droop; not showy; typically one trunk; no thorns

Bark: gray and smooth, developing scaly plates with age

Pruning requirement: little required

Breakage: resistant

Current year twig color: green

Current year twig thickness: thick

Wood specific gravity: 0.50



Figure 7. Bark - *Magnolia grandiflora*: southern magnolia
Credits: Gitta Hasing, UF/IFAS

Culture

Light requirement: full sun to partial shade

Soil tolerances: clay; sand; loam; slightly alkaline; acidic; occasionally wet; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: high

Other

Roots: not a problem

Winter interest: no

Outstanding tree: no

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: susceptible

Pest resistance: resistant to pests/diseases

Use and Management

The 5- to 8-inch-long, leathery, oblong, shiny leaves are shed as new foliage emerges but the debris is well-hidden by the dense foliage of the lower limbs, if they are left on the tree. But some people consider this a litter nuisance when the large, slowly-decomposing leaves drop on the sidewalk, lawn or patio. The underside of the leaves is covered with a fine, red-brown fuzz which is more prominent on some selections than others. In late spring and sporadically throughout the summer, huge, 8-inch-diameter, waxy, fragrant, white blossoms open to perfume the entire garden. Fuzzy brown cones follow these blooms, ripening in fall and winter to reveal bright red seeds which are used by a variety of wildlife.

Long-used as a striking garden specimen, southern magnolia can also serve as a dense screen (select one of the dense cultivars), windbreak, or street tree (with lower limbs removed). The only objection to this tree as a street tree might be the falling leaves and fruit. Its ease of growth and carefree nature make southern magnolia ideal for the low-maintenance landscape. With proper pruning, southern magnolia trees can also be used as an interesting espalier.

If moist, peaty soils are available, southern magnolia will thrive in full sun and hot conditions once established. If irrigation cannot be provided periodically, plants located in partial shade for several years after planting seem to grow better. It is very drought tolerant when grown in areas with plenty of soil for root expansion. It is only moderately drought tolerant in restricted-soil areas or in areas with poor, dry soil. Southern magnolia prefers acid soil but will tolerate a slightly basic, even wet or clay soil. It is generally too hot and dry in central and western Texas and Oklahoma, and the soil pH is often too alkaline for this tree. The root system is wider spreading than most other trees, extending from the trunk a distance equal to about four times the canopy width. This makes it very difficult to save existing magnolia trees on construction sites. Be sure that there are no roots circling close to the trunk, as magnolia is prone to girdling roots. Cut any circling roots prior to planting. Field-grown trees recover slowly from transplanting due to the wide-spreading root system in the nursery, and trees often transplant best in winter and spring, not in the fall.

The species germinated from seed is quite variable in growth rate and form with some trees dense and compact, others loose and open. A number of cultivars are available: 'Bracken's Brown Beauty' has an unusually dark brown lower leaf surface and is considered one of the best

selections; 'Cairo' has an early and long flowering period; 'Charles Dickens' has broad, nearly blunt leaves, large flowers and large red fruit; 'Edith Bogue' is the hardiest of the cultivars and will bloom when only two to three-years-old; 'Glen St. Mary' has a compact form, will bloom when young, is slow-growing, and the leaves have a bronze underside; 'Gloriosa' has large flowers and leaves; 'Goliath' has flowers up to 12 inches across, a long blooming period, and a bushy habit of growth; 'Hasse' can be used for a compact, dense hedge or screen; and 'Lanceolata' has a narrow pyramidal form, narrower leaves with rusty undersides. 'Little Gem' has a dwarf upright form, probably to 30 feet tall, small leaves and flowers, is very slow-growing, flowers heavily at an early age and for a long time during the summer (5-months), and has bronze leaf-undersides. It will bloom when only three to four feet tall and is excellent as a pruned evergreen hedge, for use as a small street tree or for use as an espalier. 'Majestic Beauty' (patented) has large, dark green leaves, a pyramidal shape, and profuse flowering; 'Praecox Fastigiata' has upright, narrow growth habit; 'Samuel Sommer' has an upright, rapid growth habit and flowers up to 14 inches across; 'Victoria' is very hardy, has small flowers, and rust-red leaf-undersides. There are others, but it is often difficult to see real differences among them.

Two of the most recommended magnolias are: *Magnolia* x 'Galaxy' and 'Spectrum' from U.S. National Arboretum; both have excellent trunks and superior flowers.

Propagation is by cuttings (for the cultivars), grafting, or seed.

Pests

Scales of various types will infest twigs and leaves. Magnolia scale is the most common scale and can be one half-inch-across. Overwintering scales can be controlled with horticultural oil. Trees appear to grow fine even with heavy infestations, although they can be unsightly.

Tulip-poplar weevil (sassafras weevil) feeds as a leaf miner when young and chews holes in the leaves as an adult.

Magnolia borer is a problem on young nursery stock. It girdles the trunk usually just below the soil surface. Control is difficult but attainable with the proper material.

Diseases

Magnolia may be subject to leaf spots, blights, scabs and black mildews caused by a large number of fungi, or a bacterium but they rarely require chemical controls. Raking up and disposing infected leaves may reduce leaf spots next year. Algae can also cause leaf spots.

Canker diseases will kill branches. Cankers on branches can be pruned out. Keep trees healthy with regular fertilization and by watering in dry weather.

Verticillium wilt may cause death of a few branches or, rarely, may kill the tree. Prune out dead branches and fertilize.

References

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