

# Evergreen Magnolias

by J. C. McDANIEL

Reprinted from The Texas Horticulturist, Vol II, No. 3, P.O. Drawer E.A. College Station, Texas 77840. Illustrated reprints available from A.M.S. Secretary Virginia Melnick.

At least three of the world's 90 or so species of *Magnolia* are natives of east Texas: the evergreen southern Magnolia (*M. grandiflora*), the deciduous pyramid Magnolia (*M. pyramidata*), and the southern sweetbay Magnolia (*M. virginiana* var. *australis*) whose trees can be either practically evergreen or more often, in Texas, will shed the greater part of their leaves by Christmas. There are others in cultivation here, including both American species from farther north, and eastern Asiatic species and hybrids. Some are big timber trees rivaling *M. grandiflora* for ultimate height and spread; others are shrubby growers. They all are Magnolias, in spite of many southerners' insistence that only *M. grandiflora* is the real Magnolia. First, the evergreens.

*M. grandiflora* is undoubtedly the most popular American species in cultivation, not only in east Texas and west to Abilene, but around the world where many varied climates permit its growth. *M. grandiflora* is apparently adapted to all extremes of heat and cold you are likely to encounter in the state.

Use in western areas of Texas will be limited by high wind, lack of water and alkaline soils (extremely high pH). One can set trees in courtyards and other sheltered areas in the landscape to avoid prevailing strong winds. In coastal California regions *Magnolia grandiflora* 'Samuel Sommer' has withstood high winds with less leaf damage. For humid, east Texas sites the patented *M. grandiflora* 'Majestic Beauty' probably will be satisfactory. It has developed into a good specimen of extra-large leaves and good-sized flowers.

*M. grandiflora* can be grown on clay soils if enough preincorporated organic matter, preferably of a mulched surface (cuts down on surface water evaporation and also lessens weeds). *Magnolia grandiflora* is less sensitive to high (alkaline) pH than are ericaceous (azalea, rhododendron) plants. In some areas Iron chelate application should prove beneficial. Foliar sprays of iron sulfate might also be helpful to alleviate iron tie-ups in alkaline soils.

*M. grandiflora* is a mesophytic plant therefore needing adequate water, but good drainage.

Until recently, most cultivar selections of *M. grandiflora* were made in other countries. 'Exmouth', still the most popular one in England, was being layered from the original tree at Exmouth on the River Exe in south Devon as early as 1737. It was the type for John Aiton's *M. g. lanceolata* in Hortus Kewensis (1789) and has acquired various other synonyms in its long history of cultivation. Another still extant (and mostly misspelled) cultivar, 'Galissonniere', was imported to France by Baron Galissonniere between 1741 and 1749. There are over 150 different names of *M. grandiflora* cultivars in the Magnolia checklist which I am now editing for eventual publication by the American Horticultural Society.

Selection of distinctive forms continues. The most popular now in Oregon and Washington is 'Victoria' whose original tree stood in Victoria, on Vancouver Island, B. C., Canada. 'Saint Mary', originally raised in Florida from seed collected in Arkansas, was long the most available, named *grandiflora* in America, but it is not quite so distinctive as some more recent selections. Several have been patented by California introducers, but the most widely praised in that state now probably is 'Samuel Sommer', which has 12-petaled large flowers and handsome wind-resistant foliage. It was introduced by the Saratoga Horticultural Foundation, which more recently has patented 'San Marino', particularly adapted to street tree use, and 'Russet', with leaves quite rusty brown beneath.

Others named from Southeastern U. S. sources include: 'Charles Dickens', an old tree at Estill Springs near Winchester, Tenn., with large flowers followed by large brightly red-colored fruits: 'Griffin', from a park specimen in Griffin, Ga., with many large 12-petaled flowers over a long season, well displayed: 'Alabama Everblooming' from Cullman, and the more recent 'Madison' from near Huntsville, Ala., both with very long blooming seasons: 'Satin Leaf' from near Tallahassee, and 'Baby Doll' a small growing tree at Tampa, Fla. My present choice of the compact growing cultivars is 'Little Gem' which the U. S. National Arboretum at Washington had from Steed's Nursery, Candor, N. C.

'Empire State' has recently been propagated at Tampa; it was long ago selected by horticulturist H. Harold Hume on a Long Island, N. Y. estate. I selected 'Cairo' as the most beautiful Magnolia in Cairo, Illinois, and it has since been grown to a limited extent southward as far as Mobile and Tampa. There are other good trees with distinctive growth habits, good foliage and good flowering which may be selected, around the Gulf coast area, for vegetative increase. Besides, the old, rather slow layering process, most *grandiflora* clones can be budded or grafted on ordinary seedlings; west coast nurseries and a few in the southeast also are commercially successful in rooting leafy cuttings taken usually from low growth on young trees, treated with IBA rooting compounds and started under intermittent mist or otherwise in moist greenhouse beds. For the amateur, chip buds or short side grafts, wrapped over with polyethylene film, are good methods of converting an ordinary small *grandiflora* seedling into something special.

The point is that seedlings, even from a fine tree, will not exactly duplicate it, though some will come close. The gardener who wants a certain type of *M. grandiflora*, whether it be a small one for limited space, or a spreader whose lower limbs will cover the ground around it, or a uniform row for a long avenue in a park, must resort to vegetatively propagated trees, whether or not they are named cultivars. Some such trees are available, naturally at a higher price than those of equal size that were grown from miscellaneous woods-collected seedlings. One advantage of grafted or cutting - grown *grandiflora* trees is that they start blooming sooner.

Other seldom cultivated evergreen Magnolias are natives of Mexico and elsewhere in Latin America, and two which have come into western cultivation



are from Tibet and Yunnan in China. *M. dalavayi*, which was introduced first to Cornwall, England, and more recently has been somewhat cultivated around San Francisco, is valued for its leaves which are larger than most in *grandiflora*. One botanist reports it growing successfully at Tampa, Florida but it was not hardy enough to grow outdoors at Knoxville, Tenn., and even had severe winter damage at Gloster, in southwest Mississippi. Perhaps it would grow against a sheltered wall at Houston. *M. dalavayi* has fragrant, but rather insignificant, flowers, open mostly at night, and seldom sets seed in either England or California; propagation has been by cuttings, but it probably could be grafted on *grandiflora*.

*M. nitida*, which succeeds in only the warmest part of England, is noted for its highly glossy leaves and colorful new growth and fruits. It has been very difficult to propagate. I saw it in Cornwall and thought its leaves were not much, if any, glossier than those of *M. grandiflora* 'Cairo'.

A third Asiatic evergreen species, sparingly grown as a house plant in America, is *M. coco*, native to the Hong Kong vicinity.

Not a true Magnolia, but belonging to a related genus is the 'Banana shrub,' *Michelia figo*, formerly called *Magnolia fuscata*, and widely cultivated in old gardens of the Gulf States. Another of its genus is *M. doltsopa*, which is heavily winter blooming in the San Francisco area. Some have said it is the best new flowering tree introduced to San Francisco in the past 50 years. I do not yet have any reports of it in Texas or the Gulf States.

Latin American evergreen Magnolias include three from Mexico which have been introduced, *M. schiedeana*, *M. sharpii* and one from Chiapas that looks very much like the Costa Rican *M. poasana*. The *M. guatemalensis* was brought back in 1964 from Coban and Tactic, Guatemala. These are all smaller flowered than *M. grandiflora*, and less hardy.

In the wild from Texas to Georgia, *M. grandiflora* is seen frequently in the same woods as the smaller sweetbay, *M. virginiana* var. *australis*, and they have sometimes crossed. Perhaps much of the present variability in *grandiflora* may trace back to long-ago natural hybridization with the other species.

The sweetbay, itself, is worthy of more cultivation, as it makes a different textured tree in the landscape with smaller leaves, silvery beneath, and its flowers, though smaller, are of fine fragrance. The largest flowered sweetbays seem to occur in Texas and southwest Louisiana, but they tend to lose most leaves over winter. More consistently evergreen sweetbays have been found in southern Alabama, Georgia, and Florida south into the Everglades, with some wild into both western and eastern Tennessee. Along the Atlantic Coast north of Savannah grows mostly the northern *M. virginiana*, usually deciduous on mature plants, which is more likely to develop into a large shrub or multistemmed small tree. The evergreen cultivar 'Henry Hicks' appears to belong to var. *australis*, though selected in a Pennsylvania garden. 'Crofts', from east Tennessee, also is hardy and evergreen in my Urbana, Ill. yard. I have been testing there several semi-evergreen hybrids between 'Henry Hicks' and a particularly shrubby northern cultivar named 'Mayer'. These hybrids

between the two varieties of sweetbay have a fragrance intermediate between the lemony scent of the southern and the more rose- or peony-type scent of the northern. A large-flowered cultivar of the northern variety, with extra petals, is 'Havener'.

The sweetbays occur on acid soils, in "bay heads" and along small fresh water streams. In cultivation, they grow in well drained garden soils, too, if the pH is not too high. Plant one or two for a different white or creamy flowered fragrant Magnolia. Or graft a *virginiana* branch on the common Asiatic hybrid *M. X soulangiana*. Asiatics, at least *M. stellata*, will grow grafted on part of a *virginiana* shrub, and you'll get two seasons of flowering on the same plant.

Perhaps of little interest for the Houston area are two of the *virginiana* X *grandiflora* hybrids that Oliver M. Freeman bred at the U. S. National Arboretum, using a northern *M. virginiana* as the seed parent. Both 'Freeman' and 'Maryland' are evergreen, resembling *M. grandiflora*. These bloom well at Washington, D. C., but mature very few seeds. I got a few more *virginiana*-like evergreens by crossing 'Freeman' back to *virginiana*, but these which have bloomed are entirely seedless.

The Forest Service map of the natural range of *M. grandiflora* shows it as a wild tree around Houston and in 20 east Texas counties. Farther east it was common in lower and upper coastal plain regions as far north as southeast North Carolina. The Florida range stops at about Cape Canaveral on the Atlantic Coast, but extends to a county or two south of Tampa near the Gulf. The southern sweetbay Magnolia is wild even farther south in Florida but in Texas grows mainly north of Houston. "Southern Magnolia", to quote Silvics of Forest Trees of the United States (1965), "does not grow in pure stands, but is usually associated with a large variety of moist-site hardwoods. It is listed as a major component in only one forest type, Beech-Southern Magnolia (type 90), and a minor component in four other types: Southern Red Cedar (type 73), Sand Live Oak-Cabbage Palmetto (type 74), Live Oak (type 89), and Swamp Chestnut Oak-Cherry Bark Oak (type 91)." The same publication says, "Southern Magnolia grows best in moist well-drained soils located along streams or near swamps in the coastal plain. Also, it is found in low, moist sites in upland areas. Numerous ornamental plantings throughout the south demonstrate that the species will thrive on a variety of sites. Although a bottom-land species, southern Magnolia cannot withstand prolonged inundation

## MAGNOLIAS

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and is not found in bottoms subject to regular overflow."

From: *Diseases and Pests of Ornamental Plants*, The Ronald Press, 4th Edition, Pascal P. Pirone

Fungus diseases:

1. *Black Mildews: (Irene araliae, Meliola amphitrichia, Meliola magnoliae, and Trichodothia comata)* A black, mildewy growth which may cover the entire leaf area.

*Control:* On evergreen Magnolias spray with wettable sulfur.

2. *Leaf Blight: (Pellicularia koleroga)* This blight affects *Magnolia grandiflora*, as well as apple, citrus, dogwood, pecan, quince and many shrubs.

*Control:* Cut back and burn blighted areas, protect with 2 or 3 applications of copper fungicides or Diffolatan.

3. *Leaf Spots:* Fifteen species of fungi cause the leaf spots on magnolias.

*Control:* May be controlled by periodic applications, in the first part of the growing season, of dithiocarbamate or copper fungicides.

4. *Nectria Canker: (Nectria Magnoliae)* Cankers form on twigs and branches, occasionally developing on the trunks to such a degree as to cause death. A great deal of reddish fruiting bodies develop.

*Control:* Prune and burn the afflicted branches. Continue good tree vigor by spraying, feeding, and watering.

5. *Wood Decay:* "A heart-rot associated with the fungi *Fomes geotropus* and *Fomes fasciatus*, has been reported on magnolia. Affected trees show sparse foliage and dieback of the branches. In early stages the rot is grayish black with conspicuous black zone lines near the advancing edge of the decayed area. The mature rot is brown. The casual fungi gain entrance through wounds."

*Control:* No control once the rot has become massive. Avoid wounding the trunk and maintain good vigor by fertilization and watering.

Insects:

1. *Magnolia scale: (Neolecanium cornuparvum)* A brown, "varnish like hemispherical scale, 1/2 inch in diameter with a white, waxy covering." Young scale insects appear in August and in the stage they overwinter.

*Control:* "A dormant oil-ethion spray in early spring, just before new growth emerges, will control the adult, overwintering scales. Malathion or Sevin sprays in late August and mid-September crawler stage."

2. *Diverse scales:* (black, chaff, cottony-cushion, European fruit lecanium, Florida wax, flower, greedy, oleander, purple and soft).

*Control:* "Spray the young, crawling stages of these scales in May and June with Malathion or Sevin."

3. *Comstock mealy bug, omnivorous looper, caterpillar, and citrus white fly:*

*Control:* Malathion sprays applied when these insects appear.

4. *Eriophyid mite:* Infests *Magnolia grandiflora* in the South.

*Control:* Kelthane or tedion sprays.

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