Dogwood, Flowering (spp.)

Cornus florida

Flowering Dogwood

Cornaceae (Dogwood)

Nomenclature: Royal Hort. Society

Type Tree, woody plant

Hardy range 5A to 9A
Height 20' to 25' / 6.00m to 7.60m
Spread 20' to 30' / 6.00m to 9.20m
Growth rate Average
Form Rounded
Exposure Full shade to full sun
Persistence Deciduous

Bloom Color White
Bloom Time Spring

The flowers are very showy.

Leaf Color Green
Fall Color Red

Leaf Identification

Type: Simple
Arrangement: Opposite
Venations: Bowed and pinnate
Margins: Entire
Shapes: Ovate

Fruit Color

Red

The fruit is fleshy, oval and round.

Environment

This plant tolerates some drought and a little salt.
This plant will grow in dry soil.
Suitable soil is well-drained/loamy, sandy or clay.
The pH preference is an acidic to slightly alkaline (less than 6.8 to 7.7) soil.

Landscape Uses

- Woodland garden
- Border
- Specimen

Attributes and Features

- Attracts birds
- Attracts butterflies
- Persistent fruit
- Attractive fruit
- Fruit is edible by birds

Native Habitat

Eastern US to north-central Florida on moist soil with pH 6 to 7 as an understory plant. Never found on poorly drained clay soil; most frequent on lower slopes and flats and near small stream banks. Rare on dry sites probably due to a shallow root system.

Native to the following North American locales: Alabama, Arkansas, Connecticut, District of Columbia, Delaware, Florida, Georgia, Illinois, Kansas, Kentucky, Louisiana, Massachusetts, Maryland, Maine, Michigan, Missouri, Mississippi, Mexico, North Carolina, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, Vermont, West Virginia

Crown, Branch and Twig

This plant is symmetrical with a medium texture and has a moderately dense crown.
This plant's bark is not showy.
Branches or twigs are of medium thickness.
This plant is often grown with multiple trunks.

This plant can be trained to a single trunk.
Little pruning is required.
This plant has low flammability.Co-national champions are 33 x 42 in Virginia and 31 x 48 feet in North Carolina.

Culture Notes

Dogwood is a standard tree in many gardens where it is used by the patio for light shade, in the shrub border to add spring and fall color or as a specimen in the lawn or groundcover bed. It can be grown in sun or shade but shaded trees will be less dense, grow more quickly and taller, have poor fall color, and less flowers. Trees prefer shade in the afternoon in the southern end of its range. Plants in full sun are considered more resistant to anthracnose, a lethal disease. This plant is considered mostly allergy free and causes little or no allergy problems in most people.

This is the state tree for Missouri and Virginia.

'Weavers White', 'Williams Red', 'Welchs Bay Beauty' (White bracts), 'Roberts Pink', 'Cloud 9' (white bracts), 'Barton' (white bracts) are some of the few cultivars well suited for the southern portion of dogwood's hardiness range. In full sun locations in zone 7b/8a the following have performed best: 'Barton', 'Cloud 9', 'Fragrant Cloud', ' Ozark Spring', 'Welch Bay Beauty'; Among the variegated types, 'First Lady' showed better growth and survival than Cherokee SunsetTM and 'Rainbow'; 'Cherokee Brave', 'Cherokee Chief', 'Pink Beauty' and f. *rubra* grew fastest among types with pink or red bracts and green foliage. Killing point for young roots of the species is 21 degrees F; for mature roots 10 degrees F.

Flowering Dogwood prefers a deep, rich, well-drained, sandy or loam soil and has a moderately long life. It is not recommended for heavy, wet soils unless it is grown on a raised bed to keep roots on the dry side. The roots will rot in soils without adequate drainage. It is not recommended for planting along streets or in parking lots due to intolerance to hot dry conditions. Established trees tolerate root disturbance poorly. Root prune trees regularly during field production to increase digging survival. If it is too hot, too dry, or too wet, tip necrosis and marginal necrosis appear on the foliage. Many trees died in certain regions of the southeast US in the historic LaNina drought of 1998 through 2000.

At least 86 species of birds devour the fruits. Squirrels, skunks, rabbits and raccoons also like the red berries. Whitetail deer browse on leaves and twigs. Plants serve as butterfly nectar sources and as hosts for butterfly larvae.

Wood is considered diffuse porous meaning that there is little difference in size of pores between spring and summer wood.

Maintain adequate mulch area

Clear all turf away from beneath the branches and mulch to the drip line to reduce competition with turf and weeds. This will allow roots to become established quickly and keep plants healthier. Train and prune the trunks and branches so they will not touch each other. Remove some secondary branches on main branches with included bark, or those that are likely to develop it, as soon as possible. This reduces the likelihood of splitting from the tree later, when the tree has grown to become an important part of the landscape. Locate the tree properly, taking into account the ultimate size, since the tree looks best if it is not pruned to control size. The tree can enhance any landscape with its delightful spring flush of flowers. It can be the centerpiece of your landscape if properly located. Flowers develop from buds formed the previous year.

Tree establishment specifications

Choose good quality trees for planting. The most common cause of young tree failure is planting too deep. In most instances, the point where the top-most root in the root ball originates from the trunk (referred to as the root flare zone or root collar) should be located just above the soil surface. You may have to dig into the root ball to find the root flare. If there is nursery soil over this area, scrape it off. Never place ANY soil over the root ball. The planting hole should be at least twice the width of the root ball, preferably wider because roots grow best in loose soil. In all but exceptional circumstances where the soil is very poor, extensive research clearly shows that there is no need to incorporate any amendments into the backfill soil. Simply use the loosened soil that came out of the planting hole. Simply planting with the topmost portion of the root ball slightly higher than the surrounding soil might still install the tree too deep - be sure to locate the root flare.

Weed suppression during establishment is essential. Apply a 3-inch thick layer of mulch to at least a six-foot diameter circle around the tree. This area should be at least two feet in diameter for each inch of tree trunk diameter and maintained during the establishment period. Apply a thinner layer of mulch directly over the root ball but keep it at least 10 inches from the trunk. This allows rainwater, irrigation and air to easily enter the root ball and keeps the trunk dry. Placing mulch against the trunk and applying too thick a layer above the root ball can kill the plant by oxygen starvation, death of bark, stem and root diseases, prevention of hardening off for winter, vole and other rodent damage to the trunk, keeping soil too wet, or repelling water.

Regular irrigation after planting encourages rapid root growth that is essential for tree establishment. Trees provided with regular irrigation through the first growing season after transplanting require about 3 months (hardiness zones 9-11), 6 months (hardiness zones 7-8), or one year or more (hardiness zones 2-6) per inch of trunk diameter to fully establish roots in the landscape soil. Trees in desert climates may take longer to establish. Trees that are under-irrigated during this establishment period (and most trees are) often require additional time to establish because roots grow more slowly. Be prepared to irrigate through the entire establishment period, especially during periods of drought.

Irrigation also helps maintain and encourage the desirable dominant leader in the tree canopy on large-maturing trees. Instead of a dominant leader, trees that are under-irrigated during the establishment period often develop undesirable, low, co-dominant stems and double leaders that can split from the tree later.

Unlike established plants, which do best with deep, infrequent irrigation, research clearly shows that recently transplanted trees and shrubs establish quickest with light, frequent irrigation. For trees planted in spring or summer, provide one (cooler hardiness zones) to three irrigations (warmer hardiness zones) each week during the first few months after planting. Daily irrigation in the warmest hardiness zones provides the quickest establishment. Following the initial few months of frequent irrigation, provide weekly irrigation until plants are fully established. With every irrigation, apply one (cool climates) to two (warm climates) gallons of water per inch trunk diameter (e.g. 2 to 4 gallons for a 2-inch tree) over the root ball only. In most landscapes that receive more than 30 inches of rain or irrigation annually, if the mulch area is maintained weed-free, irrigation does not need to be applied outside of the root ball. Never add water if the root ball is saturated.

In cooler hardiness zones, in all but the driest years, irrigation of spring- and summer-planted trees usually can be discontinued once fall color has begun. Irrigation of fall planted trees, however, should be continued until foliage has dropped from the deciduous trees in the region. In warmer climates, irrigate fall-and winter-planted trees as described for the spring- and summer-planted trees.

In drier, desert climates there is benefit to be gained from applying additional irrigation outside of the root ball area. This is best done by making a large diameter berm four to six inches high, then filling it with water so it percolates into the soil. For the first two years, irrigate twice each week through the spring, once per week in summer provided monsoons arrive, and twice each week again in fall if it remains warm. Taper off watering to once or twice each month in winter and resume twice weekly next spring. For years three to five, water twice per month in spring, summer, and fall and once or twice per month in winter. During years five through seven, water once every three weeks in warm weather and once every six weeks in winter. After this, the drought-tolerant desert trees should be able to survive on natural rainfall.

Trees with good, strong structure need no pruning at planting, except to remove broken twigs. Do not remove branches to compensate for root loss - research has shown that this can be detrimental to establishment.

<<spring transplant best>>

Pests, Diseases and Damaging Agents

Pests: Aphids, borers, leaf miners, scales and twig girdlers can be found causing problems on Dogwood. Borers (*Synanthedon scitula*) are especially problematic on stressed trees - mulch to the dripline and do not injure the trunk. Ambrosia beetle can attack even healthy trees; they tend to attack as trees emerge from dormancy.

Diseases: Powdery mildew has become a big problem in the southern US in the late 1990s. Serious infection can kill nursery trees and devastate landscape plants. About 0.1 % of the population is considered highly resistant to powdery mildew. 'Dwarf White', 'Cherokee Brave', 'Cherokee Chief', 'Welch's Bay Beauty', Sweetwater Red', and 'Weavers White' are partially to highly resistant to mildew and spot anthracnose. 'Barton', and 'Cherokee Sunset' resist mildew. Dogwood anthracnose (*Discula destructiva*) may be the biggest concern with growing Flowering Dogwood. This kills trees in shaded locations including trees in the woods in its native habitat. Plants at higher elevations in full sun on the southern exposure are less prone to disease. Locate trees in full sun and mulch out to the edge of the canopy. Irrigate the roots in drought, not the foliage. Keep foliage as dry as possible and prune and dispose of diseased twigs. Raking up fallen leaves may be of some benefit. Avoid over-fertilizing with nitrogen. *Cornus kousa* is thought to be resistant to anthracnose and it can be planted in areas where anthracnose is a problem. It is a very beautiful tree. Leaf spots and powdery mildew also cause problems in some years. Appalachian Spring*TM* may be the most resistant cultivar to anthracnose (*Discula*) , but is very susceptible to powdery mildew.

Considered a minor host for this disease, bacterial leaf scorch causes leaf scorch, premature browning, and gradual decline of trees. There is often a yellow line or hallow separating the scorched tissue from green tissue. Infection probably spreads by root grafts and certainly by leafhoppers, spittlebugs and sharpshooters. Pruning tools are not likely to spread the disease. Neither fertilization nor pruning have any effect on treatment of the disease. There may be chemical treatment that can reduce symptoms but nothing will cure an infected tree. Bacterial leaf scorch can kill trees in several years.

This plant is sensitive to damage from ozone air pollution. Damage can occur in urban or rural areas because ozone can travel long distances away from where it is formed. Typical symptoms on deciduous trees are a flecking or stippling only on the upper side of the foliage between large veins. The small spots or flecks are white, tan or orange-red. Spots or flecks from one-eighth to one-quarter inch long appear on needles of sensitive conifers. Yellow bands that girdle the needle may form, eventually causing the tips of the needles to die and/or needles to drop from the plant. If you suspect ozone is causing damage on this plant, locate White Pines (*Pinus strobus*) in the area to see if they are damaged. White Pines are very sensitive to ozone damage and can serve as indicators of the presence of ozone in concentrations high enough to cause plant damage.