

# Growing the Flowering Dogwood

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Prepared by Crops Research Division, Agricultural Research Service

The flowering dogwood (*Cornus florida*) is native to much of the eastern half of the United States. It can be grown wherever the winter temperature does not normally go below —15° F.

Dogwood is a versatile little ornamental tree. As a landscaping plant it is as suited to one-story houses and small yards as it is to mansions and large estates. It is adaptable to several types of soil, though it grows best in a moist, fertile loam that is slightly acid. Its primary demands, within its area of climatic adaptation, are good soil drainage and protection from drought.

When it grows in the open in full sunlight, dogwood normally reaches a mature height of 12 to 15 feet. In shade or when crowded by other trees, it grows somewhat taller and does not flower as freely as it does in full sun.

For success in growing the flowering dogwood—

- Buy nursery-grown trees.
- Plant them in late winter or early spring.
- Prepare planting holes carefully; be sure the planting site is well drained.

- Maintain a mulch around the tree.
- Water frequently during dry weather.
- Protect the bark from mechanical injury.
- Prevent borer attack by wrapping the bark of newly planted trees and by spraying the trunk and branches with DDT.

## VARIETIES

Most of the flowering dogwoods that are sold are either the white-bracted wild form, *Cornus florida*, or the pink-bracted form, *C. florida rubra*. Several other forms are sometimes available. *C. florida* "pendula" has weeping branches, "pluribracteata" has double flowers, and "xanthocarpa" has yellow fruits. All of the varieties of flowering dogwood are similar in their hardiness and cultural requirements.

The special forms of dogwood are propagated by grafting them to the wild form. If shoots grow from below the graft, the shoots will exhibit characteristics of the wild form of dogwood. For example, a pink

dogwood would have white-bracted flowers on growth originating below the bud or graft union. To prevent this "turning white," prune off all shoots that arise below the bud or graft.

## OBTAINING PLANTS

Wild trees are difficult to transplant successfully and they often are poorly shaped. If you want to try to transplant wild trees, follow the directions for transplanting given on page 5.

Nursery trees are usually grown in the sun. Their tops usually are pruned and trained to a desirable shape, and they have been root pruned frequently; they can be transplanted with most of the roots intact.

Nursery-grown trees usually are sold with a burlap-wrapped ball of soil surrounding the roots. They recover

from transplanting shock more quickly than bare-rooted trees or trees dug from the woods.

## PLANTING

The best time to plant dogwoods is in late winter or spring, before growth begins.

Dig a planting hole twice the diameter of the rootball and at least 18 inches deep. Refill the hole to the depth of the rootball with the loosened soil. Tamp the soil to provide a firm base for the tree.

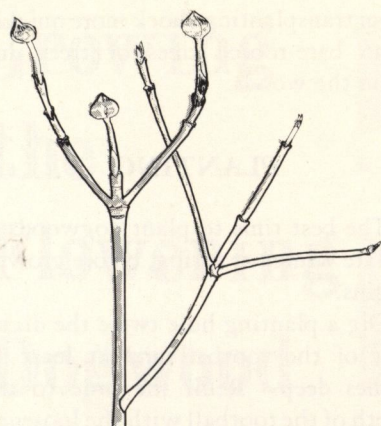
If the roots of the dogwood are balled and burlapped, you need not remove the burlap before setting the tree in the hole. After the tree is set, you can cut the twine around the top of the rootball and fold back or cut off exposed parts of the burlap.



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The flowering dogwood is a versatile ornamental tree, suited for planting in natural settings or in formal gardens.





Dogwood branch in winter. Twigs on the left are tipped by buds for next season's flowers. The other twigs end in leaf buds.

Place the dogwood in the hole and pack soil under the rootball until the tree sits slightly higher than it grew in the nursery. Then refill the hole with a mixture consisting of equal parts of soil and organic matter—peat moss, well-decayed manure, or leaf mulch. Press the soil mixture firmly around the rootball and water thoroughly.

After the plant has settled, its depth should be about the same as it was before transplanting. Avoid planting too deep.

## CARE

### Mulching

After planting, cover the soil beneath the branches with a mulching material—peat moss, oak leaves, or forest litter. Apply a layer about 3 inches deep. Add new mulching material periodically to maintain the mulch.

A mulch helps to keep the soil moist near the surface, where dogwood roots are most active. It helps to prevent the growth of weeds. And as the mulching material decays it releases nutrients for use by the dogwood tree.

### Weeding

If you maintain an adequate mulch around dogwood trees, few weeds should grow there. Those that do grow can easily be pulled by hand. Be careful if you use a hoe or other weeding tool around dogwoods; these implements may harm the shallow roots of the tree.

### Watering

Normal rainfall ordinarily provides enough moisture for mulched dogwoods. During droughts, however, the trees should be watered at weekly intervals. When you water, soak the root area thoroughly. Be careful, however, that you do not drown trees growing in poorly drained soil.

### Fertilizing

If dogwoods are planted in reasonably fertile soil that is well supplied with organic matter, they seldom need fertilizing. Free blooming is promoted by moderate rather than quick growth.

If you want to stimulate growth of your trees after they have recovered from transplanting, or if they show signs that the soil is infertile, you can apply the same fertilizers that you use for your lawn or garden. Apply them from late winter through early summer.

Signs of low soil fertility are small, sparse, pale leaves and short twig growth.

Use 2 pounds of fertilizer per inch of trunk diameter. Broadcast the fertilizer in a band 2 to 3 feet wide under the ends of the branches. Do not place fertilizer near the trunk.

### Pruning

Dogwoods seldom need pruning, except for removal of dead, injured, diseased, or insect-infested parts. Make pruning cuts back to a crotch. Treat all cuts over ½ inch in diameter by coating them with a tree-wound dressing; this helps to prevent harmful fungi and borers from invading the tree.

### Transplanting

The best time to transplant dogwoods is in late winter or spring as soon as the soil thaws and before the leaves begin to unfold.

Dogwoods growing around the home are not easy to transplant, but you can avoid transplanting losses by digging carefully to preserve most of the roots uninjured and by protecting the roots from drying while they are out of the ground.

If you are collecting wild trees, you are most likely to be successful if you choose only small trees—not over 3 feet tall. After you replant them, cut the branches back severely to compensate for loss of roots in digging.

## DISEASES

Poor appearance of dogwood trees often is due to factors other than disease—poor planting site, low soil fertility, heat, or drought. A few diseases affect dogwood, however. Some of them are temporarily disfiguring but have no lasting effect on the trees. One disease—trunk canker—frequently is fatal to the tree.

## Trunk Canker

Trees with low vitality, particularly those growing on poor or wet sites, often are the victims of this disease, but vigorous trees also may be attacked.

Cankers sometimes start at injuries, such as those resulting from bumping the trunk with a lawn mower. A fungus (*Phytophthora cactorum*) attacks the bark, cambium, and outer sapwood. The infected tissues are discolored and often a black fluid exudes from the lesion and runs down the trunk.

Cankers may enlarge slowly for several years. The bark falls from older parts of the lesion but covers the advancing margin of the lesion. Diseased trees often bear large crops of flowers and fruits for several years prior to their death. Affected trees often decline slowly over a period of years, but may die within a year or two after infection. In late stages of the

## HERBICIDE DAMAGE

Dogwoods are extremely sensitive to the weed-killing chemicals 2,4-D, 2,4,5-T, and silvex. The trees can be severely injured or killed by wind-carried droplets of the herbicides, fumes from nearby applications, or traces of the herbicides in equipment used for applying insecticides or fungicides.

Do not use these materials around dogwoods. Do not apply insecticides or fungicides to dogwoods with sprayers that you have used for applying weed killers.



disease, tops of affected trees may become lopsided. When the canker finally encircles the trunk, the tree dies.

There is no certain control for the disease. Sometimes small lesions can be cured by cutting away all diseased bark, sterilizing the exposed wood and bark at the edge of the wound with shellac, and painting the wound with tree-wound dressing. Attempts to save trees by cutting out large lesions have been unsuccessful.

### Trunk Decay

Wood-decay fungi may enter the tree through wounds made by bumping the trunk with the lawn mower. Be careful when mowing around dogwoods. As soon as possible after injuring the bark, paint the exposed wood with tree-wound dressing.

Decay in the lower part of the trunk sometimes can be cut out. After removing all the decayed wood, sterilize the cavity by painting with shellac. Then coat the cavity with tree-wound dressing.

### Leaf and Flower Spots

Several diseases can infect dogwood leaves and flowers and cause spotting and dying. These diseases often mar the appearance of the tree and can cause defoliation at times. Usually they do no permanent harm to the tree. One disease that seriously disfigures flowers and leaves is called spot anthracnose.

If your trees are attacked by spot anthracnose or the other leaf and flower spots and you want to prevent their recurrence, spray with a garden fungicide—captan, zineb, or maneb—mixed and applied as directed on the package label. Apply the spray as the

flowers open. For best control of leaf and flower diseases, spray every 3 or 4 weeks during spring and summer.

### Powdery Mildew

In late summer or early fall, mildew often develops on dogwood leaves. The leaves are covered with a thin, cottony growth and may appear to have been powdered. The disease usually appears too late in the season to do much damage. If you want to control it, apply a sulfur dust or spray when the mildew first becomes apparent. More than one application may be needed. For best results, keep the leaves covered with the sulfur.

### Twig Dieback

The fungus *Myxosporium nitidum* causes twigs of dogwood to die back. This dying back sometimes may become conspicuous on the tree and make the tree unsightly. To control the disease, prune the dead twigs back to sound wood. Fertilize the tree and water it during dry weather.

### Heat and Drought Injury

During hot, dry weather, dogwood leaves often curl or cup and change color. The leaves fold upward on the midrib and at the same time the midrib curls downward at the tip. Because of the closing of the leaves, the tree appears to have less foliage than normal. The leaves may turn red or reddish purple. Some leaves may drop. Dogwoods growing in the open are more likely to develop these symptoms than dogwoods growing in shade.

Usually the affected tree gradually returns to a normal appearance in fall when the weather cools and fall

rains begin. If hot dry weather continues too long, however, severe dieback of the top may follow. To prevent this, keep the tree well mulched and water it weekly during the dry period.

## INSECTS

Unless dogwoods are protected from insect attack, they may be killed or seriously disfigured. Insecticides recommended for use on dogwoods are available at garden-supply stores. Follow label directions for dilution and care in handling.

### Dogwood Borer

The dogwood borer is probably the most common insect pest of established dogwood trees. It makes irregular burrows under the bark on the trunk, around the base of limbs, or frequently at the edges of wounds or scars on the trees. Small trees or the base of branches may be girdled. Healthy trees may be attacked.

To prevent borer attack, spray the trunk and lower branches of the tree with DDT. Begin spraying about May 15. Spray once a month through September 15.

If borers attack your trees, they can be cut out. Inspect the trunks and branches in late summer for evidence of injured bark or of fine boring dust being pushed from the burrows. Cut the borers out with a sharp knife, trim the edges of the wound back to green bark, and paint wound with tree-wound dressing.

### Flathead Borers

Flathead borers often attack newly transplanted dogwoods or dogwoods seriously weakened from other causes.

They bore under the bark and may cause death of the tree.

The best preventive for flathead borer attack is to keep the trees growing vigorously. Wrap trunks of newly transplanted trees with burlap strips or kraft-paper wrapping—available from garden supply stores.

### Dogwood Twig Borer

The wilting of leaves on individual twigs or the dropping of girdled tips usually indicates infestation by the dogwood twig borer. The borer tunnels down the center of the twig, expelling boring dust through a row of small holes in the bark.

The dogwood twig borer usually does not infest trees in large numbers. Control the borer by pruning out and burning infested twigs. This can be done any time after the injury becomes apparent in summer.

### Dogwood Club-Gall Midge

The dogwood club-gall midge causes spindle-shaped or tubular swellings from ½ to 1 inch long at the tips or along the stems of dogwood twigs. Some of the twigs may be killed above the swollen part and the tree may be deformed if the infestation is heavy.

Prune and burn galls during summer. To prevent heavy attack, spray with DDT or lindane just after leaves start to grow in spring.

### Scales

Several kinds of scale insects sometimes are serious on dogwoods. These insects attach themselves to twigs and branches of the dogwood, giving these parts a crusty appearance. They suck





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Swollen twigs infested with dogwood club gall. These swellings should be pruned and burned in summer.

juices from the tree. If they are numerous, scale insects can weaken the trees or kill heavily infested branches.

For controlling scales, spray in early spring, before growth starts, with white-oil emulsion or lime-sulfur diluted for dormant spraying. To kill the young insects, before they attach themselves to the bark and develop a protective coating, spray with malathion. Apply two sprays, the first when the leaves are about  $\frac{1}{2}$  inch long and the second about 10 days or 2 weeks later.

### Other Insects

Other insects—aphids, leafhoppers, and whiteflies—sometimes are an annoyance, but they seldom are injurious. If they become numerous and you want to control them, spray with malathion.



Each year, the U.S. Department of Agriculture receives thousands of requests for information about growing ornamental plants. In an effort to comply with these requests, the Department has prepared a series of publications on the plants that are most frequently the subject of inquiry. This bulletin is one of the series.

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