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*Growing the*

# BRADFORD ORNAMENTAL PEAR

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# Growing the

## BRADFORD ORNAMENTAL PEAR

The Bradford pear is an ornamental tree developed from a wild pear found growing in China by a U.S. Department of Agriculture plant explorer.

It thrives under a wide range of soil, moisture, and climatic conditions in the United States. It has been successfully grown as far north as upper New York State, as far south as northern Florida, and as far west as the Pacific Coast States.

The Bradford has been called "the tree for all seasons" because of its ability to stage a succession of ornamental displays from March to November. It has abundant flower clusters in spring and shimmering leaves throughout summer, which turn many shades of red in fall.

It is a vigorous seedling selection of a wild Chinese pear known as the Callery pear. The Bradford is thornless, disease-resistant, and insect-resistant. Its hardiness, adaptability, and beauty have made

it increasingly popular as a shade tree for lawn and street plantings.

The Bradford grows quickly in its early years—its dense, roundish crown ultimately reaches a height of 50 feet and a diameter of 30 feet.

For success in growing the Bradford pear—

- Buy a Bradford that is budded or grafted to a Callery pear rootstock.
- Prepare the planting hole carefully; be sure the planting site is well drained.
- Maintain a mulch around the tree the first year.
- Water frequently during dry weather, especially the first 2 years.
- Protect the bark from mechanical injury.
- Prevent sunscald by keeping the trunk wrapped the first 2 years with strips of burlap or paper that have been impregnated with fungicide. These wrapping strips are available at many nurseries and garden stores.

### DESCRIPTION

#### Flowers

The Bradford is one of the earliest trees to bloom in the spring. It reaches full flower in late March or early April in the Middle Atlantic States.

Its flowering compares favorably with other early-flowering species. Abundant blossoms appear in clusters of 10 or 12. They are off-white, non-fragrant, and borne on short spurs. Collectively, they appear as a solid mass of white in vivid con-



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Bradford pear trees in full bloom.

trast to other spring foliage and flowers.

Cold rains accompanied by strong winds tend to injure and brown the edges of the petals and shorten the flowering season.

### Leaves

The leaves appear just as the flowers start falling. They are glossy green, thick, and broadly oval. Their wavy margins cause them to flutter readily in the wind. Like the flowers, they are abundant along the up-curving branches of the crown.

In the fall the Bradford pear is at its best in areas where early frosts

bring about changes in the color of the leaves.

The foliage then takes on deep hues of purplish red. As the season progresses, the early color gives way to crimson.

The leaves develop good color in New England, New York, New Jersey, Pennsylvania, Maryland, Virginia, Ohio, and Washington State. They do not color well in all years in some of the southeastern States, in Iowa, in Oregon, and in California.

The leaves remain on the tree long after those of many other shade trees—then fall within a short period of time.



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A Bradford pear tree in full leaf during summer.

### Fruit

The Bradford will not, under most conditions, fruit when planted—

- More than 200 feet from pear trees of any kind.
- Next to other Bradfords, the common pear (*Pyrus communis*), or the Hansen pear (*P. sp. Hansen*).

The tree will fruit, however, when planted within 200 feet of other selections of the Callery pear tree or such rarely used minor species as the Manchurian pear (*P. sp. Manchurian*) or the Forostovsky pear (*P. sp. Forostovsky*).

The fruits, when they do occur, are inedible, around  $\frac{1}{2}$  inch in diameter, and russet. They remain on the tree long after the leaves have fallen.

### Adaptability

The Bradford is adaptable in the United States to wet or dry climate and to all kinds of soil if grafted to a Callery rootstock. It normally does well where temperatures do not go below minus 25° F.

It has been test-grown in most parts of the United States and has failed to survive only in southern Florida and southern California—because of insufficient winter chilling.

Its adaptability in the northern portions of the Midwest is presently under study through pilot plantings in Minnesota, Michigan, and Wisconsin.

## BUYING YOUR BRADFORD

The Bradford was released for commercial use by the Department of Agriculture in January 1960 and has been distributed to nurseries in 15 States from New York to California.

Trees are not for sale through the U.S. Department of Agriculture. If you cannot locate a nursery

that sells Bradford in your area, write to the U.S. Plant Introduction Station, Glenn Dale, Md. 20769, for the names of the nurseries that sell the Bradford.

You can be certain your tree is a true Bradford if you buy only the *Pyrus calleryana* Dene. 'Bradford.'

Do not confuse it with *Pyrus cal-*

*leryana* Dcne. This is the wild Callery pear from which the Bradford was selected.

The Bradford pear is thornless; the Callery pear usually has thorns.

Your Bradford will be only as adaptable to soil and moisture conditions as is the rootstock to which it is grafted. Make sure, therefore, that the rootstock of your tree is the Callery pear.

It is best to select a tree that is balled and burlapped, rather than one with bare roots. Trees with bare roots will die if the tree is not dormant or the roots have been exposed for any length of time.

Buy trees with bare roots only if you know that the trees are dormant and that the roots have been kept moist. Then plant immediately.

If your nursery is selling Bradford pear trees of more than one age, these facts may help you make a choice:

(1) A 1-year-old Bradford top grafted on a 2-year-old rootstock is just as safe a buy as an older tree.

A 1-year-old top is usually a single (whip) leader 2 to 6 feet high with few, if any, side branches.

It probably will cost you less to buy than an older tree, but you will have to prune it selectively in future years to shape it. Also, it will lag a year or more behind in height and in ability to flower and branch.



The original Bradford pear.

(2) A Bradford top that is 2 or more years old has side branches. It usually has been "trained" to a desirable shape by the nursery and will require only maintenance pruning in the future. Its height will vary with the soil conditions and fertilizer practices under which it has been grown.

It can be expected to produce a moderate number of blossoms the first spring after planting, and to blossom fully the second or third year. It may reach a height of 12 feet in its fourth year.

## PLANTING

Early fall is the best time to plant the Bradford in areas where temperatures normally do not go below 0° F. A tree planted then will have

a chance for some root development before the ground freezes, and will be ready to resume growth in early spring.

Where temperatures drop below 0° F., plant the tree as soon as the soil can be worked in early spring, before growth begins.

The key to good tree planting is generosity: Be generous in digging a planting hole, in replacing poor soil with good, in expending energy to do the job right.

Dig the planting hole for a bare-rooted tree large enough to receive the roots when spread in their natural position. For a balled-and-burlapped tree, make the hole 2 feet wider than the rootball.

Dig the hole 6 inches deeper than the level at which the tree grew in the nursery.

Then fill it with topsoil to a height that will let you set the tree at the level it grew in the nursery. Tamp the soil to provide a firm base.

Place the tree in the hole. Do not remove the burlap if the roots are balled and burlapped.

After the tree is set, cut the twine around the top of the rootball and fold back or cut off exposed parts of the burlap. Any burlap buried will rot quickly.

Fill the rest of the hole with a mixture of equal parts of good soil and organic matter—peat moss, well decayed manure, or rotted leaves. Press the mixture firmly around the rootball. Water thoroughly.

## CARE

### Mulching

After planting your Bradford, cover the soil under 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 roots are most active. It also helps to prevent the growth of weeds. As the mulching material decays, it releases nutrients for use by the tree.

### Weeding

If you maintain an adequate mulch around the tree, few weeds will grow there. Those that do can be pulled easily by hand. Be careful if you use a hoe or other weeding

tools around the Bradford; these implements may harm the shallow roots of the tree.

### Watering

Normal rainfall ordinarily provides enough moisture for the Bradford pear. During droughts, however, particularly the first 2 years after planting, water the tree at weekly intervals. When you water, soak the root area thoroughly. Be careful that you do not drown trees growing in poorly drained soil.

### Fertilizing

If Bradfords are planted in reasonably fertile soil that is well supplied with organic matter, they seldom need fertilizing.

Short twig growth and leaves that are small, sparse, or pale are



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A 2-year old Bradford that has been trained properly by selective pruning.

signs of low soil fertility. To correct this, apply the same fertilizer you use for your lawn or garden. Apply it in late winter or early summer.

Use 1 pound of fertilizer per inch of trunk diameter. Spread the fertilizer in a band under the ends of the branches. Do not let the fertilizer touch the trunk.

Apply the same treatment if you want to stimulate growth of your trees after they have recovered from transplanting. But do not fertilize newly planted trees. Wait until they have become established.

### Pruning

Make all pruning cuts back to a crotch. Do not leave stubs. Treat all cuts over  $\frac{1}{2}$  inch in diameter by coating them with an antiseptic tree-wound dressing to prevent disease organisms from entering the tree.

Here are some things to look for when pruning—

- Dead, diseased, broken, or unsightly branches.
- Sprouts growing from the rootstock. These often can be pulled off by hand.
- Branches that grow toward the center of the tree.
- Crossed branches that rub together, damage the bark, and then are a source of infection.

## DISEASES AND INSECTS

No diseases and few insects are known to attack the Bradford. See your county agricultural agent or

State agricultural experiment station specialist if disease or insect pests attack your Bradford.

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