

## *Quercus palustris* (Pin Oak) Beech Family (Fagaceae)

### Introduction:

Pin oak is probably used more than any other native oak in the landscape. It has an interesting growth habit, with pendulous lower branches, horizontal middle branches, and upright upper branches. Its glossy green summer foliage changes to russet, red or bronze in fall.

### Culture:

Pin oak will tolerate wet soils, but prefers moist, rich, acidic, well-drained soils. It does well in full sun and tolerates urban conditions to some extent; it is tolerant of sulfur dioxide.

Pin oak develops significant iron chlorosis problems in high pH soils. Iron chlorosis must be corrected by changing the soil pH. Galls and oak wilt can also be problematic. Potential problems for oaks in general include obscure scale, two-lined chestnut borer, bacterial leaf scorch and gypsy moth. In addition, as little as 1 inch of fill soil can kill an oak.

### Selected cultivars:

**‘Crown Right’** or **‘Crownright’** - Is more upright than the species, with branches at a 30- to 60-degree angle to the central leader.

**‘Sovereign’** - Has lower branches at a 90-degree angle to the central leader rather than weeping lower branches.

### Additional information:

Pin oak’s common name comes from the many short or pinlike branchlets on the main branches. Unlike most oaks, it does not have heavy horizontal branches. Instead, it has many slender branches that arch out, with the lower branches bending down. The tree’s profuse branching results in wood that is full of knots, making it an inferior grade of red oak.

Pin oak has been widely used in parks, golf courses, lawns and as a street tree. Lower branches that weep can cause problems and should be removed when pin oak is used in parking lots or along streets. The pendulous branches are attractive when the tree is located in a large lawn.



### Botanical Characteristics:

**Native habitat:** Massachusetts to Delaware, west to Wisconsin and Arkansas.

**Growth habit:** Strongly pyramidal, becoming oval-pyramidal with age.

**Tree size:** 60 to 70 feet tall with a 25- to 40-foot spread. Pin oak can reach a height of more than 100 feet.

**Flower and fruit:** Flowers are brown and not showy. Fruit is a nut, half an inch long and wide, light brown, enclosed at the base in a thin cap.

**Leaf:** Alternate, simple, 3 to 6 inches long, with five to seven lobes and u-shaped sinuses. Leaves are glossy dark green in summer, becoming russet, bronze or red in fall. Some leaves persist into winter.

**Hardiness:** Winter hardy to USDA Zone 4.

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**Additional information (continued):**

Several pin oak cultivars have been selected with upright lower branches. Unfortunately, these have been grafted and some plants show graft incompatibility. In these cases, the trees die years after they are planted in the landscape.

Pin oak is easy to transplant because it has a shallow, fibrous root system. Pin oak's ability to thrive in nursery culture explains why it is a common tree found in garden centers. It is a great tree for large landscapes, but its hanging lower branches make it a high-maintenance street tree.

Pin oak acorns are produced one per stalk and usually in a cluster just below the current year's growth. They have a prominent spine on the tip of the nut.

Pin oak was introduced before 1770. It is among the faster-growing oaks, averaging 12 to 15 feet over a 5- to 7-year period. The national champion pin oak is 110 feet tall and is in Tennessee.

Pin oak can grow to be one of the largest oak trees. It makes an impressive street tree. However, bacterial leaf scorch can be a devastating disease for monocultures of pin oaks as street trees. All too often, mass plantings of pin oaks are being cut down because of disease. Communities should be careful to plant a diversity of street tree species to avoid potential disease problems.



Leaf autumn color



Pin oak acorns