



Fagus sylvatica European Beech¹

Edward F. Gilman and Dennis G. Watson²

INTRODUCTION

European Beech grows into a wide oval, 80 to 100 feet tall and spreads 50 to 70 feet (Fig. 1). Branches normally sweep the ground in a graceful fashion. The tree grows slowly, is hard to transplant and prefers a sunny location and a moist, light soil. Though not a street tree, the tree makes one of the finest specimens of all those available in North America for large scale landscapes. European Beech is somewhat tolerant of heat and dry soil, but it is best to locate it where it would receive adequate moisture. The cultivars 'Pendula' and 'Fastigiata' are more available than the species and very attractive.

GENERAL INFORMATION

Scientific name: *Fagus sylvatica*

Pronunciation: FAY-gus sill-VAT-ih-kuh

Common name(s): European Beech

Family: *Fagaceae*

USDA hardiness zones: 4 through 7 (Fig. 2)

Origin: not native to North America

Uses: hedge; shade tree; specimen; no proven urban tolerance

Availability: somewhat available, may have to go out of the region to find the tree

DESCRIPTION

Height: 50 to 75 feet

Spread: 40 to 60 feet

Crown uniformity: symmetrical canopy with a regular (or smooth) outline, and individuals have more or less identical crown forms



Figure 1. Young European Beech.

Crown shape: oval

Crown density: dense

Growth rate: medium

Texture: medium

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2. Edward F. Gilman, associate professor, Environmental Horticulture Department; Dennis G. Watson, associate professor, Agricultural Engineering Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville FL 32611.



Figure 2. Shaded area represents potential planting range.

Foliage

Leaf arrangement: alternate (Fig. 3)
Leaf type: simple
Leaf margin: entire; undulate
Leaf shape: elliptic (oval); ovate
Leaf venation: pinnate
Leaf type and persistence: deciduous
Leaf blade length: 2 to 4 inches
Leaf color: green
Fall color: copper
Fall characteristic: showy

Flower

Flower characteristics: inconspicuous and not showy; spring flowering

Fruit

Fruit shape: oval
Fruit length: .5 to 1 inch
Fruit covering: dry or hard
Fruit color: brown
Fruit characteristics: attracts birds; suited for human consumption; inconspicuous and not showy; no

significant litter problem

Trunk and Branches

Trunk/bark/branches: bark is thin and easily damaged from mechanical impact; droop as the tree grows, and will require pruning for vehicular or pedestrian clearance beneath the canopy; should be grown with a single leader; very showy trunk; no thorns
Pruning requirement: needs little pruning to develop a strong structure
Breakage: resistant
Current year twig color: brown; gray
Current year twig thickness: thin

Culture

Light requirement: tree grows in part shade/part sun; tree grows in full sun
Soil tolerances: clay; loam; sand; slightly alkaline; acidic; well-drained
Drought tolerance: moderate
Aerosol salt tolerance: low
Soil salt tolerance: poor

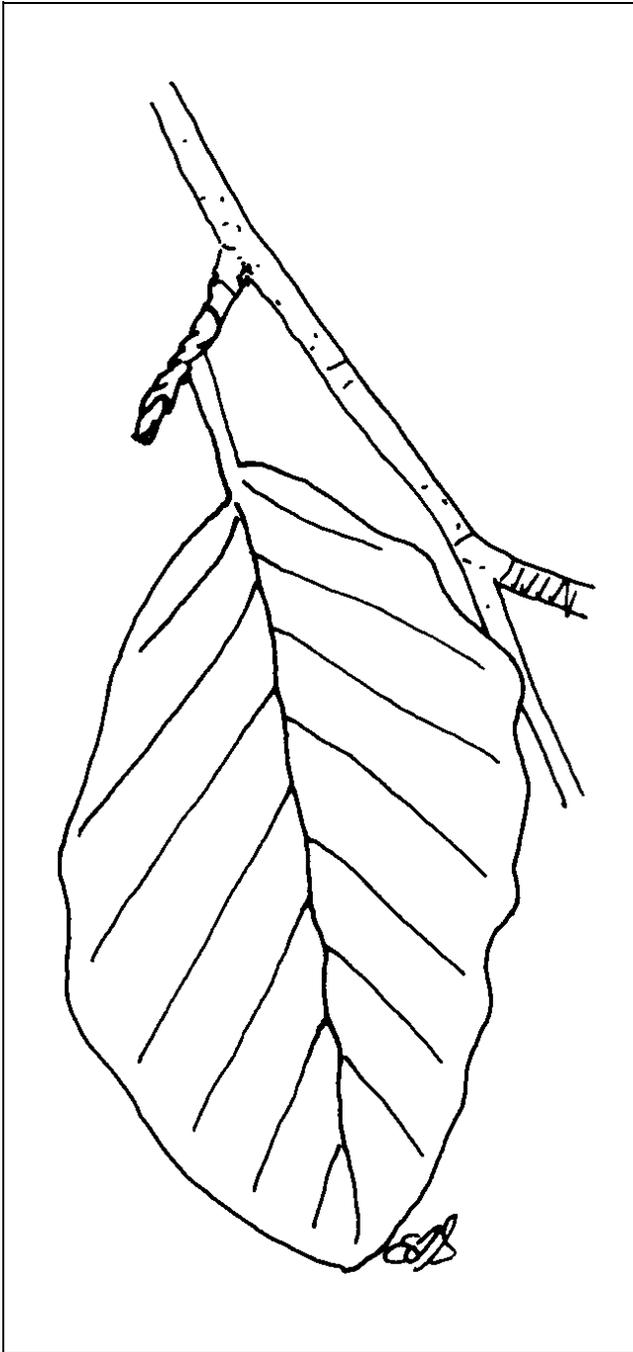


Figure 3. Foliage of European Beech.

Other

Roots: surface roots can lift sidewalks or interfere with mowing

Winter interest: tree has winter interest due to unusual form, nice persistent fruits, showy winter trunk, or winter flowers

Outstanding tree: not particularly outstanding

Invasive potential: little, if any, potential at this time

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: not known to be susceptible

Pest resistance: long-term health usually not affected by pests

USE AND MANAGEMENT

European Beech has given rise to many cultivars: 'Albo-variegata' - leaves margined white; 'Asplenifolia' - cut leaves; 'Atropunica' - leaves purple; 'Cochleata' - smaller, spoon-shaped leaves; 'Cuprea' - leaves copper colored; 'Dawycki' - upright growth habit; 'Fastigiata' - upright growth habit; 'Laciniata' - leaves cut, wider more regularly-shaped than 'Asplenifolia'; 'Macrophylla' - larger leaves; 'Miltonensis' - leader erect, main branches horizontal, side branches pendulous; 'Pendula' - weeping habit; 'Purpurea Pendula' - weeping with purple leaves; 'Quercifolia' - slow growing, leaves oak-like; 'Riversii' - young foliage reddish then purple; 'Rohanii' - similar to 'Laciniata'; 'Roseo-marginata' - purple leaves with light pink border, grow in shade to prevent leaf burn, not easily grown; 'Rotundifolia' - leaves round; 'Spaethiana' - leaves purple; 'Tortuosa' - low, spreading, umbrella-like; 'Tricolor' - leaves green and white with pink margins; 'Zlatia' - leaves golden in spring.

Pests

Usually none are serious. Aphid colonies on the lower branches can be dislodged with a strong stream of water from the garden hose. Colonies are often disposed of by predatory insects.

Borers such as flat-headed appletree borer or two-lined chestnut borer bore into trees weakened by some stress. Prevent the insect infestations by keeping trees healthy with regular fertilization and irrigation in dry weather.

Regular inspections of the trunk and branches are suggested for early detection of scales. Horticultural oil sprays will help control scales.

Certain caterpillars can be controlled with sprays of *Bacillus thuringiensis*.

Diseases

Usually none are serious provided soil is loose and is well-drained.

Several fungi cause leaf spots but are generally not serious to warrant chemical control.

Powdery mildew causes a white coating on the leaves. The disease is most common late in the season.

Bleeding canker forms cankers from which a brownish liquid oozes. Crown symptoms include leaves of smaller size and lighter green color than normal. In severe cases the leaves wilt and the branches die. Avoid feeding with high nitrogen fertilizers as it seems to worsen the condition of infected trees.

Beech bark disease occurs when the feeding site of woolly Beech scale is invaded by a fungus. The fungus kills the bark and in the process, the insects. There are no satisfactory controls for the fungus. Control the disease by controlling the scale with a horticultural oil.

Cankers infect, girdle, and kill branches. Prune out the infected branches.

During periods of high temperatures and low rainfall Beech leaves may scorch. Make sure trees are adequately watered.