

Pinus strobus 'Fastigiata': 'Fastigiata' Eastern White Pine¹

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Introduction

'Fastigiata' eastern white pine has soft blue-green needles borne in groups of five although foliage color varies greatly from one tree to the next. The species is the state tree of Maine and Missouri. Some specimens keep the bluish color throughout the winter, others lose it. Although it can probably grow 80 feet tall with a three-foot-diameter trunk, spread is usually limited to about 15 to 20 feet. Growth is very rapid at first but slows down with age. The tree is rather graceful, especially as it opens up and spreads out as it ages. The gray bark on the trunk and large branches remains unusually smooth through middle age, breaking up into elongated blocks in old age. Be sure to purchase only certified rust-resistant plants.



Figure 1. Middle-aged *Pinus strobus* 'Fastigiata': 'Fastigiata' Eastern White Pine

General Information

Scientific name: *Pinus strobus*

Pronunciation: PIE-nus STROE-bus

Common name(s): 'Fastigiata' eastern white pine

Family: *Pinaceae*

USDA hardiness zones: 3B through 7B (Fig. 2)

Origin: native to North America

Invasive potential: little invasive potential

Uses: Bonsai; specimen; screen; hedge

Availability: not native to North America



Figure 2. Range

Description

Height: 40 to 70 feet

Spread: 15 to 20 feet

1. This document is ENH-633, one of a series of the Environmental Horticulture Department, UF/IFAS Extension. Original publication date November 1993. Revised December 2006. Reviewed February 2014. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

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Crown uniformity: symmetrical
Crown shape: columnar
Crown density: moderate
Growth rate: moderate
Texture: fine

Foliage

Leaf arrangement: alternate (Fig. 3)
Leaf type: simple
Leaf margin: entire
Leaf shape: needle-like (filiform)
Leaf venation: parallel
Leaf type and persistence: fragrant, evergreen, needled evergreen
Leaf blade length: 2 to 4 inches
Leaf color: blue or blue-green, green
Fall color: no color change
Fall characteristic: not showy

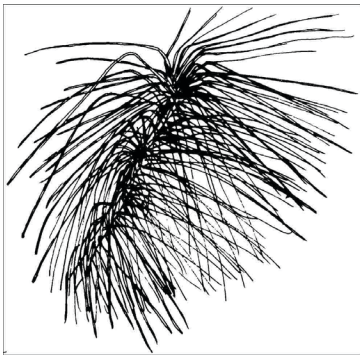


Figure 3. Foliage

Flower

Flower color: yellow, pink
Flower characteristics: not showy

Fruit

Fruit shape: elongated, cone
Fruit length: 6 to 12 inches
Fruit covering: dry or hard
Fruit color: brown
Fruit characteristics: does not attract wildlife; showy; fruit/leaves a litter problem

Trunk and Branches

Trunk/bark/branches: branches don't droop; showy; typically one trunk; thorns
Pruning requirement: little required
Breakage: susceptible to breakage
Current year twig color: green, brown
Current year twig thickness: thin
Wood specific gravity: 0.35

Culture

Light requirement: full sun, partial sun, or partial shade
Soil tolerances: sand; loam; acidic; well-drained
Drought tolerance: moderate
Aerosol salt tolerance: none

Other

Roots: not a problem
Winter interest: no
Outstanding tree: yes
Ozone sensitivity: unknown
Verticillium wilt susceptibility: resistant
Pest resistance: sensitive to pests/diseases

Use and Management

The lower branches are retained making white pine an excellent candidate for specimen use, although group plantings with trees spaced 15 to 25 feet apart add a soft accent to any landscape. Planted 8 to 15 feet apart they are one of only a few pines which makes a nice hedge or screen of soft foliage.

Root systems are usually shallow and highly branched with many fine roots close to the surface of the soil. Trees transplant well balled and burlapped or from containers. The wood of the species is soft and is popular as a lumber tree in the northern part of the country.

Young white pines are quite tolerant of half-day shade while mature white pines prefer a sunny location and tolerate loamy, moist, well-drained soils. They do not grow well and often die on clay or on soil with a pH above 7. Trees appear to have little tolerance for drought, soil compaction and heat and should be used only in the cooler climates. Eastern white pine is susceptible to salt injury from roads or drain fields and is sensitive to air pollution (particularly ozone and sulfur dioxide).

There are a few other cultivars: 'Glauca'—foliage bluish; 'Nana'—a dwarf, compact with short needles; 'Pendula'—weeping; 'Prostrata'—absolutely prostrate.

Pests

White Pine weevil is probably the biggest problem. The larvae of white pine weevils feed on the sapwood of the leaders and this is devastating to the tree. The leader is killed and the many shoots replacing it form a bushy head. First symptoms are pearl white drops of resin on the leaders. The leaders die when the shoot is girdled as adults emerge in summer.

Some adelgids will appear as white cottony growths on the bark. All types produce honeydew which may support sooty mold. European pine shoot moth causes young shoots to fall over. The insects can be found in the shoots during spring. Infested shoots may exude resin.

Bark beetles bore into trunks making small holes scattered up and down the trunk. Stressed trees are more susceptible to attack. The holes look like shotholes. Keep trees healthy to help prevent borers.

Sawfly larvae caterpillars are variously colored but generally feed in groups on the needles. Some sawfly larvae will flex or rear back in unison when disturbed. Sawflies can cause rapid defoliation of branches if left unchecked.

Pine needle miner larvae feed inside needles causing them to turn yellow and dry up.

Pine needle scale is a white, elongated scale found on the needles. Pine tortoise scale is brown and found on twigs. Depending on the scale, horticultural oil may control overwintering stages.

Pine spittle bug lives and hides in a foamy mass.

Spruce mites cause damage to older needles, and are usually active in the spring and fall. Mites cause older needles to become yellowed or stippled.

Zimmerman pine moth larvae bore into the trunk. The only outward symptoms may be death of parts of the tree or masses of hardened pitch on the branches.

Diseases

Procerva root rot kills most white pines planted off site. Avoid planting in dry sites and never plant in clay or alkaline soil.

White pine blister rust attacks white pine and uses currant as an alternate host. European black currant, the favored alternate host, may be banned from planting in certain areas. Other currants, particularly red currant should not be grown within 300 feet of pines. Infected branches may be pruned off. Be sure to select white pine trees certified to be rust-resistant.

Canker diseases may rarely cause dieback of landscape pines. Keep trees healthy and prune out the infected branches.

Needle cast is common on small trees and plantation or forest trees. Infected needles yellow and fall off.

White pine decline is used to describe the slow decline of trees planted in dry, clay soils low in organic matter. Plants with this disorder have only a small cluster of needles at the ends of the branches.