



Picea glauca White Spruce¹

Edward F. Gilman and Dennis G. Watson²

INTRODUCTION

This North American native tree has a fairly broad, pyramidal silhouette when young but matures into a dense, 40 to 60-foot-tall column, 10 to 20 feet high (Fig. 1). The short, silver-green needles densely clothe the upright branches making White Spruce ideally suited to use as a hedge or windbreak. Small, 1 to 2.5-inch-long, light brown, pendulous cones decorate the branches throughout the year. The new layers of purplish/grey bark have a soft, silvery sheen which add to the tree's attractiveness as a specimen planting.

GENERAL INFORMATION

Scientific name: *Picea glauca*

Pronunciation: PIE-see-uh GLAW-kuh

Common name(s): White Spruce

Family: *Pinaceae*

USDA hardiness zones: 2 through 6 (Fig. 2)

Origin: native to North America

Uses: screen; specimen; Christmas tree; no proven urban tolerance

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

DESCRIPTION

Height: 40 to 60 feet

Spread: 15 to 20 feet

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

Crown shape: columnar; pyramidal



Figure 1. Young White Spruce.

Crown density: dense

Growth rate: medium

Texture: fine

1. This document is adapted from Fact Sheet ST-450, a series of the Environmental Horticulture Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication date: October 1994.
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; spiral (Fig. 3)

Leaf type: simple

Leaf margin: entire; terminal spine

Leaf shape: needle-like (filiform)

Leaf venation: parallel

Leaf type and persistence: evergreen; fragrant;
needle leaf evergreen

Leaf blade length: less than 2 inches

Leaf color: blue or blue-green; green

Fall color: no fall color change

Fall characteristic: not showy

Flower

Flower color: red; yellow

Flower characteristics: inconspicuous and not
showy; spring flowering

Fruit

Fruit shape: elongated

Fruit length: 1 to 3 inches

Fruit covering: dry or hard

Fruit color: brown

Fruit characteristics: does not attract wildlife;
inconspicuous and not showy; no significant litter
problem; persistent on the tree

Trunk and Branches

Trunk/bark/branches: droop as the tree grows, and
will require pruning for vehicular or pedestrian
clearance beneath the canopy; not particularly showy;

should be grown with a single leader; no thorns
Pruning requirement: needs little pruning to develop
a strong structure

Breakage: resistant

Current year twig color: brown

Current year twig thickness: medium; thick

Wood specific gravity: 0.40

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: high

Aerosol salt tolerance: low

Soil salt tolerance: poor

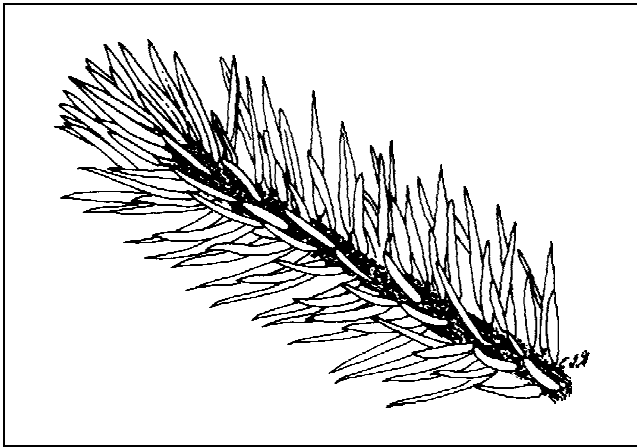


Figure 3. Foliage of White Spruce.

Other

Roots: surface roots are usually not a problem

Winter interest: no special winter interest

Outstanding tree: tree has outstanding ornamental features and could be planted more

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

Ozone sensitivity: tolerant

Verticillium wilt susceptibility: not known to be susceptible

Pest resistance: very sensitive to one or more pests or diseases which can affect tree health or aesthetics

USE AND MANAGEMENT

Most often found on stream banks and lake shores, White Spruce should be grown in the landscape on moist or dry soils in full sun or partial shade. Trees which are well-established are quite tolerant of wind, heat, cold, and drought but can also tolerate wet soil for a period of time.

Propagation is by seed or cuttings.

The cultivar 'Conica' is a 10 to 15-foot-high dwarf form with soft, blue/green needles and is ideal for container use, particularly at Christmastime.

Pests

Mites, aphids and bagworms are the most common pests.

Two gall commonly attack Spruce. Eastern Spruce gall adelgid forms pineapple like galls at the base of twigs. Galls caused by Cooley's Spruce gall adelgid look like miniature cones at the branch tips. The gall adelgids do not kill trees unless the

infestation is heavy. A few galls on a large tree are not serious.

Bagworms make a sack by webbing needles together. Small numbers may be picked off by hand or use *Bacillus thuringiensis*.

Spruce budworm larvae feed on developing buds and young needles. The yellowish brown caterpillars are difficult to see.

The Spruce needle miner makes a small hole in the base of a needle then mines out the center. Dead needles are webbed together and can be found on infested twigs.

Pine needle scale is a white, elongated scale found feeding on the needles only. Populations would have to be quite high to cause major damage.

Spider mites can be problem in summer after hot dry weather. The small insects can't be readily seen with the naked eye. The first noticeable symptoms are yellowing of the oldest needles on infested branches. Close inspection with a magnifying glass will confirm the presence of the mites.

Sawfly larvae may feed on the needles. One infestation will usually not kill the tree.

Diseases

Several rust diseases attack Spruce but these are rarely seen. Infected needles turn yellow and drop off.