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

Crown density: dense

Growth rate: medium

Texture: fine
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.