



## *Picea orientalis* Oriental Spruce<sup>1</sup>

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### INTRODUCTION

Soaring to 120 feet in its native habitat, Oriental Spruce is more often seen at 25 to 40 feet in the landscape, growing slowly into a dense pyramidal silhouette which casts dense shade beneath (Fig. 1). There are some specimens in landscapes 50 or 60 feet tall but these are rare. The horizontal branches bend downward slightly at the tips, and are generously clothed with short, dark green needles. Both male and female flowers are considered insignificant although the male flowers resemble small red strawberries. The flowers are followed by the production of two to four-inch-long and one-inch-wide, reddish-purple cones which mature to a shiny brown. Unfortunately the tree is rare in the industry.

### GENERAL INFORMATION

**Scientific name:** *Picea orientalis*

**Pronunciation:** PIE-see-uh or-ee-en-TAY-liss

**Common name(s):** Oriental Spruce

**Family:** *Pinaceae*

**USDA hardiness zones:** 5 through 7 (Fig. 2)

**Origin:** not native to North America

**Uses:** Bonsai; screen; specimen; no proven urban tolerance

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

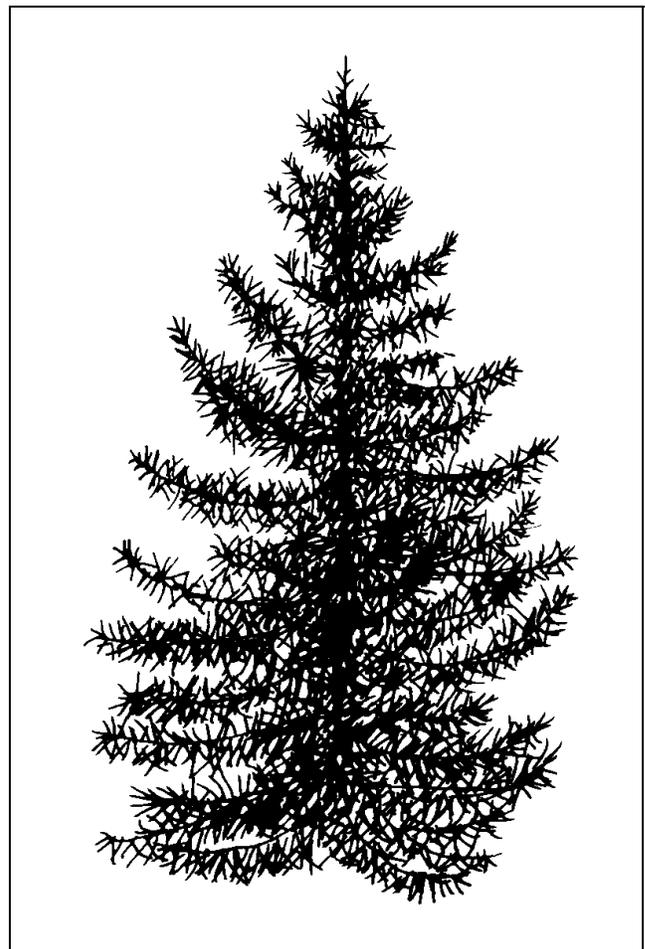


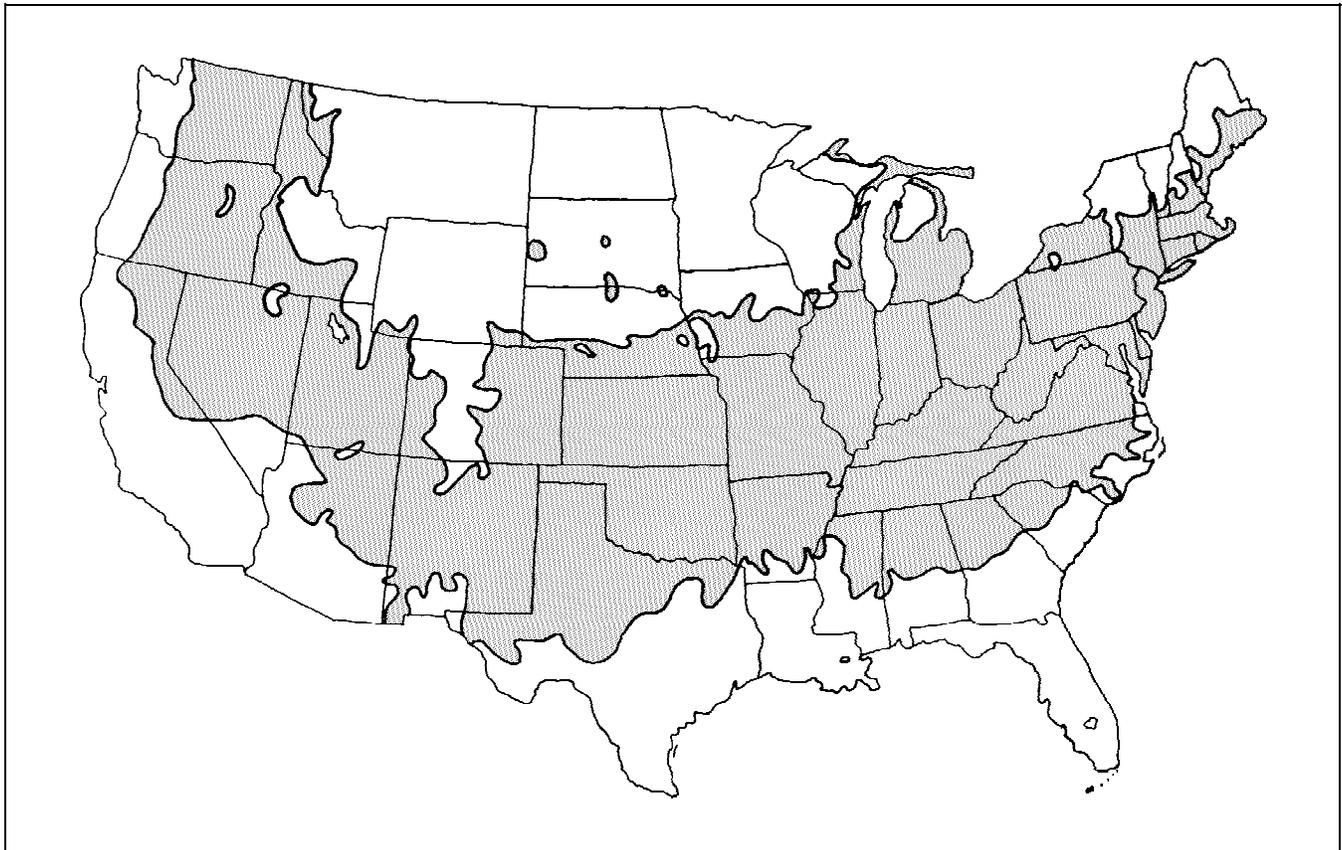
Figure 1. Young Oriental Spruce.

### DESCRIPTION

**Height:** 50 to 60 feet

**Spread:** 15 to 25 feet

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**Figure 2.** Shaded area represents potential planting range.

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

**Crown shape:** pyramidal

**Crown density:** dense

**Growth rate:** slow

**Texture:** fine

**Foliage**

**Leaf arrangement:** alternate; spiral (Fig. 3)

**Leaf type:** simple

**Leaf margin:** entire

**Leaf shape:** needle-like (filiform)

**Leaf venation:** parallel

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

**Leaf blade length:** less than 2 inches

**Leaf color:** green

**Fall color:** no fall color change

**Fall characteristic:** not showy

**Flower**

**Flower color:** red

**Flower characteristics:** inconspicuous and not showy

**Fruit**

**Fruit shape:** elongated; oval

**Fruit length:** 3 to 6 inches; 1 to 3 inches

**Fruit covering:** dry or hard

**Fruit color:** brown

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

**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

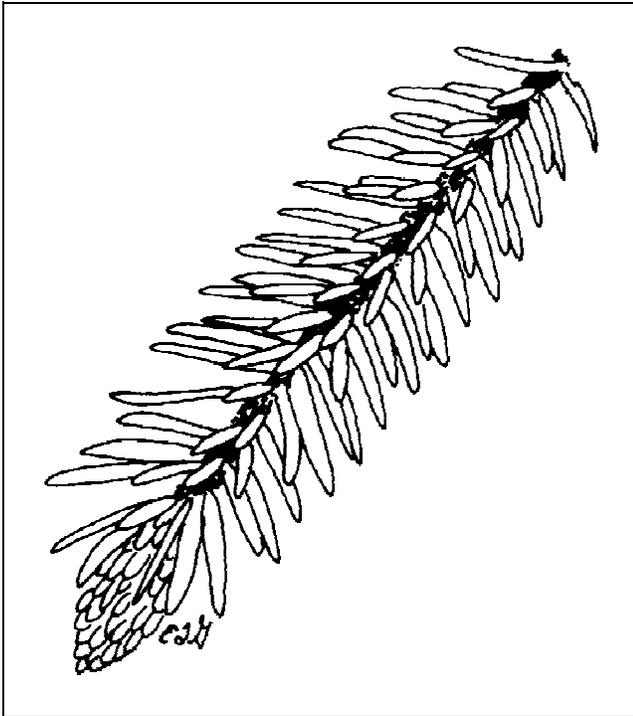


Figure 3. Foliage of Oriental Spruce.

## 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

## 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

**Verticillium wilt susceptibility:** not known to be susceptible

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

## USE AND MANAGEMENT

Best used as a specimen in protected landscapes, Oriental Spruce lends a graceful addition to any yard. Leave plenty of room for lateral branch growth near the base of the tree as it looks odd when lower branches are removed. Watch for mite infestations during hot weather.

Oriental Spruce should be grown in full sun or partial shade on well-drained soil, and will tolerate infertile, even rocky soils. However, Oriental Spruce should only be used where winters are not extremely dry, and the plants should be located where they will not be exposed to harsh winter winds or air pollution. Excessively dry, windy, winter weather can brown the foliage. Generous irrigation in the fall will help the tree pull through the winter.

Cultivars include: 'Aurea', new growth is yellow, gradually changes to green; 'Gowdy', narrow columnar form, small green leaves; 'Gracilis', small conical form, 15 to 20 feet tall, bright green needles; 'Pendula' ('Weeping Dwarf'), compact, pyramidal weeping form.

Propagation is by seed.

## 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**

Spruce may be attacked by needle casts. One, caused by *Lophodermium piceae*, causes needles to turn yellow or brown and drop off. Another, caused by *Rhizosphaera kalkhoffi*, affects the lowest needles first then moves up the tree. Infected needles are a mottled yellow.

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