



# *Pseudotsuga menziesii* Douglas-fir<sup>1</sup>

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## INTRODUCTION

Douglas-Fir grows 40 to 60 feet and spreads 15 to 25 feet in an erect pyramid in the landscape (Fig. 1). It grows to more than 200 feet tall in its native habitat in the West. Hardiness varies with seed source, so be sure it was collected from an area with suitable cold-hardiness to the area in which it will be used.

## GENERAL INFORMATION

**Scientific name:** *Pseudotsuga menziesii*

**Pronunciation:** soo-doe-SOO-guh men-ZEE-zee-eye

**Common name(s):** Douglas-fir

**Family:** *Pinaceae*

**USDA hardiness zones:** 5 through 6 (Fig. 2)

**Origin:** native to North America

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

**Availability:** generally available in many areas within its hardiness range

## DESCRIPTION

**Height:** 40 to 60 feet

**Spread:** 15 to 25 feet

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

**Crown shape:** pyramidal

**Crown density:** moderate

**Growth rate:** medium

**Texture:** fine

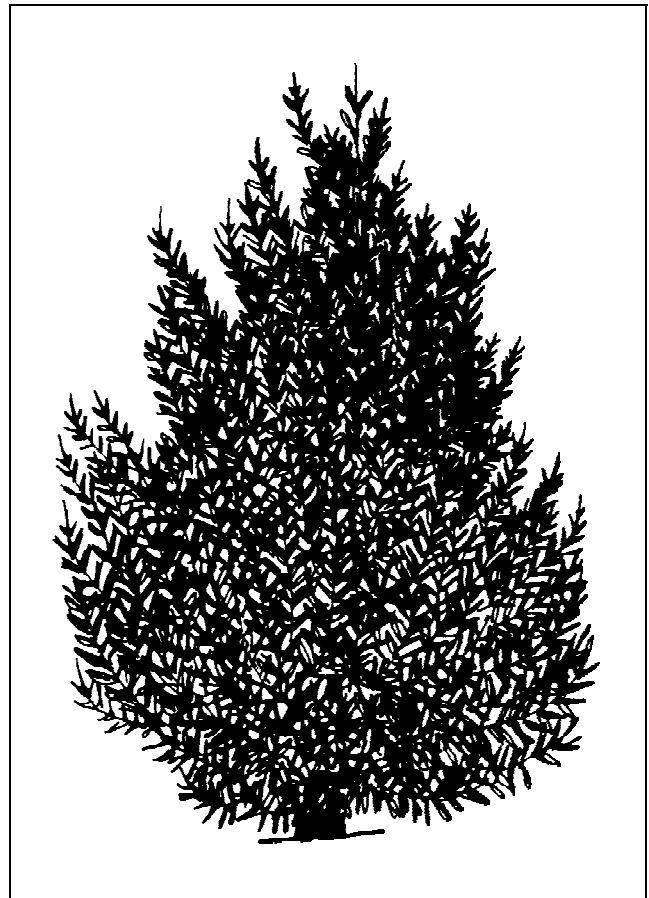


Figure 1. Young Douglas-fir.

## Foliage

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

**Leaf type:** simple

**Leaf margin:** entire

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

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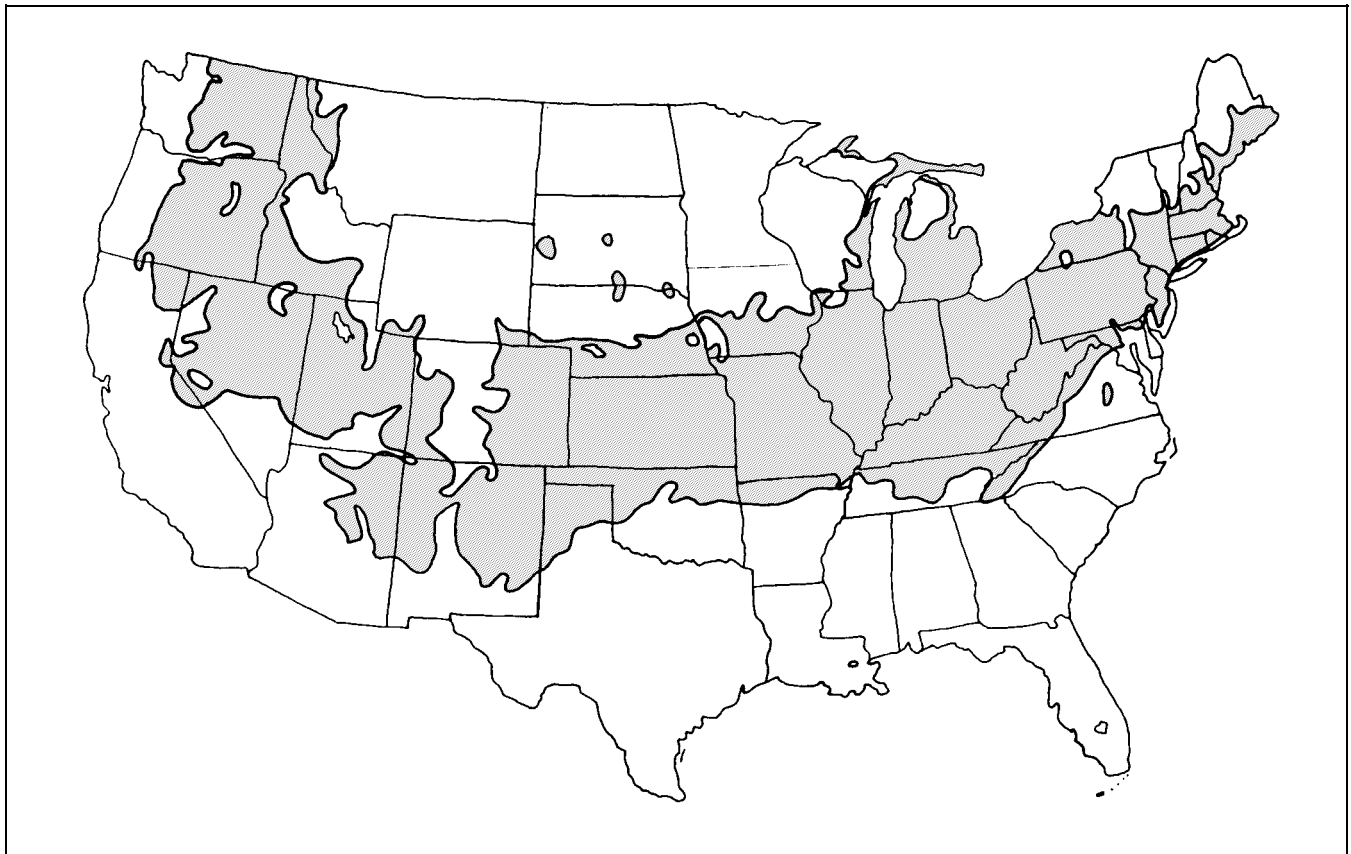


Figure 2. Shaded area represents potential planting range.

**Leaf venation:** none, or difficult to see; 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:** oval

**Fruit length:** 1 to 3 inches

**Fruit covering:** dry or hard

**Fruit color:** brown

**Fruit characteristics:** does not attract wildlife; no significant litter problem; 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:** susceptible to breakage either at the crotch due to poor collar formation, or the wood itself is weak and tends to break

**Current year twig color:** green

**Current year twig thickness:** medium; thin

**Wood specific gravity:** 0.48

### Culture

**Light requirement:** tree grows in full sun

**Soil tolerances:** clay; loam; sand; acidic; alkaline; well-drained

**Drought tolerance:** moderate

**Aerosol salt tolerance:** low

**Soil salt tolerance:** poor



Figure 3. Foliage of Douglas-fir.

### Other

**Roots:** surface roots are usually not a problem

**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

Douglas-Fir is most commonly used as a screen or occasionally a specimen in the landscape. Not suited for a small residential landscape, it is often a fixture in a commercial setting. Allow room for the spread of the tree since the tree looks terrible with lower limbs

removed. It is grown and shipped as a Christmas tree in many parts of the country.

The tree prefers a sunny location with a moist soil and is not considered a good tree for much of the South. It grows but struggles in USDA hardiness zone 7. Douglas-Fir transplants best when balled and burlapped and has a moderate growth rate. It tolerates pruning and shearing but will not tolerate dry soil for extended periods. Protect from direct wind exposure for best appearance. Some occasional watering in summer dry spells will help the tree stay vigorous, especially in the southern end of its range.

Cultivars are: 'Anguina' - long, snake-like branches; 'Brevifolia' - short leaves; 'Compacta' - compact, conical growth; 'Fastigiata' - dense, pyramidal; 'Fretsii' - dense bush, short broad leaves; 'Glauca' - bluish foliage; 'Nana' - dwarf; 'Pendula' - long, drooping branchlets; 'Revoluta' - curled leaves; 'Stairii' - variegated leaves.

### Pests

Aphids infestations on small trees may be dislodged with a strong stream of water from the garden hose.

Scale and bark beetles may infest Douglas-Fir, especially those under stress.

### Diseases

Root rot can be a serious problem on clay and other wet soils.

Needles infected by leaf cast fungi in spring turn brown and fall off.

Several fungi cause canker diseases leading to branch dieback. Maintain tree health and prune out infected branches.