



Tsuga canadensis Canadian Hemlock¹

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INTRODUCTION

Canadian Hemlock may be one of the most beautiful conifers, with its soft green needles attached to gently arching branches, often reaching to the ground (Fig. 1). Specimen trees look their best with lower branches left on and touching the ground. The strong, conical form is supported by one, straight central trunk. Hardy to USDA hardiness zone 3, Canadian Hemlock will grow 50 to 70 feet tall and 30 feet wide, but is tolerant of shearing and can be used for large or small, sheared screens. Unfortunately, infestations of woolly adelgid have been severe in Virginia, Maryland, and Pennsylvania (and other areas) and this may limit their use in certain areas.

GENERAL INFORMATION

Scientific name: *Tsuga canadensis*

Pronunciation: TSOO-guh kan-uh-DEN-sis

Common name(s): Canadian Hemlock, Eastern Hemlock

Family: *Pinaceae*

USDA hardiness zones: 4 through 7A (Fig. 2)

Origin: native to North America

Uses: Bonsai; hedge; screen; shade tree; specimen; no proven urban tolerance

Availability: generally available in many areas within its hardiness range



Figure 1. Middle-aged Canadian Hemlock.

DESCRIPTION

Height: 50 to 70 feet

Spread: 30 feet

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

Crown shape: pyramidal

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Figure 2. Shaded area represents potential planting range.

Crown density: moderate
Growth rate: slow
Texture: fine

Foliage

Leaf arrangement: alternate (Fig. 3)
Leaf type: simple
Leaf margin: entire
Leaf shape: linear
Leaf venation: parallel
Leaf type and persistence: evergreen; fragrant; 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: green; yellow
Flower characteristics: inconspicuous and not showy; spring flowering

Fruit

Fruit shape: oval
Fruit length: .5 to 1 inch
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; gray
Current year twig thickness: thin
Wood specific gravity: 0.40



Figure 3. Foliage of Canadian Hemlock.

Culture

Light requirement: tree grows in part shade/part sun;
tree grows in the shade; tree grows in full sun

Soil tolerances: loam; sand; acidic; well-drained

Drought tolerance: moderate

Aerosol salt tolerance: low

Soil salt tolerance: poor

Other

Roots: surface roots are usually not a problem

Winter interest: no special winter interest

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

USE AND MANAGEMENT

Hemlock transplants well balled-in-burlap and will grow in moderately dry or moist, acidic soil but prefers moist, well-drained sites. Root rot and bark splitting are common on sites which are constantly wet. Some die-back can be expected after transplanting if irrigation is not managed just right. Best growth is in partial shade in the mountainous valleys but specimens grow well in full sun in the middle and northern part of their range. Perfect beneath other trees or in a large, mulched bed where soil is cool and some sun sneaks through during portions of the day. Canadian Hemlock is not for planting in a lawn in competition with turf. Plants grown in full shade will be thin and will not produce the screening effect so characteristic of Hemlock in full sun or partial shade. This is a picky plant but well worth the extra effort to cultivate it.

Cultivars include: 'Bennett' - globose habit, branches weeping at the tips, dark green, grow in partial shade, three-foot height and spread; 'Sargentii' is a dwarf, weeping mound form commonly available that will grow 6 to 12 feet tall (in about 80 years) and 10 to 20 feet wide; 'White Gentsch' - a rounded, flattened dwarf, the foliage is white at the tips, four feet high and wide.

Pests

Canadian Hemlock can be infested by woolly adelgid, scales, weevils, bagworm, mites, sapsucker woodpecker. Woolly adelgid and scale infestations can devastate a planting.

Diseases

This tree may have problems with needle rust, cankers, non-parasitic bark splitting on heavy, poorly drained soil.