

# *Tsuga canadensis*: Canadian Hemlock<sup>1</sup>

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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. 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:** 4A through 7A (Fig. 2)

**Origin:** native to North America

**Invasive potential:** little invasive potential

**Uses:** specimen; screen; hedge; Bonsai; shade

**Availability:** not native to North America

## Description

**Height:** 50 to 70 feet

**Spread:** 30 to 30 feet

**Crown uniformity:** symmetrical

**Crown shape:** pyramidal



Figure 1. Middle-aged *Tsuga canadensis*: Canadian Hemlock

**Crown density:** moderate

**Growth rate:** slow

**Texture:** fine

## Foliage

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

**Leaf type:** simple

**Leaf margin:** entire

**Leaf shape:** linear

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Figure 2. Range

**Leaf venation:** parallel

**Leaf type and persistence:** evergreen, needled evergreen, fragrant

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

**Leaf color:** green

**Fall color:** no color change

**Fall characteristic:** not showy

## Flower

**Flower color:** yellow, green

**Flower characteristics:** not showy

## Fruit

**Fruit shape:** oval, cone

**Fruit length:** .5 to 1 inch

**Fruit covering:** dry or hard

**Fruit color:** brown

**Fruit characteristics:** does not attract wildlife; not showy; fruit/leaves not a litter problem

## Trunk and Branches

**Trunk/bark/branches:** branches droop; not showy; typically one trunk; thorns

**Pruning requirement:** little required

**Breakage:** resistant

**Current year twig color:** gray, brown

**Current year twig thickness:** thin

**Wood specific gravity:** 0.40

## Culture

**Light requirement:** full sun, partial sun or partial shade, shade tolerant

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

**Drought tolerance:** moderate

**Aerosol salt tolerance:** low

## Other

**Roots:** not a problem

**Winter interest:** no

**Outstanding tree:** no

**Ozone sensitivity:** tolerant

**Verticillium wilt susceptibility:** resistant

**Pest resistance:** sensitive to pests/diseases



Figure 3. Foliage

## 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.