

## *Tsuga canadensis* (Canadian Hemlock) Pine Family (Pinaceae)

### Introduction:

The Canadian hemlock is a graceful tree, handsome and regal throughout the year, softer in form and texture than most other conifers. Soft, feathery foliage appears to be arranged on one plane on the twigs while the twigs themselves fan over each other. The species is willowy and flexible, unlike most other conifers.

### Culture:

Because of its positive response to pruning and because it doesn't lose its lower limbs, the Canadian hemlock is ideal as a sheared or unsheared hedge. This large tree can also be kept short with pruning. Canadian hemlock requires moist, acidic soil with good drainage. It can be grown in full sun or shade. It grows in rocky areas (not limestone) where a great deal of organic matter is present. This tree tolerates shade well and is suitable for dense shade if unsheared plants are used. It will not tolerate compacted soils.

Canadian hemlock, which has shallow roots, will not tolerate wind or drought. This tree suffers sun scorch in temperatures exceeding 95 degrees F. Woolly adelgid is a serious problem in the Northeast and Mid-Atlantic states. Mites are a potential problem.

### Selected cultivars:

There are more than 50 cultivars of Canadian hemlock. Many are slow-growing and somewhat pendulous. Representative cultivars of Canadian hemlock include:

**'Cole's Prostrate'** or **'Cole'** - A slow-growing, creeping form ideal for rock gardens. Plants will hug the ground unless grafted on a short standard. Plants will spread about 3 feet in 10 years.

**'Gentsch Variegata'** or **'Gentsch White'** - A slow-growing, spreading plant with variegated branch tips.

**'Sargentii'** - A remarkable plant that develops a rounded, weeping habit. This is also listed as 'Pendula' or form *pendula*. Older plants can reach more than 10 feet tall and 20 feet wide. The plant was selected in 1870 and several 100-year-old plants exist. Often mistakenly thought to be named for Charles Sprague Sargent (former director of the Arnold Arboretum), it was actually named for Henry Sargent, a friend of Joseph Howland who selected the original plants.



### Botanical Characteristics:

**Native habitat:** Nova Scotia to Minnesota, south to Georgia and Alabama.

**Growth habit:** Pyramidal when young, this tree has a nodding leader unique among our native conifers. Branches become pendulous with age.

**Tree size:** Reaches a height of 40 to 70 feet with a width of 25 to 35 feet. It can reach a height of more than 100 feet. Growth rate is moderate.

**Flower and fruit:** Monoecious, inconspicuous. This tree has abundant small cones (½ to 1 inch long) that persist through winter.

**Leaf:** Soft, feathery evergreen needles are deep green with two parallel, whitish bands on the underside. They form a flat, horizontal spray on the twig.

**Hardiness:** Winter hardy to USDA Zone 3b.

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#### **Additional information:**

Canadian hemlock's ecological niche is opposite that of pioneer species that invade and dominate disturbed soil. Canadian hemlock seedlings require the shade of pioneer species to become established, but once established, the dense, overlapping vegetation of the Canadian hemlock shades out the pioneer species and it thus becomes the dominant species.

The national champion Canadian hemlock is 165 feet tall and is in Tennessee in Great Smoky Mountains National Park.

This tree was introduced into the landscape around 1736.

Canadian hemlock can be used for pulp and for rough, general construction, but in the past the wood has been of little value. Of value to Native Americans and colonists, however, was the bark that yielded tannins used as a curative and for tanning leather. Tragically, only the lower bark was peeled off, leaving the tree standing with its upper bark still intact, to slowly die.

Although this tree is often confused with the hemlock that Socrates drank, it is not poisonous. Its needles have been used to make a tea high in vitamin C.

The genus name for the hemlock tree, *Tsuga*, is of Japanese origin.

Canadian hemlock has one of the smallest cones of all the conifers.

In early spring, the foliage is a striking combination of new bright green and old dark green needles. The Canadian hemlock's lacy form is notable and welcome in the winter landscape.



Hemlock cones