

## WESTERN HEMLOCK

*Tsuga heterophylla* (Raf.)  
Sarg.  
plant symbol = TSHE

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### Alternative Names

west coast hemlock, pacific hemlock, coast hemlock

### Uses

*Ethnobotanic:* Western hemlock bark has high tannin content and was used as a tanning agent, pigment and cleansing solution (Pojar & MacKinnon 1994). Some Coast Salish people used a red dye made from hemlock bark to color mountain goat wool and basket materials and as a facial cosmetic and hair remover (Ibid.). The wood was heavy, durable, and fairly easy to carve. Implements such as children's bows, spoons, combs, roasting pits, dip-net poles, and edges were carved from hemlock wood. The Mainland Comox threaded oolichan and herring boughs for drying, and used for drying, and used the boughs for lining steaming pits (Ibid.). Kwakwaka'wakw dancers wore headdresses, and head-bands of hemlock boughs, and young women lived in hemlock-bough huts for four days after their first menstruation (Ibid.).

Pitch obtained from crevices in the bark, has been chewed as a gum (Ibid.). Western hemlock leaves and shoot tips were used to make an herbal tea. The leaves and young shoots have been chewed as an emergency food to keep one alive when lost in the woods (Ibid.).

*Medicinal:* Western hemlock was commonly employed medicinally by several native North American Indian tribes who used it to treat a variety of complaints (Moerman 1998). Hemlock pitch was applied for a variety of purposes, including poultices or poultice coverings, linaments rubbed on the chest for colds and when mixed with deer tallow as a salve to prevent sunburn (Pojar & MacKinnon 1994). A decoction of the pounded bark has been used in the treatment of hemorrhages, diaphoretic, and diuretic (Moerman 1998). The powdered bark can be put in shoes for foot odor.

*Landscaping & Wildlife:* *Tsuga heterophylla* is occasionally planted as an ornamental tree in northern states and in Western Europe (Sargent 1961). Western hemlock stands provide cover and habitat for many wildlife species and small mammals. It is also used for nest trees by cavity nesting birds. This species is browsed by elk and deer. The seedlings are eaten by snowshoe hares and rabbits.

*Agroforestry:* Western hemlock is used in forested riparian buffers to help reduce stream bank erosion, protect aquatic environments, enhance wildlife, and increase biodiversity.

*Economic:* It is one of the best pulpwood for paper and paperboard products. The wood is used in house construction for external walls, structural support and is suited for interior finish, kitchen cabinets, flooring, and ceiling.

### Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status, such as, state noxious status and wetland indicator values.

### Description

*General:* Western hemlock (*Tsuga heterophylla*) is a large evergreen tree growing from ninety to two-hundred feet high. The needles are short stalked, flat, finely toothed, irregularly sparse, and of unequal length (five to twenty millimeters long). The seed cones are ovoid, short-stalked, brown, with many thin papery scales, stalkless, and hanging down at the end of the twigs. The bark is smooth when young, reddish-brown, becoming darker, and deeply furrowed with flat-topped scaly ridges (Farrar 1995).

*Distribution:* Western hemlock is native in northwestern California, Oregon, Washington, British Columbia, Alaska, Idaho, and Montana (McMinn &

Maino 1963). In California, western hemlock occurs near the coast in scattered localities from Del Norte County southward to the vicinity of Elk Creek, Mendocino County (Ibid.). In Oregon and Washington, it inhabits the Coast Ranges and Olympic Mountains, extending eastward to the Cascades (Ibid.). For current distribution, please consult the PLANT Profile page for this species on the PLANTS Web site.

### **Adaptation**

Western hemlock occurs on a variety of soil types. This species is well adapted to grow on humus and decaying wood, and is also found on mineral soil (Pojar & MacKinnon 1994). This species is very shade tolerant and thrives in full sun and regenerates well under a closed canopy. Western hemlock grows in pure stands or mixed at lower levels with Douglas-fir, silver and grand firs, giant arborvitae, redwood, and hardwood and at higher elevations with noble fir, Alaska cedar, mountain hemlock, western, white, and lodgepole pines (Preston 1989).

### **Establishment**

*Propagation from Seed:* Seed is best sown in a cold frame in the autumn or late winter. Dormancy is variable with some seed lots requiring cold stratification (Dirr & Heuser 1987). Stratification accelerates and improves total germination and, unless seeds are known not to require pretreatment, cold stratification at 41°F from three weeks to three months is recommended (Ibid.). Young seedlings should be placed in individual pots, once they are large enough to handle, and allowed to grow in a cold frame. During early summer the following year, out plant seedlings to their permanent locations.

### **Management**

Seedling transplant well when they are 8 to 36 inches tall. However, the best survival rate can be achieved if seedling are transplanted between 8 and 20 inches, this is usually when they are about five to eight years old (Huxley 1992). Transplanting larger seedlings will check badly and hardly put on any growth for several years. This slow growth predisposes the seedling to pest, poor root development and wind throws, and related damage. (Ibid.).

### **Cultivars, Improved and Selected Materials (and area of origin)**

Readily available from your local nursery.

### **References**

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Edited: 19jun02 jsp; 04jun03 ahv

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