

the HEMLOCKS



Hemlocks are among the most striking and graceful conifers in Michigan landscapes. Unfortunately, due to their exacting site requirements, hemlocks can be among the most frustrating conifers for homeowners and landscapers to grow and maintain. Worldwide there are eight to ten species in the hemlock genus (*Tsuga*), which occur in moist, temperate parts of North America and eastern Asia. Four *Tsuga* species are native to North America. Western hemlock (*T. heterophylla*) and mountain (*T. mertensiana*) occur in the Western US and Canada. Eastern hemlock (*T. canadensis*) and Carolina hemlock (*T. caroliniana*) are native to eastern North America. All of the North American hemlock species grow to be large trees in forest stands. Western hemlock is the largest, growing to over 200' tall. Hemlocks are valuable trees for lumber and for pulp production. Hemlock bark has a very high tannin content and was used by many native peoples for tanning. Native tribes in the Northwest used hemlock to dye fishing nets to make them less visible to fish in murky water. In eastern North America, *T. canadensis* bark was used for commercial leather tanning until the advent of synthetic tanning materials.

Tsuga canadensis 'Everett Golden'



Tsuga canadensis 'Frosty'



Tsuga canadensis 'Le Bar Whitetip'



Tsuga diversifolia



Tsuga canadensis 'Guillemont's Dwarf'

Beyond their use for lumber, pulp, and tannin, hemlocks are among the elite of landscape conifers. Their color, texture, and graceful elegance add a touch of class to any landscape. Named cultivars exist for all four of the North American species, though *T. canadensis* are the most numerous and most widely used in the Midwest. The American Conifer Society lists over 240 cultivars of *T. canadensis*, compared with 11 for Carolina hemlock, 17 for *T. mertensiana* and 8 for *T. heterophylla*. There are a handful of named cultivars for some of the Asian species of *Tsuga* including southern Japanese hemlock (*Tsuga sieboldii*) and Northern Japanese hemlock (*T. diversifolia*).

Regardless of the species or cultivar, one consideration common to growing all hemlocks is the need to pay careful attention to site selection. While hemlocks can and do grow in open sites, invariably they perform best in protected areas. Conifer expert Chub Harper has a simple rule for choosing sites for hemlocks: avoid winter sun. Chub states, "The north side of a structure, or the north side of a conifer windbreak works best." Like many conifers, hemlocks grow best on acidic, moist, well-drained soils.

***Tsuga heterophylla,*
Western hemlock**

The range of western hemlock is disjunct with a coastal distribution from southern Oregon to southern Alaska and an interior distribution in northern Idaho and interior British Columbia. *T. heterophylla* is used in landscaping in the

Pacific Northwest and in Europe, both the straight species as well as several cultivars. Generally it has been assumed that climatic extremes preclude their use in the Midwest but most cultivars in the trade are from coastal selection (Zone 7). Exploration of the interior range (Zone 5) may yield selections with increased tolerance of environmental stresses. Western hemlock is the state tree of Washington.

***Tsuga diversifolia,*
Northern Japanese hemlock**

Native to the Japanese islands of Honshu and Kyushu, *T. diversifolia* is hardy in the southern half of the Lower Peninsula (Zone 5). Susan Eyre of Rich's Foxwillow Pines Nursery Northwest of Chicago lists this among her "Top Ten" conifers. Northern Japanese hemlock has dark green foliage with copious small cones.

***Tsuga Canadensis,*
Eastern hemlock**

In his *Manual of Woody Landscape Plants*, Michael Dirr states that if he could plant only one conifer it would be a *Tsuga canadensis*. Eastern Hemlock makes up the vast majority of hemlocks in the nursery trade in the upper Midwest. In a quick survey of catalogs from three major landscape nurseries specializing in conifers, I found 40 cultivars of *T. canadensis*. The only other hemlocks listed were straight species (*T. diversifolia*, *T. sieboldii*, *T. dumosa*) and one cultivar of *T. sieboldii*. The diversity of Eastern hemlock cultivars is truly remarkable; selections



Tsuga canadensis 'New Gold'



Tsuga canadensis 'Callicoon'



Hemlock woolly adelgid

Robert Anderson

include large trees, weeping forms, variegated forms, dwarf, and miniature plants. In fact some of the smallest miniature cultivars recognized by the American Conifer Society are selections of *T. canadensis*.

'Sargentii' This extremely handsome mounding form can get quite large with age. Chub Harper notes: "I still have a specimen with a trunk diameter of 15" that was too big to move with the rest of the collection that went to Hidden Lake Gardens." (Zone 3)

'Lewis' This is a dwarf, upright form growing 3–6' at age 10. Chub notes: "This is a dandy hemlock, not nearly as fussy as some." (Zone 3)

'Stewarts gem' A compact globe form. A very compact plant, growing to only 15" by age 18. (Zone 4)

'Geneva' The American Conifer Society lists this as an intermediate grower (6–15' at age 10) and the specimen at Hidden Lake Gardens is in this range. This is a reliable hemlock that is available through several specialty nurseries but is usually listed as a slower grower. Medium to dark green foliage (Zone 3)

'Jeddeloh' A widely cultivated low mounding or nest-like plant. Very striking, 3'–6' at age 10. (Zone 3)

'Everett golden' One of the few golden forms of hemlock. An upright small tree. Has best color in full sun but will burn. Performs well in light shade. A dwarf form (3'–6' at age 10). (Zone 4)

'Pendula' A classic weeping plant for the shade garden. (Zone 4)

'Palomino' A globe form of dwarf hemlock that belongs to the cinnamon-tip group. It forms a very dwarf compact bush with irregular congested growth. (Zone 4)

'Hussii' Broad oval to upright dwarf (3'–6' at age 10) short dark green needles. (Zone 4)

'Minuta' One of the smallest of all conifers this miniature grows less than 1" per year. Like *Hussii* and *Jacqueline Verkade*, this slow-growing form is suitable as a specimen in rock gardens.

'Gentsch white' Globe form with creamy white new growth, intermediate size: 6–12" per year, 6–15' at 10 years. (Zone 3)

'Frosty' Variegated Dwarf form with a globe habit. 1–6" per year, 3–6' at 10 years. (Zone 4)

'Lebar white tip' Variegated form with creamy white-tipped foliage. Broad upright or oval, up to 15' by age 10. (Zone 5)

'Watnong Star' Chub notes: "My favorite of all dwarf hemlock, the new growth has a star-like appearance." Reportedly hard to find, I found it listed in Arrowhead Alpines catalog. (Zone 4) 

Hemlock Woolly Adelgid

The hemlock woolly adelgid is a serious pest affecting hemlock forests and hemlocks in landscapes in the eastern United States. According to the USDA Forest Service the hemlock woolly adelgid has been detected in nearly half of the range of eastern hemlock. Over 55% of 26,000 acres of hemlock forests in New Jersey have been severely impacted by the adelgid. Fortunately the hemlock woolly adelgid has not yet established a foothold in Michigan. The hemlock woolly adelgid is an aphid-like insect that infests hemlock foliage resulting in severe defoliation that can be severe enough to cause mortality. The adelgid is an exotic pest that was introduced from Asia (sound familiar?). The initial infestations in North America occurred in the Pacific Northwest in the 1920s. The adelgid has not caused widespread damage to western hemlock (*T. heterophylla*) or mountain hemlock (*T. mertensiana*) but has been devastating to eastern hemlock and Carolina hemlock (*T. caroliniana*), neither of which has shown resistance. The range of the adelgid has increased steadily over the past decade. Quarantine on hemlocks from southern nurseries has helped to keep this pest out of Michigan. Researchers are examining whether cold winter temperatures in the northern end of the *T. canadensis* range may limit the northern extent of the infestation.