**Tsuga canadensis** - Canadian or Eastern Hemlock (*Pinaceae*)

*Tsuga canadensis* is a graceful, fine-textured, shade-tolerant evergreen tree that performs best in cool and moist northern climates. Effective in groups or as a specimen tree, Canadian Hemlock has several interesting shrub form cultivars. It is one of the few evergreens ideally suited for shady site.

**FEATURES**

**Form**

-a large evergreen specimen or shade tree in its native habitat; however, under cultivation, a small-, medium-, or large-sized evergreen shrub or tree

-species form matures to at least 80' tall x 40' wide in its native habitat, but it is normally a much smaller tree under urban conditions (to 25' tall x 10' wide, as a general rule)

-upright pyramidal growth habit

-medium growth rate

**Culture**

-full sun to full shade

-can be quite finicky in its exacting requirements for transplant success: best performance occurs in an evenly moist but very well-drained soil, which is rich in organic matter and acidic to neutral in pH, lightly mulched to maintain a cool root zone, and sited in partial sun to partial shade conditions; however, it tolerates full sun to full shade and acidic to alkaline pH soils

-generally does not tolerate nutrient-poor soils, wet soils or poorly drained sites, prolonged drought, prolonged heat, windy and exposed sites, aerial pollution, or winter salt spray (most of the above conditions can occur when it is sited as a foundation tree or as a roadside screen planting)

-numerous potential disease and pest problems that affect the roots, bark, wood, or foliage, but a major problem for this species down the road may be the adelgid pest, which has devastated the species in some areas of its native habitat

-abundantly available in the trade

**Foliage**

-the evergreen, medium- to dark-green needles are about 0.5" long, subtly petioled, and in a spiral or pectinate (two-ranked) arrangement on the slender stems, with 2 bluish-white bands underneath each needle

**Flowers**

-ornamentally insignificant

**Fruits**

-0.5" miniature cones are initially green, becoming brown in their second year, quite attractive when viewed up-close on the branches, but not ornamentally significant

**Twigs**

-thin, green-brown, and pubescent, with slightly drooping branch

-terminal branch tips and the central leader have long, slender, relatively unbranched and open growth when allowed to grow naturally, but are much more dense when they are periodically sheared

**Trunk**

-scaly to flaky and red-brown on young trees, but becoming dark brown to gray and furrowed/ridged with age, and quite noticeable if the tree is limbed up

**USAGE**

**Function**

-correctly used as a specimen, screen, or group planting small tree and as a hedge

-incorrectly used as a windbreak in exposed sites or as a foundation shrub (where it may get too big)

**Texture**

-very fine-textured

-thick density

**Assets**

-ultra-fine texture (a combination of the miniature-needled foliage and the slender, drooping twigs)

-pyramidal growth habit

-branches and foliages to the ground

-grows in full shade to full sun conditions

-can be sheared for a dense tree or dense hedge effect

**Liabilities**

-often has chlorotic/sunscorched foliage or dieback when placed under urban stress conditions

-does not tolerate poorly drained soils or wet sites

-the adelgid pest is ravaging Hemlock in portions of its native habitat, and may spread to urban areas

**Habitat**

-Zones 4 to 7

-Native to Eastern Canada and Appalachia

**SELECTIONS**

**Alternates**

-evergreen pyramidal trees (most species of *Abies, Picea, Pinus*, etc.)

-evergreen conifers of fine- to medium-fine texture (*Abies koreana, Chamaecyparis* species, *Picea orientalis, Pseudotsuga menziesii, Thuja occidentalis*, etc.) or deciduous conifers of similar texture (*Larix, Metasequoia, Pseudolarix, Taxodium*)

-full shade tolerant evergreen large shrubs or trees (*Chamaecyparis Lawsoniana, C. nootkatensis*, etc.)

**Cultivars – Variants – Related species**

-'Gentsch's White' - a dwarf shrub form (to 4' x 4'), with spring tip growth that becomes creamy-white in autumn and winter against the dark green background of the older foliage; must be placed in partial shade to avoid sunscorch

-'Pendula' - an upright weeping form, often staked during nursery production to maintain a central leader to the desired height, often anywhere from 2'-5' x 5'