

Evergreen/Coniferous Trees¹

Name ²	Zone ³ (cold hardiness)	Soil / Climate	Pests / Diseases / Other Problems	Size ⁴	Exposure	Flowers ⁵ / Fruit ⁵ / Foliage	Additional Features
<p><i>Abies balsamea</i></p> <p>Balsam Fir</p> <p>Pinaceae Pine Family</p>	2A-5B	<p>Prefers acidic, moist, but well-drained loamy soil, but will grow on other soils so long as they are cool and moist.</p> <p>Does not tolerate salt, air pollution, or drought.</p> <p>Tolerates wet sites.</p> <p>Generally not a good choice for urban landscapes</p>	<p>Spruce budworm, woolly aphid, and several other pests can be troublesome, but generally insect and disease free.</p> <p>Young trees browsed by white-tailed deer and moose.</p>	<p>H: 45-80'</p> <p>S: 20-25'</p>	Full sun to shade; best in full sun to light shade.	<p>“Flowers” (strobili) – male and female strobili (cones) produced on the same tree (monoecious); male pollen cones (strobili) yellow tinged with purplish-pink, produced in leaf axils on the previous year’s branches in the middle of the crown; female seed cones (strobili) resinous, purple-green, borne upright on the previous year’s branches at the top of the tree; wind pollinated.</p> <p>“Bloom Time” – spring (May/June).</p> <p>Foliage – leaves evergreen (individual needles live for 8-13 years), needle-like, dark green, soft, and fragrant; individual needles arranged spirally on the stems, but often oriented to appear two-ranked (flattened rows on the sides of the branches).</p> <p>“Fruit” – female cones (strobili) are purplish-green becoming gray-brown when mature; mature in fall (September) and disintegrate to release the winged seeds leaving the central axis.</p>	<p>Native to North America including Minnesota; has a single trunk and a conical form; bark thin, grayish-tan with resinous blisters; shade tolerance enables seedlings to grow in the shade of other species and older balsam fir trees making it a climax species; best planted on cooler, moister, north-facing slopes in designed landscapes; several named selection (cultivars) are available; a popular choice for Christmas trees and an important wildlife species; the species is propagated by seed and the cultivars by grafting.</p>

<p><i>Juniperus virginiana</i></p> <p>Eastern Redcedar</p> <p>Red Juniper Virginia Juniper</p> <p>Cupressaceae Cypress Family</p>	<p>2B-9B</p>	<p>Adaptable; prefers moist, well-drained soils, acidic or alkaline, but will grow on almost any soil so long as it is well-drained.</p> <p>Tolerates drought and high pH (alkaline) soils.</p> <p>Intolerant of flooding.</p>	<p>Few pests are problematic.</p> <p>Susceptible to cedar/apple/ hawthorn rust which utilizes cedars and apples/hawthorns as alternate hosts; the fungus overwinters in globular, woody, dimpled galls on cedar trees which swell and produce orange, gelatinous, horn-like structures that release the spores that infect apple and hawthorn leaves in early spring during wet weather; many galls can be present on individual trees and are sometimes mistaken as fruits; the spores produced by the lesions on the infected foliage of apple and hawthorn trees reinfect cedar trees and the cycle continues; apples and hawthorns that are not resistant can be defoliated, but the cedar trees are generally not harmed.</p>	<p>H: 20-65' S: 8-40'</p>	<p>Full sun.</p>	<p>“Flowers” – male and female strobili (cones) produced on separate trees (dioecious; individual trees male or female); male pollen cones yellow-tan with 6-12 scales and produced at the tips of the previous year’s branchlets (although not expanded, the cones are visible in the fall of the previous year and during winter and can be fairly showy when they open to release pollen in spring); female seed cones insignificant, yellow-green, at the tips of the previous year’s branchlets; wind pollinated.</p> <p>“Bloom Time” – spring (May).</p> <p>Foliage – leaves evergreen (individual needles live for 4-6 years), green to blue-green, opposite; two types of leaves are produced – sharp, needle-like, juvenile leaves are produced on young trees and sometimes on vigorous shoots of older trees and overlapping, scale-like leaves are produced on older trees; foliage variously becomes maroon to purplish-brown in the winter.</p> <p>“Fruit” – female cones (strobili) are berry-like, green to blue-green, waxy, and contain 1-3 seeds; mature in fall (August/September), but never open.</p>	<p>Native to North America (generally east of the Rocky Mountains) including Minnesota; typically has a single trunk, but branches close to the ground and can appear to have multiple trunks; bark reddish-brown, exfoliating (peeling) vertically in long strips; form is typically pyramidal, but highly variable – columnar, broadly-pyramidal, or rounded; many cultivars have been selected based on form and foliage characteristics; an early succession (pioneer) species and common in prairies, oak savannas, and pastures; can be long-lived (900 years or more); fire sensitive and has become unnaturally abundant as a result of fire suppression; the wood is decay resistant and fragrant and is used for fence posts and cedar closets and chests; the species is propagated by seed and cultivars by stem cuttings.</p>
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						fairly large, pendulous, green, becoming tan when mature; mature and open in fall (September/October) to release the winged seeds.	
<p><i>Picea glauca</i></p> <p>White Spruce Canadian spruce Skunk spruce</p> <p>Pinaceae Pine Family</p>	2A-6B	<p>Prefers moist, loamy soils, but will grow on most soils regardless of pH (acidic or alkaline). Good salt tolerance and fairly drought tolerant.</p>	Mites, aphids, scales, spruce budworm, and others, but no pests of major concern.	H: 40-60' S: 10-40'	Best in full sun; full sun to light shade.	<p>“Flowers” – male and female strobili (cones) produced on the same tree (monoecious); male pollen cones catkin-like, yellow, purple-tipped; female seed cones purplish-green; wind pollinated. “Bloom Time” – spring (May/June). Foliage – leaves evergreen (individual needles live for 7-10 years), needle-like, green to bluish-green, 4-sided; borne singly in a dense, spiral pattern. “Fruit” – female cones (strobili) relatively small, pendulous, light brown when mature; mature and open in the fall (September/October) to release the winged seeds.</p>	<p>Native to North America including Minnesota (Alaska, Canada, the northern reaches of the eastern United States, and an isolated population in the Black Hills of western South Dakota and northeastern Wyoming); has a single trunk and a conical form; propagated by seed. Black Hills spruce is a geographically isolated variety of white spruce (<i>Picea glauca</i> var. <i>densata</i>); it is more compact and more drought tolerant than the species; it is also more commonly planted in designed landscapes than the species.</p>
<p><i>Pinus resinosa</i></p> <p>Red Pine Norway Pine</p> <p>Pinaceae Pine Family</p>	2B-5B	<p>Prefers acidic, moist to dry, well-drained, sandy or sandy loam soils, but tolerates a variety of soils so long as they are acidic. Drought tolerant. Intolerant of salt and alkaline soils.</p>	Leaf miner can sometimes be severe; bronze birch borer can attack, disfigure, and kill stressed trees.	H: 65-85' S: 30-40'	Full sun.	<p>“Flowers” – male and female strobili (cones) produced on the same tree (monoecious); male pollen cones pinkish-yellow in dense clusters at the base of the current season’s growth; female seed cones reddish-purple, sub-terminal; wind pollinated. “Bloom Time” – spring (June). Foliage – leaves evergreen (live for 3-6 years), needle-like, medium to dark green, brittle (snap when bent), spirally arranged in bundles of two; older needles turn yellow and eventually brown before</p>	<p>Native to North America including Minnesota; interesting, mottled, gray/orange-brown, scaly bark; has a single trunk and a broadly pyramidal to oval form; propagated by seed.</p>

						dropping in early fall. "Fruit" – female cones (strobili) green, becoming light brown when mature; mature and open in late summer to early fall of their second year (August/ September) to release the winged seeds.	
<i>Pinus strobus</i> Eastern White Pine Pinaceae Pine Family	3A-7B	Best on acidic to neutral, sandy loam soils, but tolerates a variety of soils. Foliage can become chlorotic (yellow) on high pH (alkaline) soils. Intolerant of salt.	Susceptible to attack by a variety of pests, but most are not severe. Trees can suffer winter burn on exposed sites and are susceptible to damage by heavy snow and ice.	H: 50-90' or more S: 20-50'	Full sun to partial shade.	"Flowers" – male and female strobili (cones) produced on the same tree (monoecious); male pollen cones yellow-tan in clusters at the base of the current season's growth; female seed cones, light green tinged pink-purple; wind pollinated. "Bloom Time" – spring (May/June). Foliage – leaves evergreen (live for two years), needle-like, light bluish-green to dark green, spirally arranged in bundles of five; older needles turn yellow, then reddish-brown before dropping in early fall. "Fruit" – female cones (strobili) elongated, green, resinous, becoming gray-brown when mature; mature and open in fall of their second year (August/ September) to release the winged seeds.	Native to North America including Minnesota; bark smooth and green on young trees, becoming dark gray and furrowed on older trees; has a single trunk; form is pyramidal when young, becoming irregular to rounded with age; propagated by seed.

¹ Evergreen/Coniferous Trees – Woody plants (trees, shrubs, and woody vines) are often classified as being evergreen or deciduous, but these classifications are not perfect; for example,

all but one of the trees on this list are evergreens (plants that retain green leaves throughout the year as compared to deciduous trees that lose their leaves at the end of the growing season); *Larix laricina*, American larch, is the oddity because it is in the same family (Pinaceae – Pine Family) as the other six species, but, unlike its relatives, it is deciduous; alternatively, all seven species are coniferous (cone-bearing); this is a list of coniferous trees, most of which are evergreen; a tree is generally defined as a tall woody plant that typically has a single stem or trunk.

² Name – Botanical and Common Name(s).

³ Zones – USDA Cold Hardiness Zones; Zone 1 / < 50°F, Zone 2 / -40 to -50°F, Zone 3 / -30 to -40°F, Zone 4 / -20 to -30°F, Zone 5 / -10 to -20°F, etc.

⁴ Size – H = Height; S = Spread.

⁵ Flowers / Fruit – Woody plants (trees, shrubs, and woody vines) are classified as angiosperms or gymnosperms depending on their reproductive morphology and whether their seeds are borne naked or within a fruit; angiosperms (covered seeds) are flowering plants whose seeds are produced within a fruit (a ripened ovary) while gymnosperms (naked seeds) do not produce true flowers and their seeds are naked and are not enclosed within a fruit; all of the trees on this list are gymnosperms and do not produce true flowers or fruits.

Notes:

This is only a partial list of the native and introduced evergreen/coniferous tree species that can be planted in Minnesota landscapes; a complete list would include over 20 species.

The crown sizes listed represent a typical range for each species, but individual trees may be bigger or smaller depending on their genetics and location, as a result of cultivar differences and varying light and soil (fertility and moisture) conditions, respectively; trees that are part of forest canopies or are surrounded by neighboring trees in designed landscapes tend to be taller and narrower as a consequence of crowding and stretching for light.

Remember that native plants, including trees, are an important part of native ecosystems and thereby serve as important an important food source for a variety of native insects, animals, and micro-organisms (e.g., specific to Lepidoptera – butterflies and moths – alone, the pines are known to support over 200 species and the spruces over 150 species; the spruces can also support large populations of spruce budworms, and the pines and larches are favorites of caterpillar-like sawfly larvae, which are related to ants, wasps and bees (Hymenoptera) and a favorite food of birds; and while these creatures may often be considered pests in designed landscapes, they, just like the plants they feed on and the seeds those plants produce, are also important components of native ecosystems as food and ecosystem engineers.

Resources:

Dirr, M.A. 1990. *Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation, and Use*. Fourth Edition. Stipes Publishing Co., Champaign, IL

Dirr, M.A. 2011. *Dirr's Encyclopedia of Trees and Shrubs*. Timber Press, Inc., Portland, OR.

Smith, W.R. 2008. *Trees and Shrubs of Minnesota: The Complete Guide to Species I*. University of Minnesota Press, Minneapolis, MN.

Snyder, L.C. 2000. *Trees and Shrubs for Northern Gardens (new and revised edition)*. Anderson Horticultural Library, Minnesota Landscape Arboretum, Chanhassen, MN.

Talamy, D.W. 2007. *Bringing Nature Home*. Timber Press, Inc., Portland, OR.