

Native Trees for Landscape Use

COLLEGE OF AGRICULTURAL, FOOD, AND ENVIRONMENTAL SCIENCES

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Minnesota has many native trees that can be used for landscaping. While commercial production is limited for many native species, each year nurseries produce more of these plants for sale. However, many others are available only in the wild and must be moved from their native habitats if they are to be planted in the landscape.

Legally, plants can only be transplanted from the wild when dug from private land or with permission. Even though they are native to this area, these trees require careful site selection. You must duplicate their natural growing environments as closely as possible if they are to thrive in the home landscape.

Plants are usually dug from the wild without soil on their roots. They should be transplanted in early spring before growth starts. This means they need to be identified in a dormant condition. If you can identify the plants only when they have leaves or flowers, mark them during the growing season, then move them the following spring.

It is usually better to move small plants, because even with careful digging, only a small percentage of their roots will remain. Trees that develop a tap root, such as oaks and nut trees, are particularly difficult to transplant and should only be moved as very young plants.

Nursery-grown plants typically have better root systems than those dug from the wild. This accounts for the higher percentage of nursery-grown plants that survive transplanting and become reestablished more quickly. Root pruning a year or two before transplanting from the wild will help develop a more compact root system. To root prune, push a sharp shovel straight into the ground, forming a circle around the tree that extends one foot from its trunk.

All but very small trees require some pruning when they are transplanted, to help compensate for lost roots. Do not, however, remove their tops.

Pay attention to spacing and symmetry as you prune; be sure to maintain the tree's natural form. Prune any broken, diseased, or dead branches and branches that grow back towards the center of the tree. Eliminate branches that come out at a very narrow angle from the trunk. Thinning twigs on the trunk and larger branches also helps, because there will be fewer leaves to lose moisture in hot, windy weather. But you must be careful not to overdo it. Those leaves produce energy for the tree that will help it become established in its new location.

Planting seed is another method of obtaining hard-to-find native plants. However, woody plants are more difficult to start from seed than most herbaceous plants. Some seeds may be viable for only a short time; some might require two or more years to germinate. Oak and nut tree seeds will not germinate if they are dried prior to planting.

Most woody plant seeds require stratification in moist sand at 32 to 40 degrees F for three or four months prior to planting. Planting stratified seed directly outdoors in spring is generally more satisfactory than attempting to start them indoors.

You can also plant tree seeds outdoors in fall so they are stratified "naturally" over the winter. You must protect the seed bed from rodents by covering the area with mesh hardware cloth. Remember to remove it in spring before seedlings emerge.

Transplant the seedlings in spring after one or two year's growth. Choose their permanent site carefully. Soil texture, drainage, and pH should be similar to conditions they experience growing wild. Moisture, temperature and light levels must also be considered.

Water young trees weekly (unless there's ample rainfall) the first few years after transplanting. Control pests and weeds to reduce competition during this time, also. Spread three to four inches of woodchip mulch over the root area to help reduce weed growth and conserve moisture.

To prevent sunscald, wrap tree trunks each autumn until they develop corky bark, but be sure to remove the tree wrap early each May. Provide rodent protection by encircling young tree trunks with a cylinder of quarter-inch mesh hardware cloth.

The following trees are native to this area or have been planted at the Minnesota Landscape Arboretum. Their mature size is influenced by many factors including light, water, soil, fertility, competition and length of growing season. They are often taller under forest conditions than when grown in an open area. Sizes listed here are probably maximums under Minnesota forest conditions.

Ash, Black (*Fraxinus nigra*) 50-75 ft.—not commonly planted, as it defoliates earlier than other ash—grows fast—moist to dry sites—fall color yellow to brown.

Ash, Green (*Fraxinus pennsylvanica*) 50-75 ft.—C—adaptable to wide range of soils—fast growing—female trees can produce abundant seeds—many nursery grown trees that are selected seedless clones—moist to dry sites—yellow fall color.

Ash, White (*Fraxinus americana*) 75-100 ft.—grow seedlings from native plants—autumn color purple—best on fertile upland soils.

Aspen, Large-toothed (*Populus grandidentata*) 50-75 ft.—greenish-yellow bark—yellow to golden-orange fall color.

Aspen, Quaking or Trembling (*Populus tremuloides*) 35-50 ft.—C—white bark resembling birch—often producing thickets by suckering—yellow fall color.

Basswood or American Linden (*Tilia americana*) to 75-100 ft.—C—handsome tree when grown in open—fragrant flowers—single stem or clump—yellow to brown fall color.

Beech, Blue (*Carpinus caroliniana*) 20-35 ft.—C—best on fertile, moist soils—interesting gray bark—single trunk or clump—yellow to orange fall color.

Birch, Paper (*Betula papyrifera*) 50-75 ft.—C—large plants are difficult to move—plant on moist, fertile, cool sites, otherwise likely to be killed by the bronze birch borer—single trunk or clump—yellow fall color.

Birch, River (*Betula nigra*) 50-75 ft.—C—resistant to the bronze birch borer—young trees have attractive pinkish exfoliating bark which darkens with age—single stem or clump—adapted to wide range of soil conditions—yellow fall color—needs acidic soil.

Boxelder (*Acer negundo*) to 35-50 ft.—except for the most difficult sites, many other trees would be a better choice—grows fast—very brittle wood—female trees produce an abundance of seed and attract boxelder bugs—yellow fall color.

Butternut (*Juglans cinerea*) 50-75 ft.—plant seed where it is to be grown—edible nut—yellow fall color.

Cedar, Red (*Juniperus virginiana*) 25-35 ft.—evergreen—do not plant near commercial orchards because of cedar-apple rust problems—provides bird food—purplish winter color.

Cedar, White or American Arborvitae (*Thuja occidentalis*) 50-75 ft.—limited C—evergreen—tolerant to moist soils—does well on upland soils that are slightly alkaline—excellent screening plant—single trunk or clump.

Cherry, Black (*Prunus serotina*) 50-75 ft.—best on fertile soils—white flowers—bird food—can be defoliated by caterpillars—yellow fall color.

Chokecherry (*Prunus virginiana*) 10-20 ft.—can be grown as a small tree or shrub—tolerant to wide range of soils—white flowers—fruits for bird food and jelly—fall color often red.

Coffeetree, Kentucky (*Gymnocladus dioica*) 50-100 ft.—C—seed does not need to be stratified, but seed coat should be nicked to allow water penetration—comes into leaf in late spring—plant seed where it is to be grown—few insect and disease problems—interesting gray bark—usually produces a few 6-inch seed pods—usually single trunk—interesting clump—yellow fall color.

Cottonwood (*Populus deltoides*) to 50-100 ft.—C—grows fast—shallow root system becomes brittle with age—female trees produce an abundance of cottony seed that creates a litter problem—shallow roots—yellow fall color.

Elm (*Ulmus spp.*) to 75 ft.—C—plant only the varieties that are resistant to Dutch elm disease.

Fir, Balsam (*Abies balsamea*) 50-75 ft.—evergreen—excellent Christmas trees—best on fertile, moist soils.

Hackberry (*Celtis occidentalis*) 50-70 ft.—C—best on good soil—nipple gall and several other pests can make the leaves unattractive but cause no apparent damage to tree—twiggy growth, commonly called witches' brooms, sometimes occur on the branches—yellow fall color.

Hawthorn or Thornapple (*Crataegus spp.*) to 50-75 ft.—C—many native species and hybrids—large shrubs to small trees, white flowers, red fruit—best for northern areas where red cedar is not native because of susceptibility to cedar-hawthorn rust—fall color often poor, usually yellow.

Hickory, Bitternut (*Carya cordiformis*) 35-50 ft.—plant seed where it is to be grown—nut not edible—gray bark—yellow fall color.

Hickory, Shagbark (*Carya ovata*) 50-75 ft.—plant seed where it is to be grown—difficult to transplant because of tap root—edible nuts—interesting gray bark—for southern part of state on fertile, moist soils—yellow fall color.

Ironwood or Hophornbeam (*Ostrya virginiana*) 20-35 ft.—C—nursery-grown plants put on growth sooner after planting than plants dug from the wild—tolerates wide range of soils and some shade—quite pest free—grow as single trunk or clump—yellow-brown fall color—holds some leaves into winter.

Juneberry, Alleghany (*Amelanchier laevis*) 10-25 ft.—C—white flowers—food for birds—jelly—red fall color.

Maple, Black (*Acer saccharum nigrum*) 75-100 ft.—subspecies of sugar maple—see comments under sugar maple.

Maple, Red (*Acer rubrum*) 40-70 ft.—C—best on acid soils—tolerates moist soils—grows fast—should be grown in sod—fall color yellow or reds—select in fall to insure good fall color.

Maple, Silver (*Acer saccharinum*) to 75-100 ft.—C—fast growing—many shallow roots—often produces an abundance of seed—yellow fall color.

Maple, Sugar (*Acer saccharum*) 75-100 ft.—C—requires a heavy, moist soil that is well drained—grows slowly after transplanting, medium rate later—yellow to orange and occasionally, red fall color.

Mountain Ash, American (*Sorbus americana*) 15-30 ft.—small, fast growing tree or shrub—seems to prefer moist, fertile soil - many losses to fireblight in recent years—red fruits—fall color yellow to red.

Mountain Ash, Showy (*Sorbus decora*) 20-40 ft. See comments above.

Oak, Bur (*Quercus macrocarpa*) 35-75 ft.—plant seed where it is to be grown—will tolerate dry poor site, but grows faster on better soils—individual specimens vary from susceptible to resistant to oak wilt—dark deeply furrowed bark—fall color unattractive yellow-brown.

Oak, Northern Pin (*Quercus ellipsoidalis*) 35-70 ft.—plant seed where it is to be grown—susceptible to oak wilt—excellent red fall color.

Oak, Red (*Quercus rubra*) 40-75 ft.—plant seed where it is to be grown—large tree—grows fast—susceptible to oak wilt—good fall color.

Oak, Swamp White (*Quercus bicolor*) 35-70 ft.—very limited C—plant seed where it is to be grown—large tree—medium growth rate—fall color yellow to brown.

Oak, White (*Quercus alba*) 50-70 ft.—plant seed where it is to be grown—large tree—reasonably resistant to oak wilt—fall color a good purple red to violet purple—needs acidic soil.

Pincherry (*Prunus pennsylvanica*) 10-35 ft.—tree or shrub—bark light reddish brown—flowers white—bright red fruit—bird food—jelly—fall color red.

Pine, Jack (*Pinus banksiana*) 35-70 ft.—limited C—evergreen—irregular form—grows fast—tolerates infertile dry soils—winter color may be yellow green—needs acidic soil.

Pine, Red (*Pinus resinosa*) 75-100 ft.—C—evergreen—infertile poor, dry soils—grows fast—medium to dark green—needs acidic soil.

Pine, White (*Pinus strobus*) to 100 ft.—C—evergreen—susceptibility to white pine blister rust limits its use—best on fertile, moist soils—very sensitive to salt.

Plum, Wild (*Prunus americana*) 20-35 ft.—forms thicket—ideal for wildlife—fragrant bloom—fruit for jelly—needs a well drained soil.

Poplar, Balsam (*Populus balsamifera*) 40-70 ft.—moist to dry sites—fast growing.

Spruce, Black (*Picea mariana*) 25-35 ft.—evergreen—moist to upland soils—color green.

Spruce, White (*Picea glauca*) to 100 ft.—C—evergreen—moist to upland soils—color green to blue-green.

Tamarack (*Larix laricina*) 40-70 ft.—C—deciduous conifer—moist or dry soils—yellow fall color.

Walnut, Black (*Juglans nigra*) 70-100 ft.—plant seed where it is to be grown—susceptibility to leaf spot diseases and tent caterpillars and nuts dropping—keep away from gardens—grows best on rich, moist soils in southern 1/3 of state—edible nuts—yellow fall color.

C = commercially available

A good reference: Young, J.A. and C.G. Young *Seeds of Woody Plants in North America*. Dioscorides Press, Portland, OR .1992

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