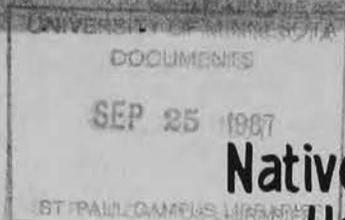


Arboretum Review



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Native Trees That Can Be Used For Landscaping

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Minnesota has many native trees that can be used for landscaping. Each year, nurserymen are producing more of these native plants for sale. However, many others are available only in the wild and will have to be moved from their native habitats if they are to be used in landscape plantings. Despite the fact that the trees are native, some require careful site selection to duplicate, as closely as possible, their natural growing environments.

Most plants that are dug from the wild are dug bare root (without soil on their roots) and are best transplanted in early spring before growth starts. This requires that they be identified in a dormant condition. People who can identify the plants only when they are in leaf or flower should mark plants during the growing season and move the plants the following spring. It is usually better to move small plants, because, despite careful digging, only a small percentage of the roots will remain. Nursery grown plants will normally have a better root system than those dug from the wild. This accounts for the higher percentage of nursery grown plants that survive transplanting, and why they normally become reestablished more quickly and

grow more rapidly. Root pruning one to two years prior to moving will encourage a more compact root system. 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.

Unless small trees are transplanted, they will require extensive pruning. First the lower branches that interfere with mowing can be removed. Next, branches that come out at very narrow angles should be eliminated. Attention should be given to the spacing of branches and symmetry. Thinning of the twigs on the trunk and larger branches will help compensate for the loss of roots. The practice of removing the tops of trees should be avoided.

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

A native green ash growing in the Arboretum.



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The river birch showing its attractive bark.



Seeds of most woody plants require stratification in moist sand and should be stored at 32° to 40°F for three or four months.* Planting stratified seed in ground beds out-of-doors in the spring is generally more satisfactory than attempting to start them indoors. They can be planted out-of-doors in the fall to give a natural stratification over winter. Seed beds should be protected from rodents.

Seedlings should be transplanted during the spring a year or two after they have germinated. Careful attention should be given to the site where the plants are to be grown permanently. The soil is important; the texture, drainage and pH should be similar to where they grow in nature. Moisture, temperature and light are other factors that must be considered.

Young trees should be watered weekly through the first and second growing seasons and pests and weeds controlled. Wrapping the trunk for the winter to prevent sunscald and providing rodent protection with a cylinder of quarter-inch mesh hardware cloth is desirable.

Mature plant size is influenced by length of growing season, temperature, light, water, soil type, fertility, competition and other factors. The size under forest conditions is often taller than plants grown in an open area. The sizes listed here are probably maximums for Minnesota forest conditions.

The trees contained in this list are native or have been planted in the University of Minnesota Arboretum at Chaska.

Ash, Black (*Fraxinus nigra*) 15-25 m. — 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*) 20 m. — 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*) to 40 m. — grow seedlings from native plants — autumn color purple — best on fertile upland soils.

Aspen, Large toothed (*Populus grandidentata*) 10-20 m. — greenish-yellow bark — yellow to golden-orange fall color.

Aspen, Quaking or Trembling (*Populus tremuloides*) 10-20 m. — C — white bark resembling birch — often producing thickets by suckering — yellow fall color.

Basswood or American Linden (*Tilia americana*) to 25 m. — C — handsome tree when grown in open — fragrant flowers — single stem or clump — yellow to brown fall color.

Beech, Blue (*Carpinus caroliniana*) 6-10 m. — C — best on fertile, moist soils — interesting gray bark — single trunk or clump — yellow to orange fall color.

Birch, Paper (*Betula papyrifera*) 20-25 m. — 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*) 20-25 m. — 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.

Boxelder (*Acer negundo*) to 20 m. — 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*) 15-30 m. — plant seed where it is to be grown — edible nut — yellow fall color.

Cedar, Red (*Juniperus virginiana*) 8-10 m. — 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*) 15 m. — 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*) 10-25 m. — best on fertile soils — white flowers — bird food — can be defoliated by caterpillars — yellow fall color.

*Seeds of Woody Plants in the United States, Ag Handbook. 4501 USDA.
m = meter — 39.37 inches
C = commercially available

Chokecherry (*Prunus virginiana*) 2-4 m. — 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*) 15-30 m. — 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 30 m. — C — because of size not suited for most yard plantings — 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 25 m. — should not be planted because of Dutch elm disease.

Fir, Balsam (*Abies balsamea*) 15-20 m. — evergreen — excellent Christmas trees — best on fertile, moist soils.

Hackberry (*Celtis occidentalis*) 20 m. — 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 20 m. — 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*) 12-15 m. — plant seed where it is to be grown — nut not edible — gray bark — yellow fall color.

Hickory, Shagbark (*Carya ovata*) 16-30 m. — 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*) 6-10 m. — 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*) 3-5 m. — C — white flowers — food for birds — jelly — red fall color.

Maple, Black (*Acer saccharum nigrum*) 30-40 m. — subspecies of sugar maple — see comments under sugar maple.

Maple, Red (*Acer rubrum*) 6-20 m. — 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 30-40 m. — C — because of size not suitable to small yards — fast growing — many shallow roots — branches become brittle with age — often produces an abundance of seed — yellow fall color.

Maple, Sugar (*Acer saccharum*) 30-40 m. — C — requires a heavy, moist soil that is drained — grows slowly after transplanting, medium rate later — yellow to orange and, occasionally, red fall color.

Mountain Ash, American (*Sorbus americana*) 4-9 m. — small, fast growing tree or shrub — seems to prefer a moist, fertile soil. Many losses to fireblight in recent years — red fruits — fall color yellow to red.

Mountain Ash, Showy (*Sorbus decora*) 6-12 m. See comments above.

Oak, Bur (*Quercus macrocarpa*) 10-25 m. — 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*) 10-20 m. — plant seed where it is to be grown — susceptible to oak wilt — excellent red fall color.

Oak, Red (*Quercus rubra*) 12-24 m. — plant seed where it is to be grown — large tree — grows fast — susceptible to oak wilt — good fall color.

Oak, Swamp White (*Quercus ^{bicolor} bicolor*) 10-20 m. — 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*) 15-20 m. — plant seed where it is to be grown — large tree — reasonably resistant to oak wilt — fall color a good purple red to violet purple.

Pincherry (*Prunus pensylvanica*) 3-10 m. — tree or shrub — bark light reddish brown — flowers white — bright red fruit — bird food — jelly — fall color red.

Pine, Jack (*Pinus banksiana*) 10-20 m. — limited C — evergreen — irregular form — grows fast — tolerates infertile dry soils — winter color maybe yellow green.

Pine, Red (*Pinus resinosa*) 25-30 m. — C — evergreen — infertile poor, dry soils — grows fast — medium to dark green.

Pine, White (*Pinus strobus*) to 40 m. — C — evergreen — susceptibility to white pine blister rust limits its use — best on fertile, moist soils — very sensitive to salt.

Plum, Wild (*Prunus americana*) 5-10 m. — forms thicket — ideal of wildlife — fragrant bloom — fruit for jelly — needs a well drained soil.

Poplar, Balsam (*Populus balsamifera*) 15-20 m. — moist to dry sites.

Spruce, Black (*Picea mariana*) 8-10 m. — evergreen — moist to upland soils — color green.

Spruce, White (*Picea glauca*) to 30 m. — C — evergreen — moist to upland soils — color green to blue-green.

Tamarack (*Larix laricina*) 12-20 m. — C — deciduous conifer — moist or dry soils — yellow fall color.

Walnut, Black (*Juglans nigra*) 20-40 m. — plant seed where it is to be grown — susceptibility to leaf spot diseases and tent caterpillars and nuts dropping — it is not the best ornamental tree — grows best on rich, moist soils in southern 1/3 of state — edible nuts — yellow fall color.

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