

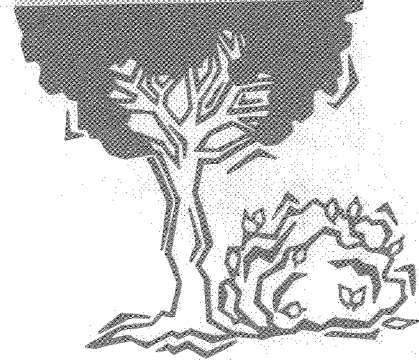
UCSU 20/6.22/7.419/2000

c. 2

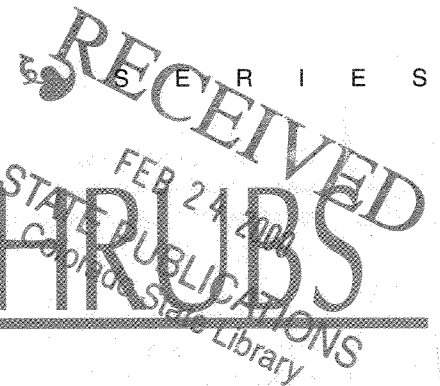
COLORADO STATE PUBLICATIONS LIBRARY local
UCSU20/6.22/7.419/2000 c.2
Klett, James E./Large deciduous trees



3 1799 00027 9554



G A R D E N I N G S E R I E S



TREES & SHRUBS

Large Deciduous Trees

no. 7.419

by J.E. Klett and C. Wilson¹

Everyone enjoys the beauty a shade tree provides. Trees also reduce harsh winds, moderate temperature extremes, and offset poor air quality.

Quick Facts...

Trees provide shade, beauty and protection from harsh winter.

Trees help moderate temperature extremes and offset poor air quality.

Plant trees on the basis of space available, soil conditions, proximity to irrigation lines and water requirements.

Plant trees prone to storm breakage away from buildings, walks, driveways and utility lines.

How to Select a Tree

To select a tree, consider the following factors.

Available space. The location you choose for each tree should have enough space to allow for growth without severe pruning. Check for obstructions of buildings, overhead utility lines and tall fences. If lateral space is limited, select a tree that has a narrow, upright growth habit. Refer to height, branch spread and shape in the tree list shown in Table 1. If overhead lines are near, you may want to choose small trees. (See fact sheet 7.418, *Small Deciduous Trees*.)

Soil conditions. Most trees perform best in well-drained soil. If you have compacted soil that is hard to work, loosen the soil and mix in organic material to a depth of at least 12 inches before planting your tree.

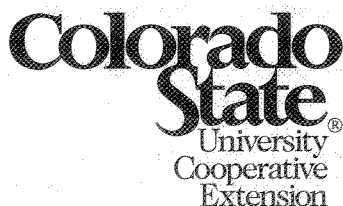
Irrigation lines. If you have an underground irrigation system, plant trees to allow for the tree trunk and basal root flare to expand without encroaching on an irrigation pipe. Otherwise, tree roots may eventually compress the pipe and shut off the irrigation line.

Growth rates vs. brittleness. As a general rule, fast-growing trees tend to be brittle and can be damaged by limb breakage in storms. Plant these trees away from buildings, sidewalks, driveways and utility lines.

Water requirements. Trees vary in water requirements. Do not plant trees that have low water needs in heavily irrigated lawn areas or at the bottom of slopes. Plant trees with high water requirements in locations where supplemental watering is possible and desired. For details on watering after planting, see 7.226, *Care of Young Transplanted Trees*.

Large Trees for Shade

Table 1 includes trees that will exceed 30 feet in height when fully grown. These trees should not be placed under or near power lines or other overhead structures. Use one-half of branch spread (diameter) indicated below to determine distance from structures.



© Colorado State University
Cooperative Extension. 1/2000.
www.colostate.edu/Depts/CoopExt

¹ J.E. Klett, Colorado State University Cooperative Extension landscape horticulturist and professor, horticulture and landscape architecture; and C. Wilson, Cooperative Extension horticulture agent, Denver County.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Milan A. Rewerts, Director of Cooperative Extension, Colorado State University, Fort Collins, Colorado. Cooperative Extension programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.



Columnar. Sides more or less parallel, much more tall than broad.



Conical. Cone-shaped. Broad at base, tapering to a narrow top.



Broad spreading. A wide vase shape.



Elliptical. More tall than broad, widest branching at or near the middle.



Upright spreading. A narrow vase shape.



Round or globe. About as broad as tall.



Weeping. Branches tend to weep downward.

Description of Tree Shapes

The following tree shapes describe the general outline of the trees in the accompanying tree list. Use this chart in combination with height and branch spread to determine proper location of trees and ensure adequate clearance from obstacles.

Table 1: Large deciduous trees for shade.

| Plant Name | Mature Size (H x W) | Tree Shape | Growth Rate ¹ | Soil Moisture ² | Aesthetic Value and Cultural Hints |
|---|---------------------|------------------|--------------------------|----------------------------|--|
| <i>Acer plantanoides</i> Norway maple | 50 x 40 | rounded | m | M | Dark green, dense foliage. Yellow fall color. |
| 'Columnar' | 50 x 20 | narrow, columnar | m-f | M | Good for tight, narrow locations. Street tree. |
| 'Deborah' | 50 x 40 | rounded | m | M | Red foliage in spring changes to green in summer. Straight leader. |
| 'Emerald Queen' | 50 x 40 | rounded | m | M | Dark green foliage with dense branching habit. |
| 'Jade Glen' | 50 x 40 | rounded | m | M | Good yellow fall color. |
| 'Royal Red' | 40 x 30 | rounded | m | M | Dark, glossy red foliage all summer. Similar to Crimson King but more cold hardy. |
| 'Schwendler' | 50 x 40 | rounded | m | M | Red foliage in spring changing to bronze and dark green in summer. Street tree. |
| <i>Acer rubrum</i> Red maple | 45 x 40 | conical | f | H | Red flowers in early spring. Red fall color. Avoid very alkaline soils. |
| 'Armstrong' | 50 x 30 | narrow, columnar | m | H | Red fall color. Street tree. Avoid very alkaline soils. |
| 'Red Sunset' | 45 x 40 | broad, conical | f | H | Red flowers in early spring. Red fall color. Avoid very alkaline soils. |
| <i>Acer saccharinum</i> Silver maple | 65 x 50 | variable | f | H | Bright green foliage with silvery undersides. Tends to be brittle. Yellow fall color. Avoid very alkaline soils. |
| 'Cutleaf' | 50 x 40 | rounded | f | H | Deeply cut, feathery leaves. Branches tend to weep in graceful arch. Yellow fall color. Avoid very alkaline soils. |
| <i>Aesculus glabra</i> Ohio buckeye | 35 x 20 | broad, columnar | m | M | Reddish-orange fall color. Light yellow flowers in terminal clusters in late spring. Nut-like fruit. |
| <i>Aesculus hippocastanum</i> Horsechestnut | 60 x 45 | broad, conical | s | M | Large clusters of white flowers in late spring. Best used in large, open lawn areas. |
| <i>Betula papyrifera</i> Paper birch | 40 x 25 | elliptical | m | H | Yellow fall color. Peeling bark. |
| <i>Betula pendula</i> 'Gracilis' Cutleaf weeping birch | 50 x 30 | weeping | m | H | Yellow fall color. Plant where soil stays cool and moist. Avoid south and west exposures. White bark. |
| <i>Carpinus betulus</i> 'Fastigiata' Columnar hornbeam | 35 x 15 | narrow, columnar | s | H | Dark green, glossy foliage much like elm. Plant where soil stays cool. Avoid south or west exposures. |
| <i>Catalpa speciosa</i> Northern catalpa | 50 x 25 | narrow, columnar | s | M | Showy, white, orchid-like flowers in early summer. Bean-like pods often remain on trees all winter. |
| <i>Celtis occidentalis</i> Common hackberry | 65 x 50 | broad, spreading | s-m | L | Adapts to most soils. Yellow fall color. Corky bark. Street tree. |

Table 1, continued: Large deciduous trees for shade.

| Plant Name | Mature Size (H x W) | Tree Shape | Growth Rate ¹ | Soil Moisture ² | Aesthetic Value and Cultural Hints |
|--|------------------------|-------------------------------|-----------------------------|-------------------------------|--|
| <i>Fraxinus americana</i> American ash | 60 x 50 | elliptical | m | M | Yellow to purple fall color. Street tree. |
| 'Autumn purple' | 50 x 50 | round | m | M | Reddish-purple fall color. Seedless. |
| <i>Fraxinus pennsylvanica</i> Green ash | 50 x 30 | round | m | M | Yellow fall color. Adapts to wide range of soils. |
| 'Marshalls' Seedless' | 50 x 30 | elliptical | m | M | Yellow fall color. Street tree. Seedless. |
| 'Patmore' | 50 x 30 | elliptical | m | M | One of the hardiest. Seedless. |
| 'Summit' | 50 x 20 | conical | m | M | Female will produce seed. Yellow fall color. |
| <i>Gleditsia triacanthos inermis</i> Thornless honeylocust | 65 x 40 | variable | m | M | Seedling selection. Not always thornless. |
| 'Imperial' | 40 x 40 | rounded | m | M | Foliage is fern-like and bright green. Thornless. May produce pods. |
| 'Shademaster' | 70 x 50 | broad, spreading | m | M | Dark green, ferny foliage. Podless and thornless. Street tree. |
| 'Skyline' | 45 x 40 | broad, conical | m | M | Compact, dark green foliage. |
| 'Sunburst' | 35 x 45 | variable | m | M | Yellow-tipped foliage. May be more prone to diseases. |
| <i>Gymnocladus dioica</i> Kentucky coffeetree | 45 x 25 | variable | s | L | May be male or female. Female has leathery pods. Interesting winter form. |
| <i>Populus alba</i> Silver (white) poplar | 75 x 60 | broad, spreading | f | H | Leaves green above and silvery white below. Greenish-white bark. May sucker from roots. |
| 'Pyramidalis' | 45 x 15 | narrow, columnar | f | H | Good for fast screen planting. Short-lived due to diseases. Silvery, lobed, maple-like leaves. |
| <i>Populus angustifolia</i> Narrowleaf cottonwood | 50 x 40 | columnar | f | H | Yellow fall color. Root suckers, thus should be used where it can spread in groves. |
| <i>Populus deltoides</i> 'Siouxland' Cottonwood 'Siouxland' | 75 x 40 | elliptical | f | H | Cottonless. This selection is very prone to cytospora canker. |
| <i>Populus nigra</i> 'Italica' Lombardy poplar | 60 x 15 | narrow, columnar | f | H | Use as temporary screen planting. Short-lived due to diseases. |
| <i>Populus sargentii</i> Plains cottonwood | 90 x 50 | upright | f | H | Native of the plains along rivers. Cottonless (male) selections available. |
| <i>Populus tremula</i> 'Erecta' Upright European poplar | 60 x 15 | upright, spreading | f | H | Use as screen planting. More disease-resistant and longer-lived than Lombardy. |
| <i>Populus x acuminata</i> Lanceleaf cottonwood | 50 x 40 | elliptical | f | H | Yellow fall color. Shiny, willow-like leaves. |
| <i>Quercus bicolor</i> Swamp white oak | 50 x 45 | upright, spreading | m-f | M | Adapts to clay soils and irrigated lawns. Fall color usually yellow. Street tree. |
| <i>Quercus macrocarpa</i> Bur oak | 60 x 50 | broad, spreading | s | L | Tolerates alkaline soils and drought. |
| <i>Quercus robur</i> English oak | 50 x 50 | rounded | m | M | Broad, stout, spreading branches. Glossy, dark green, thick-textured leaves. Street tree. |
| <i>Quercus rubra</i> Red oak | 40 x 50 | broad, spreading | m | M | Often broader than tall. Fall color usually red. Avoid very alkaline soils. Street tree. |
| <i>Salix matsudana</i> 'Navajo' Navajo globe willow | 35 x 35 | globe | f | H | Formal globe shape. Brilliant green foliage in spring. May suffer freeze injury in some areas. Widely used on Western Slope. |
| <i>Sophora japonica</i> Japanese pagodatree | 50 x 40 | rounded | m | M | Creamy flowers in midsummer. Bean-like pods in late fall. Street tree. |
| <i>Tilia americana</i> American linden | 60 x 50 | broad, conical to columnar | m | M | Heart-shaped leaves. Fragrant flowers in early summer. |
| <i>Tilia cordata</i> Littleleaf linden | 45 x 30 | conical | m | M | Dense foliage. May sucker near base. Street tree. |
| 'Greenspire' | 45x 25 | conical to oval | m | M | Near formal appearance. Glossy, dark green leaves. Street tree. |
| <i>Tilia x euclora</i> 'Redmond' Redmond linden | 45 x 40 | broad, conical | m-f | M | Striking reddish bark/twigs. Narrow crotch branch habit may result in storm breakage. |

¹Growth rate: s = slow
m = moderate
f = fast

²Soil moisture: H = heavy water needs; more than normal lawn watering.
M = moderate water needs; normal lawn watering.
L = low water needs; can withstand drought.



What's new in xeriscaping?

If you want to cut water use and still have an attractive garden, Colorado State Cooperative Extension has more fact sheets you'll want to add to your gardening library. Order them from *The Other Bookstore* for \$1.00 each, and become an expert on:

- 4.702 *Drip Irrigation for the Home Garden*
- 7.212 *Composting Yard Waste*
- 7.222 *Soil: Key to Successful Gardening*
- 7.225 *Landscaping for Energy Conservation*
- 7.228 *Xeriscaping: Creative Landscaping*
- 7.229 *Xeriscaping: Trees and Shrubs*
- 7.230 *Xeriscaping: Ground Cover Plants*
- 7.231 *Xeriscaping: Garden Flowers*
- 7.233 *Wildflowers for Colorado Landscapes*
- 7.234 *Xeriscaping: Retrofit Your Yard*
- 7.401 *Rock Gardens*
- 7.412 *Mulches for Home Grounds*

Address: The Other Bookstore
 115 General Services Bldg.
 Colorado State University
 Fort Collins, CO 80523-4061

Phone: (970) 491-6198
Toll-free: (877) 692-9358
Fax: (970) 491-2961
E-mail: cerc@coop.ext.colostate.edu
Web: www.colostate.edu/Depts/CoopExt

