

Small Deciduous Trees

Fact Sheet No. 7.418

Gardening Series | Trees and Shrubs

by J.E. Klett and E. Hammond*

Selection and Planting

Examine the proposed site before planting trees. Allow adequate width to keep walkways, entryways, driveways or buildings clear of overhanging branches. Many small trees, although short, can spread as much laterally as vertically.

Soil. Most trees perform best in well drained soil. Dig a saucer-shaped hole that is 2 to 3 times the width of the root ball. Remove soil from the top of the rootball to expose the root flare, if not visible. When planting, make sure first root is at or one or two inches above grade.

Color and texture. For variety, plant several kinds of trees if space allows. Through careful selection, you can have flowers, colorful and interesting bark and fruits, varied foliage texture, and fall colors for year round interest. Coordinate with other plants and elements of your overall landscape design.

Water. Match the plant with the moisture conditions of the site. Low-moisture trees planted in an irrigated lawn grow too fast. On the other hand, trees that require moderate to heavy moisture do poorly in areas where little or no supplemental water can be applied.

Protection. Microclimate sites protected by buildings, fences and larger trees offer greater opportunities for tree selection than open, exposed locations.

Recommended Trees

Table 1 includes small trees that are useful for privacy screening as well as landscape interest. Most can be used beneath power lines with little or no need for pruning to maintain clearance. For information on larger trees, see fact sheet <u>7.419</u>, <u>Large Deciduous</u> <u>Trees</u>. The key to symbols used in the table is given below.

Growth rate:

f = fast

m = moderate

s = slow

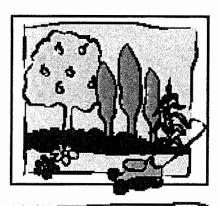
Soil moisture:

- L = low-water needs; can withstand drought.
- M = moderate water needs; normal lawn watering.
- H = heavy water needs; more than normal lawn watering.



See Table 1, pages 2-3.





Quick Facts

- Consider available space, protection, growth rate and soil adaptability when selecting small trees.
- If space allows, several kinds of small trees provide varied foliage, flowers, bark, fruit and fall color for year round interest.
- Make sure the water requirements of the tree match the conditions at your site.
- Look for new varieties of small trees that are continually introduced.

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Table 1. Small deciduous trees for privacy and color.

Plant Name	Height (ft)	Spread (ft)	Shape	Growth Rate	Soil Moisture	Remarks
Acer campestre Hedge maple	25	25	Rounded	m	М	Dark green leaves, yellow fall color, tolerant of alkaline soils.
Acer ginnala Amur maple	20	15	Broad, spreading	m	M	Available as single-stemmed tree or multi- stemmed shrub; scarlet fall color; avoid alkaline soils.
Acer glabrum Rocky Mountain maple	15	15	Upright, oval	m	M	Native, small tree or large shrub, gray bark, yellow fall color, bright red winter buds.
Acer grandidentatum Wasatch maple	25	15	Broad, spreading	m	L	Survives in dry sites once established; orange- -red fall color, more difficult to establish.
Acer tataricum Tatarian maple	20	20	Irregular, rounded	m	L	Single or multi-stemmed tree, pink to red winged seeds in summer, yellow fall color, tolerant of alkaline soils, more adaptable than Amur maple.
Hot Wings* Maple	20	20	Rounded, spreading	m	М	Red-winged seeds in summer, very ornamental. Orange-red fall color.
Alnus tenuifolia Thinleaf alder	15	12	Upright, oval	m	Н	Use in moist sites; cone-like fruit clusters persist in winter, tend to form clumps.
Amelanchier canadensis Shadblow serviceberry	25	20	Upright, rounded	m	M	Showy, white flowers in spring; red fruits attract birds, red-orange fall color.
Amelanchier x grandiflora 'Autumn Brilliance' Autumn Brilliance serviceberry	20	15	Rounded	m	М	White flowers, red to purple fruit, orange to red fall color, single-stemmed tree or multi-stemmed shrub.
Betula occidentalis Rocky Mountain or water birch	20	15	Upright, rounded	m	Н	Use in moist soils; yellow fall color, tends to form clumps, cherry-brown bark.
Carpinus caroliniana American hornbeam	25	25	Rounded, spreading	s-m	M	Low branched smooth gray bark, "muscled" branches, yellow-orange fall color.
Cercis canadensis Eastern redbud	25	25	Upright, spreading	m	M	Early pink flowers along twig before foliage; plant in part shade, heart shaped leaves.
Cornus alternifolia Pagoda dogwood	20	20	Rounded	m	M	Horizontal branching, creamy-white flowers followed by blue-black fruit, red to purple fall color.
Cornus mas Cornelian cherry dogwood	20	15	Rounded	m	M	Early yellow flowers before foliage, bright red fruit in summer.
Corylus colurna Turkish filbert	40	35	Pyramidal	m	M	Dark green leaves turn yellow in fall. Adaptable to many soils.
Crataegus ambigua Russian hawthorn	20	15	Upright, spreading	m	L	Finely cut, glossy leaves; white flowers; persistent, red fruit.
Crataegus crus-galli Cockspur hawthorn	20	20	Broad, rounded	m	L	Showy, white flowers; red fruit; glossy foliage; thorny; attracts birds.
var. <i>inermi</i> s Thornless cockspur hawthorn	15	15	Broad, rounded	m	L	Thornless, other characteristics same as species.
Crataegus mollis Downy hawthorn	25	20	Broad globe	m	M	Showy, white flowers in spring; red fruit in late summer; bronze fall color, stout thorns.
Crataegus phaenopyrum Washington hawthorn	20	15	Upright, spreading	m	M	White flowers; showy, orange-red fruit; red- orange fall color; narrow thorns.
Crataegus viridis 'Winter King' Winter King hawthorn	20	20	Broad, spreading	m	L	White flowers followed by persistent red fruit. Few thorns.
Crataegus x mordenensis 'Toba' Toba hawthorn	15	15	Rounded	m	M	Fragrant, double, white flowers, age to pink; red fruit, stout thorns.
Euonymus bungeanus Winterberry	20	18	Rounded	m	M	Horizontal to pendulous branching, yellow to red fall color, pink fruit capsules open to reveal
Euonymus europaeus	15	15	Rounded	m	М	orange seeds. Pink to red fruit capsules open to expose orange seeds. Red to purple fall color.
European euonymus Koelreuteria paniculata Goldenrain tree	25	20	Upright, rounded	m	L	Best grown on dry sites to avoid fast, brittle branch growth; large panicles of yellow flowers in summer; Chinese lantern-like pods.
Malus spp. Crabapple	Varies	Varies	Varies	m-f	M-L	Many varieties available.
'Adirondack'	15	8	Upright	m-f	M-L	Good for small spaces, red flower buds to white flowers, orange red fruit.
'Brandywine™'	20	20	Rounded	m-f	M-L	Double pink flowers, large green fruit. More resistant to fireblight than 'Bechtel.'
'Centurion'	20	10	Upright	m-f	M-L	Pink to red flowers; red fruit; red to bronze foliage.
'Coralburst [®] '	15	15	Rounded	m-f	M-L	Red buds open to semi- double pink flowers, few bronze fruit. Resistant to fireblight.

Plant Name			Growth Rate	Soil Moisture	Remarks	
Malus spp. (cont.)	4 ~	4.0	Daymalad	f	M-L	Distribute aparts white flavour valley and
'David'	15	15	Rounded	m-f	iVI-∟	Pink buds open to white flowers, yellow-red fruit matures to red. Resistant to fireblight.
'Dolgo'	30	25	Spreading	m-f	M-L	White flowers; crimson fruit, yellow bark, resistant to fireblight.
'Indian Summer'	15	15	Rounded	m-f	M-L	Rose-red flowers, red fruits. Resistant to fireblight.
'Prairie fire'	20	20	Upright, spreading	m-f	M-L	Purple-red leaves turn green. Pink flowers. Dark red persistent fruit.
'Radiant'	20	20	Rounded	m-f	M-L	Single, pink-red flowers; red-purple fruit.
'Red Barron'	18	10	Columnar	m-f	M-L	Purple folliage turns bronze-red. Red flowers produce dark persistent fruit.
sargentii 'Tina'	8	10	Spreading	m-f	M-L	Dwarf, red buds open to white flowers, red fruit.
'Spring Snow'	20	15	Upright, rounded	m-f	M-L	White flowers, usually fruitless; dense foliage; yellow bark.
Populus tremuloides Quaking aspen	30	15	Upright, columnar	f	М	Best in moist, well-drained soil; pest prone and shorter lived at lower Front Range elevations and in heavy soils; root suckers form clumps.
Prunus cerasifera 'Newport' Newport plum	20	20	Upright, rounded	m-f	М	Pinkish-white flowers followed by maroon-red foliage; avoid wet sites.
Prunus maackii Amur chokecherry	25	25	Upright, rounded	m	М	Striking, shiny, orange-red bark; white flowers; black fruit, avoid heavy soils.
Prunus nigra 'Princess Kay' Princess Kay plum	15	10	Upright, vase	m	М	Double white flowers before leaves, orange- red fall color, dark brown-black bark.
Prunus padus var. commutata Mayday tree	30	15	Rounded	m	М	Fragrant chains of white flowers in spring; purple-black fruit.
Prunus virginiana 'Shubert' Canada red chokecherry	25	20	Rounded	f	M	New green growth turns purple-red, white; flowers, purple fruit, suckers like aspen.
Ptelea trifoliata Wafer ash, Hoptree	15	15	Rounded	m	M-L	Native multi-stemmed tree, persistent wafer- like fruit, golden-yellow fall color.
Pyrus calleryana Callery pear	Varies	Varies	Varies	m	М	- , ,
'Autumn Błaze'	30	15	Pyramidal, rounded	m	М	Good cold hardiness, white flowers, crimson red fall color.
'Chanticleer*' or 'Cleveland Select'	25	15	Pyramidal, upright	m	М	White flowers, red-purple fall color.
'Redspire'	25	10	Pyramidal, upright	m	М	Large white flower clusters, crimson-purple fall color.
Pyrus ussuriensis 'Prairie Gem' Prairie Gem pear	20	18	Rounded	m	M-L	Yellowish-brown bark, many white flowers, thick glossy green leaves, golden-yellow fall color.
<i>Quercus gambelii</i> Gambel oak	15	10	Upright, clump	S	L	Forms groves by creeping root stocks; often shrubby; needs well-drained soils; golden- yellow fall color.
Robinia pseudoacacia 'Purple Robe' Purple Robe locust	30	25	Upright, rounded	f	M-L	Bronze-red new foliage turns blue-green, showy dark rose-pink flowers, can have small thorns, subject to locust borer and branch breakage.
Sorbus aucuparia European mountain ash	20	15	Oval	m	M	Smooth gray-brown bark, malodorous white flowers, persistent orange-red fruit, yellow to red-purple fall color.
'Cardinal Royal'	25	15	Narrow oval	m	М	Straight trunk, dark green leaves turn russet- red in fall, red fruit, best in well drained soils.
Syringa pekinensis Pekin lilac	15	15	Upright Rounded	m	M-L	Large white flowers, exfolaiting brown bark, can be tree or shrub from
Syringa reticulata Japanese tree lilac	20	20	Rounded	m	M	Creamy panicles of fragrant flowers in late spring, red-brown shredding bark.
'Ivory Silk'	15	15	Compact, oval	m	M	Creamy white flowers, cherry-like bark.



Large Deciduous Trees

Fact Sheet No. 7.419

Gardening Series | Trees and Shrubs

by J.E. Klett and E. Hammond*

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

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. Dig a saucer-shaped hole that is 2 to 3 times the width of the ball. Remove soil from the top of the root ball to expose the root flare if not visible. When planting, make sure first root is at or one to two inches above grade.

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. In dry years, fall and winter watering is critical to the health of trees. Trees under drought stress are more susceptible to insect and diseases. For details see 7.211, Fall and Winter Watering.

Large Trees for Shade

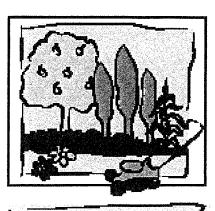
Table 1 includes trees that will exceed 30 feet in height when fully grown. These trees should not be placed under or near power lines or other overhead structures. Use one-half of branch spread (diameter) indicated below to determine minimum distance from structures. Greater distance from structures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

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.

See Table 1, pages 2-4.





Quick Facts

- Trees provide shade, beauty and protection from harsh winter winds.
- 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, and driveways.

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Figure 1: Columnar. Sides more or less parallel, much more tall than broad.



Figure 2: Weeping. Branches tend to weep downward.



Figure 5: Broad spreading. A wide vase shape.



Figure 3: Round or globe. About as broad as tall.



Figure 6: Upright spreading. A narrow vase shape.



Figure 4: Conical. Coneshaped. Broad at base, tapering to a narrow top.



Figure 7: Elliptical. More tall than broad, widest branching at or near the middle.

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
Acer x freemanii Freeman maple	45 x 35	rounded	m-f	M	Hybrid of Silver and Red maple.
Autumn Blaze*	45 x 35	rounded	m-f	M	Orange-red fall color. Avoid very alkaline soils.
Celebration*	45 x 25	columnar	m-f	M	Red to gold fall color. Similar iron chlorois problems to silver maple
Acer negundo 'Sensation'	45 x 35	rounded	t	L-M	Red fall color, male Tolerant of alkaline soils and harsh sites.
Acer plantanoides Norway maple	50 x 40	rounded	m	М	Dark green, dense foliage. Yellow fall color, subject to leaf scorch in dry conditions and limited rooting situations.
'Columnare'	50 x 20	columnar	m-f	M	Good for tight, narrow locations. Street tree.
'Crimson Sentry'	30 x 20	columnar	m	M	Compact, upright growth. Purple foliage year round.
'Deborah'	50 x 40	rounded	m	M	Red foliage changes to green in summer. Straight leader.
'Emerald Queen'	50 x 40	rounded	m	М	Dark green foliage with dense branching habit
'Royal Red'	40 x 30	rounded	m	M	Dark, glossy red foliage all summer. Similar to Crimson King but more cold hardy.
Acer rubrum Red maple	45 x 40	conical	f	Н	Red flowers in early spring. Red fall color. Avoid very alkaline soils.
Red Pointe*	45 x 30	pryamidal,	m-f	Н	Red flowers in early spring. Superior red fall foliage. Avoid very alkaline soils
'Red Sunset'	45 x 40	broad, conical	f	Н	Red flowers in early spring. Red fall color. Avoid very alkaline soils.
Acer saccharinum Silver maple	65 x 50	variable	f	Н	Bright green foliage with silvery undersides. Tends to be brittle. Yellow fall color. Avoid very alkaline soils.
Acer saccharum			s		Red-orange fall color. Prefers improved well-
Sugar maple	40 x 35	oval	S	Н	drained soils.
'Green Mountain'	40 x 35	oval	s-m	Н	Thick waxy leaves resist scorch and retain summer color. Tolerates dry soils. Red-orange fall color.
'John Pair'	35 x 35	rounded	s	L-M	More toleratant of alkaline soil. Excellent fall color.
Fall Fiesta*	45 x 35	rounded	m	Н	Fast growing, more heat tolerant.Red-orange fall color.
Aesculus glabra Ohio buckeye	35 x 20	broad, rounded	m	М	Red-orange-yellow fall color. Cream colored flowers in terminal clusters in spring. Nut-like fruit.
Aesculus hippocastanum Horsechestnut	60 x 45	broad, conical	S	М	Large clusters of white flowers in late spring. Spiny fruit. Best used in large, open lawn areas.
Betula pendula 'Gracilis'	50 × 30	elliptical	m	Н	Yellow fall color. Plant where soil stays cool and moist Avoid south and west exposures. White bark, Fall and
Cutleaf weeping birch					winter watering important.
Betula nigra					Exfoliating bark, yellow fall color. Fall and winter
Heritage*	40×30	rounded	m	Н	watering important.
Carpinus betulus 'Fastigiata'	35 x 25	narrow, columnar	S .	Н	Dark green foliage much like elm. Plant where soil stays cool. Avoid south or west exposures.
Columnar hornbeam 'Frans Fontaine'	35 x 15	narrow,	s	Н	Muscle-like trunk. Air pollution tolerant. Narrow form maintained into maturity.
Catalpa speciosa Northern catalpa	50 x 25	columnar narrow, upright	S	М	Showy, white, orchid-like flowers in early summer. Bean-like pods often remain on trees
Celtis occidentalis Common hackberry	55 x 50	broad, spreading	m	L	all winter. Large heart-shaped leaves. Adapts to most soils. Yellow fall color. Warty bark. Drought and wind tolerant. Small red to

Table 1 (cont.). Large deciduous trees for shade.

Plant Name	Mature Size (H x W)	Tree Shape	Growth Rate	Soil Moisture ²	Aesthetic Value and Cultural Hints
Cladrastris kentukea (lutea)	35 x 35	round	m	М	Fragrant white flowers in late spring followed by
American yellowwood *Fraxinus americana	60 x 50	elliptical	m	М	4 inch seed pods. Tolerant of most soils. Yellow to purple fall color.
American ash 'Autumn purple'	50 x 50	round	m	M	Yellow/red-purple fall color. Seedless.
*Fraxinus mandshurica	45 x 25	oval	m	M	Pointed, dark brown buds. Yellow fall color.
'Mancana' *Fraxinus pennsylvanica	50 x 30	round	m	М	Seedless. Yellow fall color. Adapts to wide range of soils.
Green ash Marshalls Seedless	50 x 35	elliptical	m	М	May have seeds. Yellow fall color. Street tree, Seedless.
'Patmore'	50 x 30	elliptical	m	M	One of the hardiest. Seedless.
'Summit'	50 x 25	upright	m	M	Female will produce seed. Yellow fall color.
Fraxinus nigra 'Fall Gold' Black ash	45 x 20	upright	m	M	Hardy, seedless, golden yellow fall color.
Gleditsia triacanthos inermis Thornless honeylocust	65 x 40	variable	m	М	Seedling selection. Not always thornless.
'Imperial'	40 x 40	rounded	m	M	Foliage is fern-like and bright green. Thornless. May produce pods.
'Shademaster'	50 x 40	broad, spreading	m	M	Dark green, ferny foliage. Podless and thornless. Upright branches.
'Skyline'	45 x 40	broad, conical	m	M	Dark green follage. Uniform upright branching. Thornless and essentially podless.
'Sunburst'	35 x 35	variable	m	М	Yellow-tipped foliage. May be more prone to diseases. Podless and thornless.
Gymnocladus dioicus	50 x 40	variable	S	L	May be male or female. Female has leathery
Kentucky coffeetree	30 X 10	variable	3	_	seed pods. Interesting winter form. Yellow fall color.
'Espresso'	50 x 35	variable	m	L	Seedless male cultivar.
Phellodendron amurense Amur corktree	35 x 30	rounded	m	M	Corky fissured bark. Male trees avoid fruit odor. Tolerates pollution and drought.
Populus x acuminata Lanceleaf cottonwood	50 x 40	elliptical	f	Н	Yellow fall color. Shiny, spear-shaped leaves.
Populus alba Silver (white) poplar	75 x 60	broad, spreading	f	Н	Leaves green above and silvery white below. Greenish-white bark. Suckers from roots.
'Pyramidalis' Bolleana (white) poplar	45 x 15	narrow, columnar	f	Н	Good for fast screen planting. Short-lived due to diseases. Silvery, lobed, maple-like leaves.
Populus angustifolia Narrowleaf cottonwood	55 x 40	columnar	f	Н	Yellow fall color. Root suckers, thus should be used where it can spread in groves.
Populus deltoides 'Siouxland' 'Siouxland' Cottonwood	75 x 40	elliptical	f	Н	Cottonless. Easily transplanted.
Populus nigra 'Italica' Lombardy poplar	60 x 15	narrow, columnar	f	Н	Use as temporary screen planting. Due to diseases, shorter lived than Upright European aspen.
Populus sargentii Plains cottonwood	80 x 50	rounded	f	Н	Native of the plains along rivers. Cottonless (male) selections available. Triangular leaves.
Populus tremula 'Erecta' Upright European aspen	40 x 15	upright	f	Н	Use as screen planting. More disease-resistant and longer-lived than Lombardy. Yellow/orange-red fall color
Quercus bicolor	50 x 45	upright,	m	М	Adapts to clay soils and irrigated lawns. Fall
Swamp white oak Ouercus bucklevi		spreading			color usually yellow.
Texas red oak	45 x 40	conical	m	L	Red fall color, tolerates alkaline soils. Need cold-hardy seed source.
Quercus x 'Crimschmidt' Crimson Spire® Oak	45 x 15	columnar	m	М	Narrow form adapted to tight spaces. Red fall color. Narrow form adapted to tight spaces.Dark glossy
Quercus x 'Long' Regal Prince* Oak	45 x 15	columnar	m	М	green leaf, yellow fall color.
Quercus macrocarpa	60 x 50	broad,	s	L	Tolerates alkaline soils and drought. Flaky bark.
Bur Oak Quercus muehlenbergii	40 x 40	spreading broad,	m	L	Corky ridged twigs. Fringed cap on acorn. Alkaline soil tolerant. Sharp-toothed leaves that are
Chinquapin Oak Quercus robur English oak	50 x 40	spreading rounded	m	М	green above and white below. Broad, stout, spreading branches. Glossy, dark green leaves that turn brown and persist into winter.
'Fastigata'	45 x 15	columnar	m	M	Narrow form for small spaces. Brown fall color.
Quercus rubra Red oak	40 x 50	broad,	m	M	Often broader than tall. Fall color usually maroon- red. Avoid very alkaline soils.
Quercus shumardii	50 x 40	rounded	m	M	Red fall color. Need more cold-hardy seed source.
Shumard oak Salix alba 'Tristis' Niobe weeping willow	50 x 50	spreading rounded, weeping	f	Н	Avoid very alkaline soils. Yellow fall color, brittle twigs. Best sited near water.
Salix alba vitellina Russian golden willow	40 x 40	rounded	f	Н	Yellow twigs, yellow fall color, brittle twigs.

Best sited by water.

Table 1 (cont.). Large deciduous trees for shade.

	Mature Size	Tree	Growth	Soil	
Plant Name	(H x W)	Shape	Rate ¹	Moisture ²	Aesthetic Value and Cultural Hints
<i>Salix matsudana</i> 'Navajo' Navajo globe willow	35 x 35	globe	f	Н	Formal globe shape. Brilliant green foliage in spring. May suffer freeze injury in some areas. Widely used on Western Slope.
Sophora japonica (syn. Styphnolobium japonicum) Japanese pagodatree	50 x 40	rounded	m	M	Creamy flowers in midsummer. Pinched, pea-like pods in fall. Olive green twigs.
Tilla americana American linden	60 x 50	broad, conical	m	М	Large heart-shaped leaves. Fragrant flowers in early summer. Yellow fall color. May sucker near base
American Sentry® Linden	40 x 25	conical	m	М	Narrow, straight trunked form for small spaces. Full sun.
'Redmond' Redmond linden	45 x 25	conical	m-f	М	Striking reddish buds/twigs in winter.
Tilla cordata Littleleaf linden	45 x 30	conical	m	М	Dense foliage. May sucker near base. Creamy- yellow fragrant flowers. Attracts bees.
'Greenspire'	45 x 25	conical to oval	m	M	Neat formal appearance. Glossy, dark green leaves. Cinnamon colored bark. Yellow fall color.
'Glenleven'	45 x 30	open conical	m	M	Vigorous open habit.
Tilia tomentosa Sterling Silver* Sterling linden	40 x 30	conical	m	М	Dark green leaves with silver undersides, creamy yelllow fragrant flowers. attracts bees.
Ulmus Americana American Elm	60 x 50	upright spreading	m	M	Yellow fall color, vase-shaped, succeptible to Dutch elm disease.
'Valley Forge'	60 x 45	upright spreading	m	M	Yellow fall color. Dutch elm disease resistant
Ulmus x 'Frontier' Frontier Elm	35 x 25	elliptical	m	М	Small stature with red fall color. Dutch elm disease tolerant.
Ulmus x 'Triumph' * Triumph Elm	50 x 40	elliptical	m	M	Glossy dark green leaves have yellow fall color.
Ulmus x hybrida		spreading			Dutch elm disease resistant
Unhabrid relimater, Frontier Elm	35 x 25	elliptical	m	M	Small stature with red fall color. Dutch elm disease tolerant.
Ulmus x 'Triumph'* Triumph Elm Ulmus x hybrida Hybrid elms	50 x 40	elliptical	m	Μ	Glossy dark green leaves have yellow fall color

Many hybrid elms are being introduced in recent years. Many are Dutch Elm disease resistant. Various growth habits and other ornamental features.

¹ Growth rate:	s = slow m = moderate f = fast	² Soil moisture:	 H = heavy water needs; more than normal lawn watering. M = moderate water needs; normal lawn watering. L = low water needs; can withstand drought.
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^{*}Emerald Ash Borer was discovered in September, 2013 in Colorado. Colorado State University Extension currently does not recommend planting any ash trees along Colorado's Front Range.For more information, see www.eabcolorado.com.

Colorado State University Extension

Evergreen Trees

Fact Sheet No. 7.403

Gardening Series | Trees and Shrubs

by R.A. Cox and J.E. Klett*

Narrowleaf evergreen (conifer) trees give a landscape year-round interest, color and texture. Conifer trees are versatile and can be used as specimens, hedges, privacy screens, backdrops for smaller flowering plants, or as a windbreak planted on the north and west to deflect or intercept winter winds. (See fact sheet 7.225, *Landscaping for Energy Conservation*.)

"Evergreen" refers to trees that normally retain most of their foliage (needles) through the winter. Such trees, however, do not retain all of their needles indefinitely. For example, ponderosa pine drops needles each year that are three years old. These older needles are the innermost ones toward the main trunk. Younger needles, further out on the branch, are retained until they are three years old. This annual browning and drop of innermost, older needles can cause concern, but it is a natural process.

Selection

Examine the intended planting space for good soil drainage, adequate sunlight and sufficient space to accommodate the desired evergreen tree at its mature size. Allow for clear access to driveways, sidewalks and entryways. Determine whether the tree's growth will affect any overhead utility lines. Before planting, call the utility companies' hotline (dial 811) to mark the location of any underground lines to avoid damaging them while digging.

In smaller sites, consider smaller trees or shrubs. (See 7.418, <u>Small Deciduous Trees</u>, 7.414, <u>Evergreen Shrubs</u> or 7.415, <u>Deciduous Shrubs</u>.) Consider dwarf conifers for limited space areas. If there is sufficient space, use several kinds of evergreens to add variety to the landscape.

*R.A. Cox, Colorado State University Extension horticulture agent, Arapahoe County; and J.E. Klett, Extension landscape horticulturist and professor, horticulture and landscape architecture. 2/14

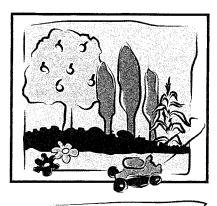
Watering and Maintenance

The following list indicates the relative moisture needs of evergreens. Plant species with similar water needs in the same general area – do not mix trees with widely different water needs.

Evergreens that need less moisture may work well on slopes. All evergreens usable in Colorado prefer well-drained soils. Avoid planting them in swales or poorly-drained, soggy areas. Evergreens that need less moisture may not do well in lawn areas because of the amount of water needed to sustain the lawn. Even for those trees that need more moisture and are compatible with lawn watering, leave the planting area free of sod to allow for good root development. An organic mulch is recommended over the entire planting area. (See 7.214, <u>Mulches for Home Grounds</u>.)

Most evergreens growing in Colorado landscapes, whether recently transplanted or well-established, benefit from supplemental water during winter dry spells. Often, such spells are accompanied by drying winds or unseasonably warm temperatures, further emphasizing the need for watering. (See 7.211, Fall and Winter Watering.)

For gardeners above 6,000 feet, some of the plants listed in Table 1 are not adapted. Refer to 7.423, *Trees and Shrubs for Mountain Areas* for specific recommendations. Refer to 7.421, *Native Trees for Colorado Landscapes* and 7.422, *Native Shrubs for Colorado Landscapes* for native evergreens.



Quick Facts

- Most evergreens prefer full sun; some will tolerate partial shade.
- When selecting evergreens, consider available space, soil and site conditions, and weather factors.
- Evergreens have different soil moisture preferences.
 Group drought-tolerant types separately from those that require more moisture.
- All evergreens benefit from mulches. All need sufficient water to become established after transplanting.
- Most evergreens benefit from supplemental water during dry, warm or windy periods from November to March.

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Table 1. Recommended evergreen trees for Colorado.

Plant Name	Estimated Mature Size (H x W)	Tree Shape	Growth Rate ¹	Soil Moisture²	Comments and Cultural Hints	
			Arborvi	tae		
Thuja occidentalis Eastern or American arborvitae	20' x 10'	conical	s	Н	Prefers higher humidity; all varieties listed below are subject to winterburn and snow damage.	
'Degroot's Spire'	12' x 4'	columnar	S	Н	Rich green foliage turns bronze in winter.	
'Smaragd' ('Emerald')	12' x 4'	columnar	S	Н	Dense, medium green foliage.	
'Techny'	12' x 8'	broadly	S	Н	Better cold tolerance; dark green foliage.	
		columnar	Fir			
lbin and alout	60' x 20'	oonical		M-H	Flat, blue-green needles; may winterburn in	
Abies concolor* White fir 'Candicans'	40' x 15'	conical broadly	m m	M-H	windy sites; may perform poorly in clay soils. Longer, silvery-blue needles.	
2		columnar				
Abies koreana `Hortsmann's Silberlocke'	15' x 10'	broadly conical	S	M-H	Needles curved upright exposing silvery undersides, violet purple cones.	
Abies lasiocarpa* 'Glauca Compacta'	15' x 9'	broadly columnar	S	M-H	Slower growing with silver-blue foliage.	
Blue Dwarf Rocky Mountain fir	002 003	nomina!	<i>4</i>	3.4	Unique cones with "mouse-tail" bracts; more	
Pseudotsuga menziesii* Douglas-fir	60' x 20'	conical	m-f	M 	Unique cones with "mouse-tail" bracts; more cold-tolerant and soil-adaptable.	
			Junip	er		
luniperus chinensis Chinese juniper		-				
'Blue Point'	12' x 8'	broadly	m	L	Slower growing with silver-blue foliage,	
'Hetzi Columnaris'	15' x 5'	columnar narrowly	m	L	blue-green fruit. Abundant fruit.	
10 m + 4 m)	401	columnar		1	Danca groon foliage	
'Spartan'	12' x 5'	conical	m-f	L	Dense green foliage.	
'Spearmint' !uniperus scopulorum*	15' x 6' variable	conical broadly	m s-m	L L	Dense, bright green foliage. Foliage color varies from green to blue-green.	
Rocky Mountain juniper		columnar				
'Cologreen'	15' x 8'	broadly columnar	s-m	L	Dense, green foliage; abundant fruit.	
'Gray Gleam'	15' x 6'	conical	s	L	No fruit; dense, gray foliage.	
'Moonglow'	15' x 8'	broadly	s-m	L	Dense, silver-blue foliage.	
'Skyrocket'	15' x 3'	columnar narrowly	s-m	L	Narrow; subject to snow damage; formerly listed	
'Welchii'	10' x 5'	columnar broadly	s-m	L	as <i>J. virginiana</i> 'Skyrocket'. Blue-green to medium green foliage.	
'Wichita Blue'	12' x 6'	columnar broadly	s-m	L	Bright blue foliage color.	
Michila Dine		columnar	3*111	L		
Juniperus virginiana Eastern redcedar	40' x 15'	conical	s-m	L	Open, horizontal branching; foliage turns brownish in winter.	
'Blue Arrow'	15' x 3'	narrowly	s-m	L	Bright blue foliage on narrow upright form.	
'Hillspire' ('Cupressifolia')	15' x 6'	columnar conical	s-m	L	Columnar; bright green foliage.	
opiro 1 oubrosaliona 1		231110di	Larc	h		
Larix decidua European Larch	45' x 18'	broadly columnar	m	M-H	A deciduous conifer. Needles in clusters that turn yellow in fall before dropping.	
			Pin	9		
Pinus aristata* Bristlecone pine	25' x 15'	irregular	S	L-M	Shorter, dark green needles with white resin dots; specimen plant.	
Pinus edulis* Pinyon pine	20' x 15'	conical to rounded	s-m	L	Not suited for frequently watered lawn areas; edible seeds may not develop dependably in urban landscapes.	
Pinus flexilis* Limber pine	40' x 20'	broadly columnar	m	L-M	Wind-tolerant; adaptable to dry soils; very flexible branches; needles about 2".	
'Vanderwolf's Pyramid' Pinus heldreichii var leucodermis	35' x 20'	pyramidal	m	L-M	Blue-green needles on ascending branches.	
Bosnian Pine	20' x 12'	broadly columnar	S	L-M	Stiff, dark green needles in brush-like tufts.	
Pinus mugo Mugo pine	variable	irregular	m	. L-M	Variable growth habit; tree-like to shrubby; dwarf forms commonly sold for landscapes.	
'Tannenbaum'	12' x 6'	broadly columnar	s	L-M	Good winter color and hardiness.	
Pinus nigra Austrian pine	50' x 25'	broadly columnar	m	L-M	3-5", short dark green needles; tolerates many soil types and urban pollution.	
'Arnold Sentinel'	15' x 5'	narrowly columnar	s	L-M	Dense, dark green needles.	
'Oregon Green'	15' x 12'	broadly	s	L-M	Stiff, dark green needles.	

Table 1 (cont.). Recommended evergreen trees for Colorado.

			Pine	:	
Pinus ponderosa*	50' x 25'	broadly	m	L	Longer, yellow-green needles; older trees
Ponderosa pine		columnar			develop cinnamon-brown bark.
Pinus strobiformis*	45' x 25'	broadly	m-f	L-M	Blue-green needles; similar to limber pine;
Southwestern white pine		columnar			attractive elongated cones.
Pinus strobus	50' x 20'	broadly	m-f	M	Horizontal branching; fine-textured, blue-green
Eastern white pine		columnar			needles; best in protected sites.
'Fastigiata'	35' x 10'	narrowly	m	M	Fine textured blue-green needles.
		columnar			
'Pendula'	15' x 15'	weeping	m	М	Bluish-green needles on long branches that
					sweep the ground.
Pinus sylvestris	40' x 25'	broadly	m	M	Blue-green, twisted needles; mature bark is
Scotch pine		columnar			orange-brown.
'Fastigiata'	20' x 5'	narrowly	m	M	Tightly angled branches often damaged by
		columnar			snow storms.
			Sprud	:e	
Picea abies	50' x 25'	broadly	m-f	M-H	Short green needles; branches droop with age.
Norway spruce		columnar			
'Cupressina'	15' x 5'	narrowly	m-f	M-H	Good vertical accent; withstands snowloads.
•		columnar			·
Picea glauca	50' x 20'	broadly	m	M	Short, greenish-white needles; adaptable tree.
White spruce	_	columnar			
'Pendula'	20' x 5'	narrowly	s	M	Gray-green needles on weeping limbs; sheds
		weeping			snow loads.
Picea glauca var densata	30' x 15'	conical	s	M	Dense, short, dark green needles.
Black Hills spruce					
Picea pungens*	60' x 25'	broadly	m	M-H	Needles short, sharp, green to blue-green.
Colorado spruce		columnar			
Picea pungens glauca*	60' x 25'	broadly	m	M-H	Needles short, sharp, blue; several varieties
Colorado blue spruce		columnar			selected for blue needles. Colorado state tree.
'Baby Blue Eyes'	15' x 8'	broadly	s	M-H	Lighter blue needles, dense growth habit.
,, -		columnar			, ,
'Bakeri'	30' x 15'	broadly	S	M-H	Brilliant blue needles and slightly irregular
		columnar			branching.
'Hoopsii'	45' x 15'	broadly	m	M-H	Intense silver-blue needles.
•	_	columnar			
'Fat Albert'	30' x 20'	broadly	s	M-H	Outstanding blue-needled form with strong
		pyramidal			central leader.
'Iseli Fastigiate'	15' x 5'	narrowly	S	M-H	Striking blue needles.
Ŭ		columnár			-
'R.H. Montgomery'	12' x 8'	broadly	s	M-H	Striking silver-blue needles.
		pyramidal			
('Montgomery') 'Sester Dwarf'	10' x 5'	conical		M-H	Silver-blue needles on a dense, conical form.

^{&#}x27;Growth rate: s = slo'

* Native to Colorado

Trees and Shrubs for Northern Colorado

*Note: There are many other options; this class presents a short list of options

CSU Extension resources: extension.colostate.edu

Shrubs

Xeric Trees and Shrubs #7.229 Evergreen Shrubs #7.414 Deciduous Shrubs #7.415 Native Shrubs #7.422

Trees

Xeric Trees and Shrubs #7.229 Evergreen Trees #7.403 Small Deciduous Trees #7.418 Native Trees #7.421 Crabapples #7.424

Shrubs

Common lilac (Syringa vulgaris)

Leadplant (Amorpha canescens)

Blue-mist spirea (Caryopteris sp.)

Pawnee Buttes sand cherry (Prunus bessyi 'P011S')

Ninebark (Physocarpus opulifolius)

Columnar buckthorn (Rhamnus frangula)

Mahonia (Mahonia repens or M. aquafolium)

Carol Mackie daphne (Daphne burkwoodii)
Large Trees (> 30 feet tall) Sensation boxelder (<i>Acer negundo</i> 'Sensation')
Kentucky coffeetree (<i>Gymnocladus diocus</i>)
English oak (Quercus robur)
Chinkapin oak (Quercus muehlenbergii)
Ohio buckeye (Aesculus glabra)
Bristlecone pine (<i>Pinus aristata</i>)
Southwestern white pine (Pinus strobiformis)
White fir (<i>Abies concolor</i>)
Smaller ornamental trees (< 30 feet tall) Japanese tree lilac (Syringa reticulata)
Redbud (Cercis canadensis)

Crabapples (Malus sp.)

Russian hawthorn (Crataegus ambigua)

Sucker Punch® chokecherry (Prunus x viginiana 'P002S')

Fruit Trees

Apples

 Cox Orange, Red Delicious, Golden Delicious, McIntosh, Jonathan, Fameuse, Northwest Greening, Joyce, Wealthy, Lodi, Honeycrisp, Zestar, Sweet 16, Frostbite, Snowsweet

Plums

- European: Stanley, Green Gage, Blue Damson
- Japanese/Asian: Waneta, Sapalta

Peaches

• Elberta, Reliance, Hale, Polly, Hale Haven, Ranger

Sour/Tart cherries (most dependable)

 Montmorency, North Star, Montmore, Meteor, English Morello, Early Richmond, Hansen bush cherry and Nanking

Sweet cherries

Index, Lapins, Stella and Sweetheart

Apricots (unreliable fruit)

- Self-pollinating types: Tilton, Wenatchee Royal and Moorpark
- Need cross-pollination: Riland, Perfection, and Rival

Small fruits

Raspberries:

- Fall-bearing: Autumn ritten, Anne, Polana, Jaclyn, Joan-J, Himbo-Top, Redwing, August Red, Heritage, Fall Red, Fall Gold, September
- Summer-bearing: Nova, Killarney, Boyne, Latham, Newburgh, Titan

Blackberries:

- Semi-erect types: Triple Crown, Chester
- Erect types: Prime Jan, Prime Jim

Strawberries:

- June-bearing: Honeoye, Guardian, Kent, Redchief, Delite, Jewel, Mesabi, A.C. Wendy, Cabot, Bloomiden
- Ever-bearing: Fort Laramie, Quinalt, Ogallala
- Day neutral: Tribute, Tristar, Fern

Other small fruits:

- Currants
- Gooseberries
- Serviceberry
- Grapes:
 - o For eating or juice: Concord Seedless, Perlett, Beta, Bluebell
 - o For wine: Frontenac, Marquette, La Crescent