TREES & SHRUBS

Xeriscaping: Trees and Shrubs no. 7.229

by J.R. Feucht [1]

Selecting woody plants for a reduced-water landscape or xeriscape (zer-i-skap) requires careful consideration. Woody plants such as trees and shrubs are a major component in the landscape and a long-term investment. In addition to aesthetics and function, look at soil, drainage patterns, exposure to heat and wind, and how the site is irrigated.

Quick Facts...

Xeriscaping offers an opportunity to select plants compatible with local conditions.

When selecting woody plants, consider soils, drainage, exposure and irrigation method.

Plant trees and shrubs in areas separate from irrigated lawns.

Water xeric trees and shrubs just as much as other plants until established, usually two years.

Once established, gradually reduce watering frequency.

Frequent shallow watering promotes shallow roots and defeats the purpose of xeriscaping.

Aesthetics and Function

Colorado landscapes require plants that can adapt to a drier climate than many cultivated landscape plants. Xeriscaping offers an opportunity to select plants that are more compatible with local conditions and able to thrive when other landscape plants cannot. In recognition of our local environment, it often is more practical to select plants that can tolerate drought. We can enjoy a landscape that reflects its surroundings better than the New England landscapes we too often try to establish and maintain at great effort. Many people consider it a challenge to use locally adapted plants to develop a creative landscape that represents a unique Colorado style.

With careful selection, you can blend plants of varying colors, textures and densities into an attractive, lower-maintenance landscape. Xeric plants offer a wide range of foliage density, color and texture, as well as plant forms, with which to work. Some, like rabbitbrush and apache plume, have small leaves, imparting a fine texture. Others, like sage, have grayish or silvery foliage. Still others, like yucca, may be spiny and stiff-looking. These plants may not look quite like the plants you may be used to. With proper planning, you can create a more interesting landscape than your neighbor's without sacrificing the comfort and beauty of your yard. Conserving water by substituting plastic and gravel for plants will not add enjoyment to your landscape or value to your home.

Use xeric plants for the same functions as more traditional types. Pines and upright junipers, for example, make excellent screen plantings under low irrigation. Spruce is best used in heavily irrigated sites or low, moist areas. Xeric plants also are excellent for mass plantings on steep banks, particularly on hot south and west exposures.

Shade trees for the patio and south exposures of the house might be hackberry, honeylocust or Burr oak rather than silver maple, weeping birch, aspen or cottonwood.

Trees and shrubs are best planted in beds or islands separate from the lawn unless the lawn also is a low-water type.

Soils, Drainage and Exposure

Before selecting plants, evaluate the site's soil, drainage and exposure. Consider all three factors together, because each affects the others. If the soil is a heavy clay, it will have poor internal drainage even on a slope. The same soil on

Colorado State University Cooperative Extension

Table 1: Trees for xeriscapes.

Plant name	Height/ Spread (ft)	Comments
Acer grandidentatum	25-30	Slow growth rate; red-yellow fall color.
Bigtooth maple (Wasatch maple)	20-25	
Ailanthus altissima	40-50	Red-fruited form *erythrocarpa* is attractive.
Tree-of-heaven	35-40	
Catalpa speciosa	40-50	Showy, white flowers in early summer; cigar-like pods into fall.
Western catalpa	20-30	
Celtis occidentalis	25-45	Normally an upright, vase-shaped tree; attractive, corky bark.
Common hackberry	30-40	
Fraxinus pennsylvanica lanceolata	40-45	Glossy, dark-green leaves.
Green ash	35-40	
Gleditsia triancanthos inermis	30-60	Several varieties available; avoid 'Sunburst' variety in nonirrigated sites.
Thornless honeylocust	25-50	
Gymnocladus dioicus	50-70	Slow growth; thick pods on female tree; flowers of male are fragrant.
Kentucky coffeetree	35-50	
Juniperus monosperma	20-25	Among the most drought-enduring evergreens.
Oneseed juniper	15-20	
Juniperus scopulorum	25-30	Numerous varieties available.
Rocky Mountain juniper	15-20	
Koelreuteria paniculata	20-35	Yellow flowers in July; lantern-like pods in late summer; salt-tolerant. May not be
Goldenrain tree	10-25	hardy north of Fort Collins.
Pinus aristata	15-40	Dark green, dense foliage; must have good drainage.
Bristlecone pine	15-25	
Pinus edulis	15-25	Must have good drainage.
Pinyon pine	15-20	
Pinus ponderosa	45-50	Must have good drainage.
Ponderosa pine	35-40	
Quercus gambelii	5-15	Spreads by root sprouts; often shrubby.
Gambel oak	10-15	
Quercus macrocarpa	70-80	Stately, long-lived; adapts to alkaline soil.
Burr oak	50-80	
Robinia neomexicana	10-20	Fragrant, pink flowers in June; often shrubby; spreads from root sprouts.
New Mexican locust	10-20	
Sophora japonica	40-60	Does well in alkaline, saline soils; cream-colored flowers in early summer.
Japanese pagoda tree	45-70	
Ulmus pumila	50-60	Brittle tree; use only away from buildings; locally called "Chinese elm."
Siberian elm	45-50	

a south or west exposure will dry quickly, shrink and crack, requiring slow but relatively frequent watering. Dense clay soils are low in oxygen and do not lend themselves well to plant growth. Most xeric plants, while tolerating low water, cannot function well in soils low in oxygen. The better a soil is prepared through addition of organic amendments prior to planting, the better the plants will do.

In very heavy soils where improvement of subsoil drainage is not feasible, it usually is best to plant trees and shrubs on berms (mounds) of well-drained, loamy soil brought to the site. Berms should be at least 24 inches high.

Select shade-tolerant plants for north exposures. There are fewer of these than species for full sun because most xeric plants thrive best in sunny exposures. Those that do tolerate shade generally require more water. This can be somewhat offset by using organic mulches such as wood chips.

Establishment of Plants

Regardless of how drought-enduring a plant may be, relatively frequent watering is needed until the plant is established. Most woody plants take at least two growing seasons to establish, depending on how well the soil has been prepared. Once plants are established, gradually reduce watering. Avoid frequent, shallow watering, however, because this tends to encourage shallow roots and thus defeats the goal of xeriscaping.

Table 2: Shrubs for xeriscapes.

Plant name	Height Spread (ft)	Comments
Amorpha canescens Leadplant	2-3 3-4	Silvery-gray foliage; purple flowers in summer; *A. fruticosa* has greener foliage and grows to 10 feet tall.
Artemisia spp. Sage	variable	Many hardy forms; gray-green to silvery foliage; some are evergreen.
Atriplex canescens Saltbush	2-6 4-5	Gray-green leaves; doubtfully hardy in northeast Colorado; tolerates very high salts.
Berberis thunbergii Barberry (Japanese)	3-6 3-5	Purple-leaved and dwarf forms available; shade tolerant.
Caragana spp. Peashrub	3-15 5-10	Several forms available. Dwarf: *C. microphyllus* and *C. pygmaea*; tall: *C. arborescens*.
Ceanothus fendleri Ceanothus (fendler)	1-2 3-5	Gray-green foliage; spiny, low-growing; well-drained soils only.
Cercocarpus spp. Mountain mahogany	10-15 8-20	Two types: *C. montanus* is deciduous, *C. ledifolius* is evergreen; both are stiffly upright shrubs.
Chrysothamnus spp. Rabbitbrush	2-5 3-4	Greenish to white stems; yellow flowers in summer; tolerates salty soils.
Colutea arborescens Bladder-senna	4-6 4-6	Yellow, sweet-pea-like flowers in early summer; bladdery pods into fall and winter.
Cotoneaster spp. Cotoneaster	0.5-10	A highly variable group; most have shiny, small leaves; berries are red or black; *C. acutifolia* is common.
Cowania mexicana Cliff rose	10-15 5-10	Stiffly upright shrub or small tree; fragrant, white flowers; semievergreen; well-drained soils only.
Fallugia paradoxa Apache plume	3-5 5-6	Graceful, arching stems; large, showy flowers; plumy seed heads.
Fendlera rupicola Cliff fendlerbush	5-6 5-6	White to rose-pink flowers; arching shrub.
Forestiera neomexicana New Mexican privet	10-15 10-15	Male shrub has showy, yellow flowers in spring; female has black berries; use for screen plantings.
Hippophae rhamnoides Sea buckthorn	3-5 6-8	Grayish foliage; female plants have attractive, red-orange fruit.
Holodiscus dumosus Rock spirea	3-8 8-10	Graceful, arching shrub; creamy white flowers; well-drained soils only.
Juniperus spp. Juniper	0.5-10	Available in various heights, foliage colors and foliage textures; requires good drainage. Pfitzers, 'Tammy' and Buffalo varieties are commonly used.
Potentilla fruticosa Cinquefoil (potentilla)	1-4	Showy, white to yellow flowers in summer; needs full sun for best flowers.
Prunus besseyi Sand cherry	3-4 4-5	Fragrant, white flowers; edible, black fruit; well-drained soils only.
Rhus glabra cismontana Sumac (smooth)	4-6	Spreads by root suckers; red, velvety fruit; scarlet fall color.
Rhus trilobata Sumac (threeleaf)	3-6 8-10	Glossy, dark green leaves; showy, red, velvety fruit.
Shepherdia argentea Buffaloberry (silver)	10-15 8-10	Silvery leaves; scarlet fruit.
Yucca spp. Yucca	0.5-3 1-3	Sword-like foliage; showy spikes of creamy white-tinged pink flowers; *Y. baccata* has large, broad, green leaves; *Y. glauca* has bluish leaves; *Y. harrimaniae* is dwarf.

Some Selections

While not a complete list, the trees and shrubs in Tables 1 and 2 are suited to a xeriscape. Some may be uncommon in many nurseries but available from wholesale suppliers. They can be ordered through your local nursery.

[1] *J.R. Feucht, former Colorado State University Cooperative Extension landscape plants specialist and professor, horticulture. Prepared in cooperation with the Technical Advisory Committee for Xeriscape Front Range, an affiliate of the National Xeriscape Council, Inc. Revised by D.E. Whiting, Cooperative Extension ornamental horticulture specialist, horticulture and landscape architecture.*

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.