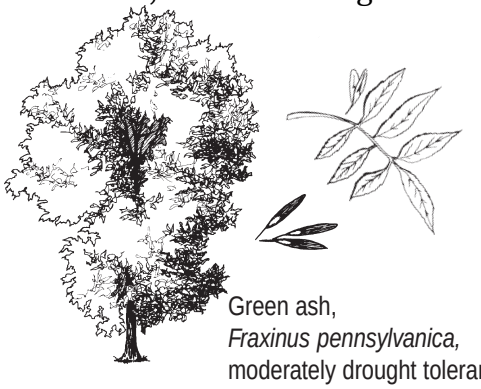
Drought-Tolerant Trees for Colorado Landscapes

Keith Wood, Colorado State Forest Service

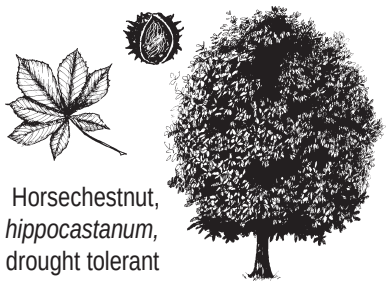
When planning or starting a new landscape, or replacing plants that have not held up to the rigorous climate and other harsh environmental conditions found in Colorado, consider using more drought



Green ash,
Fraxinus pennsylvanica,
moderately drought tolerant

tolerant and/or native plant materials. Once established, drought-tolerant tree species can withstand Colorado's dry climate and drought conditions.

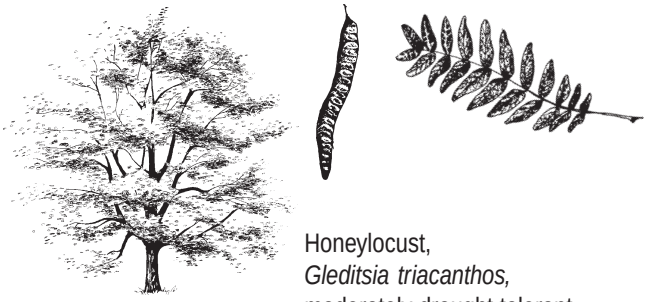
Trees that can withstand dry conditions are often termed drought "tolerant." However, it may be more appropriate to say that a majority of tree species that escape damage during dry periods are drought "avoiders." Most of the species listed below avoid damage during drought due to certain adaptations they are able to make. Adaptations include the ability of roots to extract large amounts of water from the soil due to a higher root-to-shoot ratio; reduced leaf surface area due to rolling, folding and shedding of leaves; limited transpiration



Horsechestnut,
Aesculus hippocastanum,
moderately drought tolerant

Colorado blue spruce,
Picea pungens,
moderately drought tolerant

(loss of water vapor) from the leaf surface during dry conditions; and a thick, waxy cuticle on the leaf surface to minimize transpirational losses of water vapor. Some tree species are truly drought tolerant, which means they are able to withstand



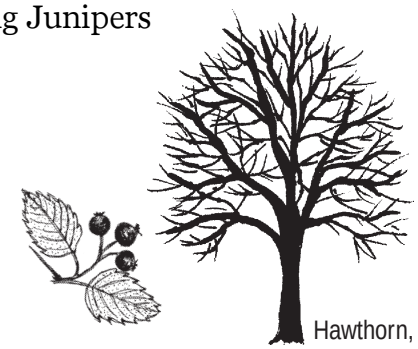
Honeylocust,
Gleditsia triacanthos,
moderately drought tolerant

significant water depletions in their leaves and stems before damage occurs. However, most species possess some genetic adaptation that allows them to survive drought by retaining water within their leaf and stem tissues.

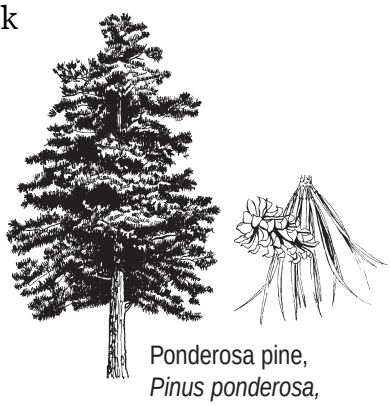
The tree species listed below have demonstrated the ability to avoid and tolerate dry conditions and should be considered when replacing trees or adding new trees to the landscape. For a more complete list of species and cultivated varieties, please visit the web site www.watersaver.org.

Drought-Tolerant Species

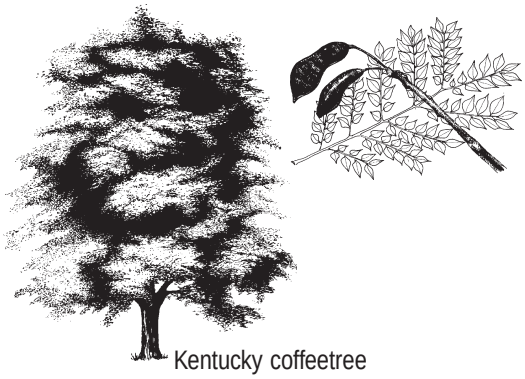
Scientific Name	Common Name
Celtis occidentalis	Hackberry
Crataegus spp.	Hawthorn
Gymnocladus dioica	Kentucky Coffeetree
Juglans nigra	Black Walnut
Juniperus spp.	Upright and Spreading Junipers
Pinus aristata	Bristlecone Pine
Pinus cembroides var. edulis	Pinyon
Pinus flexilis	Limber Pine
Pinus mugo	Mugo Pine
Pinus ponderosa	Ponderosa Pine
Prunus americana	American Plum
Ptelea trifoliata	Hoptree
Pyrus spp.	Ornamental Pears (avoid Bradford)
Quercus gambelii	Gambel Oak
Quercus macrocarpa	Bur Oak



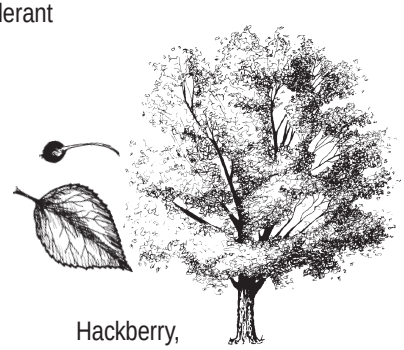
Hawthorn,
Crataegus spp.,
drought tolerant



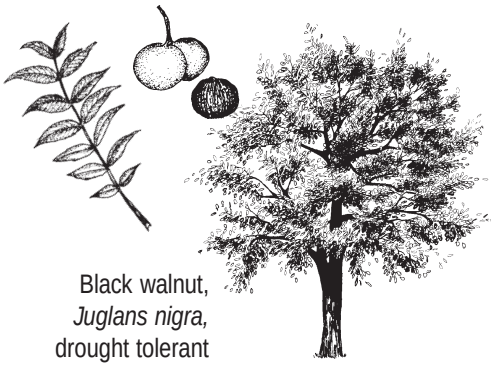
Ponderosa pine,
Pinus ponderosa,
drought tolerant



Kentucky coffeetree
Gymnocladus dioica,
drought tolerant



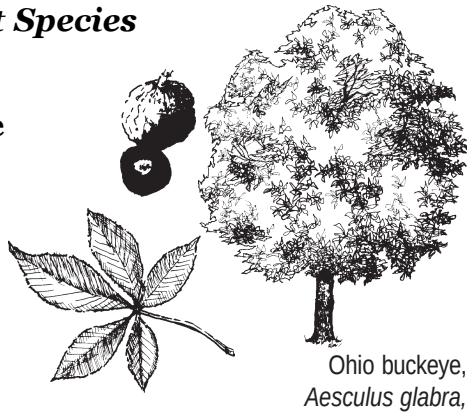
Hackberry,
Celtis occidentalis,
drought tolerant



Black walnut,
Juglans nigra,
drought tolerant

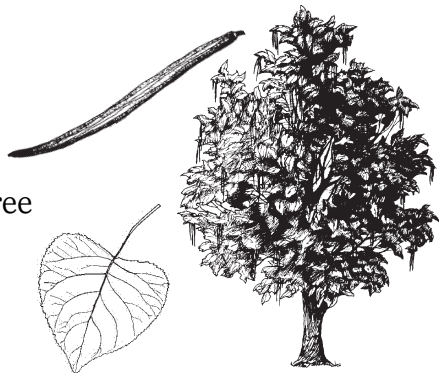
Moderately Drought-Tolerant Species

Scientific Name	Common Name
Acer ginnala	Amur Maple
Acer tataricum	Tatarian Maple
Acer grandidentatum	Wasatch Maple
Aesculus glabra	Ohio Buckeye
Aesculus hippocastanum	Horsechestnut
Amelanchier spp.	Serviceberry
Catalpa speciosa	Western Catalpa
Fraxinus pennsylvanica	All Green Ash Cultivars
Gleditsia triacanthos	All Honeylocust Cultivars
Koelreuteria paniculata	Golden Raintree
Malus spp.	Apples and Crabapples
Picea pungens	Colorado Blue Spruce
Pinus nigra	Austrian Pine
Pinus strobiformis	Southwestern White Pine
Pinus sylvestris	Scotch Pine
Prunus virginiana	Chokecherry
Prunus virginiana 'Schubert'	Canada Red Cherry
Prunus padus	Mayday Tree
Quercus alba	White Oak
Quercus robur	English Oak
Sophora japonica	Japanese Pagoda Tree
Syringa reticulata	Japanese Tree Lilac



Ohio buckeye,
Aesculus glabra,
moderately drought tolerant

Southwestern White Pine,
Pinus strobiformis
moderately drought tolerant



Western catalpa,
Catalpa speciosa,
moderately drought tolerant

Golden raintree,
Koelreuteria paniculata,
moderately drought tolerant

White oak,
Quercus alba,
moderately drought tolerant