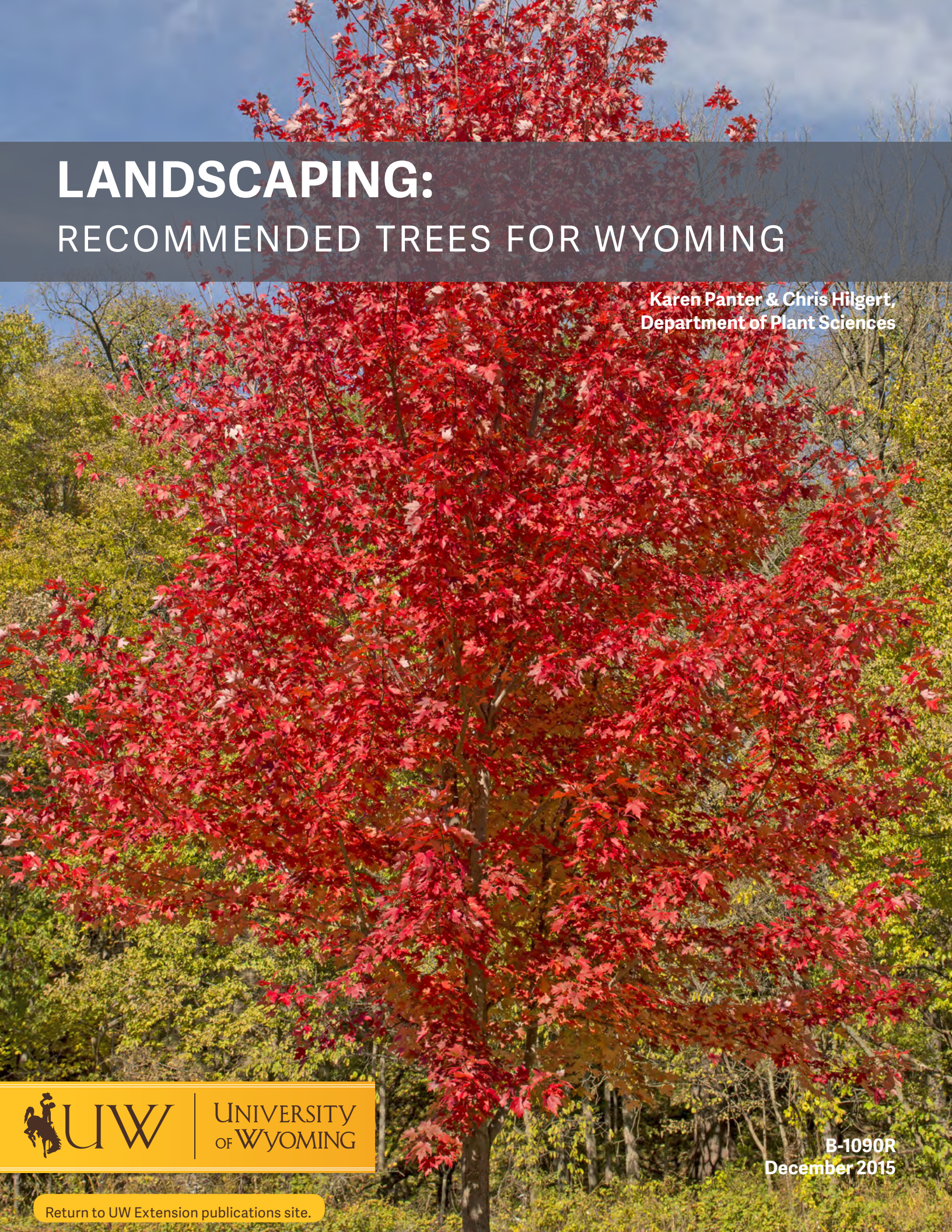

LANDSCAPING:
RECOMMENDED TREES FOR WYOMING

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UW | University of Wyoming

B-1090R
December 2015

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LANDSCAPING: RECOMMENDED TREES FOR WYOMING

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On the cover
Acer rubrum
Red maple

Issued in furtherance of extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Glen Whipple, director, University of Wyoming Extension, University of Wyoming, Laramie, Wyoming 82071.

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LANDSCAPING:
RECOMMENDED TREES FOR WYOMING

The Wyoming climate is harsh, and successfully growing many landscape plants, including trees, is quite a challenge. The mountains, plains, and arid desert regions all have their own environments. These environments have an impact on the types of trees that will survive in those areas.

SITE SELECTION

Properly placing a tree in the landscape is one of the most important issues surrounding tree survival in Wyoming. Many factors should be considered, including:

Exposure to prevailing winds.
In many places, winds blow from the west, southwest, or northwest most of the time. A tree planted in an open area on the west or northwest side of a lot or a structure will be exposed to harsh, drying, and potentially damaging winds.

Proximity to structures.
Plant trees far enough away from a structure or building so branches will not scrape the sides. The tree will need sufficient space to grow normally and naturally. Try to plant the tree at least as far away from the structure as half the tree's mature diameter. A good rule of thumb is to plant trees at least 15 to 20 feet away from structures.

Pinus sylvestris
(Scotch pine)

Proximity to overhead and underground utility lines.
Tree limbs growing close to power lines may cause power outages and are potential fire hazards. Use dwarf or naturally small trees if planting directly under power lines. If the area has buried utility lines, contact local authorities to determine exactly where the lines are located. Usually, there is no charge for this service.

Proximity to sidewalks, curbs, and driveways.
Plant trees at least 8 feet away from these areas. Tree roots can crack and damage concrete as the roots grow and develop.

Proximity to other trees.
If a new, young tree is planted too close to a mature tree, the new one may be shaded to the extent its growth will not be normal. Also, if new trees are planted too close to each other, their growth will not be normal. They may

develop tall, thin, weak branching structures and eventually will shade each other.

Exposure to sun.

Make sure the tree has enough sunlight hours to match its needs in its new home. Most trees have requirements for full sun, part shade, or shade. Make sure to place the tree in the best light for the species.

Proximity to water.

Newly planted trees must be pampered to survive in Wyoming. A source for watering must be close by, not only during the growing season but also during the winter. Wyoming frequently has periods of warm, dry weather during the winter months. Additional water at these times is crucial to the plant's survival.

Soil pH.

Often, one of the more limiting factors in growing trees successfully in Wyoming is the soil pH. Most trees will do best when grown in soils with a pH of 6 to 7. Many of our native soils, however, have pH levels higher than 7. Select trees that will tolerate higher pH soils or more alkaline conditions.

Proximity to neighbors.

When selecting a site, take into account the neighbors. Determine if the tree will block the neighbors' view, if it could be a possible hazard (falling or broken limbs), or if it could be a nuisance (pollen, fruit, flowers, leaves).

PURCHASING HEALTHY TREES

Trees can be purchased in many sizes and types of containers, or in no container at all. Each container has advantages and drawbacks.

Bare-root trees.

These are usually "whips," very small trees that may or may not have any developed branches. Whips should be purchased very early in the season before they come out of winter dormancy. The roots on bare-root stock should never dry out, so if they must be stored, keep them in a cool, moist spot with the roots wrapped in moist peat moss or other absorbent material. As soon as possible, pot whips in new or clean containers to allow the roots to develop. Later on during the growing season, the young trees can be planted in their new homes. Bare-root trees also can be planted directly in the ground. The cost of bare-root materials is low, but they will take many years to reach maturity.

Containerized trees.

Trees can be purchased in any number of container sizes, from #1 (roughly 1 gallon) to #15 (about 15 gallons) and sometimes even larger. These trees will have well-developed root systems and will be more mature and older than bare-root trees. They also will cost more. One way to check the health of the plant is to gently remove the tree from its container. Look at the root tips – if they are clean and white, chances are the tree is healthy.

Balled-and-burlapped (B&B) trees.

Usually, the largest and most expensive trees available for purchase have their root systems contained in a relatively small "bag" that must be carefully handled. B&B trees must have their root systems intact, and the root ball should be in one piece, a characteristic called "ball integrity." If the root ball has been pierced, the soil has fallen away from it, or the ball integrity has not been maintained, the tree's survival will be compromised. B&B trees may require specialized equipment to move and plant.

Any tree purchased should have the following characteristics:

- Freedom from insects, diseases, and their associated damage.

- Clean, clear color of the foliage typical for that particular tree. Some trees have purple or red tinges to their foliage; others have a yellowish cast to them. Understand

which varieties of trees have these different characteristics.

- A minimum of broken or damaged branches.
- No visible wounds or scars on the trunk.
- Healthy root systems that are well-established in the container or root ball.
- Signs of new, healthy growth.

SITE PREPARATION

Site preparation is probably the most important part but also the most difficult and most overlooked step of tree planting. Once the proper site has been selected for the new tree, preparing the site is next.

Preferably, the hole for the new tree should be dug before the tree is purchased or soon thereafter, especially if the plant is B&B. Dig the hole to the depth of the root ball or soil depth in the container. Trees should always be planted so the base of the plant is at or slightly above soil level. They should not be planted too deeply. The hole should be at least three times the width of the root ball.

For bare-root trees, dig the hole at least twice as wide as the extended root system. The tree should be planted only as deeply as the original soil line, which will be a darkened area at the base of the trunk. Do not amend the soil removed from the hole.

PLANTING THE TREE

Soak the roots of bare-root trees in water for several hours before planting. When the site has been prepared, check the root system. Carefully prune out any small circling roots or any roots that have been damaged or broken. Next, spread the roots out horizontally in the prepared hole. Carefully fill in the hole. Make sure the roots are not damaged and the tree is straight and not too deep.

If the plant is in a container, carefully remove the tree from the container either by gently pulling or cutting the container off the root ball. Always handle trees by the root ball, not the trunk. Taking care not to break or disturb the root system, gently place the plant in the hole. Make sure the crown of the plant (where the trunk and soil meet) is at or above the surrounding soil level. If the soil level needs to be raised, gently lift up the plant by the root ball, place additional soil underneath it, and then replace the plant.

If the tree is B&B, place the plant gently in the hole dug for it, making sure it is not too deep. Carefully cut away the burlap and twine from the root ball. Many B&B trees have wire baskets around the root ball instead of burlap and twine. Cut away as much of the wire basket as possible.

Once the plant is set at the right level, the process of filling up the rest of the hole can begin. Make sure the tree is straight before completely filling in the hole. Gently tamp the soil periodically to fill in space under and

Aesculus hippocastanum (Horsechestnut)

around the root ball. Good contact between the soil and the root ball is essential. Roots cannot grow in pockets of air.

When the hole is filled all around the root ball, build a low "wall" around the perimeter of the hole to hold in water. The next critical step is watering the plant. The idea is twofold: settle the soil in around the root ball and provide water for the root system.

A slow trickle of water over several hours is one way to water the plant. Make sure, however, the hose is moved periodically so all areas around the root ball are watered. A sprinkler is also effective in watering. Use a gentle sprinkle to water the tree gradually over a few hours. The idea is to settle the soil around the root ball without compacting it.

MAINTAINING THE YOUNG TREE

After planting, do not fertilize the new tree. The tree may need to be staked, especially in windy areas. Place two to three metal stakes around the tree, away from the root ball. Always use wide cloth or nylon straps around the trunk of the tree so as not to damage it. Gently tether the tree to the stakes so it can move to a degree but will not fall over.

Also after planting, carefully prune off any dead or broken branches. The pruning cut should be made just outside the branch collar and not flush with the tree trunk. After removing dead or broken branches, further pruning should not be needed the first year.

Water the new tree frequently during the growing season. The area around the roots should be moist but not waterlogged. The tree's roots should not be allowed to dry out.

Winter watering is essential, especially for young trees, because Wyoming winters are unpredictable at best. Snow cover cannot be counted upon to provide consistent water during the winter. Watering trees and other perennial plants is very important during warm, dry periods.

Trees will survive Wyoming winters much better if their root systems are kept moist during the cold months. If the ground is frozen, do

Picea abies
(Norway spruce)

not water because it cannot penetrate the soil; however, if the area is dry and there is no snow cover, it would be beneficial to get out the hose.

GUIDE TO RECOMMENDED TREES FOR WYOMING

The following trees have been grown successfully in various parts of Wyoming. Hardiness and adaptability of woody plant species is closely associated with altitude. Each species is identified with a USDA hardiness zone and a maximum elevation for growth. This table is not intended to be an all-inclusive list. A local nursery professional may have other suitable trees for each area.

EVERGREEN TREES

Scientific name	Common name	Hardy to (feet)	USDA zone	Height (feet)	Width (feet)	Exposure	Comments
Abies concolor	Concolor fir	9,000	3	30-50	20-30	Sun, part shade	Attractive species; native to high altitudes; long needles; bluish color
Juniperus scopulorum	Rocky Mountain juniper	8,500	3	6-20	4-8	Sun	Some native; fine textured; colors vary from dark green to silver; named varieties
Juniperus virginiana	Eastern redcedar	6,500	4	10-50	5-20	Sun, part shade	Coarser foliage and more open habit than J. scopulorum; useful at lower altitudes; vigorous growth
Picea abies	Norway spruce	9,000	3	40-60	25-30	Sun	Dark green needles; require consistent moisture especially the first few years after planting
Picea engelmannii	Engelmann spruce	9,000	2	40-60	20-30	Sun, shade	Shorter needles and more open growth than blue spruce; graceful form
Picea glauca	White spruce; var densata is Black Hills spruce	10,000	2	20-40	15-20	Sun, part shade	Shorter needles than above; compact growth
Picea pungens	Colorado blue spruce	10,000	2	20-60	3-30	Sun part shade	Heavily used native species; cultivars available in many blue and green hues and varying growth habits
Pinus aristata	Bristlecone pine	10,000	2	20-30	15-20	Sun	Slow growing native; drought tolerant

EVERGREEN TREES

Scientific name	Common name	Hardy to (feet)	USDA zone	Height (feet)	Width (feet)	Exposure	Comments
Pinus cembroides edulis	Pinyon pine	7,000	4	12-20	12-15	Sun	Small, busy tree; fragrant; seeds edible; heat and drought tolerant
Pinus flexilis	Limber pine	10,000	2	30-50	20-30	Sun	Open growth; gray bark; often twisted and irregular growth; very attractive
Pinus nigra	Austrian pine	8,000	4	40-60	20-40	Sun	Similar to native ponderosa pine; dark green needles; dense growth
Pinus ponderosa	Ponderosa pine	9,000	3	50-70	20-30	Sun, part shade	Drought tolerant; long needles; good color; attractive native species
Pinus sylvestris	Scotch pine	6,500	3	10-50	10-30	Sun, part shade	Busy; rapid growing; short needles; cinnamon-colored bark
Pseudotsuga menziesii	Douglas fir	10,000	3	50-80	15-25	Sun	Upright and open habit; an alternative to blue spruce

DECIDUOUS TREES

Scientific name	Common name	Hardy to (feet)	USDA zone	Height (feet)	Width (feet)	Exposure	Comments
Acer ginnala	Amur maple	8,500	3	15-20	15	Sun	Attractive small maple; shrubby; red leaves in fall; often chlorotic
Acer glabrum	Rocky Mountain maple	8,500	3	20-30	10-20	Sun	Small tree or large, multi-stemmed shrub; consistent moisture; yellow leaves, reddish fruit in fall
Acer platanoides	Norway maple	6,000	4	40	40	Sun	Easily transplanted; tolerates poor soil conditions; prone to bark splitting in winter
Acer rubrum	Red maple, 'Autumn Blaze' in particular	7,500	3	30-50	30-50	Sun	Orange-red fall color; consistent moisture

DECIDUOUS TREES

Scientific name	Common name	Hardy to (feet)	USDA zone	Height (feet)	Width (feet)	Exposure	Comments
Acer tataricum	Tatarian maple	7,500	3	15-20	15-20	Sun	Small tree or large, multi-stemmed shrub; red foliage in fall
Aesculus glabra	Ohio buckeye	7,000	4	20-30	20-30	Sun	Large palmate leaves; interesting growth forming tree
Aesculus hippocastanum	Horsechestnut	6,500	4	50-60	40-50	Sun	Large, oval tree; showy white flowers in spring
Alnus glutinosa	Black alder	9,000	3	40-50	25-30	Part shade, shade	Fast growing; prefers moist soil; good alternative to aspen; best when grown multi-stemmed
Alnus tenuifolia	Thinleaf alder	9,000	3	15-30	10-15	Part shade, shade	Attractive foliage; good alternative to aspen; multi-stemmed is best
Betula nigra	River birch	7,500	3	40	40	Part shade, shade	Easily transplanted; prefers moist soil; multi-stemmed is best
Catalpa speciosa	Northern or Western catalpa	7,000	4	40-50	25-30	Sun	Large, heart-shaped leaves; white flowers followed by long seed pods; drought tolerant
Celtis occidentalis	Hackberry	7,000	4	30-35	30	Sun	Hardy native species; resembles elms; ridged corky bark
Crataegus spp.	Hawthorne	8,000	3	10-20	10-20	Sun, part shade	Ornamental trees; white blossoms; red fruits in fall and winter
Gleditsia triacanthos inermis	Honeylocust	6,500	4	35-45	30-40	Sun	Tap rooting tree; lacy foliage; requires deep soil
Gymnocladus dioicus	Kentucky coffeetree	6,500	4	50-60	40-50	Sun	Drought tolerant; furrowed bark and open growth habit; very attractive in winter
Koelreuteria paniculata	Goldenrain tree	5,000	5	25-30	25-30	Sun, part shade	Yellow blossoms in summer; gnarled growth habit

DECIDUOUS TREES

Scientific name	Common name	Hardy to (feet)	USDA zone	Height (feet)	Width (feet)	Exposure	Comments
Larix decidua	European or common larch	8,000	3	50-60	25-40	Sun	Deciduous conifer; sheds needles in fall; lacy foliage; interesting tree
Malus spp.	Crabapple	7,500	3	15-20	15	Sun	Good ornamentals; many other species adaptable at lower altitudes
Populus x acuminata	Lanceleaf cottonwood	8,500	3	40-50	40	Sun	Native species; very hardy and drought tolerant; may sucker
Populus angustifolia	Narrowleaf cottonwood	10,000	2	50-60	50	Sun	Native species; leaves resemble willow; suckers
Populus sargentii	Plains cottonwood, parent of cottonless cottonwood	7,000	4	50-60	50	Sun	Most widely used species; no cotton; adaptable
Prunus x cistena	Purple leaf plum	7,000	3	10-15	10	Sun	Colorful summer foliage; white flowers in early spring
Prunus padus	Birdcherry	7,500	3	30	25	Sun	Fragrant white flowers in spring; black fruit mid- to late summer;
Prunus virginiana melanocarpa	Chokecherry	10,000	2	8-20	8-12	Sun, part shade	Good fruit plant; glossy foliage; attracts birds; suckers
Pyrus calleryana	Ornamental pear	6,000	5	30	20	Sun	'Chanticleer' cultivar suggested; fireblight resistant; adaptable
Quercus gambelii	Gambel oak	8,000	3	15-25	20	Sun	Small tree or large shrub; prefers acidic soils; attractive fall color
Quercus macrocarpa	Bur oak	8,000	3	40-60	30-40	Sun	Native to Black Hills region; slow growing; sturdy; long-lived
Robinia neomexicana	New Mexico locust	8,000	3	6-20	6-12	Sun, part shade	Attractive fragrant flowers; good small tree or large shrub
Robinia pseudoacacia	Black locust	6,500	4	30-40	20-30	Sun	Rapid growth; thorny; sometimes sprawls from roots

DECIDUOUS TREES

Scientific name	Common name	Hardy to (feet)	USDA zone	Height (feet)	Width (feet)	Exposure	Comments
Salix alba vitellina	Golden willow	7,000	3	40-50	30-40	Sun	Golden twigs; rapid growth; high nutritional requirements
Salix amygdaloides	Peachleaf willow	7,500	3	25-30	25-30	Sun, part shade	Native; good form; hardy
Salix pentandra	Laurel leaf willow	8,000	2	30-40	40	Sun	Hardy; most used for city plantings
Sorbus aucuparia	Mountain ash	7,500	3	25-30	20	Sun, part shade	Showy fruits; good shade tree
Tilia americana	American linden	6,000	4	40-50	30	Sun	Fragrant flowers but not showy; good shade tree; pyramidal habit
Tilia cordata	Greenspire linden	7,000	4	30-40	25-30	Sun	Fragrant flowers; upturned branches; conical shape; good street and shade tree
Tilia tomentosa	Silver linden	6,000	4	35-45	25-35	Sun	More heat and drought tolerant than other lindens; foliage silvery underneath
Ulmus americana	American elm	6,000	3	50-60	30-40	Sun	New varieties resistant to Dutch elm disease; consistent moisture; prune in fall

Pyrus calleryana
(Ornamental pear)