Recommended Trees for Colorado Front Range Communities

A Guide for Selecting, Planting, and Caring For Trees

Colorado State FOREST SERVICE

Colorado *Tree* Coalition

FOREST SERVICE
U S
DEPARTMENT OF AGRICULTURE

Do Not Top Your Trees!

Trees that have been topped may become hazardous and unsightly.

Avoid topping trees. Topping leads to:
- Starvation
- Shock
- Insects and diseases
- Weak limbs
- Rapid new growth
- Tree death
- Ugliness
- Increased maintenance costs

Eastern redcedar* *(Juniperus virginiana)*
Very hardy tree, excellent windbreak tree, green summer foliage, rusty brown in the winter

Rocky Mountain juniper* *(Juniperus scopulorum)*
Very hardy tree, excellent windbreak tree

Trees to avoid!

Selecting the right tree for the right place can help reduce the potential for catastrophic loss of trees by insects, disease or environmental factors. We can't control the weather, but we can use discernment in selecting trees to plant. A variety of tree species should be planted so no single species represents more than 10-15 percent of a community's total tree population. Many trees are not recommended because of brittle wood, susceptibility to insects and diseases, or their ability to spread in to native ecosystems and out-compete native species, while others simply do not grow well in our climate. The following is a list of tree species **NOT** recommended for the Front Range of Colorado:

Species **NOT** recommended

     Austree *(Salix alba* x *matsudana)*

     Aspen *(Populus tremuloides)*

     Silver maple *(Acer saccharinum)*

     Russian-olive *(Elaeagnus angustifolia)*

     Tree-of-Heaven *(Ailanthus altissima)*

     Tamarisk *(Tamarix spp.)*

     Willows *(Salix spp.)*

     White-Barked Birches *(Betula spp.)*

     Non-native hybrid poplars/cottonwoods *(Populus spp.)*

     Siberian elm *(Ulmus pumila)*
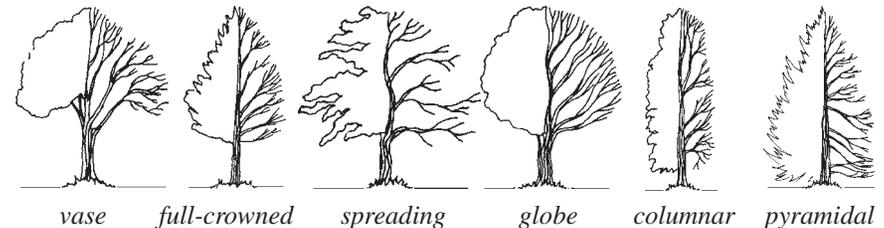
Tree Selection

Tree selection is one of the most important investment decisions a home owner makes when landscaping a new home or replacing a tree lost to damage or disease. Most trees can outlive the people who plant them, therefore the impact of this decision is one that can influence a lifetime. Matching the tree to the site is critical; the following site and tree demands should be considered before buying and planting a tree.

Site Considerations

- Available space above **and** below ground
- Water availability
- Drainage
- Soil texture and pH
- Sunlight levels/exposure
- Weather and other environmental factors

Tree Considerations

- Growth rate of the species selected
- Mature size
- Form
- Hardiness – ability of a plant to survive low temperatures
- Heat tolerance and drought tolerance
- Pest resistance
- Maintenance issues
- Native vs. non-native species

*vase   full-crowned   spreading   globe   columnar   pyramidal*

Selecting Trees at the Nursery

When you buy a high-quality tree, plant it correctly, and treat it properly, you and your tree will benefit greatly for many years. When you buy a low-quality tree, you and your tree will have many costly problems even if you take great care in planting and maintenance. Consider the following when selecting a tree at the nursery:

- Tree should appear healthy. No discolored bark, wilted leaves, etc.
- Branches should be spaced evenly around the trunk
- Tree trunk should taper from a solid base, gradually becoming more slender towards the top.
- Tree foliage and branches should be distributed on upper 2/3 of tree.
- Tree should contain a central, dominant leader.
- Tree should be free from mechanical damage.
- Tree should be free from insects and diseases.
- Roots should not be girdling, circling or potbound.

Basal trunk flare
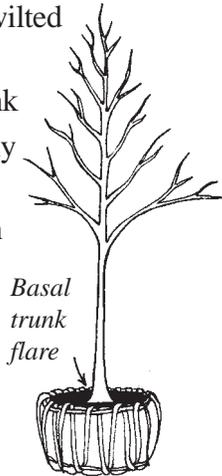
Tree Planting Tips

- Plant the top of the root ball slightly above ground level. The root collar (flare) must be visible one inch above final grade.
- Set root ball on **solid** ground and not on loose backfill in the hole; this will eliminate settling.
- Remove at least the top 1/2 of all wire and baskets from balled and burlapped trees and completely remove containers from containerized stock.
- Adding peat moss or manure to soil in the planting hole is **not** necessary. (Too much can cause a "potted tree" effect and restrict root growth.) Backfill hole with original soil.
- Do not fertilize at planting time.
- Optimum planting periods are from March 15 to June 15 and from September 1 to October 15.
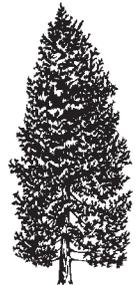
Large Evergreens
(30 - 60 feet mature height)
Do not use as street trees!

Colorado blue spruce *(Picea pungens)*
State tree, sharp stiff needles, color of needles range from bright green to silver blue

Austrian pine* *(Pinus nigra)*
Long needle pine, works well in a windbreak

Concolor (white) fir* *(Abies concolor)*
Long soft blue-green needles, plant in a protected site, shade and drought tolerant

Scots pine *(Pinus sylvestris)*
Short needle pine, orange bark with age

Ponderosa pine* *(Pinus ponderosa)*
Long needle pine, native to Colorado, hardy tree

Southwestern white pine* *(Pinus strobiformis)*
Soft, dark bluish-green needles, native to Colorado

Limber pine* *(Pinus flexilis)*
5-needle pine with rounded top, informal habit, blue-green needles with silvery bark

Colorado blue spruce

White fir

Ponderosa pine

Small evergreens
(15 - 25 feet mature height)

Piñon* *(Pinus edulis)*
Dense, bushy pine, short grayish-green needles, getting hit hard by Ips beetle in parts of State

Bristlecone pine* *(Pinus aristata)*
Bushy dark green needles, very slow growing

Hawthorn species* (*Crataegus spp.*)
Flowers in the spring, small fruit produced, most varieties contain small thorns

Crabapple species* *(Malus spp.)*
Flowers in the spring, most varieties produce fruit, select a variety that has a high resistance to fire blight

Amur maple* (*Acer ginnala*)
Yellow- white flowers, abundant seed, orange to red fall color, does better in lower pH soils

Tatarian maple* (*Acer tataricum*)
Winged seeds good for birds, fall color orange-red, hardy tree

Serviceberry (*Amelanchier spp.*)
Small trees or large shrubs with showy white flowers and edible fruits

Gambel (scrub) oak* (*Quercus gambelii*)
Native acorn-producing oak with great variability in size and shape

Japanese tree lilac (*Syringa reticulata*)
Creamy, white flower clusters with showy, dark bark

Callery pear* (*Pyrus calleryana*)
Brilliant display of showy, white flowers in spring, glossy green leaves that change to red in fall, many varieties to choose from but avoid Bradford
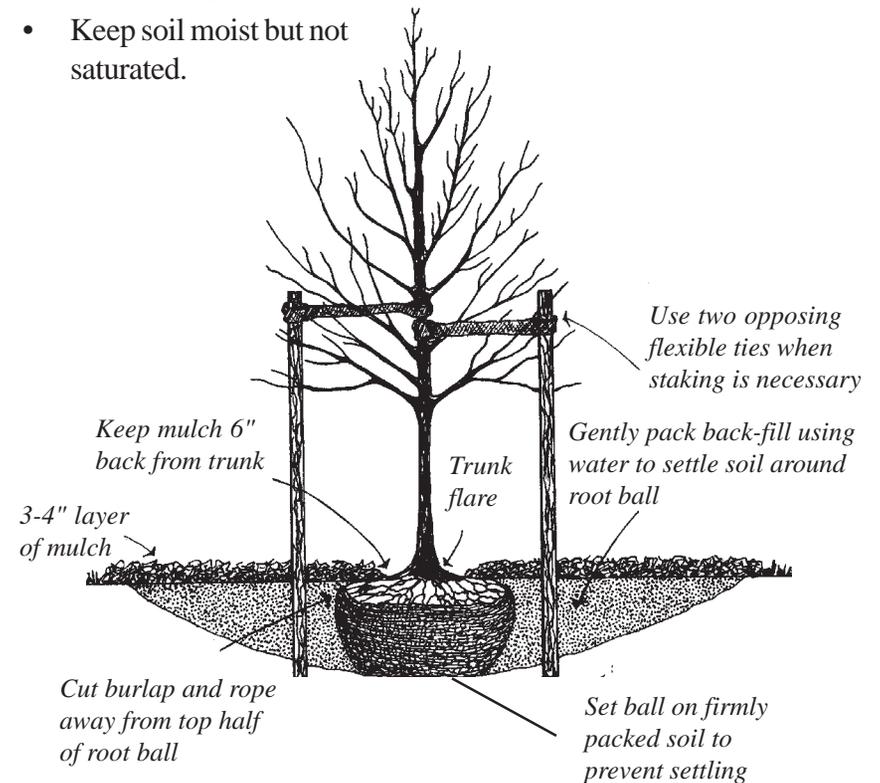
Redbud (*Cercis canadensis*)
Early spring magenta-colored flowers followed by heart-shaped leaves, plant only northern strains in protected locations

European mountain-ash (*Sorbus aucuparia*)
Dark green, pinnately compound leaves with silvery undersides, creamy white flowers followed by clusters of orange-red fruit

- Use mulch 3–4 inches deep, pull back 6 inches from the trunk of the tree, and extend the mulch ring one foot beyond the root ball. This will protect roots, hold soil moisture, reduce weed growth, and provide a protective strip to eliminate mechanical damage from lawnmowers and weedeaters. Porous landscape cloth may be placed between the soil and the mulch. Do **not** use plastic. Keep grass and weeds out of mulched area as they compete for the same resources as your new tree.

- If necessary, stake tree properly to keep root ball from shifting. Main tree stem **must** be able to sway slightly; if it is too rigid, root growth, diameter of stem, and height growth will be adversely affected.

- Use wide straps for tying trees to stakes. Do **not** use wire, string, rope, or rubber hose around tree.

- Remove stakes and straps after roots are established, usually one or two growing seasons.

- Keep soil moist but not saturated.

Use two opposing flexible ties when staking is necessary

Keep mulch 6" back from trunk

Trunk flare

Gently pack back-fill using water to settle soil around root ball

3-4" layer of mulch

Cut burlap and rope away from top half of root ball

Set ball on firmly packed soil to prevent settling

Tree Watering

The correct amount of water is the most important factor in ensuring proper tree establishment. Too much water can be as damaging to a newly planted tree as too little water, so be sure to periodically check soil moisture by examining the soil in the area of the roots. Follow these recommendations to help your tree establish in the landscape:

- **Water deeply and slowly.** Apply water so it moistens the critical root zone (from near the trunk of the tree to the dripline) to a depth of twelve inches. Methods for watering include a deep root fork or needle, soaker hose or soft spray wand. Apply water to many locations under the dripline. If a deep root fork or needle is used, insert the device no deeper than eight inches into the soil.

- **Consistent moisture is essential.** Maintaining **consistent** soil moisture allows for better root water absorption. Drought stressed or over-watered trees are more vulnerable to disease and insect infestations, as well as branch dieback.

- **When should I water?** Generally, water a newly planted tree every 3-5 days during the growing season, depending on weather and soil conditions. Remember that newly planted trees need water during dry periods in the winter months as well. Try to water at least once a month in the dormant season.

- **How much water should I apply?** Utilize the following "rule of thumb" for watering: apply 10 gallons of water per inch of tree diameter, for instance a 1 inch tree will require 10 gallons of water each time it is watered. For mature trees 10 inches in diameter or more, apply 15 gallons of water per inch of tree diameter. Use a ruler to measure your tree's diameter.

- **Mulch helps conserve soil moisture.** Mulch is **critical** to conserve soil moisture. Apply organic mulch within the dripline, at a depth of three to four inches. It's best to eliminate turf prior to adding mulch. Leave a six-inch space between the mulch and trunk of trees. Mulch materials may include wood chips, bark, leaves and evergreen needles.

Japanese pagodatree* (*Sophora japonica*)
Rounded crown, olive green bark, abundant white flowers

Ohio buckeye* (*Aesculus glabra*)
Very similar to horsechestnut with a bit smaller leaves that can occasionally scorch
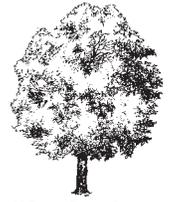
Ohio buckeye

Amur corktree* (*Phellodendron amurense*)
Round broad spreading tree, bark is cork like, leaves dark green on top and light green on bottom

Turkish filbert* (*Corylus colurna*)
Tolerant of a wide variety of soil conditions, dark green leaves turn yellow in fall, may produce small nuts in fall

Thinleaf alder (*Alnus tenuifolia*)
Native tree with medium green leaves turning yellow in fall giving way to cone-like fruits in winter

Small Ornamental Trees
(<25 feet mature height)

Canada red cherry* (*Prunus virginiana 'Shubert'*)
White flowers, small fruit, new growth on plant is bright green and turns maroon, can sucker profusely

Mayday tree (*Prunus padus*)
White flowers, black drupe fruit, yellow to orange fall color

Ussurian pear

Ussurian pear* (*Pyrus ussuriensis*)
White flowers, small fruit, red wine fall color

Canyon maple* (*Acer grandidentatum*)
Slow growing, Rocky Mountain native, shades of yellow, orange and red in fall

Golden raintree* (*Koelreuteria paniculata*)
Yellow flowers in summer, papery pods, leaves red and turn green

Ginkgo *(Ginkgo biloba)*
Few insect and disease problems, pretty fall color, distinctive leaf shape

American linden *(Tilia americana)*
Excellent street tree, dark green leaves, yellow-green fall color

Black walnut *(Juglans nigra)*
Edible nuts, great for squirrels and birds, nuts may create a mess

Northern catalpa* *(Catalpa speciosa)*
Fragrant white flowers, pencil sized seedpods, large heart shaped leaves

Norway maple *(Acer platanoides)*
Shapely tree, leaf color varies with variety, protect from sun scald

Sugar maple (*Acer saccharum*)
Does better in lower pH soils, glossy dark green leaves turn to reds, oranges and yellows in fall

Sycamore (*Platanus occidentalis*)
Fast growing and long-lived, distinctive mottled brown, green, tan and white bark, prefers floodplain type soils
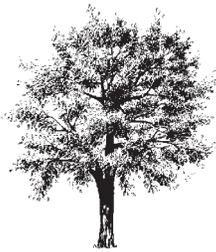
Horsechestnut* *(Aesculus hippocastanum)*
Greenish-yellow flowers, prickly seed pod, yellow to orange fall color

Black walnut

Northern catalpa
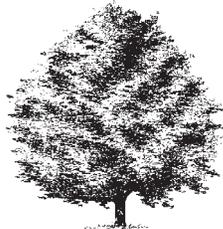
Norway maple

Horsechestnut

Medium Shade Trees
(30 - 45 feet mature height)

Littleleaf linden *(Tilia cordata)*
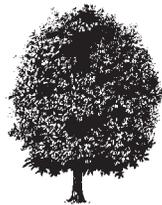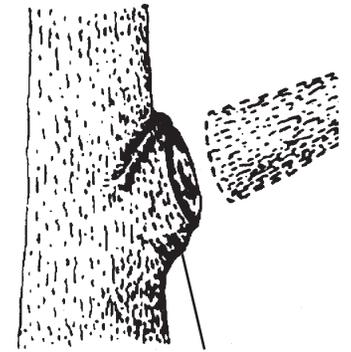*Yellow flower clusters, pea sized fruit, formal pyramidal form, excellent street tree*

Littleleaf linden

Tree Pruning

Limit pruning of newly planted trees to corrective pruning. Remove torn or broken branches (save other pruning measures for the second or third year). Once the tree has established a good root system after planting (usually within 1 to 3 years), proper pruning is essential in developing a tree with a strong structure and desirable form. Trees that receive the appropriate pruning measures while they are young will require little corrective pruning when they mature.

Location of a pruning cut is critical to a tree's response in growth and wound closure. Pruning cuts should be made just outside the branch collar. Since the branch collar contains trunk or parent branch tissues, the tree will be damaged unnecessarily if you remove or damage it. In fact, if the cut is large, the tree may suffer permanent internal decay from an improper pruning cut.

Branch Collar
pruning cuts should be made just outside the branch collar

For most young trees, maintain a single dominant leader. Do not prune back the tip of this leader. Do not allow secondary branches to outgrow the leader. Sometimes a tree will develop double leaders known as co-dominant stems. These can lead to structural weaknesses, so it is best to remove one while the tree is young. A good structure of primary scaffold branches should be established while the tree is young. The scaffold branches provide the framework of the mature tree. Properly trained young trees will develop a strong structure that will require less corrective pruning as they mature. The goal in training young trees is to establish a strong trunk with sturdy well-spaced branches.

Need Help?

This booklet does not provide all information, on all trees, for all locations. Each tree species has its own particular needs. The Colorado Tree Coalition strongly urges you to contact your local tree expert for more information, please call your:

- Community tree board
- City Forester
- City's Parks Department
- Arborist
- Forestry Consultant
- Tree Nursery
- Colorado State University Cooperative Extension
- Colorado State Forest Service District Office

Recommended Trees for Colorado Front Range Communities
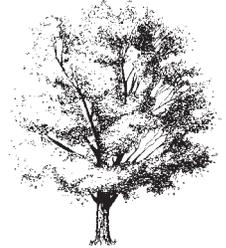
*Signifies trees that can withstand drier conditions

Large Shade Trees
(>50 feet mature height)

English oak *(Quercus robur)*
Produces acorns, rounded crown, dark green leaves turn brown and remain on tree through winter

Hackberry* *(Celtis occidentalis)*
Very hardy, can be susceptible to nipple gall, a cosmetic injury, reddish purple cherry like berries

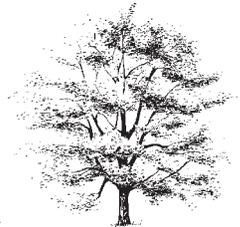**Hackberry**

Chinkapin oak* *(Quercus muehlenbergii)*
Produces acorns, tolerant of alkaline soils, attractive glossy leaves

Bur oak* *(Quercus macrocarpa)*
Produces acorns, fall color yellow to brown and occasionally red, very hardy and long lived

Swamp white oak *(Quercus bicolor)*
Produces acorns, deep green leaves white underneath, not tolerant of high pH soils

Honeylocust

Shumard oak *(Quercus shumardii)*
Produces acorns, fall color yellow, brown to red

Honeylocust* *(Gleditsia triacanthos inermis)*
Hardy trees, dark green, fern-like leaves, yellow fall color

Kentucky coffeetree* *(Gymnocladus dioica)*
Fragrant white flowers, persistent seed pods can be produced, large shade tree, no known pest problems

Kentucky coffeetree

American elm *(Ulmus americana)*
Disease-resistant cultivars can be very hardy, broad shaped crown, excellent street tree