

Selecting and Buying Trees:

What is the best tree for Nebraska?

The best trees are adapted to the growing conditions of the site where they will be grown; the tree's size and aesthetic characteristics serve the function needed; the homeowner likes the tree's good points and can live with any characteristics of the tree perceived to be bad; and, the tree is fairly pest resistant. Contact UNL Cooperative Extension, Nebraska Forest Service or Nebraska Statewide Arboretum for a listing of trees.

What should you look for when buying a tree?

- Buy from a reputable nursery
- Look for a single trunk or leader
- Look for a tree with branches spaced evenly around, and up the tree trunk
- Check for mechanical, insect, or disease damage
- Look for the trunk taper – it should be just at the soil line, indicating that the tree is not planted too deeply
- Check the roots – there should NOT be brown/black roots, heavy encircling roots, or dry, cracked root balls

How should a tree be cared for from the time it is purchased until it's planted?

- Keep the roots and root ball moist
- Protect the tree from drying winds and hot sun, especially during transport home from the nursery
- Protect the root ball, especially of B&B trees, from damage & cracking. For example, don't drop the root ball (i.e. off the back of a pickup)
- Carry trees by the root ball or container, not the trunk

Planting Trees:

When is the best time to plant trees?

Bareroot trees should be planted in early spring before bud break. Balled and burlapped trees and container grown trees can be planted almost anytime, but spring or fall are the best times.

How deep should trees be planted?

Planting trees too deeply is a major cause of stressed trees and increased pest problems. Locate the tree in the planting hole so that the trunk flare (area at the base of the trunk that begins to widen, or flare, slightly) is just above the soil line. If there is a flare at the base of the trunk where it enters the soil, it is planted at the correct depth. If the trunk looks like a telephone pole going into the ground, it is planted too deep. Bare root plants should be placed so that the first root on the trunk is just below the soil line.

How big of a hole should be dug when planting trees?

The wider the better, but do not dig too deep. The majority of tree roots grow out from the tree, not down. Dig the hole two to three times wider than the root ball to loosen the soil and encourage root growth. If the soil is disturbed beneath the root ball, the tree will eventually settle in the hole after planting, resulting in the tree being planted too deep.

Do all containers have to be removed when planting a tree?

Yes. All containers, even biodegradable ones, need to be removed. It may be difficult to remove the burlap and wire baskets of balled and burlapped trees, but often the bottom 1/3 of burlap and wire can be removed before the plant is placed in the planting hole. If these can be removed without the root ball falling apart or roots being damaged, remove them. If not, after placing the root ball in the planting hole, cut and remove as much of the burlap and wire as possible, at least the top one-half.

Should a starter fertilizer be used at planting time?

Starter fertilizers contain phosphorous which is important for root growth. Most Nebraska soils have adequate levels of phosphorous and so the use of a starter fertilizer may not be needed. A soil test is the only way to determine the need for phosphorous and other nutrients.

Should trees be fertilized with nitrogen at planting time?

Generally, no. If trees are planted in sandy soils or heavy clay soils, some nitrogen may be needed. Too much nitrogen at planting time can result in vegetative or leafy growth at the expense of roots. Also, trees growing in a lawn area rarely need additional fertilizer.

How much compost or organic matter should be added to backfill soil?

None. If you do not intend to amend the entire root zone of the mature tree, then do not amend the backfill soil. Compost is an excellent amendment to increase soil organic matter; however, a large planting area should be amended and not just the backfill soil; especially in heavier clay soils. This can lead to a perched water table and encircling roots within the planting hole that may eventually girdle the tree.

Watering Trees:

How often and how much should a tree be watered?

Trees need about one inch of water per week. Supplemental watering is most critical during the first few years after a tree is planted when roots are establishing. How often and how much water to apply depends on soil type, the sites growing conditions, and climate. Sandier soils will require more frequent irrigation than heavier, clay soils. Water enough to moisten, not saturate, the soil 12 to 18 inches deep; allow the upper 4 to 5 inches of soil to dry moderately; then water again. On newly planted trees, be sure to moisten the soil outside of the original root ball to encourage root growth outside the root ball.

Can trees be overwatered?

Yes. Roots need water and oxygen to grow. As water is applied, it displaces oxygen in the soil pore spaces. Low oxygen levels result in root growth slowing, stopping or root dieback. If a tree is overwatered and remains saturated for long periods, or is growing in compacted or poorly drained soil, low oxygen levels often result in root dieback.

Fertilizing Trees:

When is the best time to fertilize a tree?

If a tree needs fertilizer, the best time to fertilize is early spring just prior to green up or late fall. Late fall fertilization should be done after the first freeze and up until the soil freezes. Winter dormancy may be delayed and winter injury increased if trees are fertilized between late July and the first freeze.

How much should trees be fertilized?

Most soils in Nebraska have adequate nutrient levels for trees. In many cases, no fertilization is needed. Trees growing in fertilized lawns rarely need additional fertilizer. If a tree needs fertilizing, once a year apply a slow release nitrogen product, such as milorganite, sulfur-coated urea and urea formaldehyde. Avoid fast release nitrogen sources, such as ammonium nitrate, ammonium sulfate and urea.

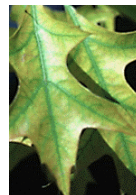
What is the best method to fertilize trees?

A surface application using a broadcast or drop spreader works fine. A grid system of holes two to three feet apart within and just outside of the trees canopy dripline works well too. The holes should be no deeper than 8 inches.

What causes the leaves of pin oaks and some maples to be yellow?

If the leaves are yellow but the leaf veins are still green, this is chlorosis. Chlorosis is caused by a lack of iron and/or manganese in the tree. Some trees have difficulty taking up iron and manganese in high pH soils. Since soils in the Great Plains tend to have a high, or alkaline pH, trees like pin oak, silver and red maple, and river birch often become chlorotic. Wet or compacted soils make the situation worse. See the Nebguide "Iron Chlorosis of Trees and Shrubs for information on dealing with iron chlorosis:

<http://ianrpubs.unl.edu/plantdisease/g1218.htm>



Mulching

Should trees be mulched?

Yes! Mulch conserves soil moisture, maintains a cooler soil temperature, suppresses weeds, and protects tree trunks from lawn mowers and weed trimmers. Root growth is much greater beneath a mulch layer than beneath turfgrass. Young trees establish roots quicker when mulched.

How do you mulch trees?

Use coarse organic mulch such as shredded bark or wood chips. Place the mulch two to four inches deep in a 4 foot or larger diameter ring. Keep the mulch six inches away from the tree trunk to avoid moisture build-up against the trunk.

Can mulch be harmful to a tree?

Mulch can be harmful if applied too deep or against the trunk. Deep mulch reduces oxygen levels in the soil, causing roots to grow up into the mulch where they are susceptible to drying and temperature extremes. Deep mulch may invite gnawing rodents like voles. Mulch against the trunk provides a moist environment for trunk decay or infection by a pathogen.

Can you spread diseases with mulch?

The only disease known spread in mulch is verticillium wilt. If a tree dies from verticillium wilt, do not chip it to use as mulch. The advantages of using mulch outweigh the risk of infection by wilt disease.

Wrapping Trees:

I've heard tree trunks should no longer be wrapped. Why?

On young trees, wrap covers photosynthetic tissue that produces food (carbohydrates and sugars) needed for root establishment. Wrapped trees also tend to be more susceptible to borer insects. If left on too long, wraps can girdle young tree trunks. During summer, moisture may build up beneath the tree wrap and promote decay organisms. However, wraps can protect newly transplanted, tender barked trees from winter sunscald. If tree wrap is used, only use it on tender barked trees during their first winter after transplanting; when moving trees; or if a nursery guarantee requires it.

Pruning:

When is the best time to prune?

Trees should be pruned only because they need pruning. Don't prune just because it's time to prune. Delay pruning young trees until the third year after they're planted.

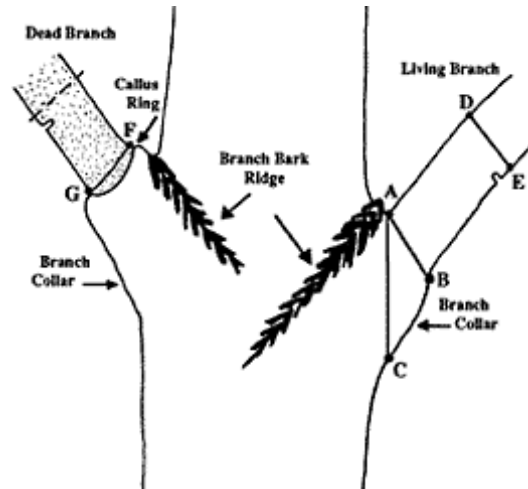
- Deciduous, shade trees: February and March (maple, birch and walnut can be pruned in mid summer to avoid excess sap flow, referred to as 'bleeding', which often occurs on these trees if pruning is done in February or March)
- Pines: June into July when the new needles (candles) are half grown
- Spruce, Fir, Junipers, Arborvitae, Japanese Yew: Late winter into early spring

How much of a tree can you safely prune?

Ideally, remove only 10 to 15 percent of a tree's crown during any one pruning. If needed, up to 30% could be removed. On evergreens, do not cut back beyond where there is any green growth.

Where on a branch should the pruning cut be made?

Prune branches just outside the branch bark ridge and branch collar. Do not prune flush with the trunk, and do not leave branch stubs. In the figure below, cuts A to B and G to F are correct pruning cuts.



Should wound dressings be used on pruning cuts?

No. Paints, pruning paints, or wound dressings sold specifically for trees should not be applied to pruning wounds. These interfere with the trees own response in closing off wounds and can increase decay in the wound. They do not prevent insects or moisture from entering the wound.

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