



Tips on Planting Trees and Shrubs

General

Site preparation is critical to the survival of tree and shrub seedlings. Any vegetation competing with the seedlings for moisture or nutrients should be removed. If the planting site is in cultivation, discing once or twice may be adequate to remove existing competition and to prepare a mellow soil. Break up plow pans with deep chiseling. If in grass sod, plow in the previous season, or remove the sod from the planting spot so that there is at least a 48-inch diameter planting spot free from competition.

Care after planting is also important. Protect the planting permanently from livestock. Young trees can be protected from rabbits, mice, and other pests with wrapping, wire screens, or repellents.

To make the best use of all available moisture and obtain best survival and growth, keep trees cleanly cultivated. Clean cultivation also provides fire protection to sensitive plants. If cultivation is not practical, install weed barrier fabric or check with your local Research and Extension office or Conservation District for herbicides that may be used on the kinds of trees and shrubs that you have planted.

Seedlings planted on droughty sites will require watering occasionally for the first 2 years. If the plants tend to lay down, they should be staked upright.

Bare Root Seedlings

Inspect the trees as soon as you receive them and report concerns to Kansas Forest Service at 1-888-740-8733.

They should be planted as soon as possible. They can be held for a couple

of days in the shipping box by placing the box in a cool, shaded location.

Don't store the seedlings in water or allow the seedlings to freeze. For longer storage, either place the sealed box in a cooler at 33° to 38° Fahrenheit, or heel in the seedlings in a place protected from sun and wind.

To heel in seedlings, dig a V-shaped trench; open the bundle and lay seedling roots in the trench without crowding; cover roots with soil and pack firmly; and water thoroughly. Plant the seedlings in their permanent location before they start growing.

One of the most common causes of planting failure is to allow the seedlings to dry out during the planting operation. Small roots dry rapidly when exposed to sun and wind. Seedlings can easily be protected during the planting operation by wrapping bundles of seedlings in wet burlap, or placing the seedlings in a bucket with the roots covered with moist packing medium or water. Plant the seedlings immediately upon removing them from protective cover. Even a few minutes delay can be serious.

Dig the planting hole deep enough to accommodate the roots in their natural position. Do not twist the roots or otherwise force them into a small hole. Roots may be pruned to a minimum length of 8 inches to facilitate planting. Protect the roots from drying during the pruning operation. Proper planting depth is at the same depth, or slightly deeper (no more than 1 inch deeper), than they grew in the nursery. Place soil around the roots and firm it to remove air pockets from around the roots. Water thoroughly.

Sweating

After being dug and placed in storage, some species develop hard buds, which are very slow to grow or may fail to grow at all. This problem may be overcome by "sweating" them. Keep the top and root covered with moist burlap, hay, or such at 60° to 70° Fahrenheit for about one week. Once buds swell, ready to pop into growth, planting may proceed. **Some species with which sweating is helpful are bur oak, cotoneaster, green ash, hackberry, honeylocust, and redbud.**

Container Grown Seedlings

Inspect the trees as soon as you receive them, and report concerns to this toll-free number: 1-888-740-8733.

For best results, plant immediately; but with proper care they can be held for several weeks. Remove the plants from the cardboard box and store them upright in light shade. Protect them from wind. Set the containers above the ground on a solid surface (not soil) or the roots will quickly grow into the soil. Saturate the root plug with water three times a week.

Dig the planting hole slightly deeper than the root plug so when planted, the root plug will be covered with ½ to 1 inch of soil. Remove the plants from the container before planting. Place soil around the root plug and firm it to remove air pockets from around the roots. Water the seedlings after planting. Stake the plants, if needed, to hold them upright.

Pecan and Walnut Seeds

The pecan and walnut available from Kansas Forest Service seed has been treated to enhance germination. Typically, 60 percent of walnut and 80 percent of pecan seed will germinate during the first growing season. A few may remain dormant until the following spring.

For best results plant immediately, but if you keep them moist and stored at 33° to 35°F, they can be held for several weeks. Plant them 2 inches deep with three seeds in each hole.

Firm soil around the seeds, and water. Mark the spot with a stake or flag to aid in locating the plants later. If all seeds grow, select the best plant and pull the others out.

It is best to plant the nuts in their permanent locations. If it becomes necessary to transplant the seedlings, do so before the second growing season.

Squirrels have an uncanny way of finding planted pecan and walnut seeds. One way to protect the seed is to plant them as shown at right. The can should rust away and not limit the growth of the tree, however, follow-up checking should be done to ensure survival.

Spacing Plants

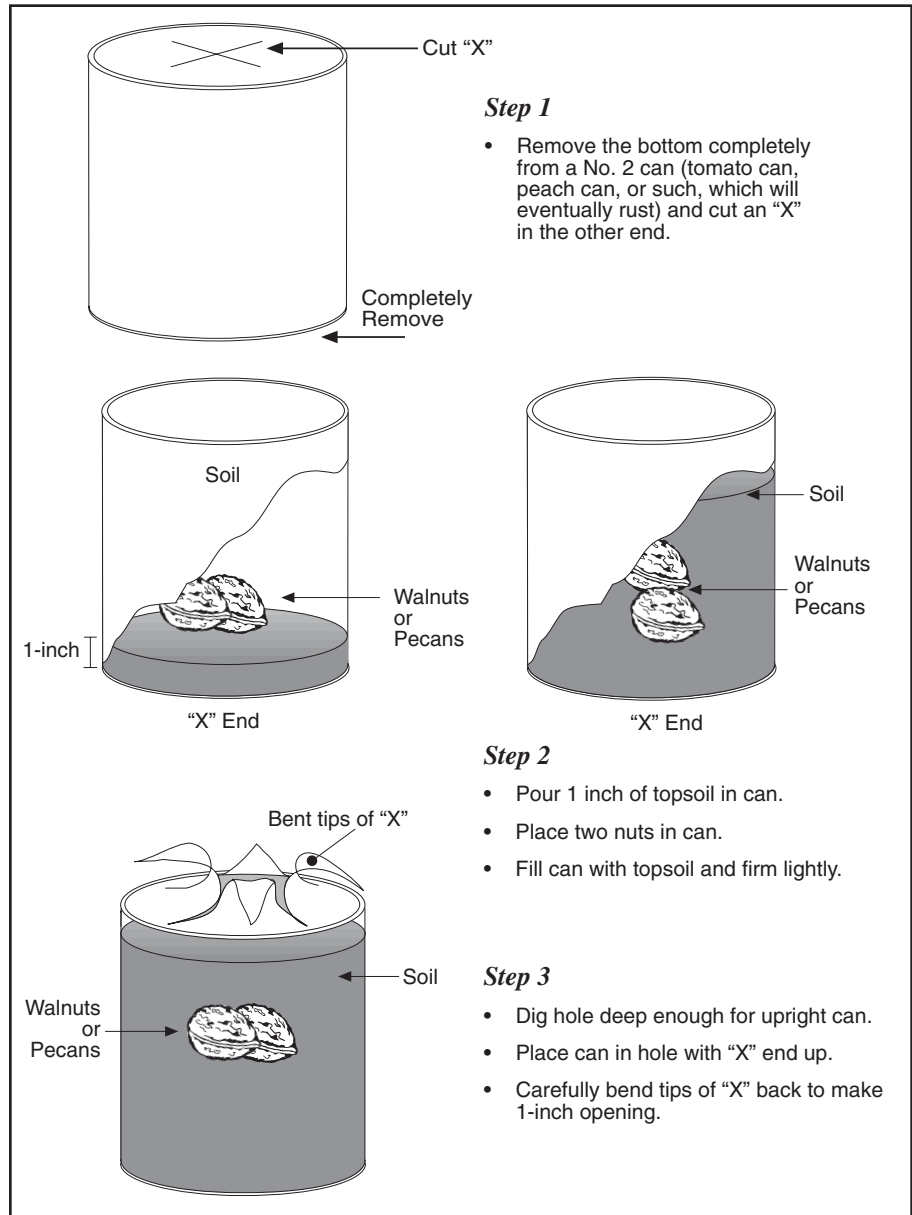
Plants often are planted too close together, resulting in stunted growth and increased susceptibility to insects and disease. Acceptable spacing varies with annual precipitation and landowner preference. Recommended spacings are as follows:

Between Rows. Western Kansas 12 to 18 feet; central and eastern Kansas 12 to 16 feet; large, fast-growing trees statewide 20 to 24 feet.

Within Rows. Shrubs 3 to 6 feet, Redcedar and Rocky Mountain juniper 6 to 12 feet, pine 8 to 12 feet, deciduous trees 8 to 18 feet.

Fertilizing Plants

Most soils have adequate nutrients to support seedlings the first year. It is usually best not to fertilize seedlings



unless definite deficiency symptoms are present. Evergreen trees are not very demanding and normally do not need fertilizer at any age. Too much nitrogen on evergreen trees will kill small roots and, on new plantings, may result in lower survival. On poorer soils, the deciduous plants may respond to nitrogen. Apply ¼ cup of a low analysis fertilizer such as 12-12-12 to a 2-foot diameter area around the seedling. If plants are yellowish, a soil sample is needed to determine the precise need.

www.kansasforests.org

Additional information on designing, planting, and tree planting care may be obtained at your Local Research and Extension office, County Conservation District, Kansas Wildlife and Parks, or by contacting:

Kansas Forest Service
2610 Claflin Road
Manhattan, KS 66502-2798
(785) 532-3300

Joshua Pease
Conservation Forester