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KANSAS



FOREST  
SERVICE

# Tips on Planting Trees and Shrubs

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

## 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 K-State 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 dry sites require watering occasionally for the first 2 years. If the plants tend to lay down, they should be staked upright.

## Bare Root Seedlings

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. Do not 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° F, 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 allowing the seedlings to dry out during the planting operation. Small roots dry rapidly when exposed to sun and wind. Seedlings can be easily protected by wrapping bundles of seedlings in wet burlap, or placing the them in a bucket with the roots covered with moist packing medium the seedlings arrived in, or water. Plant the seedlings immediately upon removing them from protective cover. Even a few minutes delay can seriously damage seedlings.

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 placed in storage, some species develop hard buds, which are 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 or hay at 60° to 70° F for about 1 week. Once buds swell, ready to pop into growth, planting may proceed. **Some species with which sweating is helpful are bur oak, cotoneaster, hackberry, and redbud.**

## Container Grown Seedlings

For best results, plant container-grown seedlings immediately. With proper care they can be held for several weeks before planting. 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.

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### Claims and cancellations related to Conservation Tree Program seedling purchases:

All sales are final. No guarantee of survival after shipment or delivery is made. The plants are guaranteed to be the species and quantities ordered, fresh, and capable of growing. Claims must be made within 7 days of receiving the plants. No refunds less than \$5. The Kansas Forest Service does not warranty the survival of the plants and is not responsible for economic loss by the customer.

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 seed available from Kansas Forest Service 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.

## 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:

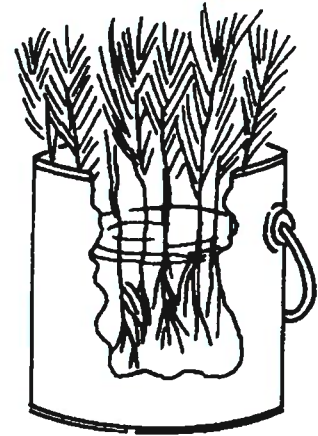
**Between Rows.** Western Kansas 12 to 18 feet; central and eastern Kansas 12 to 16 feet; large, fast-growing trees statewide 20 to 24 feet.

**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.

## Irrigating Plants

The amount and frequency of irrigating new plantings varies with air temperature, wind velocity, soil texture, and soil structure. With so many factors involved, it is difficult to give a standard schedule.

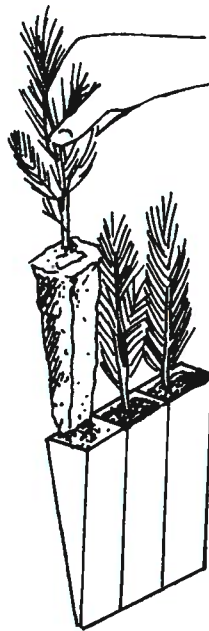
**Bare Root.** To plant bare-root trees and shrubs, remove the seedlings from the box or "heeling in" trench. Seedling root length varies within each bundle or group of plants. To make planting easier, roots can be pruned or cut to a minimum length of 8 inches. This can be done by pruning the entire bundle of seedlings at one time with a sharp knife or hand pruners. Once pruned, place the seedlings in a bucket partially filled with water. Make sure the roots are submerged. Carry the bucket to



each planting site, removing the plants as they are needed. Keep seedling roots moist at all times.

**Container Plants.** Container-grown plants should be carried to the field in their container. Remove the seedling, soil and all, from the container before planting. Remaining trees at the end of the day can be stored in their container in a protected area until needed.

**Seeds.** Stratified seeds should be taken to the planting site in their plastic storage bag. Remove seeds individually for planting. Rewrap in the plastic bag at the end of the day and store in a cool place.



Irrigate thoroughly, saturating the entire root zone; then let the soil partially dry out. This promotes soil aeration and root growth. A loose rule-of-thumb is to irrigate on sandy soils every 3 to 5 days and every 7 to 10 days on heavier soils. On heavier soils, allow excess water ample time to drain before re-irrigating.

## Fertilizing Plants

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

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

**Kansas Forest Service**  
2610 Claflin Road  
Manhattan, KS 66502-2798  
(785) 532-3300  
[www.kansasforests.org](http://www.kansasforests.org)

For questions about compliance with USDA civil rights issues, contact the Kansas Forest Service at (785) 532-3300 or [www.kansasforests.org/civilrights.html](http://www.kansasforests.org/civilrights.html)