

## University of Missouri Extension

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# How to Plant Forest Trees

John P. Slusher  
School of Natural Resources

Terry Robison  
Missouri Department of Conservation

When seedlings arrive, keep the seedling roots protected and moist. Begin planting as soon as possible.

## To store for two weeks or less

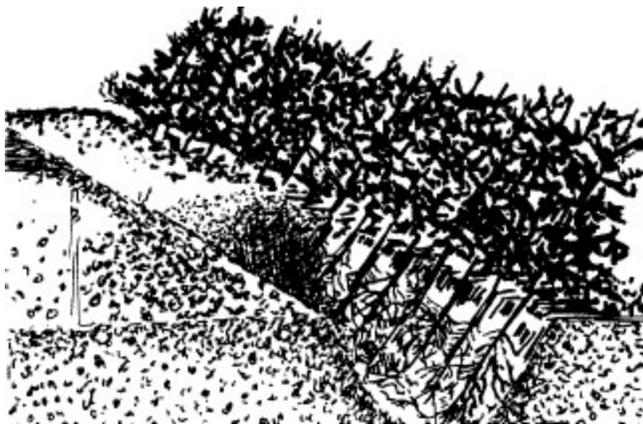
- Put the bales in a cool, shaded place.
- Separate the bales (to avoid overheating and molding).
- Pour cold water into the open end of the bales often enough to keep seedling roots moist.
- Do not store trees in water because roots may be damaged.
- Protect from severe freezing.



## To store for more than two weeks

- Either hold bales in cold storage at 35 to 37 degrees Fahrenheit, or
- Put trees in a heeling-in trench.
- Dig trench in a shaded, protected place. Adjust depth to fit the roots (Figure 2). Avoid areas with high rodent populations.
- Cut bundle strings and spread trees.
- Pour water on roots as trench is being refilled with soil.
- Water as often as necessary thereafter to keep soil moist, but avoid overwatering.
- A mulch placed on soil close to trees will help hold moisture.
- Once the trees have begun growing, it is best not to remove them from the heeling-in bed until the following spring.

Figure 2



#### Note

Never leave open bales of seedlings exposed to the sun and wind. During planting operations, take out a few bundles of trees at a time. Cover the others and keep them cool and moist until they are needed. Be careful to avoid damaging the terminal buds.

## Planting

### By hand

- Always carry seedlings in a bucket half-full of water or wet moss. Don't allow seedling roots to become dry. Do not store the trees with their roots in water.
- On unprepared areas **scalp** or skin off the sod and weeds from a spot 18 inches in diameter where each tree is to be planted.
- Center or side-hole methods of hand planting are shown in Figure 3.
- Slit method of planting with a grubbing hoe is shown in Figure 4.
- Slit method of planting with a tree planting bar is shown in Figure 5.

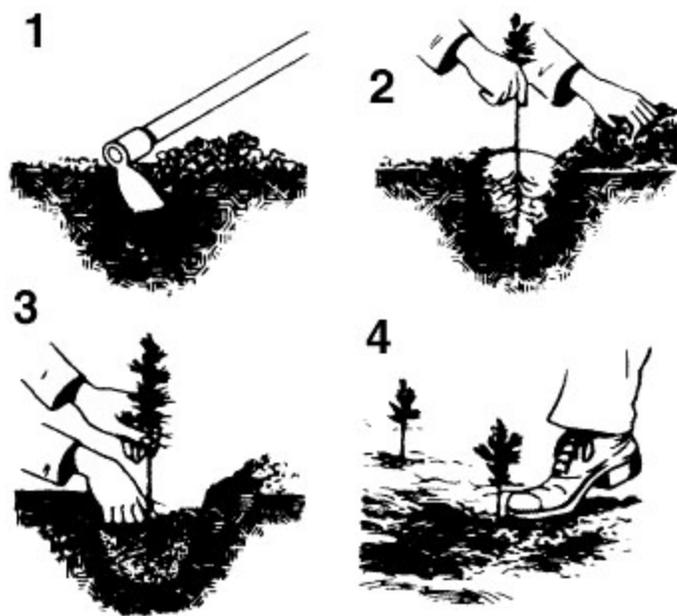
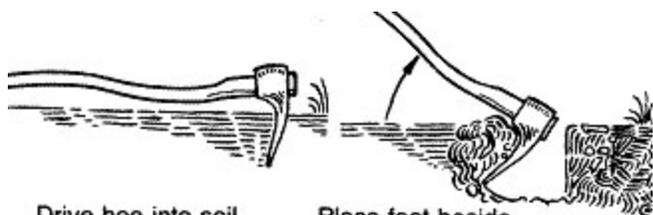


Figure 3

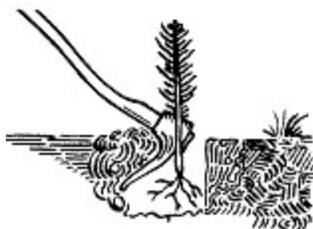
1. Dig hole to fit root system.
2. Set at same depth trees grew in nursery.
3. Fill hole half full of soil and tamp well.
4. Finish filling hole and tamp with feet.

Figure 4



Drive hoe into soil full length of blade. (Handle parallel to ground level).

Place foot beside blade and lift handle 45°. Draw hoe backward slightly.



Whip roots against SIDE of hole with hoe still in place.



Remove hoe and allow soil to fall back in place. Tamp firmly with feet.

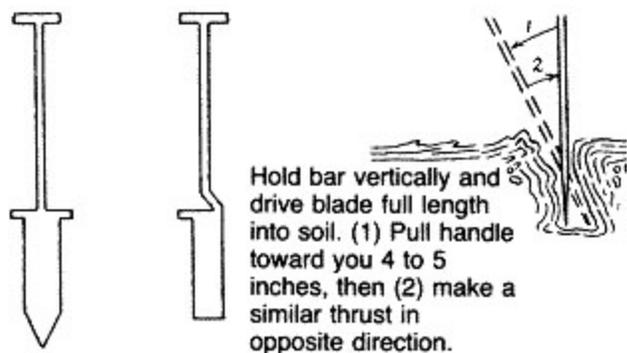
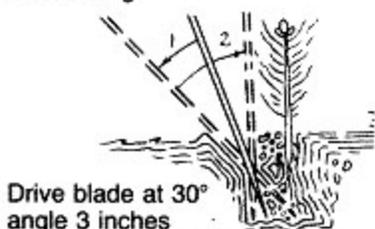


Figure 5

Hold bar vertically and drive blade full length into soil. (1) Pull handle toward you 4 to 5 inches, then (2) make a similar thrust in opposite direction.

Tree planting bars have blades 3 to 4 inches wide and are 10 to 11 inches long.



Drive blade at 30° angle 3 inches behind seedling. (1) Pull bar toward you, then (2) push forward to close bottom and top of slit. Removal of the bar leaves a hole which should be closed to prevent soil drying near roots.



Remove bar; insert seedling and shake roots out straight in slit.

## By machine

- Use a three- or four-person crew. One person follows the machine to straighten and pack poorly planted trees. Another keeps seedlings protected, separated, and ready to load into planting machine trays.
- **Trees in planting trays should be kept covered at all times with wet burlap or wet moss. This is important** If roots are exposed to the sun and wind, the trees may be dead before they are planted.
- **Run the machine deep enough to allow the roots to hang down straight in planting slit** Typical depth is 8 to 10 inches. If soil is too rocky or hard to permit machine planting, plant by hand.

- **Set seedlings at same depth or just slightly deeper than they grew in the nursery seed bed**

## Care of plantations

Livestock damage trees of all ages, so keep livestock out of your plantations.

Protect trees from fire. Plow or disk a fire break if necessary, and maintain it during the fire season.

Prevent rank growth of weeds and grass on good soils by cultivating, using proper chemicals, disking, mowing, or hoeing as often as necessary for the first two or three years. On poor soils, a light growth of vegetation such as broomsedge or ragweed provides some protection and may be beneficial.

Inspect plantations regularly for evidence of attacks by insects or disease.

Fertilization usually is not necessary for evergreens unless serious nutrient deficiencies exist. Hardwood (deciduous) trees sometimes benefit from fertilization. Fertility needs should be determined by soil test or foliar analysis.

To avoid damaging seedling roots, do not apply fertilizers directly in the planting holes.

For further assistance in tree planting, contact your local MU Extension center or the Department of Conservation farm forester.

## Related MU Extension publications

- G5009, Mechanical Tree Planters  
<http://extension.missouri.edu/p/G5009>

Order publications online at <http://extension.missouri.edu/explore/shop/> or call toll-free 800-292-0969.



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