

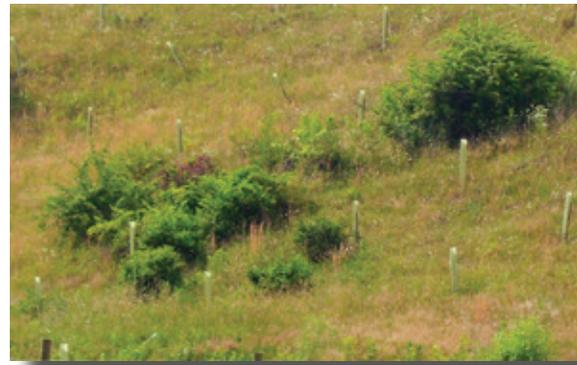
## Maintenance

- ◆ Check the planting regularly for needed maintenance.
- ◆ If livestock are active adjacent to the planting, check fences frequently to ensure livestock do not access the planting area. Flash grazing should not be permitted in plant areas.



Keep livestock out of planted area

- ◆ Replace broken stakes. Hammer in loose stakes.
- ◆ Straighten any leaning shelters.
- ◆ Be sure the shelter is seated 2 to 3 inches in the ground.
- ◆ Remove wasp nest or vegetation inside the shelter that will compete with the seedling for light and nutrients.
- ◆ Be sure the bird netting is pulled down to leave a one-inch hole; remove the net before the seedling reaches the top of the shelter.
- ◆ Check for and control invasive species.



Multiflora Rose, an invasive species, has started on this site

- ◆ Leave the shelter in place until the seedling is 2 to 3 inches in diameter, unless mold or fungus forms on the seedling bark.
- ◆ If the shelter is degradable and has a perforated line so it will split, leave it on until it splits off. Tubes without a perforated line should be cut off when the seedling is 2 to 3 inches in diameter. Check after spring frost.



Bird net with one-inch hole in top



Degradable shelter with perforated line

## Where To Get Seedlings

Hardwood seedlings may be purchased from Virginia Department of Forestry on-line at:

[www.dof.virginia.gov](http://www.dof.virginia.gov)



Financial assistance for materials is provided in part by the USDA Forest Service.



## For More Information

For additional cost-share program information, contact the Natural Resources Conservation Service at:

[www.va.nrcs.usda.gov](http://www.va.nrcs.usda.gov)

For more information about VDOF services or programs, please contact your local Virginia Department of Forestry office or visit:

[www.dof.virginia.gov](http://www.dof.virginia.gov)

### Western Region Office, Salem:

Phone: (540) 387-5461

### Central Region Office, Charlottesville:

Phone: (434) 977-5193

### Eastern Region Office, Providence Forge:

Phone: (804) 966-5092



### Virginia Department of Forestry

900 Natural Resources Drive, Suite 800  
Charlottesville, Virginia 22903  
Phone: (434) 977-6555

[www.dof.virginia.gov](http://www.dof.virginia.gov)

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# HARDWOOD PLANTING GUIDE

*For Forest Riparian Buffers,  
Wildlife Habitat and  
Forest Products*



Virginia Department of Forestry

## Planting Guidelines

- ◆ Choose the right seedlings for the site.
  - ◆ **Wet sites:** willow oak, cypress, pin oak, swamp chestnut oak, water oak, alder, black gum and other wet-tolerant species.
  - ◆ **Dry sites:** black oak, chestnut oak, southern red oak, hickory, persimmon, apple and other species for dry sites.
- ◆ Use only seedlings that are at least one quarter inch (0.25 inch) diameter where the stem joins the roots (root collar).
- ◆ Prepare the site by removing or applying herbicide to heavy fescue or other plants that will compete with the seedling and harbor mice and voles.
- ◆ Plant only shade-tolerant trees and shrubs under overstory trees.
- ◆ Complete project by April 15 in the coastal plain and piedmont and by May 1 in the mountains.
- ◆ When using dibble bars, hoedads, shovels or other hand-planting tools, be sure to allow enough room for the roots to be planted without crowding.

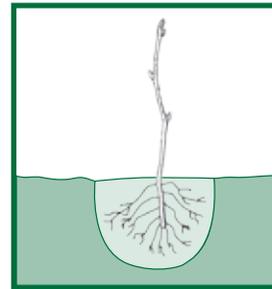
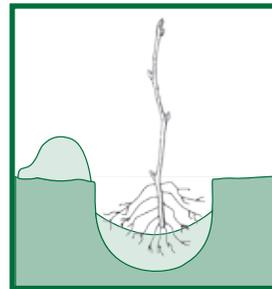
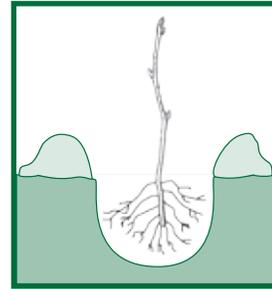


Area sprayed to control grass around seedling

- ◆ Plant seedlings as quickly as possible after receiving them. If necessary, store seedlings in a cool, dry place, such as a basement, barn or similar outbuilding. Maintain a temperature below 40 degrees, if possible, but avoid letting the seedlings freeze.
- ◆ When planting, take care of the roots! Keep bundles closed or in plastic bags to keep them from drying out.

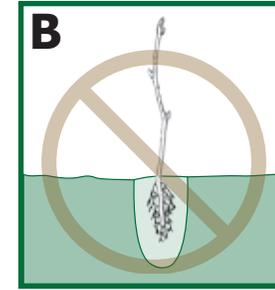
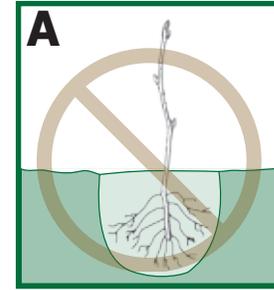
## Step-By-Step Planting

1. Dig hole large enough to spread out roots
2. Set seedling with the root collar at ground level
3. Fill hole, firm soil so there are no air pockets

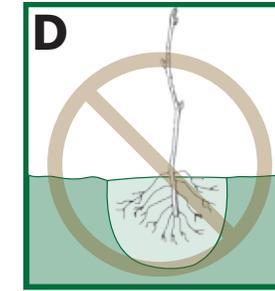
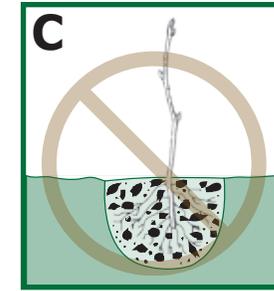


## Avoid These Common Problems

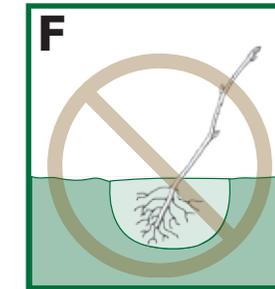
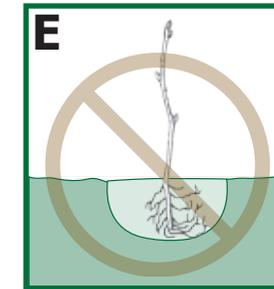
- A Hole too deep, root collar below ground level
- B Compacted roots, hole too narrow



- C Air pockets and debris in hole
- D Exposed roots, not planted deep enough



- E "L" or "J" roots, hole too shallow
- F Tree not vertical, hole too shallow



## Tree Shelters

- ◆ Use 4-foot tree shelters to protect from deer.
- ◆ Install shelter 2 to 3 inches below ground to protect from mice and voles, with the flared end up. If using flat sheet shelters, be sure to overlap the sides to provide secure closure when assembling.
- ◆ Use white oak, treated pine or other durable, treated wood stakes. Place the stake on the north side of the shelter so it does not shade the seedling.
- ◆ Attach the shelter to the stake with releasable ties.
- ◆ Install bird nets on top of the shelter leaving a one-inch hole in the top.
- ◆ Control grass and weeds using proper herbicide or install 3 foot x 3 foot grass control mats, with shiny, smooth side up, lay them flat and secure with pins.



Four-foot shelter 2 to 3 inches below the 4 foot-mark



Treated wooden stake with releasable tie