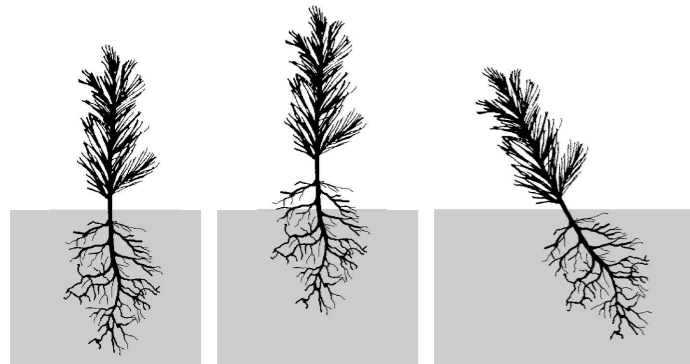


AS YOU PLANT, TAKE CARE TO ...

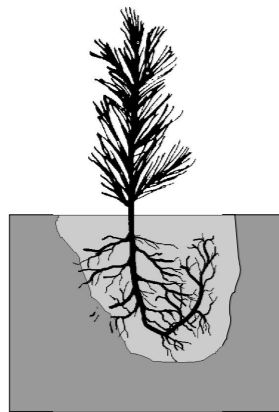
Plant seedlings as deep or slightly deeper than they were grown at the nursery. Trees not planted as deeply have a poorer chance of survival.

Note: Longleaf seedlings must be planted at the same depth as at the nursery.

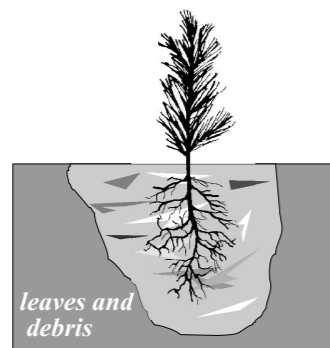


like this not this not this
Plant seedlings UPRIGHT -- not at an angle.

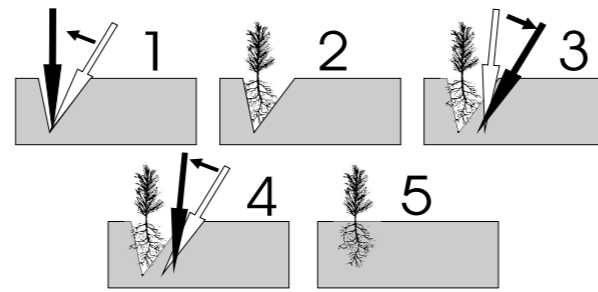
Roots should be STRAIGHT in the planting hole. Don't cram them in; they should not be "J" or "U" shaped or look "curled up."



Always plant in CLEAN, PURE soil. Never plant trees in loose leaves, litter or other debris that creates air pockets. Keep such materials out of the planting hole. Clean soil must be tightly packed around the seedling.

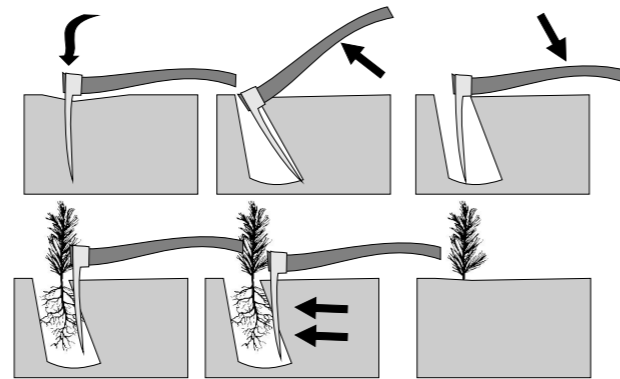


STEPS IN BAR PLANTING



- (1) Insert Bar as show, and push handle forward.
- (2) Remove the bar, and place seedling at correct depth.
- (3) Insert bar 3 to 4 inches from seedling (toward you), and pull handle to close bottom of hole.
- (4) Push handle forward to close top of hole.
- (5) Remove bar, and carefully close the opening with your heel to avoid injuring the seedling.

STEPS IN HOEDAD PLANTING



- (1) Swing hoedad from overhead downward, sinking the blade its full length vertically into soil. (Minimum depth of slot is eight inches.)
- (2) Pull the blade upward slightly by lifting the end of handle.
- (3) Push the handle downward while pulling back to open hole.
- (4) With blade in cavity to hold back loose soil, carefully place seedling in hole, making sure roots are fully extended. Then remove the blade.
- (5) Close the hole by inserting hoedad beside the seedling, then lifting up and pushing down on the handle to tighten soil. Then push soil toward seedling.
- (6) Be sure planting slot is closed completely.

CONSIDERATIONS FOR HARDWOOD PLANTING

Depending on the species, most hardwood root systems are larger than pine root systems. One of the most common mistakes in the hardwood planting process is not providing for a hole large enough for the roots. Special attention should be given to match the planting tool with the size of the roots. Acceptable tools for hand planting hardwoods include a KBC planting bar (for small hardwood roots), a long handled round point shovel, or a power driven auger.

Spacing of Seedlings

Spacing recommendations are determined by site quality, markets and landowner objectives. Here are some very general guidelines.*

Species	Minimum/Acre	Maximum/Acre
Loblolly Pine	300 (12x12)	625 (7x10)
Longleaf Pine	300 (12x12)	625 (7x10)
Shortleaf Pine	350 (11x11)	725 (6x10)
White Pine	300 (12x12)	625 (7x10)
Hardwoods	200 (12x12)	365 (7x10)

* For Christmas tree or hardwood plantation spacings, see "Tree Planting Guide for Use in North Carolina." To obtain a copy of this guide and for other forestry assistance, contact your county forest ranger or a forester in one of the NCFS district offices.

Follow-up Work

Some cut-over land plantings may need release work. Release work involves cutting, or otherwise controlling, unwanted trees that overshadow or crowd the planted seedlings, thereby lowering the survival rate and preventing proper growth. It is extremely important that this release work be done as soon as possible after the trees are planted. If you think your plantings may need this release work, contact your county forest ranger.



North Carolina Department of Agriculture and Consumer Services

Steve Troxler, Commissioner

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NU 0113

Forest Tree Seedlings

and

How To Plant Them



The North Carolina Forest Service operates two nurseries for the production of forest tree stock for North Carolina landowners. Read this pamphlet thoroughly to be sure you understand proper seedling storage and planting.

ncforestservice.gov

Here Are Your Seedlings ...

During their nursery growth, these young seedlings were irrigated, fertilized and weeded. They were given more intensive care than they ever will get again.

These seedlings have been culled to improve quality of the stock and to reduce handling time in the field. They will live and grow rapidly under a wide variety of soil and weather conditions -- provided you are careful with them now. A seedling out of the ground is like a fish out of water. Take special steps to keep your seedlings alive and healthy. Here's how:

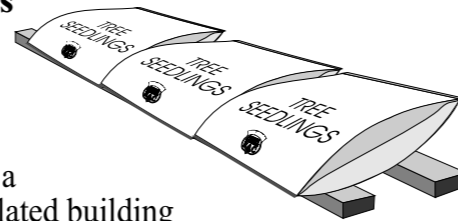
Your seedlings will be ready during the month you requested. The actual date will depend on weather conditions and nursery shipping schedules. You may pick up your seedlings at the nursery, or they may be shipped to the closest NCFCS distribution center serving your county. You will be notified when they arrive so be on the lookout for your trees, and pick them up promptly!

Successful Tree Planting ...

largely depends on the care the seedlings receive from the time they leave the state nursery until they are planted in the ground. Careless handling and improper planting causes poor survival -- and that's costly. By following these suggestions, you can help make your tree-planting project a success.

Seedling Storage

Plant within 10 days after receiving your seedlings

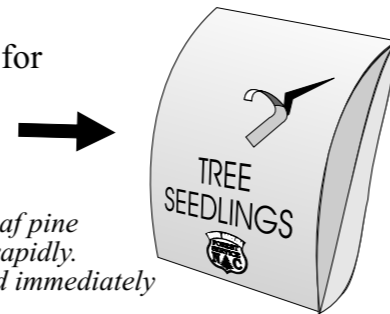


Spread the seedling bags in a cool, well-ventilated building where they will not freeze. **DO NOT STACK THEM!**

Note: containerized seedling boxes may be stacked up to three deep.

DO NOT OPEN UNTIL READY TO PLANT. Tightly closed bags/boxes will keep seedlings from drying.

Check bags/boxes for holes or tears. Tape over any holes you find.



Note: Bare root longleaf pine seedlings deteriorate rapidly. They should be planted immediately after you receive them.

When Should You Plant?

Typically LATE DECEMBER THROUGH APRIL is the best time for planting bare root seedlings. March and April are the best for higher elevations. September through December are typically best for planting containerized seedlings. Times can vary depending on weather and soil conditions. Contact your county ranger for the best time for your area.

NOTE: Trees should not be planted during freezing weather or when the ground is frozen. Freezing weather greatly reduces a tree's chances of survival. During periods of hot weather, you must take special care to make sure seedlings do not dry out or overheat.

Planting Sites

OLD FIELDS are usually good planting sites and generally require no treatment prior to planting. A light cover, such as broom straw or grasses, may be beneficial for pine species -- except longleaf pine. Where a heavy sod exists, root competition may make it necessary to prepare the site by plowing a furrow or applying herbicide. Contact a forester/ranger for advice on what kind of herbicide would be needed.

CUT-OVER AREAS with a heavy growth of brush probably will need some form of site preparation (burning, herbicide, chopping) to remove the brush prior to planting.

Protecting Seedlings While You Plant (Bare Root Seedlings)

DO NOT ALLOW ROOTS TO DRY OUT. Your seedlings have been treated with a special "moisturizer" to help prevent their roots from drying out. This material can absorb 300 to 400 times its weight in water and has the capacity to promote stronger, healthier root systems.

It is best to plant on "normal" planting days where temperatures are between 33°-75°F, relative humidity is greater than 50%, and winds are light. Seedlings may not need additional moisture as they are being moved from the bag to the planting site. In fact, additional water probably will wash the moisturizer off the seedling roots.

Avoid planting your seedlings during severe weather conditions where temperatures exceed 85°F, relative humidity is less than 30%, and winds exceed 15 mph. Such conditions can cause accelerated drying and damage of the roots.

HOW TO REACH US...

Central Office (919) 857-4801



REGION III (828) 665-2402 Asheville
REGION II (919) 542-1515 Jordan Lake
REGION I (252) 520-2402 Kinston

Ordering Information:

For your convenience, the North Carolina Forest Service (NCFCS) has several ways you may order seedlings:

- Order on-line at ncforestservice.gov - The ForestryStore
- Order by phone with your Visa or Master Card @ 1-888-NCTREES (628-7337)
- Order at any NCFCS Facility
- By Mail: Complete a seedling order form and mail to: Seedling Coordinator, 762 Claridge Nursery Road, Goldsboro, NC 27530

Nurseries

Claridge Nursery
762 Claridge Nursery Rd.
Goldsboro, NC 27530
(919) 731-7988

Linville River
State Forest Nursery
6321 Linville Falls Hwy.
Newland, NC 28657
(828) 733-5236

District Offices

D1	Asheville	(828) 667-5211
D2	Lenoir	(828) 757-5611
D3	Rockingham	(910) 997-9220
D4	New Bern	(252) 514-4764
D5	Rocky Mount	(252) 442-1626
D6	Fayetteville	(910) 437-2620
D7	Elizabeth City	(252) 331-4781
D8	Whiteville	(910) 642-5093
D9	Sylva	(828) 586-4007
D10	Lexington	(336) 956-2111
D11	Hillsborough	(919) 732-8105
D12	Mt. Holly	(704) 827-7576
D13	Fairfield	(252) 926-3041



To reach your COUNTY RANGER, look in the white pages of your telephone book. Forest Service numbers are listed under North Carolina, State of ... or in your county government listings.

ncforestservice.gov