

Planting Pine Seedlings

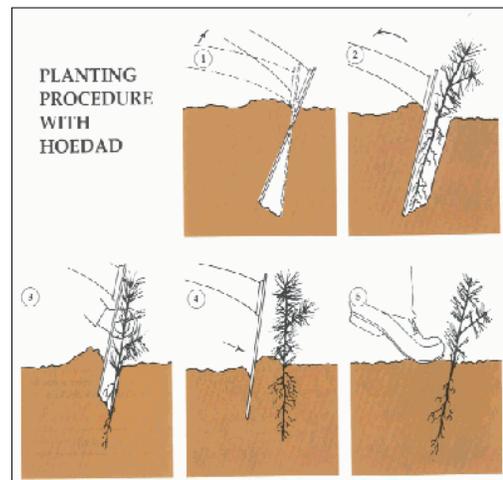
PURPOSE: To establish a correctly planted stand of pine trees for timber production and/or conservation purposes.

RECOMMENDED STOCKING LEVEL: To determine the appropriate stocking level for a specific site, consult a professional forester or your local Alabama Forestry Commission office. Typical planting rates range from 300 to 700 trees per acres, depending on species, seedling type (bare root or containerized), site index, and landowner objectives. Containerized seedlings usually have better survival, so not as many needs to be planted as bare root. Longleaf pine and hardwoods are usually planted at wider spacings than loblolly pine. Some commonly used planting spacings and corresponding seedlings per acre are:

Spacing (ft.)	Seedlings per Acre
7 x 10	622
8 x 10	544
9 x 10	484
10 x 10	435
12 x 12	302
15 x 15	193



EQUIPMENT: Most bare root pines may be planted with a dibble, hoedad, or machine planter. If hand planting, the planter should use tools designed to match the size and shape of the seedlings being planted. For bare root seedlings, use a hoedad or dibble bar (shown below) with a blade at least 10 inches long and 3 inches wide. Machine planters usually should have a coulter long enough to create a 12-inch furrow in which to place the seedling. Machine planting is usually performed in fields and pastures, and hand planting is usually performed on cutover sites. Hand planting containerized seedlings requires a plug-tool specifically designed for that purpose. Machine planting containerized seedlings is very difficult to accomplish successfully.



PLANTING CONSIDERATIONS: The taproot must be straight in the hole with only lateral roots in a horizontal plane. Machine planters must coordinate release of seedlings with the speed of the tractor to prevent "sweeping" of roots or shallow planting. Follow the contour of the land when machine planting.

Bare root seedlings should be planted at approximately the same to slightly lower depth as they were grown in nursery. Place containerized seedlings with the top of the root plug slightly above the ground. They should be planted along the side of ripped or subsoiled furrows. Any subsoiling that is required to break up hardpans should be done far enough in advance to allow soil to settle prior to planting seedlings.

Pine seedlings are perishable and must be protected against drying out. Seedlings packed in sphagnum moss must be kept moist. Seedlings that are sprayed with moisture-retentive material do not need watering if stored properly and planted within three weeks of packing. Never leave seedlings in direct sunlight or with their roots exposed to direct air. Longleaf pine seedlings do not go dormant like other pines. Therefore, longleaf pine seedlings must be stored no more than 14 days after lifting and typically planted within 7 days. If cold storage cannot be provided at the planting site, only enough seedlings for 1 day of planting should be picked up at the cooler storage facility.

Tree seedlings should be planted while they are in a dormant stage in which they are not actively growing. This occurs during winter months when temperatures are between 33 - 75 degrees and relative humidity is in excess of 50% (December through March). Planting should not be attempted when the ground is frozen. Planting outside of these parameters may result in increased seedling stress and reduced seedling survival. Remember, planting dead seedlings is a waste of time and money!

CHECKING RESULTS: Seedlings should be planted upright, at proper depth and with proper stem and root alignment. The soil should be packed properly around seedling roots. Seedlings found to be culls, planted too shallow or deep, planted with "J", "U" or excessive "L" rooting, planted with excessive root pruning and/or planted with debris in the holes will be more susceptible to mortality.

POST-PLANTING CONSIDERATIONS: Once established, the plantation should be protected from fire, grazing, insects, diseases, and competing vegetation. A plowed or disked firelane around the plantation, maintained twice a year, is the best insurance against the encroachment of fire. A fence may be required to keep cattle out. Some common insects and diseases of seedlings include aphids, scales, tip moth, pales weevil, needle blight, root rot, and rust. If an adequate job of site preparation was done prior to planting, chances are that the newly planted seedlings will outgrow the surrounding vegetation, but, if they seem in danger of becoming overtopped, additional controls, such as mowing or chemical sprays, may be required. If herbicides are used, they should be applied under the direction of licensed pesticide applicator.

For more information on tree planting and other management sheets refer to the Alabama Forestry Commission's website at: <http://www.forestry.alabama.gov/ResourceSheets.aspx?bv=5&s=1>

Photo Credit: Bruce Baldwin



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