



TEXAS A&M FOREST SERVICE

Reforestation: Overview of Planting Hardwood Seedlings

The first priority when starting an artificial regeneration planting project should be choosing the hardwood species to plant based upon the landowners objectives and the site characteristics. This can be done by a professional forester using experience and soils information. Soil information for landowners is available at <http://websoilsurvey.nrcs.usda.gov/>

Site preparation is crucial in artificially regenerating hardwoods. This begins with the harvest. All merchantable material must be removed from the residual stand during the summer and early fall prior to planting. All non-merchantable trees must also be removed and stumps sheared at or slightly below ground level to reduce sprouting. Additionally, if hardwood stump sprouting is a major concern, the site can be root raked, debris piled and burned, or disked with a heavy-duty bush and bog harrow. If the site to be planted is an old field or pasture, it is advisable to break up any hard pan by sub-soiling and even scalping some pastureland.



Container or Bareroot:

For East Texas planting projects involving a few acres or more, bareroot seedlings are most commonly used. Seedlings should be graded and only those 18 inches and longer with a minimum root collar diameter 3/8 inch should be utilized. Container seedlings are also available and come in a variety of sizes. Small container plugs, 1-gallon, and 2-gallon are the most common for larger planting projects. Each size (sometimes based upon tree species) has their own quality standards. It is important to come to an agreement with the nursery regarding acceptable seedling quality standards while ordering the seedlings and before they are delivered.

Recommended Stocking Level:

The desired stocking level may vary with the species planted, the site index and the objectives of the landowner. Common hardwood spacing can be 12'x12', 15'x15' and 20'x20'. However, when using a cost-share program, spacing and number of trees/acre are specified in the cost-share plan and must be followed to qualify for reimbursement. To determine appropriate stocking level for a specific site, consult a professional forester.

Equipment:

Hardwood seedlings are planted with a shovel, power auger, post-hole digger, hardwood planting dibble or machine planter. An acceptable machine planter has a coulter diameter of at least 32 inches and a planting foot/trencher plate assembly to create a trench at least 4 x 15 inches.

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Method of Planting:

The planting hole must be deep and wide enough so the taproot is straight down without bending and the lateral roots are spread out. Plant seedlings with the root collar at ground-level or 1 – 2 inches below ground-level with no roots exposed. Firmly press down topsoil around the seedling. To check firmness, grasp seedling with thumb and forefinger at ground line and try to move up and down. Properly planted seedlings will not move. When planting with machine planters, planting furrows should follow the contour. Coordinate release of seedlings with tractor speed to prevent "sweeping" of roots or shallow planting.

Precautions:

Seedlings are perishable; keep seedling roots moist at all times. Plant only dormant seedlings and plant promptly after being received. Discard seedlings that are obviously small, diseased, dried out or damaged.

Checking Results:

Seedlings planted in a cost-share program will be checked for compliance. Determinations of correctly planted seedlings are based on above ground observations only. Seedlings should be free from excessive lean, and of sufficient height and root collar diameter. The number of living and correctly planted seedlings per acre must be within the minimum and maximum number designated by the program.

