

PURPOSE: Site preparation for tree planting is the removal or reduction of competing vegetation and debris to facilitate the establishment of a desirable stand of trees. Mechanical site preparation is one broad category of site preparation in which machines such as tractors and bulldozers, with certain implements attached, are used to prepare an area for tree planting.

MOWING OR BUSH-HOGGING: Bush-hogging is used to prepare open land (pasture, hayfield, cropland). It is often used in conjunction with herbicides and sub-soiling. Any type of rotary cutting device equivalent to a Bush-Hog can be used.

Bush-hogging should not be performed in April 1 through July if quail and turkey management is a concern.

SUBSOILING: Subsoiling increases aeration and water-holding capacity of compacted soils and breaks up root restricting hardpans and traffic pans. It is highly recommended prior to planting trees on hayfields, pasture or cropland.

A farm tractor pulling a subsoil shank performs subsoiling. The subsoiling shank must be a minimum length of 18 inches in order to rip the soil to a depth of 15 inches.

Conduct subsoiling 45 to 90 days in advance of expected tree planting to ensure adequate rainfall of 4 to 6 inches to settle the soil. Distance between subsoil rows should coincide with the planting spacing. All forestry practices are to be performed in such a manner as to maintain soil productivity, limit erosion, and protect water quality. Therefore, subsoil rows must **follow the contour** of the site.

SCALPING: Scalping is performed in conjunction with subsoiling on openland. Scalping removes the sod created by grasses such as fescue and bermudagrass. Scalping is highly recommended when converting openland to longleaf pine.



BEDDING: Bedding is used to improve drainage on wet soils, to help with weed control and to make planting easier. Beds are constructed with a special bedding plow pulled with either a tractor or bulldozer. Beds should be elevated enough to allow settling and still have seedlings planted above any standing water on the site. Bedding should be done fairly close to planting season; otherwise, the beds may lose shape and slump, particularly on wetter sites. Sites that are subject to flooding need to have the beds arranged to allow the water to rise and fall without having to cross the beds. Bedding should be avoided on sites that may be subject to drought due to an increase in water loss around the seedling roots. Since bedding requires an area sufficiently free of debris and vegetation to allow forming the beds, it is usually combined with other mechanical treatments.



DRUM CHOPPING: Drum chopping is recommended on sites with vegetation that would prohibit or hamper hand planting. A water-filled drum, with suitably sharp blades, is pulled by a bulldozer. This action chops or flattens vegetation to facilitate hand planting. Drum chopping should be performed on contour to prevent erosion. In many cases drum chopping increases hardwood competition, therefore it should be used in conjunction with herbicide application.



SHEAR, RAKE, and PILE: This method uses a bulldozer with a blade called a shear blade, V-blade, or KG blade. The shear blade can fell trees up to 16 inches in diameter. After shearing, a bulldozer with a root rake or brush rake attachment in place of a straight blade, pushes or rakes all debris into piles or windrows. Windrows should follow the contour and should be spaced as little as 100 feet on steep ground. Windrows should be no wider than 30 feet at the base. There should be a break approximately every 300 feet along the windrow. Care should be taken to move as little topsoil as possible.



THREE-IN-ONE COMBINATION PLOW: A three-in-one combination plow or Savannah plow is pulled behind a large bulldozer with a V-blade. This method of site preparation clears debris, sub-soils, and beds in one pass. Plowing is performed June through November and the bed should be allowed to settle at least three months. It is critical that three-in-one plowing be performed on the contour of the site to prevent erosion. This method will require a release treatment of herbicide in the first or second year after tree planting.



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