

PURPOSE: Subsoiling improves soil compaction that hinders proper tree planting, seedling survival and plantation establishment.

Soils may become compacted for different reasons. Natural soil properties often cause highly compacted layers called hardpans. Repeated use of heavy equipment on a site may create highly compacted layers and some soils have generally high compaction characteristics called "high bulk density". When one or more of these conditions occurs within 12 inches of the ground surface, in-row subsoiling will create more favorable soil conditions before tree planting.



EQUIPMENT: In-row subsoiling is performed using a single- or multiple-shank instrument pulled behind a large farm tractor or similar mechanized equipment. The subsoiling shank must be a minimum length of 18 inches in order to rip the soil to a depth of 15 inches. A tree planter foot does not qualify as a subsoiling instrument.

SPECIFICATIONS: Complete subsoiling 45 to 90 days before tree planting to ensure adequate rainfall, 4 to 6 inches, to permit proper settlement of soil. In some soils or with longleaf seedlings, plant seedlings to the side of the rip but within 12 inches to avoid root exposure in the rip. Space subsoil rows equal to the distance between tree planting rows as designated in the "Specifications for Tree Planting" booklet available from the Alabama Forestry Commission. Subsoil rows must follow the contour of the site to maintain soil productivity, limit soil erosion and protect water quality.

Photo Credit: Robert F. Wittwer, Oklahoma State University, www.forestryimages.org



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