

Forest Site Preparation

Alabama Guide Sheet No. AL 490A



Definition

Treating areas to encourage natural regeneration of desirable trees or to permit artificial regeneration by planting or direct seeding.

Criteria

The method, intensity and timing of site preparation should be suitable for the specific site. The type and intensity of site preparation will vary according to site location, species desired, ground cover and soils. Methods of site preparation should be used which will minimize soil erosion. The state's Best Management Practices (BMPs) should be followed.

Mechanical Site Preparation

Shearing

Shearing is used to prepare sites where the vegetation is generally large (6 inches or more dbh). Shearing is done with shearing blades that are either angled or V-shaped. Blades with serrated edges have the best cutting action. The blade should be kept out of the soil to minimize soil disturbance.

Root Raking

Root raking usually follows shearing and is used to push the felled vegetation and other debris into windrows. Windrows should be placed on the contour at intervals of 100 to 300 feet depending on the slope and erodibility of the soil.

Blading

Blading is the removal of vegetation with a straight blade bulldozer. This is a poor method of site

preparation and is not recommended. Blading removes topsoil thereby damaging the site and increasing erosion.

Chopping

Chopping is accomplished by pulling a rolling drum chopper over a site covered with brush and small diameter trees. A crawler tractor is generally used to pull the chopper. The drum chopper crushes the woody vegetation and cuts it into small pieces. Chopping minimizes soil loss and may be used on soils that have moderate to severe erosion hazard.

Disking

Disking may be used on sites that have either been sheared or raked or on sites that are relatively clear of standing trees or logging debris. Disking loosens the soil and exposes the roots of undesirable vegetation. Disking should be limited to slopes of ten percent or less.

Bedding

Bedding is usually used on poorly drained sites. A special bedding harrow produces a raised bed on which seedlings are planted. Bedding improves soil drainage, reduces plant competition and makes planting easier. Bedding should be limited to sites with slopes of 2 percent or less. Bedding is usually used in combination with other site preparation methods.

Logging

Logging may expose enough mineral soil to enhance natural regeneration of certain species. Prescribed fire prior to logging may be used to reduce the buildup

of forest litter thereby allowing more natural regeneration to occur.

Herbicides

Broadcast Application

Herbicides may be broadcast by air or on the ground. Aerial application is the fastest method but care should be taken to make sure that the herbicides are applied to the designated site and do not drift to adjacent properties. The types of herbicides to use are site specific based on species to be controlled, soils, proximity to streams and sensitivity of adjacent vegetation. Tank mixes of herbicides usually do a better job than a single herbicide. Always follow directions on herbicide labels.

Individual Stem Application

Herbicides may be applied to individual stems by tree injection, basal spray or soil application. Individual stem treatment may be used in combination with other site preparation methods especially where stems are too large to be removed by mechanical methods.

Prescribed Burning

Prescribed burning is the oldest and least expensive method of site preparation. It is often used in combination with other site preparation methods. Prescribed burning is especially useful in regenerating pine stands naturally. For natural regeneration, a stand will need to be prescribed burned several times

over a period of years to control undesirable plant competition. When a good seed crop is projected, the stand should be prescribed burned prior to seed fall to prepare the seedbed. Someone who is certified in prescribed burning should conduct the burn. All applicable laws should be followed.

Summary

Forest site preparation is essential for the successful regeneration of desired tree species. For recommendations, contact a consulting forester, Alabama Forestry Commission forester, an industry forester or a natural resource professional from the Natural Resources Conservation Service or the Alabama Cooperative Extension System.

References

- USDA-NRCS Alabama Conservation Practice Standard Code 490 - Forest Site Preparation. January 1999.
- USDA-NRCS Alabama Conservation Practice Standard Code 338 – Prescribed Burning. January 1999
- Alabama's Best Management Practices for Forestry.* Alabama Forestry Commission. 1993.
- Site Preparation Methods for Regeneration Southern Pines.* Circular ANR-275. Alabama Cooperative Extension System. 1995.

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