

INDUSTRIAL REFORESTATION IN VIRGINIA

James Willis ^{1/}

In many respects, reforestation in Virginia and much of the rest of the South is quite different from that in the Northeast. We rely less on natural regeneration, more on site preparation with heavy equipment, and plant more loblolly pine.

Successful reforestation in Virginia begins with good cutting operations. Fewer stems left on the land results in less competition for the next stand and lowers site preparation and planting costs. Good operations should be cut clean without leaving eroding skid trails and logging roads.

Following harvest, site preparation must be undertaken on most areas. Where hardwoods are to be regenerated (usually by natural seeding or coppicing) work is usually limited injection of culls. However, when pines are to be established in the new crop, more intensive techniques are required.

Basic site preparation for pine reforestation in the Coastal Plain and Piedmont of Virginia is chopping and burning. Residual vegetation left after harvesting is first knocked down with a rolling drum chopper. The vegetation is then allowed to dry for several weeks and burned. Following a good burn, most hardwoods will be dead and the area will be relatively easy to walk through.

Another site preparation technique is piling of logging debris with bulldozers. Large residual stems may be sheared with a KV blade or injected with herbicides. If sheared, these stems are piled also.

In some situations, if cutting has been exceptionally clean and the former stand predominantly pine, excellent results can be obtained by discing alone.

Where the land is excessively wet, raised beds must be constructed with bedding harrows. These beds allow seedlings to be planted with their roots above the water table and greatly increases survival. Fertilizer, particularly phosphorus, may also be added at the time of bedding.

Other techniques such as; burning only, spray (with herbicides) and burn, or root raking may be used. In practice, many combinations are applied. The amount of residual vegetation, soil texture and other factors all influence the prescription.

Reforestation is accomplished by planting, natural or direct seeding. Most hardwood are regenerated by natural seeding. However, natural seeding of pines with seed trees is limited in Virginia. The method is not reliable and stocking levels are difficult to control.

^{1/} Management Forester, Chesapeake Corporation of Virginia, West Point, Va.

Direct seeding is mainly with loblolly pine when seed inventories are adequate. It is particularly useful where access is difficult and cost considerations are very important. Helicopter applications are the customary method. The seed must be treated to repel insects, birds, and rodents and should be applied at rates reflecting the degree of site preparation and soil texture. As with natural seeding, stocking levels are difficult to control and failures often occur.

Planting is the predominant reforestation technique for pine and is also becoming important for certain hardwoods. Some Virginia industries using large amounts of hardwood pulp conduct very intensive site preparation, fertilization, planting, and cultivation programs for hardwood. Such management is expensive.

Loblolly is the primary species planted in Virginia. Lesser amounts of Virginia, shortleaf, and white pines are used. Planting may be done either by hand or with machines with the season extending from December 1, to about May 1, depending on soil types and weather. Hand planting with dibbles accounts for most of the work, however the proportion of machine planting increases each year. Some of the newer Wildland Planters do a fair job in cutover land, but are limited by steep terrain and excessive amounts of slash. Labor shortages are forcing southern foresters to devote more time and effort to developing new adaptations and improved tree planters.

REFORESTATION SOIL PREPARATION