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Southern Forestry Notes



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ROOT PRUNING BOOSTS LONGLEAF SURVIVAL

Pruning the roots of seedlings in the nursery bed is an easy way of increasing the survival of planted longleaf pine.

Studies leading to this conclusion were made near Alexandria, Louisiana. Roots were pruned with a thin, sharp blade drawn by a tractor. A single pruning, either shallow (3 to 4 inches below the surface of the bed) or deep (6 to 7 inches), whether done in June, August, or November, improved first-year survival over that of unpruned stock planted on the same sites. Double pruning (shallow in June, followed by deep in November) gave best survival--77 percent, as contrasted to 27 percent for unpruned stock.

While all pruning improved survival appreciably, the most practical technique may be a single deep pruning (at about 7 inches) two to three months before lifting time. Survival from this method was nearly as good as from double pruning and, because the roots made little regrowth, the seedlings were easier to lift, grade, and plant by machine.

Seedlings grown at different bed densities (18 and 27 per square foot) benefited from root pruning, and standard lifting techniques proved satisfactory for pruned stock. --Eugene Shoulders.

IRRIGATION LESSENS SWEETGUM BLIGHT

During the past decade, sweetgum blight has caused extensive dieback and mortality in merchantable sweetgum stands throughout the South. Studies failed to disclose any responsible pathogen, but showed that the decline was associated with certain soil factors that tend to restrict available water, particularly during droughts.

To test the possibility that irrigation might alleviate dieback, dikes were made in 1956 around two 1/4-acre plots in well-stocked, 40-year-old sweetgum stands near Stoneville, Mississippi. In 1957 and 1958 each plot was irrigated with well water whenever the available soil moisture dropped below 40 percent of the field maximum.

The disease index (i. e., severity of dieback) on these plots dropped 68 percent in 2 years, indicating marked recovery. On adjacent unwatered checkplots the disease index increased 26 percent.

This is further evidence that insufficient available soil moisture is one of the prime causes of the recent decline of sweetgum stands.--E. R. Toole and W. M. Broadfoot.

INSECTS CAUSE DEGRADE IN OZARK OAKS

In a recent study, potential values of lumber from Ozark red oaks were found to be reduced as much as \$19 per thousand board feet by degrade due to insect damage in the living trees.

Woods-run northern red and black oaks were cut from the Ozark National Forest and sawed into 1-inch boards at a church furniture factory. The plant sawed the logs for the highest possible grade of lumber. Five percent of the lumber from these logs was in FAS grade and 52 percent in No. 2 Common and better. Without the insect-caused defects, the lumber would have graded 15 percent

FAS and 72 percent No. 2 Common and better. At current market values for the various grades, the loss caused by insects was equal to \$19.35 per M.

In another instance, a company producing oak lumber for manufacture exclusively into flooring in its own plant sawed a uniform lot of small northern red and black oak logs into 1-inch boards. Two percent of the lumber graded FAS and 72 percent was No. 2 Common and better. If the insect defects had been absent, the yield of No. 2 Common and better would have increased to 89 percent, but the increase in FAS grade would have been slight. The loss caused by insects was calculated as \$13.33 per M. --R. C. Morris.

2, 4, 5-T ON OZARK HARDWOODS

Frilling and treating with 2, 4, 5-T gave rapid and adequate hardwood crown-kill on pine sites in the Ozark mountains of Arkansas, but did not adequately suppress sprouting. Differences between tree species were not significant.

White and black oaks, hickories, and blackgum were frilled in June 1956 at a convenient chopping height. 2, 4, 5-T (propylene glycol butyl ether ester, having 4 pounds acid equivalent per gallon) was mixed with No. 2 diesel oil until a concentration of 12.9 pounds of acid per hundred gallons was obtained. The mixture was poured to overflowing in the frills.

By September 1957, 98 percent of the treated trees had dead crowns; this proportion did not change in 1958. More than 57 percent of all treated stems had root sprouts in 1957; some of these sprouts died, but by September 1958, three growing seasons after treatment, 45 percent of the stems still had sprouts. The number of sprouts averaged 6 per sprouting stem. --H. S. Crawford.

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*Copies are available at the Southern Station.