

COMPARISON OF COTTON VERSUS SPHAGNUM MOSS AS A WATERHOLDING MEDIUM FOR BALED SLASH PINE SEEDLINGS

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A new product called "tree-wrap"¹ was tested during the 1962-63 shipping season at the Florida Forest Service's Munson Nursery in Santa Rosa County. Tree-wrap is a layer of cotton between two sheets of tissue paper. It is in sheets 20 inches wide and 600 feet long and is rolled into a package approximately 20 by 20 inches. It takes about 8 to 9 linear feet to weave through one bale (2,000 slash seedlings). One roll is sufficient to bale 70 bales or 140,000 seedlings.

The rolled cotton is mounted above the baling table at a convenient location so that the baler may unroll enough for one bale of seedlings at a time. The loose end is pulled far enough across the baling table so that it will fold back through the bale two more times. The cotton is wet in place each time it is folded through the bale. Cotton is wet before any seedlings are laid in the bale (fig. 1). Five hundred seedlings are placed into the bale; the tops are extended in the same direction, with the roots resting on the wet cotton, and the loose end of the cotton is folded over the seedling roots and wet again. Then an additional 500 seedlings are placed in the bale, with the roots on the wet cotton and the tops at the opposite end of the bale from the first 500 seedlings. The loose end of the cotton is again folded over the roots and wet (fig. 1 B). This process is repeated twice, increasing the bale to 2,000 seedlings (fig. 1 C and D); then the bale is completed in the usual manner. The wet cotton eliminates the necessity of using moss vats and the possibility of exhausting the wet moss.

Nurserymen baled a bale of 2,000 seedlings each Wednesday in December and the first Wednesday of January. All seedlings in storage were watered once a week. In early January, the seedlings were delivered to the regular planting crew on the Blackwater River State Forest and planted with the regular seedlings. Seedlings baled with the moss were planted with and stored with those baled with cotton. Their survival rates are compared in table 1.

This study was not designed statistically, that is, randomized or replicated, and it is therefore not subject to statistical analysis. It was designed to compare cotton versus moss as a waterholding medium for baled and stored slash pine seedlings under production conditions. This was accomplished, both in the baling process and field planting. The results indicate that cotton is equal to or superior to moss as a waterholding medium for baled slash pine seedlings, particularly when the seedlings are stored for several weeks.

¹ "Tree-wrap" is the trade name of the product tested and produced by Barnhardt Manufacturing Company, P. O. Box 2176, Charlotte, N.C. Further information may be obtained by writing the company.

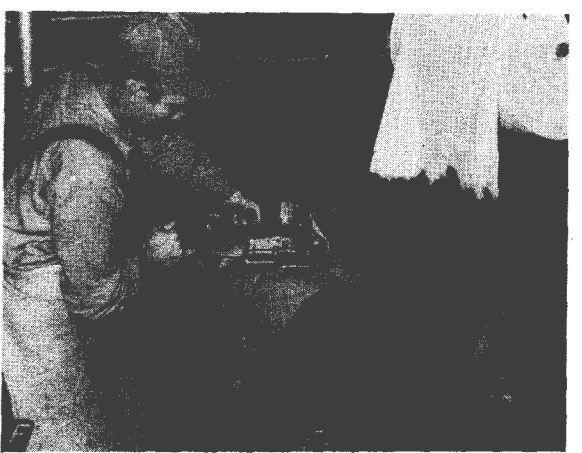
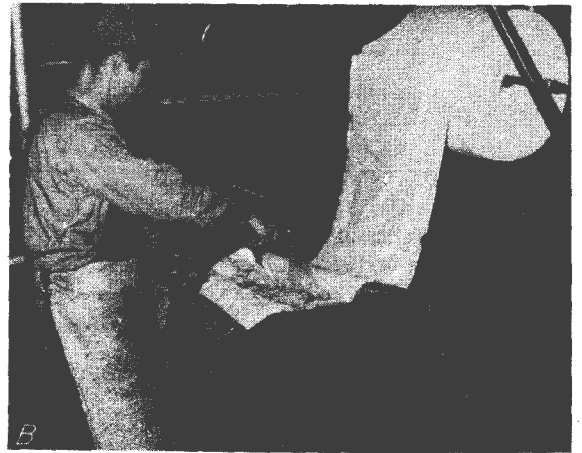


Figure 1.--Stages in the use of cotton as a waterholding medium for baled slash pine seedlings: A Cotton is wet into place before seedlings are placed in bale; B cotton is wet into place for the third time; 1,000 seedlings are in the bale; C 1,500 seedlings are in the bale; D cotton is tucked down so that no roots touch the baling paper; 2,000 seedlings are in the bale; E, paper is rolled snug around seedlings; F, bale is ready for storage or shipment.

TABLE 1.—Survival of seedlings stored with cotton and moss

Date baled	Weeks stored	Survival	
		Cotton	Moss
		<i>Percent</i>	<i>Percent</i>
December 5, 1962.....	5	91.0	86.6
December 12, 1962.....	4	90.2	88.8
December 19, 1962.....	3	93.5	90.9
December 26, 1962.....	2	94.5	95.0
January 2, 1963.....	1	98.8	99.3