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PLANTING WETLAND SPECIES ON UPLAND SOIL

Baldcypress (Taxodium distichum var. distichum), pondcypress (T. distichum var. nutans), and blackgum (Nyssa sylvatica) can be successfully planted as bare-rooted, 1-0 stock on upland soils in northeast Florida according to a study on the Olustee Experimental Forest. This research was conducted with the cooperation of the Florida Board of Forestry. After three growing seasons survival was excellent, although height growth has been disappointingly slow.

Seedlings of these three wetland species, plus slash pine (Pinus elliottii var. elliottii) as the control, were dibble planted in February 1960. Seed for the cypress varieties and blackgum had been collected locally by laboratory personnel and tall (exceeding 2 feet in height), well-developed seedlings were grown in the Experimental Forest nursery. Commercial slash pine planting stock was obtained from the Baker Nursery of the Florida Forest Service.

A randomized complete block design was used with the two cypresses and slash pine replicated on all three blocks. Because seedlings were lacking, the blackgum was planted on only two blocks. Each square species-replication contained 49 seedlings at 8 by 8 spacing.

The Plummer fine sandy soil of the study area had previously supported a stand of longleaf pine (P. palustris). This residual stand was cut, the stumps removed, and the area disked several years before the study was established. Just prior to planting, the site was flat disked again and furrowed at 8-foot intervals with a fire line plow. The seedlings were planted on the ridges between the furrows.

Survival and height growth measurements were taken following the second and third growing seasons. All species except slash pine have had 100 percent survival. Since the second growing season, slash pine survival has remained constant at 87 percent. For a given species, the between-block variation in both survival and growth has been very small. Following the third growing season, in December 1962, a wildfire destroyed half the study seedlings. However, for comparison purposes, fifth-year measurements were taken on the one block remaining intact. The following table summarizes the growth data:

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Average total heights of seedlings by block and growing season

Species	Growing season 2				Growing season 3				Growing season 5[1]
	Block--				Block--				Block--
	I	II	III	Avg.	I	II	III	Avg.	I
	Feet								
Slash pine	1.8	2.1	2.1	2.0	3.6	4.3	4.0	4.0	9.2
Pondcypress	3.0	3.0	2.9	2.9	3.5	3.5	3.5	3.5	3.9
Baldcypress	2.6	2.6	2.4	2.6	3.0	2.9	2.8	2.9	3.3
Blackgum	2.2	2.1	--	2.1	2.3	2.3	--	2.3	2.5

[1] Blocks II and III destroyed by wildfire following the third season.

Heavy competition from annuals, sedges, and grasses may have been partially responsible for the poor rate of growth on the cypresses and gum. Cultivation after planting could be a beneficial treatment during the establishment period for these wetland species.

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