

TROPICAL FOREST NOTES

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HEIGHT GROWTH OF MAHOGANY SEEDLINGS

By

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Since the recognition of natural hybridization^{1/} of small-leaf (West Indies) mahogany (*Swietenia mahagoni* Jacq.) with bigleaf (Honduras) mahogany (*S. macrophylla* King) there has been conjecture about their relative growth rates. One would expect small-leaf to be the fastest growing on dry sites, the hybrids to be fastest on intermediate sites, and bigleaf to excel on wet sites.

In 1960 a comparison was begun on dry and intermediate sites on St. Croix, Virgin Islands. Four types of 1-0 seedlings were planted:

<u>Seedling</u>	<u>Mother-tree</u>
Bigleaf	Bigleaf
Mediumleaf	Bigleaf
Mediumleaf	Small-leaf
Small-leaf	Small-leaf

Each plot contained one seedling of each type, a total of four, at 10-foot spacing. There were nine well-scattered plots at each of eleven locations.

Locations varied from 30 to 600 feet above sea level and received an average of 29 to 54 inches of rainfall per year.

Results from eight locations are given in Table 1; the remaining locations were eliminated because of drouth mortality.

The apparent differences are statistically significant:

(a) Hybrid seedlings grew more than either species, but were not different from each other.

(b) Small-leaf growth exceeded bigleaf growth.

The hybrids outgrew both species at all locations but one, where small-leaf grew slightly more.

* Operated in cooperation with the University of Puerto Rico.

^{1/} Briscoe, C.B., and F.B. Lamb. 1962. Leaf size in *Swietenia*. Car. For. 23:2:112-115.

The sites tested on St. Croix, although they yield valuable indications for use there, were not sufficiently varied to test the original hypothesis of site: species relationships. Further plantings will extend the study to Tropical Moist and Subtropical Wet formations.

Table 1. Mean height growth in feet of mahogany seedlings, 1960-62

Location	: Approximate:	Seedling Type				: Mortality
	: Rainfall :	: Mediumleaf, :	: Mediumleaf, :	: Mortality		
	: In./Yr. :	: Bigleaf:	: Bigleaf mother:	: Small-leaf mother:	: Small-leaf:	: Percentage
Betsy Jewel	47	4.8	7.5	7.7	3.5	8
Ham Bluff	52	2.2	5.4	5.5	3.6	17
Bodkin I	54	2.3	4.6	5.2	4.0	19
Bugby Hole	40	0.5	3.2	2.7	1.9	14
Sion Hill	45	0.5	2.6	2.7	1.9	31
New Works	29	0.7	2.4	2.9	1.0	31
Thomas	42	1.5	1.3	3.4	3.1	39(Grazing)
Cane Bay	50	0.2	1.4	0.7	1.6	17
Combined		1.6	3.6	3.8	2.6	

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