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Note #19

HEIGHT GROWTH OF AMERICAN SYCAMORE IN SOUTHEASTERN LOUISIANA

The determination of site quality is one of the early steps preceding intensive forest management; it is most commonly assessed by a total height-age relationship known as site index, with quality being expressed by the height at a chosen index age. Because an intensive review of the literature has revealed no site index curves nor yield tables for American sycamore (*Platanus occidentalis*) this note is being published for the benefit of those interested in this fast-growing species. As may be seen in Figure 1, page 2, early height growth is very rapid and tapers off at a relatively early age. For that reason the index age adopted in Figure 1 and Table 1 was 35 years.

The 298 trees upon which this table is based ranged in age at breast height from 4 years to 48, and their heights varied from 31 to 130 feet. The area sampled extends from the Atchafalaya River on the west to the Pearl River on the east; slightly more than half the sample trees (57 per cent) were on or near the banks of the Mississippi River. Soils ranged from loamy sand to a heavy clay loam; surface drainage was poor to very good.

The method of constructing the height-age curves was that described by Bruce and Schumacher^{1/}.

Although the figures should be applied with caution outside the sample area, they will probably yield valid site comparisons. Attention is also called to the well-known limitations of site index curves, particularly that they are not applicable to extremely dense or very open stands, nor in stands where dominant and codominant trees have been affected by past suppression.

Charles B. Briscoe
Assistant Professor

Mitchell D. Ferrill
Research Assistant

^{1/} Bruce, Donald, and F. X. Schumacher. 1950. Forest mensuration. McGraw-Hill Book Co. New York. pp. 395-397.

Figure 1. Site Index Curves for American Sycamore
in Southeastern Louisiana

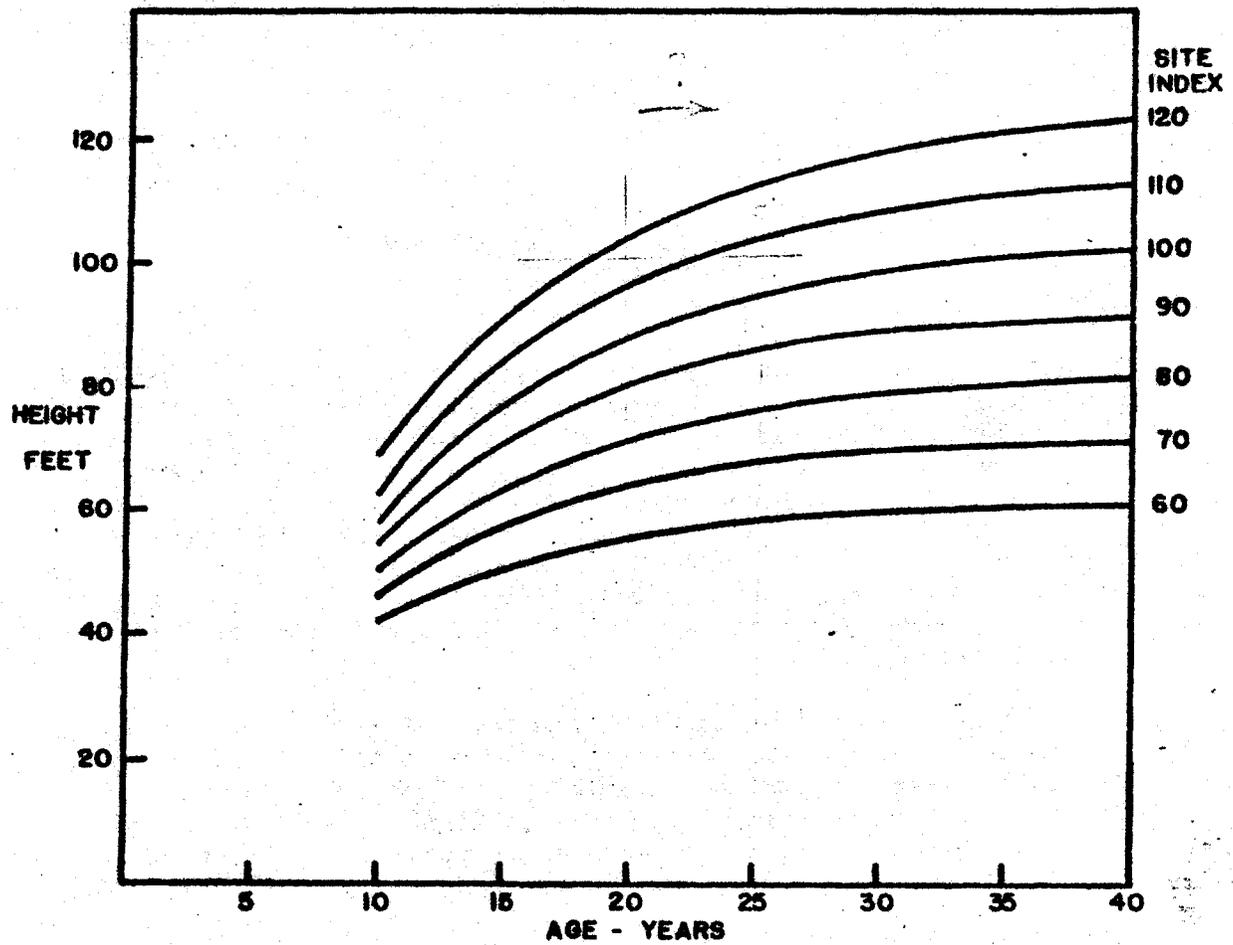


Table 1. American Sycamore: Height in Feet of Average
Dominant and Codominant Trees, by Site Index

Age in Years at Breast Height	Site Index						
	60	70	80	90	100	110	120
10	42	46	50	54	58	62	68
12	46	51	56	60	66	71	78
14	49	56	62	68	74	79	88
16	52	59	65	73	80	87	96
18	54	62	68	77	84	92	101
20	55	64	71	80	88	97	105
22	56	65	73	83	90	100	108
24	57	66	75	85	93	103	111
26	58	68	76	86	95	105	113
28	58	68	77	87	96	107	115
30	59	69	78	88	98	108	117
32	59	69	78	89	99	109	119
34	60	70	80	90	100	110	120
35	60	70	80	90	100	110	120
36	60	70	80	90	100	110	121
38	60	70	81	91	101	111	122
40	60	71	81	91	102	112	123