

A COMPARISON OF GROWTH AND SURVIVAL  
BETWEEN SYCAMORE SEEDLINGS AND CUTTINGS

Sycamore seedlings survive better and, when fertilized, outgrow cuttings. These findings were determined from a planting made in 1961 in the Oconee River bottoms in Greene County, Georgia.

Graded, 1-year-old seedlings (root collar diameters from  $\frac{3}{8}$  to  $\frac{5}{8}$  inch) and 20-inch cuttings from 1-year-old sprouts (top diameters from  $\frac{1}{2}$  to 1 inch) were planted in an old field previously prepared by disking.

The design was in the form of three randomized complete blocks, each with two plots planted to seedlings and two plots to cuttings. One plot each of cuttings and seedlings was fertilized. A total of 4 ounces of 8-8-8 fertilizer was placed at a depth of 8 inches in opposite dibble holes 4 inches from each plant. The entire planting was cultivated once during the early growing season of 1961.

Height growth of unfertilized seedlings over two growing seasons was not significantly different from height growth of unfertilized cuttings. It must be remembered, however, that the planting height of seedlings is generally 2 to 3 feet more than cuttings, which produce shoots at or near ground line. Therefore, total height at the end of the growing season will reflect this initial difference.

The small amount of fertilizer applied during the early growing season to seedlings which already had a complete root system apparently gave them an advantage over the unrooted cuttings. After 2 years, fertilized seedlings had outgrown fertilized cuttings by an average of 2 feet (table 1).

Table 1. --A comparison of survival and height growth between sycamore seedlings and cuttings after two growing seasons

Treatment	Mean survival		Mean height growth	
	Cuttings	Seedlings	Cuttings	Seedlings
	--- Percent ---		--- Feet ---	
Without fertilizer	45	100**	3.80	4.69 N. S.
With fertilizer	66.2	100**	5.28	7.23**

\*\* Significant at the 1-percent level of probability.  
N. S. Nonsignificant.

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