

OHIO AGRICULTURAL EXPERIMENT STATION

Wooster, Ohio

July 1, 1953

Forestry Mimeograph No. 6

Tulip Poplar Outgrows Ash

By

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Periodic studies of a mixed tulip poplar and white ash tree planting near Adamsville, Ohio, have disclosed that tulip poplar has made much faster growth during the 18 years since the planting was made.

The soil where the trees were planted is Muskingum loam which had been sheet eroded by cultivation for quite a number of years. The land slopes to the north and is quite well drained. The trees were planted in April 1935 in alternate rows with a common grub hoe and spaced 6 x 6 feet apart. No site preparation was applied to the area which was covered at the time of planting with poverty grass and annual weeds.

Records of the observations and measurements that were made of this planting periodically, show that by fall 1939, both kinds of trees had survived well but were not displaying very much vigor as yet, no doubt due to the eroded conditions of the soil. At this time the tulip poplar averaged about 2.8 feet in height and the ash 2.7 feet. The observations during the next few years, however, showed the tulip poplar gaining in vigor to a much greater degree than the ash. This was indicated by the measurements that were made in 1947 when the tulip poplar averaged 29 feet tall and the ash only 15 feet. The tulip poplar averaged much larger in diameter, too - it was 3.8 inches while the ash was only 1.3 inches. There was considerable evidence at this time that the ash was being overtopped by the tulip poplar.

About three years later it was observed that many of the white ash had been completely overtopped and killed by the much faster growing tulip poplar. Then in 1953 the plantation was again visited and quite detailed observations and measurements made. By this time so many of the ash had died that the planting looked like a pure stand of tulip poplar. While there were still 36 ash alive in a tenth acre plot, they were all overtopped except six which were well below the upper canopy that is made up of the crowns of the tulip poplar.

The measurements made at the time are summarized below for the 1/10 acre plot measured:

	<u>Tulip Poplar</u>	<u>White Ash</u>
Number live trees	48	36
Ave. Dbh	5.0"	1.2"
Max. Dbh	9.4"	3.9"
Ave. Ht.	40.0'	*
Max. Ht.	45.0'	31.0'
Number overtopped	10	30

*So seriously overtopped and suppressed that it was not possible to get logical height figure.



All of the larger trees in this planting are tulip poplar.