

THE CATALPA TREE.

Catalpa, the name given by the aborigines. There are at least two varieties indigenous to the United States, and others from Asia.

Catalpa Speciosa Warder. A large tree, 60 to 80 feet high, becoming from two to seven feet in diameter, indigenous to the lower valley of the Wabash river in Indiana and Illinois, seemingly preferring the overflowed alluvial lands. As freshets occurred the seed pods were distributed along the Ohio and Mississippi rivers, forming limited groves in Tennessee and Missouri. Unlike tree species which have edible nuts or fruits, although its seeds are winged, the distribution of the catalpa speciosa was not aided by birds or animals, being almost entirely scattered down stream by water.

The beauty of the flowers, quick growth of the tree, admirable shade and the extreme durability of the wood, have combined to cause the dissemination of the catalpa to all portions of the United States, and the catalpa speciosa has proven to be hardy between latitude 29° and 44° and from 101° west to New England, and also capable of adjusting itself to the soils, location and conditions within the above limit.

In California, Nevada and Utah, and upon the sandy semi-arid plains of the west, it has been grown successfully, and promises even there to be a profitable investment under irrigation.

The flowers are large, two inches in diameter, and two weeks earlier than the variety from the south, which is described elsewhere.

The tree has a naturally upright habit. The bark is deeply furrowed, somewhat like an ash, the ridges extending up and down the trunk. Leaves are heart-shaped, large and never have more than one apex. Seed pods thick, heavy, twelve to fourteen inches long, three-fourths of an inch in diameter. Seed is winged, and while quite different from other catalpas, can with difficulty be distinguished when mixed with other varieties.

Bignonoides, common in all southern states and cultivated in most states of the north. This tree is of small growth, crooked, and seldom forming a well-shaped tree. Prof. Austin C. Apgar, in trees of the northern United States, describes the flowers as much spotted with yellow and purple, the lower lobe entire, pod thin, while speciosa has flowers, two inches long, nearly white, faintly spotted, the lower lobe notched, pod thick.

Unfortunately a large majority of catalpa trees in the United States are of this worthless variety, and it is of greatest importance the large growing tree should be secured.

The habit of this tree is spreading; flowers smaller than speciosa; pods thinner and of less diameter; bark is

broken into scales, much resembling wild cherry; seed easily gathered by inexperienced persons, which has caused it to be largely disseminated. Many leaves are three pointed. There are many hybrids, all of which are inferior to speciosa for forest growing.

The rapid disappearance of the American forests, the advancing prices of lumber, with increasing difficulties experienced in a supply for commercial uses, as well as the struggle among competing railways to secure enough cross-ties for the maintenance of a safe track, bring prominently to every consumer of wood, the question: What shall we do for timber in the future?

It has been the custom to take the oak, a tree which is slow to develop, as a standard by which to measure every forest growth, and thus impatient Americans are discouraged from forest planting. However, in the catalpa we have a tree combining many of the qualities of oak, besides possessing several features of great value unknown to the quercus family, and, withal, coming quickly to maturity, producing merchantable sawing timber and several cross-ties in from fifteen to twenty years.

The Indian tribes who dwelt in the valley of the Wabash, or traversed this region, sought such trees as could be easily wrought with their rude implements, and those which were most enduring, from which to fashion their canoes, and the catalpa was their favorite wood.

Usually those woods which are dense, and slow to mature, have great durability, while the quick growing trees with softer wood, soon perish. The reverse is the case with catalpa, its chemical constituents being permanent anti-septics preserve the fibers from decay.

The early white settlers in the valley of the Wabash were instructed as to the valuable qualities of the catalpa and they made use of it in constructing their houses, boats and stockade forts, which have endured through more than a century.

General William H. Harrison often spoke of the catalpa, and urged its cultivation, since he had known of its many valuable qualities during his residence at Vincennes. He had seen this wood sound and bright more than a century after it had been placed in the stockades, and he used catalpa for posts in his fence ninety years ago, some of which are still standing.

The writer procured one of these posts for the New Orleans exposition in 1885; it was sound and good for many years' additional service.

On the line of the Evansville & Terre Haute railway, I found a large number of catalpa posts which were set fully half a century ago, and are still in use.

Evidences of the durability of catalpa wood are numerous and convincing.

The earthquake at New Madrid,

Missouri, in 1811, threw down many catalpa trees and others were killed, but left standing. These were sound and well preserved a few years since—as mentioned by Mr. Barney in his book.

Several catalpa cross-ties were placed in the C. C. C. & St. L., Cairo division, in 1879, one of which was taken out last summer, (1899), having been in constant use for twenty years.

Mr. J. W. Cowper, engineer maintenance of way, officially reports of this tie as follows: "This catalpa tie, taken out of the track three miles north of Harrisburg, was put in, in 1879, in mud ballast. The wood is perfectly solid showing very little signs of decay *

* * With tie plates and good ballast, those ties would, I think without doubt last fully from thirty to thirty-five years."

Mr. Cowper furnished the author with a half of this tie, who had part of it sawed into boards and a frame made and finished to determine its value as a furniture wood.

In appearance it resembles white walnut, juglans cinerea, also similar in texture. It is as easily wrought as white pine; the polish which it receives places the catalpa upon a plane with walnut, cherry and our finest cabinet woods.

ANALYSIS OF CATALPA WOOD BY J. N. HURTY,
M. D. PH. D., ANALYTICAL CHEMIST.

Indianapolis, April 2, 1900.

Sample furnished by J. P. Brown.

Moisture	13.97 per cent.
Ash	0.72 per cent.
Petroleum ether extract	0.35 per cent.

This extract was of a light yellow color and very faint fat odor. It was free from glucosides, alkaloids, free organic acid and chlorophyll.

Ether extract	0.36 per cent.
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The ether extract had a light brown color, resinous appearance and slight aromatic odor. It contained no chlorophyll, alkaloids, glucosides, or organic acids. It seemed a resin.

Alcohol extract	4.06 per cent.
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This extract had a dark brown color, woody odor. It contained a glucoside, no alkaloids, on tannin. Contained resinous matter.

Water extract	3.67 per cent.
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This extract was of dark brown almost black color, faint aromatic odor.

Lignin, cellulose, etc,	76.87 per cent.
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100.00 per cent.

REMARKS: It is probable that the fat and the resinous matters are the preservative in catalpa wood.

J. N. HURTY.

A tree grown in the streets of Connersville, Indiana, was given the writer. It was made into a desk by the Rowlett Desk company and polished by the Connersville Furniture company. This was exhibited in the state house at Indianapolis, for two months, being pronounced the handsomest desk in the state.

The tree grew in twenty-five years