

THE CATALPA TREE: ITS IMPORTANCE IN COMMERCE.

The catalpa is a large tree, 60 to 80 feet high, becoming from 2 to 5 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 35° 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.

Upon the sandy semi-arid prairies of the west, it has been grown successfully, and promises even there to be a profitable investment.

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.

Wood Has Great Durability.

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 the catalpa, its chemical constituents being permanent

antiseptics 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.

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

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, these ties would, I think without doubt, last fully thirty to thirty-five years."

Mr. Cowper furnished the Indiana Forestry Association with a half of this tie. The writer had part of it sawed into boards and a frame was 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.

Commercial Value.

The late Dr. John A. Warder made the subject one of deep study, advocated the growing of this timber and planted many catalpa trees.

Mr. H. H. Hunnewell, a wealthy gentleman of Wellesley, Mass., planted a square mile of catalpa timber near Farlington, Kansas, Robert Douglas & Son contracting to furnish and plant the trees—2,000 per acre—or one and a quarter million trees. The planting began in 1879, Mr. Hunnewell at that time being 65 years of age.

In 1900, this plantation of twenty years' growth, has a value which can scarcely be estimated, telegraph poles and cross-ties being supplied. The owner is still alive to see the benefit of his investment.

As in most plantations of which I am

cognizant, the Farlington forest has been greatly neglected in recent years.

In a state of nature, where time is no object, a thousand years as but a day, a long struggle takes place between the stronger and weaker trees, both robbing the others; eventually a sufficient number succeed by destroying the remainder.

Where dollars are the object and time of great importance, as in an artificial forest, these surplus trees should be destroyed after the object of close planting has been attained, namely, an upright trunk free from side branches to a great height. Otherwise the moisture and nutriment required by the permanent trees will be divided and none receive enough. From a report made by Mr. Douglas in 1885 many of the trees, six years old, measured 18 inches girth. While from sheer neglect and overcrowding there has been a serious loss in subsequent years.

I have personally measured a large number of catalpa trees in Kansas, Nebraska, Iowa, Missouri, Illinois, Kentucky, Ohio, District of Columbia and Indiana, taking trees of known age, and they have averaged one inch diameter increase for each year after planting.

Mr. L. W. Yaggy, Lake Forest, Illinois, is the owner of a large farm near Hutchinson, Kansas, on 500 acres of which are growing catalpa trees; 13,000 posts were cut in 1898 after eight years growth, selling for \$1,300, leaving the remaining trees close enough for perfect development. Mr. Yaggy considers this a very profitable investment.

Mr. D. C. Burson, Topeka, Kansas, speaking of the value of catalpa ties and lumber, says: "Notwithstanding it makes an almost everlasting tie, the wood is entirely too valuable for that purpose, as the lumber—40 feet b. m. in a tie, is worth \$2.00 to \$3.00. In fact there is no lumber grown in the United States that is more valuable. It takes a finish equal to San Domingo mahogany." A desk was made from a tree which Mr. Burson had grown from seed planted ten years before. It is highly ornamental, the wood does not warp, expand or contract, says Mr. Burson.

Suel Foster, Muscatine, Iowa cut a tree of his own planting, at 20 years from the seed; it measured 21 inches across the stump. Furniture was made from this equal to any cabinet wood.

Demand for Timber by Railroads.

The immensity of the demands for timber by railroads may be realized from the following figures:

There are in use today	780,000,000 cross-ties
Annual requirement for renewals	112,000,000 cross-ties
Expended annually for ties	\$60,000,000
Number required during the next two decades	3,000,000,000 cross-ties

Where shall they be obtained? Of what will they be made? What will be their cost? These are pertinent ques-