

Kansas Forestry

Kansas is a part of what was once called the "Great American Desert" and portions of it are yet believed by many to be useless for anything but grazing. But let the person who has such an idea look at a map of Kansas, and he will be surprised to find that it is so well watered. He will wonder, perhaps, why there is no more timber; but if he thinks of the prairie fires which formerly swept over the hills and the countless herds of buffaloes that trampled the streams, he can fully understand the cause of the almost treeless plains.

The amount of timber in the state in 1873 was estimated at a little over two and one half million acres - less than five per cent of the whole area. Compare this with twenty or fifty per cent in some of the eastern states, and we can realize the barrenness of our state and the importance of forest culture. Important as it is to plant trees and preserve our native forests, hundreds of acres of our best tim-

her are being cut for posts and lumber. Acres of young timber are being grubbed out so the land can be used for agricultural purposes. Near Oskaloosa the finest of young walnut trees are being cut and shipped to England.

Such wanton destruction of our native forests will surely be regretted in the near future. The acreage of forest trees is no doubt much less than in 1873, for the artificial forests are only about 175,000 acres and the area consumed is undoubtedly much greater. In fact the artificial forests cut in 1889 amounted to \$207,604.

We are apt to underestimate the value of the forests we do have, for black walnut and oak are the only trees of much value for lumber. But there are many other uses for timber besides being made into lumber. The average amount of fence on each section is not less than five miles, and this requires one hundred and sixty posts each year to replace broken and rotten ones. Each mile of railroad requires

twenty five hundred ties, and placing the average life of a tie at seven years it would require nearly three hundred and fifty ties each year. The timber from which these ties are made will soon be exhausted. The forests of the United States no longer appear to the careful statistician an inexhaustible source of wealth. From the most carefully gleaned facts it has been estimated that at the present rate of consumption the available timber of the United States will be exhausted in less than fifteen years. Already there is a great advance in the price of pine lumber.

Not only for the direct commercial value should tree planting be practised, but the influence on the minds of the country is undoubtedly great. The reason of so much wind in this state can be easily explained on account of the absence of trees. The bare prairies become intensely hot in some places and this causes currents of air to move in that direction. Trees would act both in preventing such rapid changes and checking the velocity of the wind; even

a cornfield with only a few bare stalks checks the wind enough to cause great drifts of snow, and what the effect of timber would be can hardly be estimated.

Old settlers state that the winds are not so violent now as they were twenty years ago. How much is due to cultivation, and how much to the clumps of timber and orchards scattered over the hills is hard to say. Blizzards and hot winds are unknown in the heavily wooded countries, and we may safely attribute it to their influence.

It is an undisputed fact that trees modify other climatic conditions. The leaves around the base of the trees hold the moisture, and the roots penetrating the soil forms courses for the water to soak into the earth. The water thus checked in its course is gradually fed out to the neighboring springs, and is able to keep up a constant supply. The trees growing above this storehouse of moisture exhale it into the air and keep up a more uniform percentage of saturation. The excessive floods of the Ohio river are said to be due to the destruction of the forests in

the Alleghany mountains.

Prof. Sanfield says that when he was a boy his father's farm was noted for the number of fine springs on it, but owing to forests being removed the springs are all either dry or run only a part of the year. The stream that formerly furnished plenty of water to run a mill twelve months in a year now scarcely keeps it running for five months.

Dr. Ernest Ebermeyer, Professor of Forestry, in Bavaria found in several trials that the atmosphere of forests is about 10% less than the atmosphere of the open fields. If the annual temperature is 10% cooler the summer temperature must be much greater in the fields, for the decaying leaves keep the forest from becoming excessively cold at any time. If space permitted many instances could be given of the affect of forests on the climate.

It is hardly necessary to tell what trees are best, for whoever wants to plant trees can go to his native timber and pick out the most valuable ones for his artificial

forest. Those trees that grow best along the streams of his own locality will, in most instances succeed best when planted.

It is an interesting fact that nearly all the most valuable of our native trees will grow in all parts of the state that will produce good wheat. The "Committee on Forestry" for south western Kansas give a list that have proved successful nearly all over the state. Below I give a list of six taken from twenty recommended by the committee. These are selected because they are rapid growing trees and are the most valuable. They are arranged according to suitability, the best first.

Black Walnut

Catalpa (Western Hardy)

Osage Orange

Red Elm

Russian Mulberry

Red cedar.

The first three are rapid growers and extremely valuable. Red elm is a very pretty tree, and the wood makes excellent fuel; and if cut young and well seasoned is

fairly good for posts. Red cedar and Russian mulberry are good for wind breaks around dwellings. Black walnut and catalpa can be successfully grown even to the western border of the state. A brother of mine living not more than twenty miles from the Cal. line has several acres of catalpa and black walnut, and they are making rapid growth.

I have seen red elm grow from mere saplings, two or three inches in diameter, to trees twelve and fifteen inches in diameter; in twelve years. Ex. commissioner Gall of Canby county gives the measurements of some trees nine and eleven years old. The walnut trees were 7-9 inches, maple 10 in., catalpa 9 in.

Important as it is to plant trees where there are none it is far more important to preserve what already exist, and give natural methods of forest planting a chance.

Wherever there are high bluffs along a wooded stream there may be found great numbers of young trees forcing their way out into the bordering prairie. If fires are kept out these young trees soon show a decided ten-

dency to convert the prairies into forests. Fires are apt to come however and destroy the little trees. I have noticed such a gradual pushing out of trees for several years and believe if cattle and prairie fires (the worst enemies of trees) were kept out all the bluffs along our streams would be covered with timber in a few years.

I shall not try to figure out the value of trees in dollars, but leave that to the wild visionaries who make a profit of from one thousand to five thousand dollars per acre, besides ten per cent interest on their money. And all this in twenty years from the time of planting. But to show that it is practical it is only necessary to state that the value of timber cut from artificial forests alone was \$207,604 in 1889 and \$41,732 in 1890.

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