

PRESERVING THE FORESTS.

[Address delivered at Hancock County (Ind.) Farmers' Institute, discussing the relation of forests to agriculture. Instances drawn from the history of other states and nations.]

The following is a synopsis of the address as delivered by John P. Brown:

1. Bodies of timber modify the influences of vigorous climate; the heat stored away by growing trees is retained during the winter, and aids in equalizing the temperature, while the shade cast in summer is cooling. Extremes of temperature occur when air currents move from a cold to a warm locality, or the reverse. The forests, by breaking the force of the lower currents, throwing them upward, moderate the effect of the changes. Ranges of mountains act as barriers against the sweeping violence of wind-storms; in like manner masses of trees guide and control the elements, disarming them of their harmful character. Wintry winds and storms are often injurious to vegetation. A heavy shelter belt of forest trees so tempers the frosts of spring and winter that its effect upon fruit and young plants is greatly reduced.

2. From Kansas and Nebraska, south into Texas and Mexico, is a vast stretch of treeless sands and prairie, which, in summer time, becomes intensely hot. Heated winds occasion vast damage to vegetation and suffering to animal life. All this could be overcome if heavy belts of timber were planted to break the continuity of this heated sirocco.

3. A certain quantity of water is necessary for the development of all living plants. If this is reduced by evaporation, crops are seriously injured. Forests, by checking the velocity of the wind at the surface of fields, lessen greatly the evaporation. There is always water present in dense woods, because it is not evaporated rapidly.

4. Forests undoubtedly influence rainfall, although some scientists deny this fact, as they have denied all prominent laws of nature which could not be understood. Gravity was ignored; rotundity of the earth, and electricity, for centuries. In France, Germany, Egypt, Utah and elsewhere rainfall has increased after large plantings of trees were planted. While Syria now is a desert, unable to support a small population, it was formerly a densely populated agricultural region, ruled over by three most noted kings—David, Solomon and Hiram, of Tyre. Wheat, barley, the vine and olive were largely cultivated. The end came when the Lebanon mountains were stripped of their timber. As rain clouds passing over a region of country, come in contact with a mountain range having a low temperature, rain or snow is precipitated, and so in a timber region where the leaves, twigs and branches are of a lower temperature, they cause precipitation.

5. The influence of forests on springs is more readily observed. Moisture is

absorbed by the soft, springy mass of leaves and decaying vegetation, which compose the soil and sub-soil of a forest, and this must all become saturated before any moisture will escape. Gradually, this water percolates down through the more porous materials until it meets with an impervious strata, along which it flows to the springs.

6. This conservation of moisture is of vast importance to the agriculturist, whose labors for the entire year depend on a regular and ample supply of moisture for his growing crops; to the orchardist, for the withholding of water during the summer months means a short crop of fruit. It means everything to the state, for all classes of people feel the effect of a protracted drouth.

7. Where large areas of elevated lands are covered with trees, they supply moisture to the fields at a lower level, not only through springs, but spread out over the strata which it is following, and is by capillary attraction drawn up to the surface soil for plants. It is this continuous supply of flowing water that supports the grass and grain during long, hot and rainless seasons. The fallen leaves and vegetation fertilize the lower lying fields, as they are blown by winds and carried by rains and lodged among the plants. They retain the snow longer, and it is absorbed by the soil.

8. Next to drouth, insect depredations are most injurious to farm crops. Forests enable birds to live and breed, and thus the insects are reduced. As forests are destroyed, birds are driven away, and disaster is invited by a vast increase in bugs and worms.

9. Economic uses of wood on the farm. While we no longer use wood for fuel, yet all agricultural implements, tool-handles, wagons and carriages, must be of wood, and always will be, and they will be in demand in future.

10. As protection to stock from storms nothing is so well adapted as a strong wind-break of forest trees about the barn yard and pasture field.

11. In the vast sand plains of Russia, where the sands are shifting, the government successfully planted large quantities of *Alanthus* trees, thus reclaiming much land for pasture and farm operations. Our Western plains may be so improved—and the sand dunes on Lake Michigan may be fixed and enabled to grow grasses and crops.

12. There are leading causes in national history, the influences having vast magnitude, yet they are overlooked by historians and statesmen. The mountain regions of Spain were formerly covered with timber—which maintained the fertility of the soil, fed the springs, regulated the flow of streams, and equalized the temperature. When the forests were removed all was changed, and agriculture ceased to be

profitable. The farmers became herders of goats and cattle, which destroyed the young growths, thus preventing nature from restoring the forests. The nation was driven to navigation as a pursuit—the subjugation of far distant island possessions and centuries of crime and mismanagement followed. The final loss of all outside possessions came as a direct result of this forest destruction.

13. And now, in America, where the timber has been largely cleared away, and the land cultivated for many years, the vegetable matter accumulated during centuries of forest growth, has gradually become exhausted, feeding many successions of farm crops; available mineral supplies have also been consumed, and powerful decomposing agents, in the form of commercial fertilizers, must now be used, unsatisfactorily. From two to five tons in crops have been removed annually—200 tons or more in fifty years' cultivation, with slight return at best. If one acre in ten were restored to timber, and a long system of rotation were instituted, the soil would be renewed, and improved conditions for farming result.

14. Each state must solve the problem for itself. The national government refuses to act. Shall Indiana protect some of her remaining forests; or will she continue to tax them out of existence?—Indianapolis News.

J. Sterling Morton in THE CONSERVATIVE has an excellent article showing the utter untenableness of the cry that is raised by a certain class of politicians on every occasion against some great octopus that holds as they allege, the interests of the people in its grasp, dooming them to certain disaster and which they usually style "the money power." Mr. Morton's keen analysis is all the more telling from the fact that he is as loyal to Nebraska as any citizen in the state. It is refreshing that right in the very citadel, as has been supposed of free silver and populism, is found a foeman whose steel is as pointed and able as can be found against the political heresies that have dominated so many minds. In the first place Mr. Morton admits that there is such a thing as a money power and tells what it has done right on the prairies of the West. He says, "This money power is a very old power. Years ago it loaded steamboats with steel rails for roads in Nebraska. The money power flung out into the plains its vast network of car paths as easily as the spider spins its gossamer threads and floats them into space. Lands which were valueless and desolate, solitudes which were unpeopled and voiceless, sprang into value and beauty, became human homes filled with melodies of contented industry. The money power converted Nebraska from wilderness and wigwam to fields, orchards, gardens and homes."—Norfolk Daily News.