The Farmer's Interest in Forestry.

BY DR. B. E. FERNOW.

The farmer, to my mind, is not in a class by himself, but he is, in the first place, a citizen, like any other citizens, which proud position entails on him all the benefits, as well as responsibilities, of citizenship. The farmer's interest in forestry, therefore, in the first place, is exactly that of any other citizen.

Forestry, in its broadest sense, means the rational use of forests for supply of a most needful material, and for such other incidental benefits as are claimed for forest-growth in its influence on waterflow, climate, soil conditions, etc.

The first need, if we are to be interested in any subject, is to have knowledge of it to a certain degree. The first need to determine what is rational management of a property is knowledge of that property.

Hence, the first need for a farmer who feels himself a citizen of a nation is to acquaint himself not merely with what are the conditions of his backyard, or of his farm, or of his town or country, or even Province, but he must look out into the broad domain of his entire country, and get a conception of what is there, and what is going on there, so as to exercise his citizenship on broad lines.

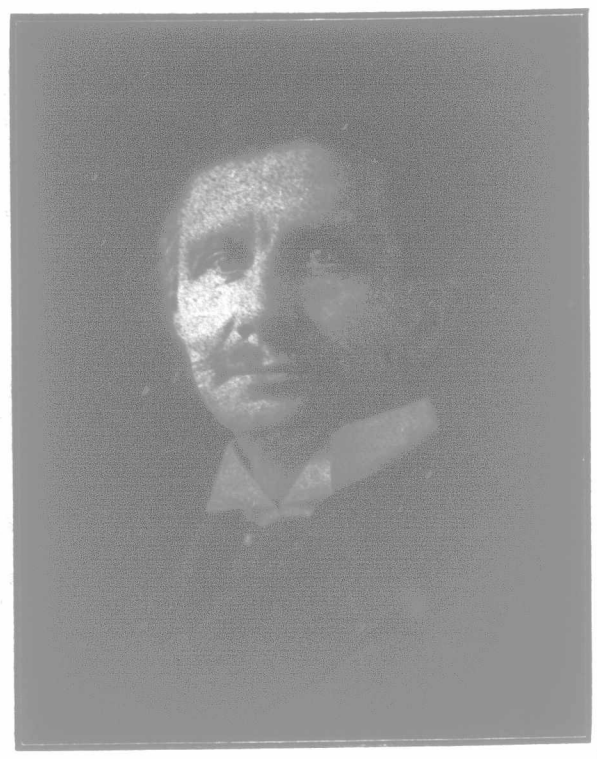
I propose, therefore, to discuss briefly the forest conditions of Canada as a whole, as they present themselves to me. I must admit that, considering the great importance of this great timber interest of Canada, the ignorance regarding its conditions is rather remarkable. Improper patriotism, which tries to extol the good and overlooks or minimizes the bad, instead of trying to improve it, probably accounts for the misconceptions that are being propagated regarding Canada's timber. The truth is what every citizen should desire to know.

FOREST CONDITIONS OF CANADA.

Canada has the reputation of being a great forest country—perhaps the best wooded country in the world. If by such statements the idea is to be conveyed that the larger portion of the land area is, or has been, covered by tree-growth of some sort, this may be true; for, of the three and a half million square miles or more which the Dominion boasts—an area larger than the United States, and not less than the whole of Europe—probably over fifty per cent. is woodland. Less than two hundred square miles in the southern central part are open, grassy prairie, or plain, and an unmeasured area north of a sinuous line from Fort Churchill to the mouth of the Mackenzie River, very closely corresponding to the summer isotherm of 50 degrees, and the northern peninsula of Ungava, are known as "the treeless barrens."

If, however, not merely woodland condition, but commercially valuable forest-growth, is considered—i. e., land covered with or capable of producing timber of sawmill size, located in sufficient area, and accessible for commercial exploitation—hardly two hundred million acres may answer that description, much of which is culled of its best timber, and much of it burned.

Precise knowledge regarding the extent and condition of the timber resources, to be sure, does not exist, even for the settled parts, and vast areas in the Northwest Territories are still unexplored, except along river courses, but a knowledge of the climatic, geological and topographical conditions, and a partial knowledge of actual forest conditions, permits the above estimate. The timber which is found scattered over the northern country—much of it devastated by fires—is mostly of inferior character, and all needed,



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eventually, for local use. There are not anywhere, as in the United States, extensive, continuous areas of good timber; such timber occurs mostly in smaller or larger areas, scattered among poorer areas.

As in the United States, floristically, two regions may be recognized, namely, the Pacific and the Atlantic forest. Within these, a number of subtypes are found.

The Provinces of Nova Scotia and New Brunswick, with the Eastern Townships of Quebec, south of the St. Lawrence River, form a region by themselves, which may be called the Acadian, a continuation of the Appalachian Mountain system, wooded similarly to the State of Maine, spruce being the main commercial timber. The St. Lawrence Valley, from Lake Huron to t mouth, can be differentiated into three su types. The peninsula of Ontario—the garden sp of Canada—where half its population lives, clima tically, most favorably situated, and with riches soil of glacial deposits on limestone, represents the rich, varied hardwood type of the Middle States and Michigan, once of magnificent develop ment, but now mostly removed to make room for farms. A less-varied hardwood forest, mixed with conifers, covered the second division on the shores of Lake Ontario, and the Upper St. Lawrence and Lower Ottawa Valleys, as far as Quebec, but is now also mostly removed or culled of its values. The Lower St. Lawrence Valley, from Quebec east, varying in width from six to twenty miles, shows a further reduction of hardwood species and prominence of conifers. North of the St. Lawrence Valley extends to the Arctic Seas the "Laurentian Plateau," the oldest land area of the North American continent, of Archæan rocks, little diversified topographically; the "Height of Land," a low range of hills and ridges, forming the dividing line between the watersheds of the St. Lawrence River and Hudson's Bay. The area of the southern slope of this plateau is the principal forest region of Canada at present, the Provinces of Ontario and Quebec sharing about equally in it, with Ontario somewhat in the advantage as to character of growth. It is a coniferous forest, with admixture of hardwood, mainly maple and paper birch, hemlock, white and red pine, which latter are largely cut out, but spruce and balsam remain mostly untouched as yet.

Beyond the Height of Land the timber pines soon drop out, except along the upper river courses, and the Great Northern or Subarctic Forest, mainly of spruces, balsam, larch, with aspen and balsam poplar, paper birch, and, on the poorer soils, Banksian or jack pine, stretches across the continent to the Rocky Mountains, and to the mouth of the Mackenzie River.

In the Pacific Forest great local variation exists on account of rainfall conditions, the Western slopes being humid, the Eastern dry to arid. An arid interior, forestless plateau corresponds in character to the interior plateau of the United States. The coast timber (fir, cedar, hemlock and spruce), celebrated for its magnificent development, occupies the lower slopes and valleys of the coast in a belt rarely over fifty miles inland, ascending to altitudes of 1,500 and 2,500 feet, for 200 miles along the coast, and has an area of probably six million acres. A northern extension of simpler composition (hemlock and spruce) and poorer development, and some good timber on the higher slopes, increase the area of good timber to twelve or fifteen million acres, with a stand of perhaps 240 billion feet. The southern tier of the Rocky Mountains, below the 53rd degree of latitude, contains another twelve to fifteen million acres of merchantable timber, which may add about 60 billion feet.

The balance is either inaccessible or too poor in quality for anything but strictly local use, especially in the northern portion, which is mainly lodgepole pine.

In the whole of Canada it will be difficult to find as much as 600 billion feet of saw material, although there are unmeasured quantities of pulpwood. What does this large figure mean? If the present mill capacity only is to be supplied, this "stock on hand" could supply them probably for more than a century; but, unless Canada is to stand still, and its population or trade to remain at its present level, a continuous increase of demand for wood materials must be looked for.

Our neighbors of the south are rapidly nearing the exhaustion of their timber supplies. When we are informed that their annual demand at present is for 40 billion feet of saw material, we may realize that our supplies are indeed scanty. We may double these estimates, and yet, with the increasing use of wood materials, we could not supply the needs of the United States for more than 20 to 30 years.

This means that prices for timber are bound to continue to rise, and here, if for no other grounds, the farmer, too, must take an interest in forestry.

From these statements, it is to be seen that the real timber area—not mere woodland—of Canada is very limited, and will soon have been exhausted. It behooves, therefore, every Government and every citizen to see whether a more rational use of the small balance may not be inaugurated; whether the destructive forest fires may not be stopped, which, if they do not destroy much of the mature timber, do destroy the young growth, the promise of the future which might make the revenue derived from the timber perpetual.

Mere market interest should stop the careless destruction by irrational logging and by fires. The latter [illegible] destroy not only the wood ma[illegible] but the very soil, and create

Woodland in Welland Co., Ont.

Cattle have been excluded, and the lot is now growing up [illegible]