

we have as to the seeding and growth of the spruce are not sufficiently full and exact to make the proper plan of management of spruce forests so evident as to impress all who are dealing with such forests with the necessity of following it. As to the pulpwood cut for export, there is good reason to complain of the reckless way in which the spruce is slaughtered, not only in Quebec, but in the other spruce-producing provinces, and Dr. McKay, of Nova Scotia, has, unquestionably, justification for calling the pulp men "the locusts of the forest." Whether the temporary expedient of an export duty on pulpwood, as suggested by Mr. Langelier, with its possible international complications, would be the best means of preventing the excessive cutting for export, may be doubted; and, so far as the Forestry Association is concerned, their influence might preferably be directed towards a better appreciation and observance by the people of Canada of sound forestry principles and the adoption of measures by the Governments to withhold from entry and keep in their own control for timber production the land best suited for that purpose, as well as to enforce the necessary regulations. It is a question worthy of discussion also as to whether and how far the Governments would be justified in taking control of the cutting on private lands.

Mr W. P. Flewelling, Deputy Surveyor-General of New Brunswick, submits a paper giving a sketch of forest legislation and the methods of conducting the lumber industry in that province. New Brunswick has always been a large producer of lumber, and much of its area is more fitted for timber growth than for agriculture. The long term license adopted a few years ago has had the effect of interesting the lumbermen more generally in forest preservation, and the Government has also taken some steps in that direction, but there is still much unnecessary destruction of timber, while the information available as to the growth of the principal timber tree, the spruce, is not very definite.

Dr. Jas. Fletcher, the Dominion Entomologist, described some of the principal forest insects, and suggested methods by which destruction of timber from this cause might be prevented. It was clearly shown that the necessary preliminary to understanding how to deal with destructive insects was to study out thoroughly their life history; and, in view of the large quantities of timber which are rendered useless from this cause, some steps should be taken to provide that this study should be made.

A very interesting paper was the one submitted by Dr. W. H. Muldrew, of Gravenhurst, who, himself a teacher, cannot be accused of being an outsider trying to push a fad on workers already overburdened. Consequently, his suggestions as to the position which Forest Botany should hold in our schools are of special interest. We trust that many of those interested in the work of our High and Public Schools, whether as teachers or otherwise, may have the opportunity of reading this paper and that some steps may be taken to have the importance of Forestry impressed on those who will govern the future policy of our Dominion.

The paper submitted by Mr. E. Stewart, Dominion Superintendent of Forestry, outlined the tree planting plan proposed for the Western plains. As this plan was reviewed in our last issue we need not enlarge upon it here. We may say, however, that this plan is being very heartily taken up, there being some three hundred applications under it filed with the Superintendent.

The addresses, and particularly the evening lecture given by Dr. C. A. Schenck, of Baltimore, are of special interest, as

Dr. Schenck has had experience both of the European and American systems of forestry. It was made very clear by him that the two main preliminary conditions to the adoption of systematic forestry practice, were protection from fire and a sufficient stumpage value to make such a scheme profitable. It appears evident, then, that we must look to the question of price, and that is one difficulty that has stood in the way up to the present time. When we take a survey of the whole of Canada we find that, with the exception of the white pine, our timber trees have not yet reached that period of scarcity and value which would impress generally and seriously the necessity for taking action. Our spruce forests are still extensive and, to the mind of the public, apparently inexhaustible; our British Columbia timber is as yet hardly in sufficient demand to make such an appreciable tax on her great resources in that respect as would render them of a great present value. But though, for instance, the price of New Brunswick spruce timber is stated to be lower this year than it was last year, or than it was forty years ago, still it appears from the general outlook that timber must advance in price, and, that being the case, there is the most abundant reason why steps should be taken to prevent, as far as possible, the sweeping away by a useless destruction of what we now possess. The essential first step, as pointed out by Dr. Schenck and emphasized by other speakers, is protection from fire. Dr. Schenck even considers that the present generation would be justified in going into debt to provide the necessary means of protection of such a valuable asset.

From this report we may tabulate the policy of the Canadian Forestry Association in regard to our forests as:

First, last, and all the time. Protection from fire, from the Atlantic to the Pacific.

Second: The study of our timber trees and the systematization of our knowledge in regard to their growth and all that affects it beneficially or injuriously.

Third: The growing of trees where they are the most profitable crop or serve to protect crops that are more valuable.

Fourth: Education—through the schools, through the press, through reports, through all possible means—of the public to an understanding of the great importance of this subject to the future of Canada.

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#### NOTES.

The dry weather in Manitoba during the month of May made the conditions favorable for the starting of fires, and consequently a number of fire rangers were placed on duty in the vicinity of the timber reserves at points likely to be endangered. A number of fires started, but fortunately they were held in control by the rangers, and the damage was not very extensive, particularly as the fire was mostly through townships that had been burnt over before; but much of the young growth was killed. Of those started in the Riding Mountain District, apparently some small fires were due to settlers, and one in the Duck Mountains is supposed to have been the work of trappers on a bear hunt; but in most cases the origin is uncertain. None extended over a wide area, two square miles being the largest mentioned, while in another case an estimated loss of 6,000 cords of wood is reported. The method employed for fighting the fires was to cut down any dry stumps or trees that were on fire and throw them back on the burned ground, or, if the timber was lying partly in the fire, the burning portion was cut off and similarly treated. Where the fires were working in the ground they were stopped