

guards through the forest and around fire hazards. In addition to these, certain legislative enactments have tended to reduce the fire menace. The establishment of closed seasons for brush-burning by settlers during the dangerous dry periods has proved efficient, and the recently enacted laws for Quebec and New Brunswick, whereby all travelling in the woods during the fire season is regulated and restricted, have been of enormous value as preventive measures.

### 3.—Scientific Forestry.

The practice of forestry in Canada has consisted chiefly in the administration of existing forest areas. What little reforestation or afforestation has been done has been largely of an experimental nature. During recent years investigatory or forest research work has assumed considerable importance. The object of this work is to secure an inventory of Canada's timber resources, to ascertain the best methods of securing continuous production of desirable species by natural means and the economic possibilities of establishing forests by artificial means. In addition to silvicultural research, investigations are being carried on for the purpose of determining the best methods of forest utilization or the converting of standing timber into saleable commodities.

Technical foresters are employed by the Dominion and Provincial Forest Services and by many pulp and lumber companies. In addition to administrative work, these men carry on forest reconnaissance and intensive forest surveys for the purpose of estimating and mapping standing timber and determining conditions affecting growth and reproduction of existing forests. They also direct experimental planting and experimental regulation of commercial logging operations. The Dominion Forest Service employs a special staff for forest investigatory work and has established an experimental forest station at Petawawa, Ontario, and at other points throughout the Dominion. The work is done in co-operation with the provincial services and with pulp and lumber companies, and is also carried on on Dominion forest reserves. The Forest Products Laboratories, established by the Dominion Forestry Branch in connection with McGill University, at Montreal, and the University of British Columbia, at Vancouver, carry on investigatory work in forest products, covering the strength, durability and other mechanical, physical and chemical qualities of Canadian woods, methods of seasoning, preservation from decay and chemical utilization in the pulp and paper and wood-distillation industries. The province of Quebec is organizing a Bureau of Forest Research under the Provincial Forester, supported by a generous annual appropriation. Much credit is due to the forestry departments of some of the pulp companies in Canada for pioneering work in forest research.

Education in forestry and allied subjects and opportunities for research are offered by four Canadian universities and by other agencies. The University of Toronto, the University of New Brunswick at Fredericton, and the University of British Columbia at Vancouver, provide four-year courses leading to a professional degree. The School of Forestry and Surveying, in connection with Laval University at Quebec, provides a combined course in the French language of four years duration, leading to diplomas in both sciences. The Government of Quebec has established a school in paper-making at Three Rivers in the heart of the paper industry; several agricultural colleges provide short courses in farm forestry, and a school for forest rangers has been established in Quebec.