

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 permanent experimental forest stations at Petawawa, Ontario, and Grand'Mère, Quebec, and carries on similar work 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 conducted on Dominion forest reserves. In connection with the national inventory of forest resources the Dominion Forest Service is conducting special surveys in each province to determine the nature and extent of the natural reproduction and the increment which is being secured under the various conditions of site and type, following cutting or forest fires. The forest products laboratories, established by the Dominion Forest Service at Ottawa, and in connection with 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 wood distillation and other industries. A special pulp and paper division of the laboratories is located in Montreal, the recognized business centre of the industry, in the Cellulose Institute of the Canadian Pulp and Paper Association. The division is in close co-operation in this connection with the Association and with McGill University. Much credit is due to the forestry departments of some of the pulp companies 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 in the French language a combined course 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 at Berthierville by the Quebec Forest Service.

The practice of forestry by individuals and private concerns is encouraged by the furnishing of expert advice by Dominion and provincial services and by the distribution of tree-planting material. The Dominion Forest Service maintains two nurseries in Saskatchewan, one at Indian Head and the other at Sutherland, near Saskatoon. Over 7,000,000 trees are distributed annually to farmers and ranchers in the Prairie Provinces for planting woodlots and wind-breaks. If certain conditions are fulfilled, the material and instructions are provided free except for transportation charges.

The province of Ontario provides material under similar conditions, and distributes at least 7,000,000 trees annually from its five nurseries. To encourage the establishment of communal forests by towns and other municipalities, the provincial Government undertakes to plant free of charge any area purchased by the muni-