

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 a forest experimental station at Petawawa, Ontario, and at numerous 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 is establishing a school in papermaking at Three Rivers in the heart of the paper industry, several agricultural colleges provide short courses in farm forestry, and schools for forest rangers are established by some of the provincial Governments.

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. From five to six million trees are distributed annually to farmers and ranchers in the Prairie Provinces for planting woodlots and windbreaks. 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 about 250,000 trees annually from its nurseries near St. Williams in Nortolk county. 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 municipality for this purpose.

In Quebec, a forest nursery at Berthierville serves as a demonstration station for the School of Forestry and as a forest ranger school. It provides at present