

Branch personnel serve on many national technical committees such as those of the Canadian Standards Association, as well as on such international committees as those of the American Wood Preservers' Association, the American Society for Testing Materials, the International Union of Forest Research Organizations, and the Food and Agriculture Organization of the United Nations. Continuous collaboration is maintained with forest products laboratories in other countries for the dual purpose of exchanging information and avoiding unnecessary duplication of research.

Forest Entomology and Pathology Branch.—This Branch conducts research on forest insects and diseases and maintains regional laboratories and field stations in all principal forested regions of Canada. The forest insect and disease survey is a Canada-wide project conducted by the Branch in co-operation with the provincial forest services and forest industries, the primary objective of which is to maintain an annual census of forest insect and disease conditions, and to detect and predict the occurrence of outbreaks. Results of the survey are made immediately available to the owners and operators of forest lands for use in planning salvage programs and directing control operations or other measures to reduce damage. An important secondary objective of the survey is extension of knowledge of the insects and fungi affecting forest trees, including their life histories, ranges of distribution, and host-parasite relationships.

The research programs of the regional laboratories are designed to lead to comprehensive understanding of the biology and ecology of the more destructive forest insects and fungi, and the causes of fluctuations in abundance or severity of damage in time and place. Problems under intensive study include insect defoliators, leaf diseases, sucking insects, dwarf mistletoes, stem cankers, bark- and wood-boring beetles, trunk and root decays, tip- and root-boring insects, and diseases of tree seedlings in forest nurseries. A recent development is the initiation of investigations of virus diseases of forest trees. Laboratory research on development, physiology, nutrition and taxonomy complements the field ecological studies of insects and fungi in the forest environment. Problems of broad national importance in insect pathology, cytology and genetics, bioclimatology and chemical control are investigated by Branch sections, which are appropriately staffed and equipped for research in these special fields.

The Forest Entomology and Pathology Branch also carries out experiments in control, utilizing cultural techniques, chemicals and biological control agents including parasites, predators and insect pathogens. Technical advisory services are provided in evaluating possibilities of eradication or control, or other applications of research results. Recent examples include recommendations for reduction of seedling losses in forest tree nurseries through cultural techniques and chemical applications; the co-operative organization of cull surveys to improve forest inventories; consultation with local authorities on the Dutch elm disease problem in New Brunswick, Quebec and Ontario, designed to limit spread and damage through control of the disease vectors and sanitation procedures; and technical co-operation with provincial governments and industrial agencies in the organization of spraying operations against the spruce budworm in New Brunswick and Quebec, and the black-headed budworm, the saddle-backed looper and the ambrosia beetle in British Columbia.

Economics Division.—The functions of the Economics Division are to advise the Department regarding the economic implications of present and proposed policies; to keep the economic position of Canada's forest industries under review; to keep in touch with forestry and international developments in other countries; and to contact economic studies relating to forestry in Canada. Co-operation with international organizations concerned with forestry and in which Canada maintains membership includes the preparation of quarterly and annual statistical reports to the Food and Agriculture Organization of the United Nations and to the Organization for Economic Co-operation and