

Insect Pathology Research Institute, Sault Ste. Marie
Chemical Control Section, Ottawa
Cytology and Genetics Section, Sault Ste. Marie
Bioclimatology Section, Victoria

The Statistical Research Service in Ottawa provides guidance and advice on the use of mathematical and statistical methods and procedures, and collaborates on research projects, especially those involving the use of electronic computers, with all research elements in the Department.

The forest insect and disease surveys, which are organized and conducted at the regional establishments, provide up-to-date information on infestations, pest-population trends, and occurrence of damage. The surveys are essential to assessing insect and disease hazard to infested timberlands and in formulating recommendations for control operations. They also serve as an important guide in development of the research programmes. Results of surveys are distributed regionally at periods during the field season, and are published annually for Canada as a whole.

The research programme includes intensive studies on the biology of forest insects and disease-causing fungi, and on the numerous biotic and abiotic factors influencing their distribution, abundance and destructiveness. Investigations are carried out on the growth habits, phenology and physiology of trees, so far as these relate to the susceptibility and vulnerability of trees to insect and disease attack. Studies are conducted on the ecology of forest stands in relation to predisposition to epidemic attack, or to successional changes induced by severe insect or disease damage. Experimental control on a pilot-scale basis is undertaken with chemical and cultural control methods, preparatory to application on a commercial scale by the provincial forestry departments, industrial organizations, or owners of private timberland or woodlots. The Department also undertakes biological control projects using insect parasites, predators and pathogenic micro-organisms against native and introduced pest species, and to this end maintains extensive liaison with the Commonwealth Institute of Biological Control and similar agencies in foreign countries from which stocks of promising biological control agents are imported. Research findings are published in full in scientific and technical journals, and research notes in the Bi-Monthly Progress Report of the Forest Entomology and Pathology Branch.

Advisory and consultative services have assumed increasing importance as direct-control operations, or other practical applications to reduce or prevent forest insect and disease damage, have been put into effect with increased frequency by the provinces and the industry, and by municipalities and private owners. Departmental officers assess hazard and provide advice and guidance in the organization and execution of large-scale control projects. Through intensive field studies, they also assess short-term and long-term results of control operations in connection with pest population trends, health and vigour of treated stands, and abatement of hazard.

Forest Products Research

Through its Forest Products Research Branch, the Department undertakes research in the forest-products field at laboratories in Ottawa and Vancouver. This research provides the scientific and technical knowledge required for the development of new and better uses for wood products, improved manufacturing processes and a more complete use of the wood substance available from the forests. Close relations with the provincial services, with industry and with the users of timber is maintained to ensure that this research is of national benefit.