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 ambrosia beetles in British Columbia.

The *Economics Division* is responsible for research in the economics of forestry in addition to providing basic statistical services to the Department as a whole and co-operating in international forestry matters of concern to Canada.

Research in the economics of forestry provides the basis for intelligent decisions on the economic aspects of managing forest lands and of utilizing their products and services. It embraces the whole range of economic activities that relate to the use of forest resources, including the fields of consumption, distribution and processing of the products of the forest. In addition, it provides the information that must be considered to determine the best means of using the forest resources in conjunction with other resources in order to maximize the total net returns to be obtained from the economy.

Emphasis is being placed on the economics of production and a greatly expanded program in market research is being developed. Economists will be established in the four regions for the purpose of pro viding greater flexibility in carrying out regional economic studies.

The *Forest Products Research Branch* undertakes research embracing every aspect of forest products except that relating to the paper field. This research is directed toward obtaining the necessary background information and data on the properties of Canadian woods, developing new and better uses for wood products, improving manufacturing processes, and effecting a more complete utilization of wood substances available from the forest.

Two laboratories, located at Ottawa and Vancouver, undertake the research program of the Branch. Several phases of research are concentrated at the larger Ottawa laboratory while the work at the Vancouver laboratory is concerned mainly with British Columbia and Alberta species. Close relationship with the forest products industries and the users of timber is maintained to ensure that the research work of the Branch is of maximum national benefit.