

photography of sample areas is also being investigated and studies are being made in the identification of species and sub-types. Construction of suitable photogrammetric and other scientific apparatus includes those required by the forestry tri-camera method of air photography, which has been developed to provide maximum forestry information at minimum cost, and the shadow-height calculator, constructed to facilitate the determination of tree heights from shadows in air photographs.

Research in forest economics is concentrated on problems associated with the production of wood in the forest. These problems are concerned with land use, land tenure, taxation, forest legislation and administrative techniques, forest management, forest labour and the valuation of forest lands. Economics research also involves continued study of the broad developments in forest industries.

Forest Biology.—The Division of Forest Biology of the Science Service, Federal Department of Agriculture, undertakes investigations dealing with the biology and control of insects and diseases affecting forest and shade trees. The Zoology Unit maintains ten regional laboratories at strategic points across the country. The Forest Pathology Unit operates six branch laboratories. An insect disease laboratory was recently established at Sault Ste. Marie, Ont., for fundamental research on virus, fungi, and bacterial diseases of insects.

A special article dealing with Noxious Forest Insects and Their Control appears in the 1947 Year Book, pp. 389-400. A detailed account of the activities in forest pathology in Canada may be found in the 1948-49 Year Book, pp. 416-417.

Forest Products Research.—The following special article outlines the history of the forest products laboratories and deals in detail with their current activities.

THE FOREST PRODUCTS LABORATORIES OF CANADA*

The Laboratories.—In 1913, in co-operation with McGill University, the Forest Products Laboratories of Canada were established and located on the campus of the University at Montreal, Que. By that time, the widespread and diversified nature of Canada's forest industries, their significance to the national economy and the vital importance of export markets had clearly indicated that, in the main, forest products research should be a national rather than a provincial function.

A second laboratory was established in 1917 on the campus of the University of British Columbia at Vancouver, B.C., for the primary purpose of conducting aircraft research entailing the testing and use of considerable quantities of high-grade Sitka spruce, available only on the West Coast.

By 1927, the expansion of research facilities, an increasing staff of research personnel and the coincident addition of test and laboratory equipment had made it necessary to find larger quarters for the Montreal Laboratory and, with the exception of the Pulp and Paper Unit,† the Forest Products Laboratory was moved to its present quarters at Ottawa.

Both Laboratories are now staffed and equipped for work in all the principal phases of research pertinent to wood and its uses, including certain aspects of the wood chemistry field not related to the manufacture of paper. The activities of

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† Pulp and paper research is carried out by the Pulp and Paper Research Institute of Canada, at Montreal. This Institute is a non-profit corporation to which the Canadian Government makes an annual grant. Its management is vested in a Board of Directors composed of representatives of the Canadian Pulp and Paper Association, McGill University and the Canadian Government.