the understanding that the institution will be operated jointly by the two Departments concerned. The building and its maintenance are contributed by the Provincial Government, while equipment and staff are provided by the Dominion. A Board, consisting of representatives of both Departments, acts as the co-ordinating agency. The erection of this new laboratory marked one of the most important developments in forest entomology in Canada. The over-all dimensions of the structure are 150 feet by 64 feet. Two refrigerator rooms and four air-conditioned rearing rooms are located in the basement together with the machinery required for their operation. Storage space for field and laboratory equipment, a photographic room and a laboratory equipped with incubators of various types to be used in special experiments occupy the remaining space underground. The ground floor contains three administrative offices, a combined library and lecture room, a large general laboratory, five private laboratories, a drafting room and a spacious hall which serves as a museum. Advantage has been taken of all known advances in laboratory construction and the building itself is modern in design.

Unfortunately, owing to the scarcity of adequately trained forest entomologists in this country, it may take several years to bring this laboratory to the peak of its efficiency. Two sub-laboratories at Petawawa, Ont., and Laniel, Que., are engaged in field studies of ecological factors: the first is concerned with forests under intensive management; the second with forests under more or less natural conditions.

Emergency Projects

The last subdivision of activities in forest entomology is the one which deals with emergencies or, in other words, the problems of the hour. That it should have a more universal, popular appeal than the other two is readily understood. Sudden and spectacular outbreaks of insects, whether of local or country-wide importance, usually cause considerable alarm, and urgent appeals are made for immediate action. The entomologist must resort, at first, to his stock-in-trade, that is to say, to palliatives and remedies of more or less proved or even sometimes uncertain value. He must do as best he can and, in the meantime, make use of every opportunity to increase his knowledge and improve his methods. For this reason, any extensive operation in forest-insect control is always accompanied by a thorough-going study of the bionomics of the species involved.

Control Operations

Control operations may be broadly classified as silvicultural, biological, chemical and mechanical. Mechanical and chemical methods have only a limited application under conditions such as prevail in the Canadian forests. In nurseries, plantations, small parks and resorts, and in small-scale operations in the forest, they have a definite place. In recent years some of them have been successfully employed in the control of bark-beetles by the burning of brood trees; in the prevention of injury from wood-borers by brushing over log piles and immersion of logs in water; in the reduction of hemlock-looper and spruce budworm infestations by means of poisons distributed from aeroplanes. It is becoming increasingly evident that silvicultural and biological methods offer the best solution of the majority of our forest-insect problems. At the same time, it should be realized that usually a combination of several methods is required to attain the best results as it is a serious but common mistake to place too much confidence in the efficacy of any one single procedure.

Silvicultural Control.—The practice of silvicultural methods in the control of insects is beset with serious difficulties.