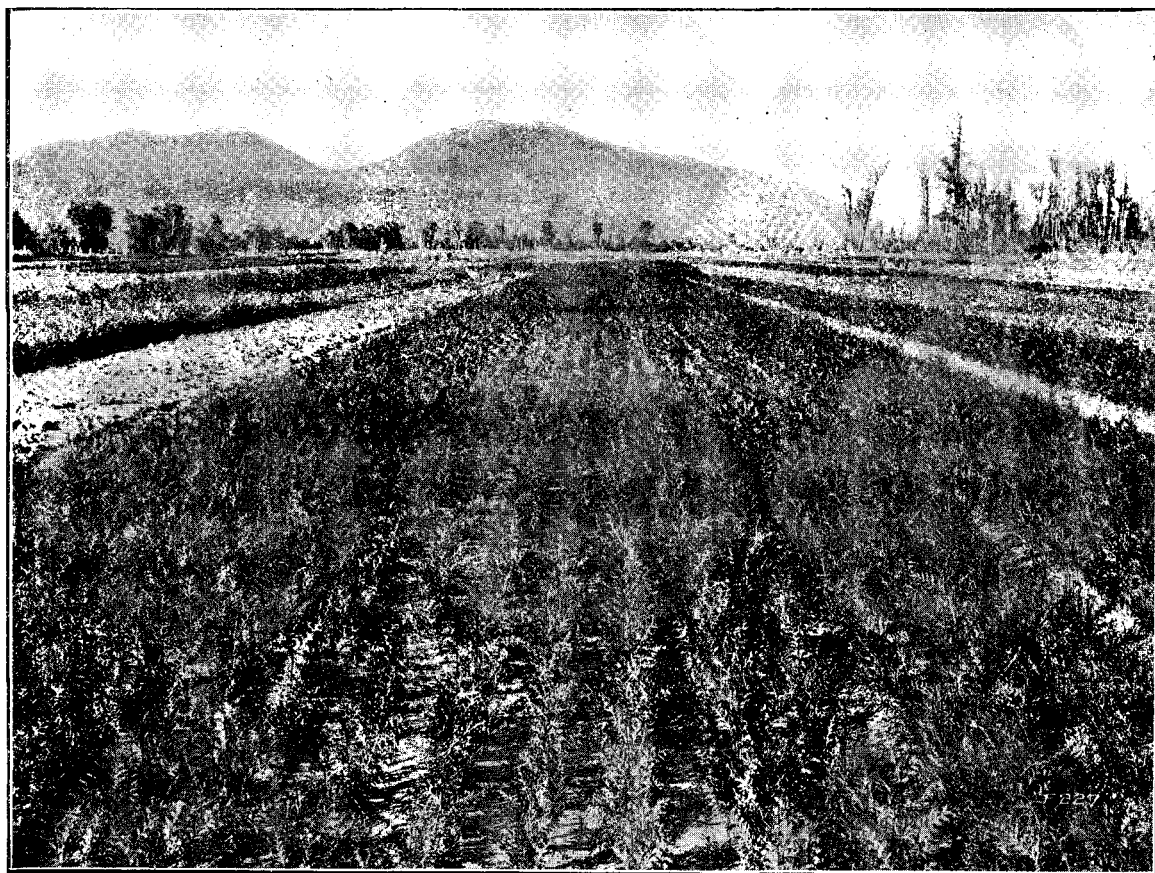


3. FOREST ENTOMOLOGY.

The investigation of the insects injurious to indigenous and exotic forest-trees and to their timbers was continued by Mr. D. Miller, M.Sc., Entomologist, Department of Agriculture. The year's operations further emphasized the increasing number of forest-insect problems, many of which are of major importance. The number of insects constantly reaching New Zealand in imported timber is very noticeable, and several new species from Australia, North America, Europe, and Africa were found during the year. The Australian insects are mostly those imported in hardwood poles. It is not necessary to stress the danger of white ants to the numerous wooden structures in New Zealand, and the urgency of adopting adequate control measures before this pest becomes widely established. None of the other Australian insects recently imported show signs as yet of becoming established, but a close watch is being kept. Living insects have been found in oak, ash, and redwood timber, and in two parcels of seed imported from North America. From Europe the following insects were intercepted: Longhorn larvæ in beech; steel-blue saw-fly in piano woodwork; bark-beetles in pine slats; weevils in acorns. All these are of considerable importance, but the bark-beetles are especially so, since that type of insect does considerable damage to conifers. Attention has also been paid to the borers usually found in seasoned timber, and to insects attacking growing native or exotic trees or their seed.



WESTLAND FOREST EXPERIMENT STATION NURSERY: *Thuja plicata* IN FOREGROUND.

The main problems in connection with forest entomology are therefore, firstly, the protection of the indigenous and exotic forests from insects reaching New Zealand from outside sources, involving an efficient system of inspection and quarantine; and, secondly, the control of destructive insects already in the country, involving a biological survey of the major pests and natural controlling factors, together with ascertaining the extent to which the present system of forest-management is adequate for insect-control.

4. FOREST ECONOMICS.

The economic problems bearing on the management and utilization of the indigenous and man-made forests were further investigated during the year. Dr. L. Cockayne completed the preparation of Part II of his "Monograph on the New Zealand Beech Forests." This part deals with the various species from the economic side.

The Canterbury School of Forestry continued its investigations on behalf of the Forest Service, and Mr. F. E. Hutchinson, B.Sc.F. completed the "Economic Forest Survey of Canterbury." The second part of this work deals in a very comprehensive manner with the future timber requirements, and formulates a forest policy for Canterbury.