Tree-culture.

Very marked differences in the suitability of different trees for pakihi land have been noticed during the past season. The best results have been obtained with *Pinus densiflora*, followed by *Pinus ponderosa* and *Pinus radiata*. *Thuja plicata* has not done very well, while *Cupressus Lawsoniana*, *Cupressus Benthami*, and *Cupressus macrocarpa* have proved failures.

General.

Owing to the wide interest displayed in the pakihi experiments, it has been found desirable to publish a guide to the experimental plots, so that visitors may have all the information before them when making their inspection. A popular pamphlet, entitled "The Conversion of Pakihi into Dairy Pasture," has also been published for the benefit of farmers wishing to break in areas of this land on their own properties.

Thomas H. Easterfield.
T. Rigg.

PIG RECORDING.

A grant made by the New Zealand Meat-producers' Board has enabled the pig-recording work to be continued in the Auckland District under the immediate control of the Waikato Pig Recording Club. Through this means there is at present being accumulated a mass of valuable data regarding growth-rates, response to feeding, influence of strain, and general efficacy of pig-management. These records have been made available to this Department. The Department has facilitated the investigations conducted on selected lines of pig-carcasses forwarded to Great Britain for special inspection and report.

The Department's Liaison Officer, Mr. Nevill Wright, has generally arranged for the whole of the inspections, chemical and cooking tests, and the compilation both of statistical and photographic records of the experimental consignments in England. These results have been transmitted to New Zealand, and the information gained therefrom made available to the Pig Recording Club.

In the aggregate, the amount of information concerning the suitability of New Zealand pigs for the overseas trade is now fairly considerable, and would indicate that the quality of the carcasses at present being forwarded meets fairly satisfactorily the requirements of the overseas buyers.

PORK AND BACON.

In order to supplement the trials arranged through the Waikato Pig Recording Club, and also the examination of those carcasses forwarded to Great Britain, a number of chemical investigations into the nature of pig meat have been carried out in the Dominion Laboratory.

Special attention has been devoted to the quality of the fats occurring in pig flesh, and their behaviour in regard to the onset of rancidity, the development of taints, and the absorption of flavours. These investigations are throwing important light into the influence of feed, storage, and treatment upon the quality of New Zealand pork and bacon, and in some cases they are fundamental as adequate guides to pig-management practices.

WOOL.

Massey College.—As a result of investigations continued during the year, a stage has now been reached when it is possible to assess rapidly and readily any development of medulated fibre which may have occurred in the fleece. This will enable work to be done in co-operation with breeders on investigations relating to the influence of quality of feed and climate on the production of hair. In this work the use of the Benzol test has been of great practical assistance. On the evidence collected to date, it would appear that heredity is the factor primarily responsible for hairiness, and that such factors as feed are able to produce their results only through their influence on hereditary tendencies to produce medulated fibre. This, however, requires further study over a wider range of flocks than has been possible up to the present.

Investigations have been commenced upon mycotic dermatitis, a disease of wool which has only recently been detected as occurring in New Zealand. Research has also been devoted to the diseases termed pink rot, cakey yolk, and green coloration of wool.

Fleece-testing and Wool-testing.—A good deal of attention has been devoted to ascertaining methods whereby a simpler method of fleece-testing may be evolved, and its consequent use as a guide towards flock-testing.

Other investigations are those dealing with the problems of the chemical nature of wool-yolk, and on the parasitic nematodes of the sheep. In addition, there is being accumulated a large amount of data connected with sheep-management.

Lincoln College.—Observations dealing with variation in the fibre type of the Romney fleece, with a view to ascertaining whether the birth-coat provides any indication of the character of the ultimate fleece, have been continued, but no conclusive results have yet been secured. The occurrence of coloured fibres in the fleece has been under investigation from the breed point of view.