

PELT RESEARCH.

Pelt research has been curtailed owing to the cessation of the grant from the Imperial Economic Committee.

SEASONAL VARIATIONS IN SKINS.

The microscopical examination of monthly samples of skins, which has now been carried out for two and a half years, was continued. The results obtained show that the quality of the skins varies not only during the season but also from season to season, and that climatic conditions have a very great effect on the quality of sheep-skins.

At the end of last season larger-scale trial shipments of pelts to illustrate the seasonal variations were sent to England. The full reports are not yet to hand, but from indications received they will confirm the results obtained on a small scale in 1936.

In conjunction with Canterbury Agricultural College, a trial shipment of lamb-pelts was sent to England with a view to studying the effect of various crosses in breeding on the quality of the skins. The results have not yet been received.

EFFECT OF PICKLING AND STORAGE IN THE PICKLED CONDITION.

Reports from England have confirmed the opinion, which has been held for some years, that storage in the pickled state has some action, chemical or physical, on the skin. This action makes the leather produced very soft and therefore unsuitable for certain purposes. An investigation of the problem of how to cure pelts so as to control this softness has been commenced.

FRUIT RESEARCH.

Advisory Committee.—Mr. A. H. Cockayne (Chairman), Sir Theodore Rigg, Dr. G. H. Cunningham, Messrs. W. Benzie, T. C. Brash, F. R. Callaghan, J. A. Campbell, J. Corder, A. Osborne, R. Paynter, F. S. Pope, A. M. Robertson, H. E. Stephens, L. W. Tiller (Secretary).

INTRODUCTION.

Fruit research in New Zealand continues to be carried on as a co-ordinated series of projects divided among the Plant Diseases Division of the Plant Research Bureau, the Cawthron Institute, the Horticulture Division of the Department of Agriculture, the Dominion Laboratory, and the Department of Scientific and Industrial Research. The investigations are centred chiefly at the Mount Albert and Huapai areas under the control of the Plant Diseases Division at Auckland; the Hawke's Bay Fruitgrowers' Association orchard at Havelock North; the Cawthron Institute orchards and associated areas, Nelson; the Government Research Orchard, Appleby, Nelson; and over a range of districts covered by the manurial experiments of the Horticulture Division.

The work largely centres round the apple, as the foremost fruit in New Zealand, but also deals with stone-fruits, small fruits, and citrus. For the most part the investigations have a distinct economic bias, and close contact is maintained with the problems of the industry, both directly and through the active co-operation of the New Zealand Fruit Export Control Board and the New Zealand Fruit-growers' Federation.

The cold-storage aspect of fruit research is under the control of a special Cold Storage Committee, and is dealt with elsewhere in this report (see page 45).

During the year the Secretary of the Fruit Research Committee, Mr. W. M. Hamilton, left for England to assist the Department's Scientific Liaison Officer in London, and the secretaryship remained vacant until the return of Mr. L. W. Tiller from England in October. During the latter's stay in England close contact was established with English fruit research workers, and much information of potential value to New Zealand's fruit industry was secured.

APPLES.

FERTILIZER EXPERIMENTS.

Research Orchard.—Cox's Orange: Nitrogenous and phosphate-nitrogen-potash manurial treatments have continued to give growth increases in tree and fruit size, and this year also gave a crop-weight increase. Fruit size was greatest on trees receiving PNK treatment.

Dunn's Favourite: Nitrogen treatment has continued to promote vegetative growth, is now giving increases in crop weight, and is tending to reduce the incidence of skin-cracking at the stalk.

Delicious: Growth increases continue to follow the use of nitrogen, and the condition of the trees is still further improved by the addition of phosphate and potash. N and PNK treatments are now yielding crop-weight increases over untreated trees.

Jonathan: The use of nitrogen continues to induce marked growth and foliage development. Crop weights are also increased by the treatment, but only at the expense of a rather heavy reduction in the amount of overlying colour on the fruit. Trees that had received two heavy dressings of potash continue to show improved vegetative vigour, increased crop weights, increased fruit size, and very marked improvement of overlying colour.

Sturmer: Treatments, including nitrogen, are continuing to show all-round improvement in vegetative vigour, and this is accentuated by the inclusion of phosphate and potash. Nitrogen is