

Projects.—Theoretical work necessary for the design of a sampling system for estimating agricultural and pastoral statistics. This project was requested by the Government Statistician.

The results of experiments over eighteen years on apple-trees are being analysed. Such variables as fruit yields, weight of prunings, height and girth of trees, &c., are being included in the analysis.

Some time ago the New Zealand Standards Institute made measurements on each foot of five thousand children ranging in age from two to fifteen years. These data have been analysed for the Institute and results will be written up shortly.

As part of his thesis for a Ph.D. degree, Dr. R. M. Williams investigated some of the theoretical aspects of systematically designed experiments. The results relate chiefly to experiments laid out in long rows or occurring sequentially as in some industrial processes. This thesis is now being rewritten in a form more suitable for publication in a scientific journal.

The study of time series has been progressing satisfactorily. Correlograms and periodograms for atmospheric pressure, horizontal magnetic intensity, and wave records have been made. In the immediate future this work will probably be applied mainly to oceanographic records.

Work on the distribution of bacteriological and entomological phenomena is proceeding favourably and the theoretical results will be shortly tested by sampling experiments.

The methods developed by Mather to place quantitative inheritance problems on a firm theoretical basis are being studied with a view to estimating their possible value in solving local problems in animal and plant breeding.

Staff Training.—An officer is being trained to provide statistical services for departmental institutions in the Palmerston North district. He will commence duties there late this year. An officer was also trained for the New Zealand Forest Service. It is also highly satisfactory to note that the first of the officers trained overseas has now returned to duty in New Zealand.

Computational Work.—The first instalment of the punched-card equipment has been operating most satisfactorily for about nine months, and has proved itself a most valuable acquisition.

AUCKLAND INDUSTRIAL DEVELOPMENT LABORATORIES

Director: Mr. J. B. BROOKE

The most significant feature of this fifth year of service is perhaps the growing appreciation of the importance of science to Auckland's expanding industry. The year has been one of consolidation, the final establishment of the Laboratories having been effected, and the position with regard to staff and equipment has been very satisfactory. With the recent arrival of a senior metallurgist from England, this section of the Laboratories' industrial service is being developed.

Several major projects have been completed and installed under normal working conditions with very gratifying results. The newspaper-wrapping machine has been in continuous operation in the publishing office of a provincial daily newspaper for the greater part of the year, and it has been found possible to increase its speed of operation from 2,500 to 3,000, and (more recently) to 3,800 papers per hour. Patents have been arranged to protect the novel features of this machine, which has attracted considerable interest in overseas publishing circles. The automatic machine for making artists' brushes is also