In accordance with arrangements made with the Federation of Taranaki Co-operative Dairy Factories and the New Zealand Co-operative Dairy Co., the Institute has collaborated with the laboratories belonging to these associations: since, contact has been maintained between the staffs concerned, and grants have been made to these district laboratories for special investigations. During the year the New Zealand Co-operative Dairy Co.'s laboratory at Hamilton has had under investigation the extent of loss of fat in buttermilk, and the causes contributing thereto; while the laboratory of the Federation of Taranaki Co-operative Dairy Factories has devoted special attention to methods of grading milk for cheesemaking. This co-ordination of research work between the central Research Institute and district laboratories is a gratifying feature of the Dominion's dairy research organization, which keeps all workers in closest touch with both central research and field activities.

Towards the close of the period under review a post-graduate student who holds the Gunson Scholarship in Agriculture of the Auckland University College, commenced special research work in the chemical laboratory. By offering such facilities to research scholars the industry benefits not only from the results of their work, but also from the interest that pure-science workers devote to dairying.

The nucleus of a good library has been obtained. Bulletins and reports pertaining to many aspects of dairying have been received from the leading dairy organizations and research institutes throughout the world. In addition, the leading journals relating to dairying are being received. It is hoped in the course of time to build up a comprehensive library in dairying which will act as a dairy reference library for all interested in the Dominion.

WHEAT RESEARCH.

Advisory Committee: Professor H. G. Denham (Chairman); Mr. C. H. Hewlett, Council of Scientific and Industrial Research; Mr. James Carr, Mr. W. W. Mulholland, and Mr. C. J. Talbot, representing the wheatgrowers; Mr. R. K. Ireland, Mr. R. J. Lyon, and Mr. W. S. Pratt, representing the flourmillers; Mr. C. E. Boon, Mr. F. H. Hawker, and Mr. T. S. Searle, representing the master bakers; Mr. J. W. Hadfield, Department of Agriculture; Mr. D. Colquhoun, Department of Industries and Commerce; Mr. A. Jones, representing the grain and produce merchants. Director of Wheat Research Institute: Dr. F. W. Hilgendorf.

The Wheat Research Institute commenced operations during the year. The activities of the Institute are concerned with (1) The breeding and selection of strains of wheat suitable for New Zealand conditions and possessed of the highest qualities for flour and breadmaking purposes; (2) cultural and manurial experimentation concerned with wheat; (3) certification of proved lines of seed wheat with a view to improving the standard of wheat grown; (4) chemical, physical, milling, and baking tests, and such investigations of wheat and flour as are likely to benefit growers, millers, bakers, and consumers.

Director's Report.

The object of the Institute is to forward the interests of all the parties interested in wheat—the farmer, the miller, the baker, and the consumer. Its funds are procured from a levy of 1½d. per 50 bushels of wheat or per ton of flour sold by the farmer, manufactured by the miller, and bought by the baker, together with a £1-for-£1 subsidy from the Department.

The Institute investigates wheats at every stage from the provision of seed grain till the delivery of the bread, and especially such problems as can be attacked by botany and chemistry. Its two chief officers are a chemist (Mr. H. E. West) and a plant-breeder (Dr. O. H. Frankel). The plant-breeder is engaged upon growing wheats collected from all parts of the world, and by means of crossing these with established New Zealand varieties it is hoped to produce wheats that will yield as well as the ordinary established varieties, but whose grain will possess higher milling and baking qualities. Some thousands of plants have been sown during the past autumn in the process of this investigation. Two crosses developed during the past two seasons are already showing some promise.

Pure lines of seed of the established varieties have been raised, and are being kept pure and available to farmers by means of a seed-certification scheme carried out by officers of the Department of Agriculture. A comprehensive series of wheat variety and manurial trials has also been conducted by the Department of Agriculture, and these have demonstrated the value of the use of phosphatic and nitrogenous fertilizers in increasing yields. With the laboratory facilities now available, the influence of manurial treatment on quality will be examined and ascertained.

A complete laboratory, at 295 Montreal Street, Christchurch, adjacent to Canterbury College, has been fitted up with experimental flour-mill, test baking-ovens, and the most modern chemical apparatus, in order to test the milling and baking quality of the wheats grown in New Zealand. Samples of all varieties have been collected from all localities, and all conditions of harvesting, and these are being tested to determine their qualities, so that they may be blended in such a way as to secure their best effect when made into flour. Various treatments of the wheat are being tried to secure the best possible product from the wheats available. An important part of the laboratory work consists in making tests of new strains of wheats raised at the Plant-breeding Station, in order to facilitate the selection of promising families. The proximity of the laboratory to the Chemical Department of Canterbury College is found to be of great advantage. The equipment of the laboratory has cost £2,400, and all the apparatus is giving complete satisfaction.

Good progress has been made with moisture and protein tests. Owing to an extremely favourable harvesting season, it was possible to use the combine thresher in a number of Canterbury crops. Tests of this grain compared very favourably in regard to their moisture content with others made with grain secured from threshing-mills, but, on account of the exceptionally good weather prevailing, these results must be accepted with caution. In the protein survey very wide divergences in the