

of a standardized canned meat of excellent quality, shortens the process of manufacture, and leaves the meat-juices (which hitherto had to be discarded on account of their high saline content) available for meat-extract.

In addition, considerable information has been gathered and conveyed to the industry regarding the treatment of pelts, in the anticipation of better prices being obtained for these.

The prices received for stock by the farmer depend in no small measure on the efficiency and utilization of by-products in the frozen-meat industry.

FOOD-VALUES.

Realizing the need for providing exact information to workers concerned with feeding experiments connected with the utilization of such materials as meat-meals, whey-paste, fish and fruit by-products, fundamental nutrition investigations have been conducted, under the direction of Professor Malcolm, at the Otago Medical School. These experiments are carried out by the use of the latest methods of nutritional technique, and involve elaborate analyses and small-scale feeding trials. The information so secured should simplify the experiments conducted with animals in the field by investigators working along more general and extended lines.

In conjunction with the Lister Institute, co-ordinated researches are also in progress on the vitamin content of New Zealand butter throughout the various months of the butter season.

The question of the vitamin content is one of increasing moment, and there would appear to be no reason to doubt that New Zealand's beneficial climatic conditions will be reflected in large vitamin content of butter produced at all times of the year.

PIG INDUSTRY.

The possibility of building up an important export trade in bacon and pork from the Dominion, which is so favoured in respect to supplies of animal feeds as by-products of the dairy and meat industries, has led to researches being commenced upon the response of pigs to various systems of breeding, feeding, and management.

The work is being directed from three centres—Lincoln College, Massey College, and Hamilton. Regular records of feeding, weight-increase, and systems of management are being made in these districts during the present season. The results will be carefully compiled and examined by a special committee, and it is hoped that the information so secured will prove of great value in guiding the industry along right lines at the inception of the export trade. If pork export is to be built up on present prices, the most economical use of available foodstuffs will be necessary and best management practices adopted.

PORK AND BACON RESEARCH.

In view of the specially difficult transport conditions in New Zealand, manufacturers of bacon and pork have experienced much difficulty locally in the production of hams and bacon of good keeping-quality.

An association of bacon-manufacturers has financed investigations into curing methods, the work to be carried out by one of the Department's officers. Numbers of analyses of ham and bacon have been made locally to ascertain such information as depth of salt-penetration, effect of smoking, drying, and wrapping, and the influence of these upon both eating and keeping quality.

It is hoped that when all the investigations at present in progress have been finalized there will be available to the industry such definite information regarding such matters and processes as will enable the production of the very highest quality ham and bacon.

FUEL RESEARCH.

The unfortunate condition of the coal industry in Britain and elsewhere, the world-wide developments taking place in utilization of fuels, and the desirability of New Zealand being self-supporting in regard to fuel, all pointed to the necessity for fuel research so that knowledge might be gained of the suitability of our coals for various purposes and for extended uses. Consequently, in accordance with the Department's general policy—viz., that of co-operating with industry—a Fuel Research Association was formed. The coal-mine owners of the Dominion have agreed to bear one-half the cost of experiments designed to ascertain new uses for New Zealand coal and its extracted products. Two qualified scientists have been appointed, apparatus assembled, and a laboratory set up, which is now in full working-order. The various coals are under analysis and treatment in a model retort. In addition, four valuable bulletins summarizing existing knowledge have been compiled and published, and the demand for these has been exceptional, showing the general keen interest in the subject.

BUREAU OF STANDARDS AND TECHNOLOGICAL LIBRARY.

During the past year proposals have been under consideration by the Council of Scientific and Industrial Research for the establishment of a Bureau of Standards and Technological Library, the object being to afford service to primary and secondary industries generally by making arrangements for fundamental work of Dominion importance, the maintenance of standardizing and testing facilities, and for an improved information service.