

The gradual improvement in the hygienic quality of New Zealand milk has tended to make the development of a full flavour in cheese more uncertain, since the development of flavour during the ripening process depends on the presence in the milk of lactobacilli which gain access as contaminants. The Institute has shown that it is possible to influence cheese flavour by the addition of cultures of lactobacilli to the cheese-milk or curd, and a study of the growth characteristics and metabolism of the lactobacilli, and their control, has been commenced.

Roquefort-type cheese was made on an experimental scale, and from the distribution of samples there seems to be a significant demand for this. Experimental batches of Cheshire-type cheese were made, and reports from England were for the most part favourable.

The experimental herd was again used in work designed to determine the influence of plane of nutrition during the last two to three months of pregnancy on the subsequent performance of dairy cows. The project was concluded and the report, showing, *inter alia*, that the better-fed animals produced from 23 lb. to 28 lb. more butterfat per annum, was issued.

Five seasons' experimental work on dairy calf nutrition showed that satisfactory calves could be raised on skim-milk without the use of meal. The balance of nutrients was derived from pasture, and the trials clearly demonstrated the value of good-quality pasture in the diet of calves. The calves did not usually develop into animals of high condition at weaning but they grew into excellent yearlings.

Further studies were made to determine the influence of the thyroid gland on milk composition, and no evidence was obtained from the limited number of cases in each trial of any marked consistent influence of the thyroid hormone on the percentage of solids-not-fat content of milk.

Information on the reliability of different weighing procedures was obtained from a summary of the numerous data collected from 1940 on the weights of the Massey College Jersey and Friesian cattle.

The mammary gland secretions of twenty rising two-year-old heifers were examined at weekly intervals to determine if changes in the microscopic appearance of the secretions would provide a reliable indication of pregnancy or of the stage of pregnancy, and it was concluded that no reliable indication was provided without the complete removal of the earlier secretions.

Through the collection of identical twins in the Manawatu and surrounding districts, further progress has been made towards providing more suitable animals for experimental work at the Institute in future years.

NEW ZEALAND FERTILIZER MANUFACTURERS' RESEARCH ASSOCIATION (INC.)

Director: DR. M. M. BURNS

Early in 1949 the Director took up his duties, and progress has been made in the establishment of this research association, which has been an incorporated body from its outset.

A location is being sought for the laboratories, and efforts are being made for their establishment near to the main fertilizer-works and in an area of land that has types of soil representative of the soils of the main districts that use fertilizers.

Studies with radioactive phosphorus in agronomic research have been carried out at the Soil Bureau of the Department of Scientific and Industrial Research, and the Association's beta-ray counter has been loaned for these studies.

A physicist is to be appointed, and he will work in co-operation with the Soil Bureau until the laboratories are established. Major items of equipment for the laboratories have been ordered.