

the group of cows which was housed and fed with the practically pure types of pasture-plants, but confirmatory results were obtained from the cows grazed on the pastures consisting of specified mixtures. Wherever an appreciable proportion of clover was present in the feed a taint appeared in the cream, its intensity varying from day to day with individual animals.

The way has thus been cleared for further investigation with a view to devising means for the minimizing or elimination of feed taints. Methods of farm-management, systems of feeding, and methods for the processing of cream have all to be investigated, and co-operative effort between workers in several different spheres is necessary for the progress of the investigation.

The facilities available for the indoor and outdoor feeding of cows under experimental conditions are being used for the collection of data on the relations between the quantity and type of food consumed by the cow, the volume of milk produced, the daily variations in fat and casein content, and the periodical variations in fat composition.

GHEE.

Commercial tests with ghee so far have not proved very encouraging. The prices offering do not exceed those for whey butter, and, in addition, the working and packing expenses would be fairly heavy. However, the investigation has been continued during the current season in order to clarify the present obscure position.

In 1935 about eighty samples of ghee were made in the laboratory, under conditions giving different flavours and colours in the product. These were submitted for examination to a number of Hindus in Auckland, and their appraisals, which agree with those given by various Anglo-Indians who have kindly examined our products, were somewhat surprising. The Hindus preferred ghee made by the simplest—*i.e.*, our original—method of manufacture, which was merely the evaporation of butter, to any of the others offered. The other samples included ghees made with various degrees of rancid, "cheesy," "fruity," and vague "fatty" flavours, which simulated the Eastern products sent here from time to time, as well as genuine Indian ghees which had been included in the series unknown to the judges. Their preference for the pure, pleasant-tasting product made by evaporating the water from New Zealand butter without any attempt to imitate the flavour of certain Indian ghees, confirms numerous other opinions expressed in the literature and in correspondence, and the personal judgments of Anglo-Indians in this country.

The position is complicated by the fact that some of the ghees sent from the East are adulterated, or are synthetic products, and it seems doubtful whether the Eastern merchants actually handle, or could recognize, pure cow-butterfat ghee.

The products prepared for shipment abroad early this year include ghees of the following types: (1) Ghee made by evaporation of whey butter with closed steam; (2) ghee made by evaporation of whey butter under vacuum; (3) ghee made by centrifugal separation of the melted fat; (4) bleached ghee made rancid; (5) bleached ghee re-evaporated with ripened cream; (6) ghee made from cream ripened with Indian starter (*dahi*). It is considered that these six types cover a wide range of flavours and colours, and samples have been sent to about twenty merchants for appraisal. The ruling market prices for ghee, however, have been distinctly discouraging for some time compared with the present selling-price of our butter in the United Kingdom.

DISSEMINATION OF RESULTS.

The fifth annual factory-managers' week was held during the last week in April. A monthly bulletin was supplied to the *Dairy Exporter*. Addresses were given at various meetings convened by the New Zealand Dairy Factory Managers' Association, and by dairy companies, and at the National Dairy Conference. The following technical publications were issued during the year:—

Institute Publication No.	Title.	Author.	Journal.
51	Studies on the Chemistry of Cheddar-cheese Making— Part 1	F. H. McDowall and R. M. Dolby	J. Dairy Research.
52	Part 2	R. M. Dolby and F. H. McDowall	J. Dairy Research.
54	Part 3	F. H. McDowall and R. M. Dolby	J. Dairy Research.
56	The Role of Rennet in the Ripening of Cheddar Cheese	I. R. Sherwood ..	J. Dairy Research
61	The Estimation of Diacetyl and Acetyl Methyl Carbinol	C. R. Barnicoat ..	Analyst.
62	The Function of Pepsin and Rennet in the Ripening of Cheddar Cheese	I. R. Sherwood ..	J. Dairy Research.
64	The Estimation of Salt in Butter	F. H. McDowall and C. L. McDonald	N.Z. Jour. Sci. & Tech.
65	Diacetyl in Cold-stored Butters	C. R. Barnicoat ..	J. Dairy Research.
67	Rate of Temperature Change in Butter packed in Boxes of Different Types	F. H. McDowall ..	N.Z. Jour. Sci. & Tech.
68	The Walker Test for Casein in Milk	F. H. McDowall ..	N.Z. Dairyman.
69	Bacteriophage Phenomena in Cultures of Lactic Strepto- cocci	H. R. Whitehead and G. A. Cox	J. Dairy Research.
71	The Walker Method of Estimation of Casein in Milk and its Application to Preservatized Composite Samples	F. H. McDowall and R. M. Dolby	N.Z. Jour. Sci. & Tech.
75	Streptococci which produce a Substance inhibiting the Growth of Lactic Streptococci	H. R. Whitehead ..	N.Z. Jour. Agr.
79	Acidity Determination in Cheesemaking and Butter- making	F. H. McDowall ..	N.Z. Exporter.