

ESTIMATION OF MOISTURE IN CHEESE.

METHODS RECOMMENDED BY THE DAIRY SCIENCE ASSOCIATION.

THE introduction of the manufacture of standardized cheese in New Zealand has made the chemical analysis of cheese a question of major importance. The opportunity was therefore taken at a recent inaugural meeting of the New Zealand Dairy Science Association to discuss the various methods of analysis in use in the dairy factories and grading-stores, with the object of finally formulating a method which could be adopted as a standard. As a result of the discussion and partly on the basis of the figures submitted by Dr. F. H. McDowall, of the Dairy Research Institute (N.Z.), the following procedure was drawn up and approved by the meeting.

SAMPLING.

The distribution of the three chief constituents of cheese—viz., casein, fat, and moisture—throughout a cheese, or throughout the cheeses from one vat of milk, is not uniform, due both to actual variations in the composition of the cheese as taken from the press, and also to the differences in the rate of loss of moisture by evaporation in the curing-room. It is therefore not possible to obtain a representative sample of the make of cheese from a vat by taking one plug from one of the cheeses with a trier. It was agreed that in order to avoid excessive plugging of cheese analysis should if possible be carried out on only one plug of cheese, and that the errors in sampling should be taken into account in a consideration of the analytical results. It was the opinion of the meeting that the standard position of sampling as adopted by the Dairy Division for use in the grading-stores should also be recommended for adoption in the dairy factories—*i.e.*, at a position on the circumference of the cheese one-third of the distance from one end. Not less than 1 in. of the cheese should be returned to the plug-hole.

Figures were quoted showing that a cheese-plug rapidly loses moisture on exposure to the open air, and it was agreed that plugs should be placed, immediately they were drawn, into a tightly corked sample tube or bottle. The tube should be kept in a cool place, away from sunlight, in order to prevent evaporation from the plug on to the side of the tube, and also running of fat.

PREPARATION OF SAMPLE.

It was unanimously agreed that a homogeneous sample could be prepared most satisfactorily from a plug of cheese by grinding rapidly to a paste in a glass or porcelain mortar, with subsequent cutting into small lumps with a knife and a spatula, and immediate transference back to the sample tube or bottle. For an accurate determination of the figure for fat in water-free solids it is essential that a homogeneous sample should be used for fat and moisture determinations—*i.e.*, after preparation of the homogeneous sample. *It should be kept in a well-corked bottle.*