

definitely in just what proportion the various mineral salts are present in normal milk, the experiment had to be more along the lines of a "shot in the dark" than would have been the case if there had been some definite basis to work on. The minerals used were magnesium chloride, calcium chloride, citric acid combined with sodium citrate, acid sodium phosphate, and sodium citrate combined with hydrochloric acid. All were added in varied amounts, with various acidities at drying, and strict controls were used. These cheese were examined at fifteen days, one month, and three months from date of manufacture. The control cheese in each case was either equal to or better than the cheese with the minerals added. This would apply both to body and texture, whilst in a few cases a slight chemical flavour was noticeable in the experimental cheese.

*Clarification.*—With a view to ascertaining what effect the removal of mammitis pus cells, in part, would have upon cheese of quality, an experiment over a period of ten days was carried out in April. As it was not possible to obtain a proper clarifier, a 660-gallon Titan separator was used, separation being practically eliminated by means of several  $\frac{1}{4}$  in. holes drilled in the top disk cover about 2 in. below the ordinary cream outlet, which was blocked. This machine served the purpose fairly well, though a small amount of separation did take place at the disk spindle. This was flushed out with a small quantity of hot water, the same amount being added directly to the control vat. The two 100-gallon vats were used, and special care was taken to have exactly the same milk in both vats. Examination of samples of clarified and unclarified milk showed, in every case, a marked reduction in pus cells and numbers of bacteria following clarification; but, although it was noted on several days that the curd from the clarified milk was a little more pleasing than the control, no difference, either in body or texture, could be found either at fifteen days or six weeks from date of manufacture, all cheese showing a fair amount of slit-openness. All milk was pasteurized before being clarified, it not being convenient, with the facilities available, to clarify before pasteurization.

*Heavy Cheese Bandage.*—During December and January some trials were made with cheese bandages of different weights and strengths, to note the effect, if any, upon closeness. Four types, going by the numbers 25, 50, 60, and 70, apart from the ordinary bandage, were used, and none were waxed. Cheese in all of the heavy types settled down only very slightly as compared with those in the ordinary type, and several crates were held in storage for examination at maturity. An examination recently made indicated that the cheese in No. 25 were closer than the others, which were all similar in openness. It is intended to cut all cheese at an early date, when definite conclusions will be arrived at.

#### SUMMARY.

All cheese forwarded for grading to Auckland were tested for fat, moisture, and salt, an average of the results being—fat 36.36 per cent., moisture 34.11 per cent., other solids 29.52 per cent., fat in W.F.S. 55.18 per cent., salt 1.51 per cent., salt in brine 4.6027 per cent.

The average cheese grade was 92.232 points, with 11 per cent. "finest." No second-grade cheese was manufactured.