

It is to be regretted that the making of whey butter does not, as a rule, receive close attention on the part of the factory-managers responsible for the quality of this product. A little more care on their part would result in an article of better flavour and firmer body, and one that would command a higher price on the open market. A large number of the consignments received for export have been inferior in quality, which could easily have been avoided by following the well-known methods of practical buttermaking.

The quantity of whey butter of all grades received at the grading-stores for the year amounted to 16,280 cwt.

#### *Percentage of Water in Butter.*

With a view of enforcing the terms of the Dairy Industry Amendment Act, 1915, which makes it an offence for owners to forward to any grading-store butter which contains more than 16 per cent. of water, or exports or attempts to export any such butter, the graders have collected 1,930 samples for analysis during the period covered by this report. With the exception of those consignments showing a fractional excess of water and which were returned to the factory, consignments of this nature were reconditioned under the direction of officers of the Division, and at the owners' expense. Several prosecutions were also laid against offending dairy companies, and fines inflicted by the Magistrate, ranging from £5 to £10, together with payment of costs of the proceedings.

It is rather significant that the average water-content of samples taken for the year shows an increase over that of the preceding year, the average for 1918-19 being 15.09 per cent. There appears to be over-anxiety on the part of certain companies to incorporate as much water as the law will allow, and in this attempt some consignments are bound to be above 16 per cent., as the test for water made at the factories is not always thoroughly reliable. It is, of course, impossible for the graders to take samples from every consignment of butter which reaches the grading-stores, as this would entail too large an amount of extra work. Moreover, it is not desirable to interfere with the contents of the packages by taking the numerous samples which such a procedure would mean. Nevertheless, it is most important to prevent the export of any butter which does not conform with the law in this respect, and it would seem essential to ask for heavier penalties for these offences, in the hope that it would have the effect of making the dairy companies more careful in this branch of their work.

#### CASEIN.

The preparation of casein from skim-milk, and to a lesser extent from buttermilk, has been continued during the year. The quantity of the former dealt with amounted to 486 tons, and that of the latter to 60 tons, representing an increase of 165 tons compared with the quantity handled during the previous season. In all, thirty-five precipitating-stations have been in operation, several of which were only opened towards the end of the year. One important factor in connection with the commencement of new precipitating-stations on a somewhat extensive scale in the Waikato district has been the reopening of a number of skimming-stations which were formerly closed down by the introduction of the home-separation system. If the market price for casein remains at a payable level no doubt an additional number of skimming-stations will be reopened, and this in turn will have a beneficial effect in the direction of improving the quality of the butter manufactured as compared with that made from home-separated cream. As it has been reported that dairy-farmers are now finding that the feeding-value of the casein-whey returned to them is much greater than expected, others are now more likely to support the establishment of casein-factories.

The quality of a portion of the casein graded for export has been all that could be desired, but, unfortunately, the remainder was more or less indifferent and irregular in quality. A want of uniformity in casein is a very serious fault from the buyer's point of view; therefore there is less demand for an article of this nature. The principal reason for the lack of uniformity is the delay which takes place between the time of the preparation of the curd and its arrival at the drying-station. This causes the development of fermentation, and results in an inferior solution from the finished product. The remedy, of course, is to have the drying-station located in a central position and at no great distance from the source of supply.

The Instructor who attends to the casein-factories has devoted a great deal of time to advising those interested in this branch of the work, and also to giving practical demonstrations in preparing the product from skim-milk and buttermilk. The advice given, however, has not always been carried out in detail so far as the treatment of the buttermilk is concerned. Consequently the product cannot be expected to create a demand for further quantities of this material.

#### DRIED MILK.

It is safe to say that no topic in regard to dairying has been so frequently discussed of late as that of the dried-milk industry and the proposed establishment of additional factories for its extension. The dairy-farming community, more particularly in the Waikato district, has given this question a great deal of consideration, and many have expressed a desire to support the movement rather than continue to furnish supplies of milk or cream to either cheese or butter factories. Even the price of land and dairy stock have risen in certain localities in sympathy with the prospects of higher prices being obtained for milk-powder. The factories already established have received larger supplies of milk for drying than formerly, resulting in a total production of 3,200 tons for the year, practically all of which has been packed under the trade name of "Glaxo" and sold to the Imperial Government at 1s. 4½d. per pound.

At the end of the 1917-18 season three of the larger dairy companies operating in the Auckland Province decided to send their respective managers to the United States and Canada as a delegation to make exhaustive inquiries as to the wisdom of building and equipping several large factories on the most modern system for the production of milk-powder. These delegates have since returned, bringing with them, it is said, the fullest information as to the method adopted for the treatment of