

tions to the building and additions to the plant have now brought these works up to date, and in future cases will be held under approved conditions and at the desired temperatures. Owing to the shortage of space at Patea some cheese had to be graded at a central building at Hawera. This to some extent helped to relieve the pressure.

At the Port of Wellington none of the cheese could be cool-stored, as the new building erected for this purpose was not fitted with the necessary refrigerating plant in time for the warm weather. An extension was made to the cheese-store during the year, the necessary machinery has since been installed, and it is expected that the temperature of this building will be regulated so as to keep the cheese in good condition next year. Accumulation of stocks at Wellington was so great that another building had to be utilized for this purpose, and although the officials of the Harbour Board did their best to keep the cheese from spoiling by making provision for a good air-circulation by the installation of fans, &c., deterioration of the produce took place to a considerable extent.

Many of the consignments at Wellington and other ports became affected with cheese-mites, and the losses made on this account have also been considerable. The bulk of the cheese loaded in the North Island, with the exception of that from Auckland, was placed on board the steamers in a more or less heated condition. This gave rise to some comment on the part of the ships' officers, and finally resulted in all bills of lading for cheese being specially marked to indicate that the cheese was unsatisfactory when delivered to the ship. On the other hand, the shipments of cheese made from the South Island ports were found to be in much better order, as it was found possible to store the cheese at lower temperatures, and the produce presented a much better appearance at the time of shipment than much of the cheese from the North Island.

The harmful treatment which much of the cheese receives prior to leaving New Zealand has been brought under the notice of the producers from time to time, but they do not appear to take as much interest in this phase of their business as its importance demands. The position is one calling for immediate attention, for there is no guarantee that the accumulation of cheese at the main ports will be any less next year. If cargo-space is shorter than it has been large quantities of cheese may deteriorate to such an extent during the summer months as to become a total loss and unfit for shipment. Hence the urgent necessity for extending the cool-storage accommodation for cheese at the ports mentioned above.

PASTEURIZATION OF MILK FOR CHEESEMAKING.

A further extension of the system of pasteurization as applied to milk for cheesemaking has taken place during the year. In all, seventy-six factories are now fitted with regenerative pasteurizers and the necessary coolers for treating the milk. In the Auckland Province no less than twenty-seven cheese-factories out of a total number of fifty-four are fitted with these machines, twenty-six of which have been installed within the last twelve months.

This principle of cheesemaking has in many instances effected a remarkable improvement in the quality of the product, cheese made by this process being much better in flavour, and also in body and texture, compared with the cheese made at the same factories from raw milk during former seasons. The cheese is not only superior in flavour when made, but its keeping quality has also greatly improved. This process bids fair to become very popular, and already many additional pasteurizing plants have been ordered. If these come forward without undue delay they will be in operation at the beginning of next season.

In almost every case where the pasteurizing of milk for this purpose has been commenced the Instructors of the Division have been present to give the cheesemakers the advantage of their experience, and thus the change from the old order of things has been made on a fairly uniform basis.

It would appear that the time is not far distant when the bulk of the cheese produced, in the North Island at any rate, will be made from milk which has been treated by pasteurization. Fortunately this principle does not incur a heavy extra cost, and the benefits derived therefrom increase the market value of the cheese. A beginning has also been made with this system in the South Island, and here again it is likely to expand.

SUPPLY OF RENNET.

When the season opened it was feared, on account of a threatened shortage of rennet, that the production of cheese might be seriously interfered with. Fortunately this did not happen. It was ascertained later on that the majority of the dairy companies had taken the precaution to obtain stocks of rennet in advance of their requirements. Subsequently shipments of later orders, about the arrival of which there was some doubt, came to hand, much to the relief of those companies which had no surplus supply. Further relief was afforded when it became known that a substitute in the form of pepsin could be used.

Early in the season the question of utilizing pepsin was considered, and information having been received from the Dairy and Cool Storage Commissioner of Canada as to the success which attended trials of pepsin in that country, the Division was able to take the matter up without delay. A series of trials were then made at the Kaponga Dairy Factory, which proved conclusively that pepsin of the right quality was suitable for supplementing the supply of rennet, or for replacing the latter if found necessary. Pepsin in quantities being available about this time, many of the dairy companies decided to procure a sufficient amount of it for early use. The Instructors in cheesemaking have since visited many of the factories in order to introduce the use of pepsin, and, taken altogether, the result has been quite satisfactory.

The newly formed New Zealand Co-operative Rennet Company was fairly successful in collecting calves' vells during the early months of the season, and some twenty-five thousand of them were shipped to England to be made into rennet for return to New Zealand. The first lots of rennet from this source have since arrived in the Dominion. It is to be hoped that further