

a price higher than will be paid for our average quality. New Zealand rennet casein is considered to contain too much butterfat. This may be minimized by cleaner skimming. It has been shown this season that some separators were not doing their work with the desired efficiency, which means not only lower-quality casein but also a loss to the buttermaking department as well.

It is considered that New Zealand has many advantages relative to casein-production as compared with competitors, and that, as the use of casein is likely to extend, the further development of the industry is a reasonable expectation.

MILK-POWDER.

In addition to the factories for the drying of whole milk operated by Messrs. Joseph Nathan and Co., at Bunnythorpe, Matangi, Matamata, and Te Aroha West, there has been running during this season the factory at Waharoa, owned by the Zealandia Milk Products Company, and operated for the purpose of drying skim-milk. Some of this powder has been disposed of on the local market, but the major portion has been shipped to London and has been favourably commented upon. This company expects to commence the drying of skim-milk at its new factory at Waitoa early next season, and to have another factory ready for similar work at Te Awamutu later on in the same season. The Cambridge Dairy Company has erected at Hautapu a new factory for making skim-milk powder; this is also expected to be running early next spring.

Consideration has been given by a number of dairy companies to the drying of buttermilk into powder form. Some plant is on order, and it is hoped that the enterprise will prove satisfactory and successful. The comparatively low prices for calves and pigs which have been current during the latter portion of the year will, if continued, be instrumental in causing dairy-farmers to look for some other outlet for skim-milk and buttermilk. If the world's markets take these powdered-milk products at remunerative prices their manufacture will doubtless receive support.

MILK AND CREAM SUPPLY.

A considerable improvement has been evidenced in the milk and cream supplied to dairy-factories belonging to companies which have instituted the principle of grading the cream and paying differential prices according to grade, and which have co-operated with this Division in the employment of Farm-Dairy Instructors to assist the dairymen in overcoming defects. Encouraging improvement, although in a less degree, has also been found at factories where cream is graded and differential payments are made, although the company may not have an Instructor. At factories which cannot be included in either of the above classes little if any improvement has been noted.

Competition for milk and cream is keen in some localities. A proper system of grading cream or a careful inspection of milk on the receiving-stage does not suit the competing companies. The demoralizing effect of such injudicious competition, even if such is practised by only one company located in a good centre, is felt by other companies of the district, and militates against any immediate prospect of improvement. Indeed, it is frequently difficult for such adjoining companies to maintain their standard of quality without running the risk of losing supply.

FARM-DAIRY INSTRUCTION.

The importance of a clean, sound, raw material for the production of milk-products has long been recognized. It is, however, only after some farm-dairy instruction has been accomplished that the necessity for such work is adequately appreciated. Butter and Cheese Instructors have hitherto undertaken a little of this work. In most instances, however, only those suppliers delivering the most inferior cream and milk have been visited. In practically all such cases the cause of the trouble has been found in insanitary milking-machines. It is recognized that these machines afford a great saving in labour, but a large percentage of users fail to give them sufficient attention.

There are now some nineteen Farm-Dairy Instructors appointed by the Department, and these are employed in conjunction with dairy companies which contribute toward their salaries. Such officers on commencing duty found from 75 per cent. to 90 per cent. of the machines in their respective districts in an insanitary condition. As instruction proceeded, these Instructors later on in the season were able to report improvement, which has also been maintained in districts where they have been working longer than the one season. The grading of the cream on the receiving-stage, together with a lower payment per pound of fat for lower grades, tends to make dairy-farmers desirous of improvement. A visit by the Instructor to a farm supplying low-quality cream assists the dairy-farmer to overcome his difficulty.

The farm separator is usually found in a cleaner condition than is the milking-machine. It is suggested that dairy-farmers recognize fairly fully that their supply of butterfat is likely to be reduced if separators are not kept in proper order. Too often, however, the separator is installed in the same room as the engine and vacuum-pump. A separate room is a necessity. It has also been found that too frequently separators are disposed of as unsatisfactory when a few shillings spent on repairs is all that is required. The advice of our officers has effected a considerable saving to dairy-farmers in this respect.

Farm-Dairy Instructors are provided with plans of suitable cow-sheds. These plans are much sought after, and have been of much assistance to many dairy-farmers, while the advice of the Farm-Dairy Instructor regarding alterations to sheds has also been of value in this connection. Doubtless, more new sheds would have been built and more improvement effected had cement been procurable in adequate quantities. A number of old-type sheds have been altered to suit machine milking. When a dairy-farmer contemplates making such a change it is advisable that he should consult the Farm-Dairy Instructor of the district, if there be such. The services of such officers should tend to