

the herds is affected by the different practices in regard to replacement of stock. A few of the farmers breed their own replacements, and it is noticeable that in this area, as in all the areas, the farmers who do breed their own replacements record the highest yield per cow and that in many cases that yield is substantially above the average. But here, as elsewhere, the majority buy their replacements mainly from the saleyards.

Shortage of Supply

The decline in the number of cows milked for town supply has resulted in a shortage that threatens to become more serious. That shortage has two evil results. In the first place, it establishes a dependence on unsatisfactory sources and, in the second place, in spite of drawing milk from a great distance and from unsatisfactory sources, it results in rationing of supplies to school-children and other consumers. Referring again to the report from the Department of Agriculture, we are informed that, owing to the winter shortage, it is necessary to draw milk from as far afield as Stirling, Goodwood, and Balclutha. Some of it is obtained from dairy-farms at Stirling with unconditional licenses, and some from premises farther afield with temporary licenses. As is suggestively remarked, "Discretion, of course, is exercised in the granting of temporary licenses, but the degree of discretion is governed by the acuteness of the shortage." In 1941, in the months of May, June, July, and August, 21,000 gallons came from Stirling, 60 miles away; in 1942 about 22,500 gallons came from the same district; and in this year the supply started in the middle of April with about 200 gallons per day. In each of the years 1938, 1939, 1940, and 1941 the supply of milk to schools ceased during the months of June, July, and August. In 1942 milk was brought from Balclutha at the cost of the State, but even then no milk was provided for schools in July and August. In 1943 the school supply ceased earlier and there was no supply in May.

Level Supply

The dairy-farms of the producer-vendors are mainly on the hilly country around Dunedin. The land is poor, the climate is rigorous, the conditions are bad. Yet the producer-vendors in Dunedin maintain a remarkably level supply. They produce their own needs, and a steady supply comes into the city all the year round. The producers who supply the raw-milk vendors are mainly men who produce their milk in the same class of country. They generally are bound to maintain a specified gallonage all the year round, and if they fail, the vendor is free to purchase the shortage at his supplier's expense and at such price as the vendor may find necessary. These producers, too, maintain a remarkably level supply.

On the Taieri the results are not as good so far as the maintenance of a level supply is concerned. There, too, conditions are unfavourable because of the heavy nature of the soil. Many of the farmers, too, are engaged in mixed farming and find it more attractive to limit the amount of winter milking. But there are exceptions, and some of the producers have demonstrated that a level supply is practicable even under the conditions obtaining there.

Balancing-station

The cheese-factory at Momona acts as a balancing-station for the suppliers on the Taieri. Though Momona is a considerable distance from Dunedin it is placed fairly conveniently for suppliers whose farms are spread over the Plain. If in time the suppliers from other parts of the area surrounding Dunedin send their supplies through the Dairy Farmers' Co-operative Milk Supply Co., Ltd., it will no doubt be possible to maintain the balancing-station on the Taieri and divert from the Taieri suppliers the total summer surplus. No difficulty would be experienced in adjusting the returns so that each supplier bore his due proportion of that total surplus.

Farm Dairies

The condition of the dairies generally may be described as poor. There are some sheds and milk-houses that must have been of advanced type and equipment when they were constructed, but they are now old, and when conditions permit will be replaced. In some cases where the same building is used both for feeding and milking it is difficult, if not impossible, to attain the standard of cleanliness that ought to be characteristic of every town-milk-supply dairy. The officers of the Department of Agriculture maintain constant pressure to raise the standard, but the present shortage of labour and material retards development. In the years 1940 and 1941 the following improvements were recorded:—

New sheds built	..	..	..	..	..	..	23
New milk-houses built	..	..	..	..	..	..	12
New water-supplies installed	..	..	..	..	..	..	13
Sheds wholly or partially reconstructed	..	..	..	..	..	..	27
Extensive additions to concrete yards, drains, &c., effected	..	..	..	..	..	..	15

Very few farm dairies are equipped with refrigerators. The washboard type of cooler is in common use and the water-supply is reasonably satisfactory. The Dairy Farmers' Co-operative Milk Supply Co., Ltd., has refrigerator space for the storage of milk at its depot in Dunedin.

Quality of Supply

The quality of the milk is affected by the pressure for volume. The Health Department tests show a low butterfat content of 3.98 per cent., and this is lower than that reported from any of the other areas. The standard is low in other respects. A return furnished by Professor Hercus, Dean of the Medical Faculty, of samples of raw milk taken and tested during 1942 shows the following result:—

Month.					Number of Samples.	Percentage Unsatisfactory, <i>Bacillus Coli</i> .	Percentage Unsatisfactory, Plate Count.
January and February	..	..	..	..	28	71	71
March	..	..	..	..	19	95	42.1
April	..	..	..	..	25	12	32
May	..	..	..	..	16	62.5	37.5
June	..	..	..	..	28	11.8	14.3
July	..	..	..	..	30	23.3	36.6