surplus, and, whatever may be the use that is made of that surplus, factory price only is paid for it. The Commission was assured, however, by the representative of the largest treating-house in Christchurch that all milk in winter, even any excess over the quota or declared quantity, is paid for at town-milk rates. Whether in practice any particular vendor gains appreciable benefit from this practice the Commission has not been able to ascertain. Where a truly co-operative basis of supply is adopted and strictly operated the gain will be reflected in the greater pay-out to the producer at the end of the year. But this basis is not generally adopted. Another question of still greater importance is the use of milk for the production of cream and other purposes. In one district it was found that one of the vendors who purchased large quantities of milk for town supply, and by whom factory prices were paid for substantial surpluses, imported large quantities of cream from sources at a considerable distance beyond the normal town-milk-supply area. Had it been established that the surplus milk brought into the area from dairy-farms licensed for that purpose should provide the primary source of all cream required by the area a use might have been made of the surplus more profitably than that of sale to a cheese or butter factory. The same consideration applies to every other use to which the surplus milk may be put, whether it be in the manufacture of ice-cream, of chocolate, or of any other marketable product. A rule that the surplus milk available from the town milk-supply must be exhausted before resort is had to outside supplies would be a valuable means of protecting the producer and, possibly, of guarding the consumer against the increases in price or even of securing a reduction. No such rule exists, though, as indicated above, the operation of the co-operative principle does, at least partially, effect the same object.

At the present time no care is taken to ensure that cream for consumption in the metropolitan areas is drawn from licensed farm dairies. As cream comprises approximately 60 per cent. milk, the same danger of infection exists as in the case of milk and the same necessity arises for control over the conditions of production and distribution. If this principle were applied, the suggested rule that all town milk-supply should be exhausted before cream was imported from outside sources would become effective.

CHAPTER 2.—PRESENT CIRCUMSTANCES OF THE SUPPLY OF MILK TO THE METROPOLITAN AREA OF AUCKLAND

In the Year-Book return of the population of urban areas the Auckland area is treated as comprising the City of Auckland, twelve boroughs (comprising four on the north shore of the harbour and eight on the south shore), and certain other urban areas (including adjacent town districts and parts of counties). This area contains nearly the whole of the population depending on the area milk-supply and does not include any appreciable number of persons not depending on that supply. Though widespread, the area is well situated for the purpose of convenient distribution of any commodity in universal use. The land is not flat, but the hills are not difficult and good roads radiate from the centre in all directions.

Demand

Population

The population within the metropolitan area is stated in the 1942 Year-Book as being 223,700 on 1st April, 1941. This is the population to which milk is supplied in the one supply area. In addition to their requirements, large quantities are required for shipping, for the Armed Forces, and for children who attend schools outside the area but are supplied from the treating-houses within the area. The quantities required for shipping and for the number of men in the Armed Forces for whom provision might have to be made cannot be exactly computed, but the number of children outside the area for whom provision is supposed to be made at half a pint per day per child is 29,412.

In anticipating future requirements regard must be had to the growth of the population. The Year-Book for 1942 gives the figures for the Auckland urban area for the period from 1911–1936 inclusive as follows: 1911, 115,750; 1916, 133,712; 1921, 157,757; 1926, 192,223; 1936, 210,393. To this can be added the figures given above namely, 1941, 223,700. These figures show considerable variability in the rate of increase. This variability is probably due, in the main, to the growth in the population affecting the relation of outlying districts that are gradually built up outside the urban area until further changes bring them into the area. Even at present such places as Papatoetoe and Manurewa, though outside the recognized urban area, draw their liquid-milk supplies from part of the same supply area, and their populations are steadily growing. It seems reasonable to anticipate an annual increase of demand equivalent to consumption by, say, 3,000 persons and unsafe to plan for less. The changes in the volume of shipping cannot be foreseen or estimated with any accuracy, but in normal times a rough correspondence to changes in the population may be anticipated. The number of the Armed Forces in the area is likely to be reduced to relatively small proportions after the end of the war. But as repatriation of men now in camps near the area takes place the New Zealand men at home and abroad will return to civilian life, which probably will mean an increase in the civilian population in this one area of approximately one-tenth part of the total population.

Present Consumption

The consumption of milk within the area varies from month to month and from year to year, but the highest daily gallonage purchased in any one month in each year is the only safe guide for future requirements. That is the maximum amount that is required and ought to be provided. In the Auckland Milk Council's area the average daily consumption for the year 1934-35 onwards has been returned by the Milk Council, and the months of highest daily sales are November, December, February, and March. Taking the highest average for any one month we get the following:—

Season ending 31st March,	Average Total Daily Gallonage sold.
1934–35 (December)	17,767
1935–36 (December)	19,139
1936–37 (December)	19,417
1937–38 (March)	20,578
1938–39 (March)	20,744
1939–40 (December)	20,780
1940–41 (December)	21,568
1941–42 (December)	22,936
1942–43 (March)	27,751