

Attention must also be directed to the possibility of an increase in the demand per head of the population. At present in the four areas the daily consumption per head appears to be about $\frac{7}{8}$ pint. But this includes consumption in camps and in the cities by members of the Armed Forces, and the estimate of civilian consumption per head stated in the Year-Book is only $\frac{5}{8}$ pint. The optimum daily consumption per head as stated by health authorities is $1\frac{3}{4}$ pints per day. According to the findings of the recent Food Conference held in the United States of America a minimum dietary standard of slightly more than 1 pint of milk per head of the population must be included in judging the sufficiency of the diets of all peoples. It seems reasonable that the very moderate consumption of 1 pint per head per day should be anticipated and achieved. If this modest standard could be reached there would be a substantial increase over the present demand that includes the high *per capita* consumption of the Armed Forces. The Health Department aims to educate the community so that the consumption will increase.

NATURAL CONDITIONS

Natural conditions inevitably play an important part in determining the policy and the administration best fitted to meet the demand and to ensure an adequate supply of good-quality milk at reasonable prices.

The Auckland area has such natural advantages that there ought not to be any serious difficulty in ensuring for very many years an adequate supply from an area extending not more than from 20 miles to 30 miles from the centre. The land is not so fertile as the land of the Taieri Plain or that of the flat country around Christchurch, but it is good dairying country and the climate is not rigorous. At the present time within some 20 miles or so of the city there is a cow population of over sixty thousand. In Wellington within the 30-mile area the natural conditions are less favourable. A great part of the land is less fertile than is the land around Auckland, and the pressure of population is being increasingly felt in the Hutt Valley. The production of winter feed is difficult and its importation is costly. There is an abundance of good land up the west coast, and an increasing dependence on the supplies from that more productive area must, apparently, be a feature of the policy for the future. Christchurch has a belt of good land in close proximity to the city, and this land is abundantly supplied with fresh cold water. Adequate winter feed is produced on the dairy-farms. In the Taieri Plain, Dunedin has a source of supply which, if it can be effectively organized, will be sufficient for many years. Heavy soil and wet conditions with consequent "pugging" of the land in the winter creates a difficulty, but the soil ranks in fertility with the best in the Dominion.

The varying natural conditions give prominence to the question of policy in production. It must be determined in each case whether the maintenance of an approximately level supply throughout the year is economical or whether other lands must be included as an integral part of the supply area either for the supply of milk in the winter or for an all-the-year-round supply. The question whether the added time and added cost incurred by going out to a greater distance for an added supply is more economical than intensifying cultivation on less fertile lands near to the area of distribution is of particular importance in the case of Wellington.

ORGANIZATION

In every area the liquid-milk industry has developed some kind of organization. Production, collection, treatment, and distribution of the commodity is proceeding in each case with a degree of regularity in its main functions and methods. Producers, producer-vendors, and vendors are operating in each area and operating in accordance with settled practice. But there has not been uniformity in the processes of development, and there are striking differences in the present situation in the several areas. At certain times and in certain cases the industry has developed simply under the pressure of economic forces and of the interests of particular parties. In other cases it has been determined by the disturbing effect of particular conditions and events. In others, again, it has been inspired and guided by men of foresight, enterprise, and resolution. In the result each area has developed a distinctive set-up and its own methods of control.

Auckland has a metropolitan Milk Council created by statute with power to exercise control over the industry. It has a unique system of tight pools, each of which has a membership limited and controlled with the assistance of the Milk Council. One of the pools has a substantial surplus of milk on which the other pools depend for considerable portions of their supplies. A factory owned and operated by the New Zealand Co-operative Dairy Co., Ltd., is used as a balancing station. The Wellington Metropolitan Area is divided into two parts. One of these parts comprises the City of Wellington and its immediate environs. The other comprises the Hutt City and its environs. Wellington City has a Municipal Milk Department controlling 80 per cent. of the milk supplied to the city; and the department controls and operates a balancing station. There is a powerful Producers' Association, the Wellington Dairy Farmers' Co-operative Association, Ltd., which acts for its members and which is responsible for the supply of a large part of the milk used by the Department. The Hutt City and its environs has a well-organized association of vendors and producer-vendors and, apart from milk produced by the producer-vendors, supplies for the Hutt Valley are drawn from the Wellington Dairy Farmers' Association, Ltd. In Dunedin the vendors and producer-vendors are united in an association. Until recently the producers were unorganized. Recently a Producers' Association has been formed and is building up an organization to protect the interests of the dairy-farmers and to discharge the functions of a City Milk Supply Association. Christchurch cannot be said to have any planned or directed organization. The vendors are divided into two groups, one of which is identified with the pasteurization of milk and the other of which determinedly identifies itself with the supply of raw milk. So far the producers have failed to form any one organized body or to group themselves in any effective way.

The particular developments in Auckland, Wellington, and Dunedin were provoked by special events. In Auckland a severe price war in the town-milk trade was waged in the early "thirties." Prices were forced down so low as to create a fear that the city liquid-milk supply might fail. The new Council was created by statute in 1933-34, and at once applied itself energetically to the task of creating order out of chaos and of establishing conditions that would assure an adequate supply of milk of good quality. In 1918 the milk-supply to the City of Wellington was in a deplorable condition, and a complete reorganization became imperative. Fortunately, at that time the citizens of Wellington