

supplier receives no payment but is charged for cartage until the standard of four hours is restored. This system of testing, grading, and payment has an immediate and direct affect on the quality of the supply.

Both pasteurizing and bottling are carried through under good conditions. After weighing, the milk is cooled to 38° F. It then flows into glass-lined insulated storage tanks. It is then pasteurized, filtered, and chilled in a unified milk-treatment machine. The bottles are machine cleansed, sterilized, filled, and capped. Every care is taken to avoid danger of contamination of the milk after pasteurizing and the bottles after sterilizing. There is no exposure to the air after the treatment of the milk or the sterilizing of the bottles until the point at which the milk enters the bottles; and filling and capping are carried out automatically by the same machine and as part of one process. All milk after pasteurizing and bottling is held in a refrigerated room until loaded for delivery. It should be stated that tests taken by the Health Department confirm the results found by the Milk Department and, further, that of the 2,215 samples taken in 1942 from all vendors only 75, or 3·5 per cent., failed to comply with the standards set by the Food and Drugs Act, while none of the samples taken from the Council's delivery carts were found to be at fault.

Milk distributed in the Hutt Valley is not pasteurized and none is bottled. This applies to the milk distributed to householders and to that sold in wholesale quantities and also to that supplied to the Armed Forces and to shipping. All the milk supplied to the Armed Forces is drawn from cows in T.B. tested herds. When the test was carried out it showed 5·4 per cent. of reactors. This is very low compared with overseas experience, but it is still appreciable and gives emphasis to the recommendation that milk ought not to be distributed raw unless it is drawn from T.B. tested cows. Generally, the tests taken by the Health Department show that the butterfat content of the milk is satisfactory. Tests taken by the Wellington Dairy Farmers' Co-operative Association, Ltd., of their own milk shows 4·6 per cent. butterfat. The standard in other respects is also high. The average tests of samples taken by the Health Department throughout the three central health districts other than Wellington showed failure to comply with statutory standards in 11·4 per cent. of samples, while the percentage taken on the rounds in the Hutt Valley was 8·6 per cent. only. The Wellington Dairy Farmers' Co-operative Association, Ltd., carry out daily tests on the milk collected by it, and this gives effective control over the standard of the milk. A recent communication from the Health Department directed attention to unsatisfactory features at the Wellington Dairy Farmers' Co-operative Association, Ltd.'s depot at the Lower Hutt and recommended that certain improvements in respect of sterilization and other matters be effected. The Commission was assured that the recommendations of the Department in respect of sterilization were receiving immediate attention.

It is necessary to refer again to the influence of the purchase of large quantities of milk from suppliers to butter and cheese factories outside the regular supply area. Under the administration of the Department of Agriculture and of the Department of Health control over the conditions under which town milk is produced has been effectively exercised and progressive improvement in these conditions has been secured. Use of emergency supplies as a common feature of town supply tends to break down that control and to lower the standard attained. It appears to be the case that the supplies purchased from outside sources in the winter of 1943 by the Wellington City Council was of a fairly good standard for milk so derived, but it was not up to the controlled standards, and the ultimate effect of dependence on such supplies must be such as to break down control and generally to lower the standard. In the opinion of the Commission, such dependence must be regarded as a proof of failure to organize the city milk-supply effectively and ought not to be tolerated. The cost of the Municipal Milk Department for pasteurization is 2·16d. per gallon and for bottling 2·07d. per gallon. The comparable cost in other areas ranges from 0·99d. to 1·87d. per gallon for treatment and from 2·25d. to 3·32d. for bottling.

DISTRIBUTION

Distributors

In Wellington milk and cream are distributed by the Milk Department of the Wellington City Council and by the nearby farmers. There are ninety-one shop dairies in the city. In the Hutt Valley and eastern bays it is distributed by vendors and producer-vendors and by shop dairies. In Wellington there are forty-five producer-vendors and in the Hutt Valley and bays district there are twelve producer-vendors and twenty vendors.

The quantities of milk delivered by these distributors is indicated by the following returns for the year ending 31st March, 1943 :—

Milk Department	..	..	..	3,883,638 gallons milk, 665,145 pints cream.
Nearby farmers	..	..	..	Total sales approximately 950,000 gallons, including 74,190 gallons milk and 91,981 pints cream purchased from the Wellington City Council.
Hutt Valley vendors and producer-vendors				1,230,688 gallons.
Wellington Dairy Farmers' Co-operative Association, Ltd.				To milk-shops, shipping, and Armed Forces, 515,173 gallons.

Classes of Purchasers

As is the case in other areas, the milk supplied in Wellington is divided up between various classes, including retail purchasers such as householders; wholesale purchasers, including restaurants, hotels, milk-bars, milk-shops, &c.; purchasers under special contract, including hospitals and other institutions, shipping companies, and Armed Forces. Sufficient information is not available to enable us to give particulars of the amounts distributed to each of the constituent groups, but the following return from the Milk Department of the City Council indicates the general grouping and the prices charged so far as their supplies are concerned :—

			1940-41.	1941-42.	1942-43.
Bottled milk (retail)	..	..	1,994,141	2,068,475	2,277,369
Bulk milk	..	..	808,908	788,025	1,345,788
School milk	..	..	259,972	250,806	186,291
Pints of cream	..	..	481,992	530,872	665,145
Ice-cream mix (1 gallon milk for 3 gallons mixture)	..	..	90,456	99,969	108,452