

With regard to the percentage of butter fat found in these samples, it will be seen that the various districts shew as follows:—

	Highest.	Lowest.	Average.
Halifax .....	5·40	3·00	4·24
St. John .....	4·62	3·43	3·91
Quebec.....	4·18	3·02	3·54
Montreal .....	5·17	2·80	3·82
Ottawa .....	5·29	3·62	4·26
Toronto .....	4·50	2·52	3·38
Total average .....			3·86

It thus appears, that there are whole milks offered for sale in the cities of the Dominion, likely enough at the same price, whose percentage of butter fat varies from 2·52 to 5·40. This variation is, no doubt, caused by differences in the breed, condition or feeding of the animals. The number of the inferior samples is, however, small; among the 162 samples analysed in Ottawa, 35 are between 3 and 3·5 per cent., and only eleven below 3. Still, the fact remains that the richest samples might be diluted with an equal amount of water and still be as good, so far as regards butter, as some of the inferior sorts of genuine milk. Watering, even to a slight degree, may be readily detected, and, under the present law, punished. This may also be accomplished when milk is skimmed, but it does not seem fair that the dairyman, who mixes say fifty per cent. skim milk with a whole milk of 4·5 per cent., thus reducing it to 3·2 of butter fat, should be punished, while the man who keeps poor animals, feeds them insufficiently and sells milk containing only 2·75 per cent. butter fat, which may be legally genuine, should be allowed to escape.

In Massachusetts this difficulty was overcome by altering the law which relates to the sale and inspection of milk, causing the section which defines adulteration to read as follows:—

“In all prosecutions under this chapter if the milk is shewn upon analysis to contain more than eighty-seven per cent. of watery fluid, or to contain less than thirteen per cent. of milk solids, or to contain less than nine and three-tenths per cent milk solids exclusive of fat, it shall be deemed, for the purposes of this act to be *not of good standard quality*, except during the months of May and June, when milk containing less than twelve per cent. of milk solids shall be deemed to be *not of good standard quality.*” Under this law it is not necessary to prove adulteration but only that the milk is not of “good standard quality.”

Judging from the foregoing analyses it would, however, appear that thirteen per cent. total solids is too high a limit for Canada. The “total solids” or “dry substance,” as the Germans call it, is obtained by adding together the butterfat and the “other solids” given in the tables. The averages shewn in the various districts are as follows:—

Halifax .....	12·72
St. John .....	12·45
Quebec.....	12·39
Montreal .....	12·29
Ottawa.....	12·93
Toronto .....	12·08

Total average 12·48 p. c. total solids.

It thus appears that the average in Canada is at least one-half of one per cent. below the Massachusetts standard. The total average of butterfat found in the whole 162 samples is 3·86 per cent., which deducted from the average total solids, 12·48 per cent., leaves for the solids other than fat 8·62 per cent. In the event of standards being established in Canada, it would seem wise to adopt the principle that milk