December 12th 1887.

cannot come from nothing While milk, beef, wool, horse firsh &o, are boing drawn from the soil, the land is becoming poorer Many have been the attempts of mechanics to gain speed without losing power, or power without losing speed, but it was never done, and never will be done. Neither will the attempts of farmers to get something from nothing ever sneeed.

> F. MALCOLM. Innerkip, Ontario.

City Milk Standards in their relations to health.

Various regulations have been proposed with a view to publibiling this or that kind of food, as, for instance, distillery slops, slaughter-house refuse, and other forms of waste. It is often overlooked that the object of feeding such refuse is to increase the flow of milk at the expense of its quality; and especially is this the case where low prices prevail.

There is no easier way of demonstrating the truth of this proposition than by quoting the example of the public milchcow competitions. Formerly it was the practice to give the prizes to those cows which gave the largest quantity of milk, without the slightest regard to the quantity of total solids, or the proportion of butter-fat contained in the milk, or the distance from calving, or the length of time the cow had been in calf. In such competitions the milk would seldom average above 11 50 or 11 75 per cent. of total solids, of which less than three per cent. was butter fat. The cause was not far to seek, and was invariably found in the mode of feeding, which consisted of rations composed of sloppy food of low nutritive value, supplemented with roots.

In the present day feeders work with very different rations, composed mainly of grains rich in oil and nitrogenous matter, supplemented with just enough coarse fodder and roots to make the whole digestible and profitable. Whereas, under the old system, it took about eleven or eleven and a quarter pounds of such milk to make one of cheese, or about thirty to thirty four to make one of butter, we can get, with modern economic rations, one pound of cheese from six or seven pounds of milk, or one pound of butter from fourteen to twenty-two pounds of milk.

If throughout a working season of six months Ontario creamerics can make one pound of butter from twenty-five pounds of milk, and Quebeo creameries can produce the same quantity of butter from twenty-two and one-half pounds of milk, surely there is nothing unjust in asking that our city m'k supplies should show a higher average per cent of butter fat than they now do. A recent document issued by the In'and Revenue Analyst reports the following as the averages of quality obtaine t at the places of examination .

PROPORTION	OF	BUTTER	FAT.
	••		

	Highest.	Lowest.	Average.
Halifax	. 5.40	3.00	4.24
St. John	4 62	3.43	3.91
Quebec	4.18	3 0 2	3.54
Montreal	. 5.17	2.80	3.82
Ottawa	. 5.29	3.62	4 26
Toronto	. 4.50	3.52	3.38

Total average 389

MILE SOLIDS AVERAGE.

Halifax	1272
St John	12.45
Quebec	12 39
Montreal.	12 29
Oituwa	12.93
Τοτοπιο	12 08
Total average	12.48

From these data the analyst draws the conclusion that we should not adopt a standard higher than twelve per cent. of total solids, of which 35 per cent should be butter fat. Surely if these cheese factories and creamerics can obtain milk from grass fed cows for six months throughout the Provinces of Ontario and Quebco of higher average quality than the city supplies examined by the official analyst, it is only reasonable that we should expect as good milk for city use in summer, and in winter one of slightly improved quality when cows are fed on grain and other nutritious food, and prices are higher.

Before adopting its milk standard of 13 per cent. total solids, of which 3.7 per cent. is butter-fat, the State of Massachusetts investigated milks from a much wider range of territory, with the following results.

AVERAGE COMPOSITION OF WILK	(By various authorities)			
Authority.	Solids	Fat.	Not Fa	Ash.
Paris Standard, 1887	13 00	4 00	9 00	70
Report of Paris (1885) Municipal lab- orniers Agrage of all anthorities	13-19	4.10	9 00	•70
quoted	13 30	4 00	¥ 3û	70
by milkmen	13 30	3 50	9 80	•70
erage of a number of ana yses	13 6J	40.	9 50	-60
J. Carter Bell, average of 181 cows New York Dairy Commissioner's re-	13 60	3 70	9 60	.70
port. 1885. Average of 296 cows New Jersey State Board of Health,	13 73	4.51	9 52	•71
average of 85 dairies Davenport. Average of 18 nauve	13.80	4 22	9-58	•65
COW3	13 82	3 84	9 98	-64
Poggiale Average of ten analyses Average of a large number of analyses	14 00	4 30	9 70	70
by Bonchardt Davenpo t. Milk Inspector of Boston, 1884, average of 31 grade Ayrshire	13.30	4 10	9 20	•70
cows	13 32	3 70	9 62	
the Russell Farm, England Cameron. Average of 42 cows of the	13 40	4 40	9.00	-70
Agricultural Institute, Dublin Davenport. Boston average of 3	13-40	4.00	9 40	•70
dairies of 56 cows Sharples Report of American Acad- emy of Sciences — average of 19	13 45	3 79	9 î C	66
COW3	14-49	4 83	9.66	•66
Average of the above 16 authornues.	13 53	4 ()4	9.55	68

In the month of November, 1885, 100 samples of milk, from as many vendors, were analyzed by the Milk Inspector of Boston. Of these ten were complained of in the municipal court.

The average of these samples, including those below standard, was as follows:

Total solids	13 00
Fat	3.37
Solids not fat	9.64
Asb	·62

The experience of individual owners who are known to keep cows for profit, and the animals kept without gain at the Gaelph College are known as farnishing milk with a composition above the one urged for adoption here.

It is a well known fact that milk producers and vendors invariably accommodate themselves to the requirements of law. As soon as a new law comes into force there is an immediate change of conduct on the part of those affected by it. If the oreamerics and cheese factories had no better milk