

CANADIAN BUTTER

**Inland Revenue Department's Laboratory Report—
Legal Maximum for Water Unnecessarily Large.**

An official standard for butter was established by an Order-in-Council of November 3, 1910, as follows:—

Butter fat, is the fat of milk, and has a Reichert-Meissl number not less than 24 and a specific gravity not less than 0.905 (40° C).

Butter is the clean non-rancid product made by gathering in any manner the fat of fresh or ripened milk or cream into a mass, which also contains a small portion of the other milk constituents, with or without salt, and contains not less than 82.5 per cent. milk fat and not more than 16 per cent. of water. Butter may also contain added coloring matter of harmless character.

The value of butter inheres in the amount and the quality of the fat contained in it. Legal butter must contain more than 17.5 per cent. of other substances than milk fat. These substances are essentially water, salt and curd. It is evident that by increasing the water content of butter, the purchaser may be defrauded, and for this reason a specific maximum for water is fixed by law.

Maximum Higher than Necessary.

This maximum (16 per cent.) is evidently much higher than necessary, and the following synopsis of water content actually found in the 157 samples purchased by inspectors from the inland revenue department during February and March and now reported on by Mr. A. McGill, chief analyst is instructive:—

Less than 1 per cent. water in 5 samples.	
" 2 "	6 "
" 10 "	112 "
Above 10 "	33 "
" 16 "	1 "
Total	157

It is by the introduction of water, rather than by an excess of salt, that the producer can increase the weight of his product, since modern taste objects to the presence of more than 3 or 4 per cent. of salt. This is seen in the following resume of the present collection:—

Per cent. in.	Samples.
Salt below 1	7
" from 1 to 2	50
" " 2 to 3	51
" " 3 to 4	28
" " 4 to 5	13
" " 5 to 6	5
" " 6 to 7	2
" above 7	1
Total	157

What Best Butter Contains.

Where a butter contains 3 per cent. of salt, it is evident that not more than 14.5 per cent. of water can be present, if the butter is legal butter; that is if it contains 82.5 per cent. of milk fat, as required by law. It would appear from the above record of water content, that this allowance is ample; and indeed the best butters contain much less than 14.5 per cent. of water.

The following statement is instructive as showing that the best butter making provinces furnish a butter with comparatively low water content.

Samples of butter.	From.	Average Per cent. water.
10	Nova Scotia	8.38
10	Prince Edward Island	3.93
10	New Brunswick	5.66
10	Quebec	6.34
10	St. Hyacinthe	7.82
10	Montreal	8.23
10	Ottawa	5.13
10	Kingston	6.70
10	Toronto	6.14
8	London	6.14
9	Windsor	6.40
10	Manitoba	11.01
10	Calgary	11.36
10	Nelson	7.66
10	Vancouver	8.25
10	Victoria	9.73

This showing becomes more emphatic when considered in relation to the average price of butter in the different provinces.

Provinces.	Number samples.	Average price.	Average water content.
Nova Scotia	10	30.7	8.38
Prince Edward Island	10	29.5	3.93
New Brunswick	10	32.4	5.66
Quebec	30	37.1	7.46
Ontario	47	35.3	6.09
Manitoba	10	42.5	11.01
Alberta	10	44.0	11.36
British Columbia	30	41.2	8.55

It appears from the above, that the price of butter of good quality, varies from 29.5 cents per pound in Prince Edward Island, where it is cheapest, to 44.0 cents per pound in Alberta, where the ruling price is highest. But if we consider the cost of the essential component of butter, namely the milk fat, the difference in price at these two extremes is much greater. Alberta butter averages 2.35 per cent. of salt; Prince Edward butter averages 3.01 per cent. So that while 29.5 cents pays for 93.06 per cent. butter fat in Prince Edward Island, 44.0 cents pays for only 86.29 per cent. butter fat in Alberta. While the nominal difference in price per pound is expressed by the ratio 1 to 1.49 the real difference in cost for the butter fat is 1 to 1.608.

To Disadvantage of Consumer.

Judging not alone by the present examination, but as the result of analyses recorded in previous bulletins, I am convinced that the legal maximum of 16 per cent. for water in butter is unnecessarily large; and permits of the placing on the market of butter varying too greatly in actual value, to the disadvantage of the consumer and of the butter maker who is careful to avoid the retention of unnecessarily large amounts of water in his product.

The following tabulation of fat content gives more direct information regarding the milk-fat values of these butters:—

	Samples.
Below 82.5 per cent. fat (legal minimum)	4
82.5 to 85 per cent.	13
85 to 86 "	6
86 to 87 "	12
87 to 88 "	12
88 to 89 "	12
89 to 90 "	15
90 to 91 "	11
91 to 92 "	20
92 to 93 "	15
93 to 94 "	6
94 to 95 "	7
95 to 96 "	9
96 to 97 "	3
Above 97 "	3
Total	157

Four samples are adulterated, as having less than the legal minimum fat.

The fat is found to be genuine milk fat in every case. In one or two samples it exhibits somewhat exceptional character, but not such as to justify any suspicion of being of foreign origin.

Boracic acid is present in ten (10) samples. This does not constitute legal adulteration, under present regulations. The question of allowing preservatives in butter is under investigation. British law permits boracic acid up to one tenth of one per cent.

ONTARIO'S FIRE INSURANCE ACT.

On Thursday the new Fire Insurance Act of Ontario came into effect. Among the important changes which have been previously discussed at length in The Monetary Times, and which have to be plainly printed in the new policies will be the following:

"In future the insurance company will be liable for damages from lightning, whether or not the lightning causes an actual fire.

"The insured will have a standing permit for workmen making repairs fifteen days in the year instead of five as formerly.

"Policies must not state authorized capital of the company, unless full particulars of the amount paid up and other details are given."

Renewal receipts, if accepted by the insured, are an acceptance of the renewal of the policy, and the company may sue for the amount involved unless receipt is returned immediately. The company is liable for the insurance in case of loss from the moment the receipt is sent out.