



# FARM AND DAIRY

## & RURAL HOME



We Welcome Practical Progressive Ideas

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

VOL. XXXV

TORONTO, ONT., NOVEMBER 30, 1916

No. 47

## The Injustice of Pooling--the Fairness of the Straight Fat Basis\*

### Striking Results-Obtained by Investigators Publow and Zufelt--Fat a Fair Indication of the Value of Milk for Cheese Making

FOR years there has been a controversy going on regarding the introduction of a fairer method than the present pooling system, of paying for milk at cheese factories. About 20 years ago the Babcock test was introduced into Canada, and it was thought that it would soon be used largely in cheese factories as a method of determining the value of milk. But owing to the opposition and the difficulty of arriving at an agreement as to its reliability as a test for milk for cheese making purposes, little progress was made. Since there was no encouragement to improve the quality of milk the dairy industry in the province was held back. Meanwhile other countries and provinces were forging ahead of us in the introduction of improved methods, and the department saw that the best way out of the present situation was to decide for themselves. The result was the passing of the Dairy Standards Act. Such a radical change as this act provides for is sure to arouse considerable opposition in the country, but for the most part this is due to a lack of the knowledge of the law and of the necessity that existed for passing it. It is to meet the demand for information, and to give the results of our investigations concerning the different systems of paying for milk, that these district dairy conventions are being held.

#### An Old Fallacy That Persists.

It was a common saying 20 years ago that it took 10 lbs. of milk to make a pound of cheese. Even now you will hear men who are prepared to argue that 100 lbs. of three per cent. milk is just as good as 100 lbs. of six per cent. milk for cheese making purposes. Whether people believe it or not,

\*Report of an address delivered before the local dairymen's & D. B. convention now being held in Hastings, Ontario.

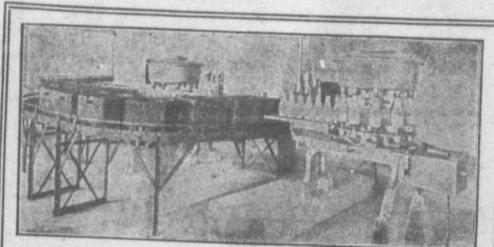
L. A. ZUFELT, Superintendent Kingston Dairy School.

they try to make us believe that they do. Cheese-makers and dairymen generally, of course, know that the amount of cheese varies about in proportion to the fat content of the milk. But there has been a lack of definite information on this important point. In order to arrive as near as possible at the real relationship that exists be-

tween the fat content of milk and the amount of cheese made from a given amount of it, Mr. Publow and myself conducted some careful investigations during the past summer and verified our results in such a manner that their comparative accuracy is beyond question.

The factory first chosen for the investigation was the one at Lockport, where good average conditions for the province are found. For a week we stayed there, making up two lots of cheese a day from milk of different percentages of fat, carefully weighing the cheese made from each and comparing them one with another. A month later we repeated the investigations at the Dairy School at Kingston. The results were a striking verification of those obtained at Lockport. It should be remembered that the milk used in conducting these investigations was ordinary milk just as it comes from the cows. To get the high testing product we had to hunt around quite a lot, but finally we got it. We wished the investigation to cover all practical conditions, though of course there were not many patrons supplying 5.5 per cent. milk to factories.

As will be seen from the table, which is prepared from the results obtained at the Kingston Dairy School, 100 lbs. of 5.5 per cent. milk produced 13 1/4 lbs. cheese. Several tests confirmed the accuracy of these figures: the results from milk slightly lower in fat also confirming them. For instance, 100 lbs. of 5.4 per cent. milk gave 13 1/4 lbs. cheese. The value of the cheese then from 100 lbs. of 5.5 per cent. milk at 20 cents a pound (the price of cheese, less cost of making at the time the investigations were conducted) was \$2.65. If this milk had been paid for according to the fat plus casein test, the patron would have received \$2.79; if



Cheese Values of 100-lb. Lots of Milk of Varying Tests.

5.5%	Fat made 13 1/4 lbs. cheese worth \$2.65
4.2%	" " 11 1/2 " " " 2.30
4.0%	" " 10% " " " 2.15
3.2%	" " 8% " " " 1.75

Values of 100 Lbs. of Milk Containing Various Amounts of Fat, as Determined by the Weight of Cheese Made From Them.							
Per Cent. of Fat.	Per Cent. of Casein.	Weight of cheese.	Value at 20c a lb.	Values as Determined by			Pooling.
				Fat Plus Casein.	Fat.	Fat Two.	
5.5	2.4	13 1/4	\$2.65	\$2.79	\$2.78	\$2.60	\$2.20
3.2	1.8	8 3/4	1.75	1.61	1.62	1.80	2.20
4.2	2.0	11 1/2	2.30	2.25	2.28	2.21	2.09
3.5	1.8	9 3/4	1.87	1.93	1.90	1.96	2.09
4.0	2.1	10 1/2	2.12	2.09	2.11	2.05	1.95 1/2
3.4	1.9	8 7/8	1.79	1.81	1.79	1.85	1.95 1/2
5.4	2.3	13 1/4	2.62	2.62	2.71	2.56	2.21
3.4	1.9	9	1.80	1.80	1.71	1.86	2.21
4.2	2.0	11 1/2	2.30	2.25	2.25	2.14	
4.0	2.0	10 1/2	2.12	2.14	2.07	1.89	
3.5	1.8	9 3/4	1.87	1.87	1.87	1.89	1.94
3.4	1.9	9	1.79	1.79	1.82	1.86	
3.4	1.9	8 7/8	1.79	1.79	1.82	1.86	
3.2	1.8	8 1/4	1.75	1.71	1.79	1.86	
			58 1/4	11.62			
Average difference per 100 lbs. of milk					11.61	11.61	18c
					3c	7c	