

BUTTER VS. CHEESE COW.

Editor The Ranch, Seattle,

Dear Sir—Having always been paid for my milk at the cheese factory according to the per cent. of butter fat it contained, I read the article from my friend, Prof. L. Chevally, of Barberton, Clarke county, and appearing in Pacific Homestead, with interest and surprise. This week he wrote to me, saying that the article had received prompt notice from dairy experts in the east, and that he expected a lively contest. It is no small thing to thus stir up a hornet's nest and disturb the waking dreams of college professors by an array of facts and figures.

My friend has certainly good reasons for thus rudely setting aside the accepted idea, and his opinion is worthy of closest scrutiny, for he has spent his life at this work. Swiss dairymen are notably cheesemakers and milkers, not to mention the manufacturers of Nestle's food and others—have an international reputation and Chevally graduated from the best Swiss agricultural college at Lansanne, where he as a poor farmer's boy educated himself, advancing rapidly till he was professor in dairying at a noted school, the name of which I forget. He was selected as expert by the Prince of Montenegro to start the factory system amongst the herdsmen of that most pastoral country of Europe.

While there, the present queen of Italy was severely reprimanded, when as a young girl full of life, she omitted certain rules of etiquette in her manner of greeting the professor.

He was sent by the Prince to Russia, on a special tour of inspection and investigation of certain forms of dairying as carried on over there. For his efficiency in relation to these matters he was decorated by the Prince. He afterwards worked in France, where he obtained a silver medal of merit as inspector of the milk supply for the large city of Havre de Grace. Let me just say, right here, that in this latter country, renowned for its beautiful and cleanly dairy forms, the acquisition of pure milk is regarded of such importance that experts are chosen to continually visit all dairies delivering milk to the citizens, ranking these milk men in classes according to the positive excellence of their produce. Every man displays his grade or is heavily punished. Since he came to America, some ten years ago, he has made himself a reputation in the condensing factory as manager of the Norwalk Co-operative Creamery, Los Angeles county, California, etc., etc.; and as cheese maker at Barberton. I therefore send the article in question to you with the hope that the salient points of this controversy may come to the readers of your columns and the truth be made clear to all interested.

DANIEL F. BOISSEVAIN.

In Hoard's Dairyman, of January 3, 1902, a correspondent "J. A. M.," applying the cheese factory test for the six month's test at the Pan-American, finds that the butter cow is the cheese cow too. And he says that this was true also of the Chicago test. I am convinced that if milk had been transformed into Cheddar cheese, the results would not be as found, by calculation only, for the per cent. of cheese produced per pound of butter fat decreases as the butter fat increases.

Who is responsible for the misleading statement that the experiments made in 1893 in the Columbian exhibition in cheese making demonstrated that the butter cow is the cheese cow? The experiments of the University of Wisconsin with different quality of milk showed that the richer the milk the much more the pound of cheese cost. Here are the experiments: University of Wisconsin at the Columbian Exhibition, 1893.

No	Lbs. of milk	But-ter fat	W't green	W't cured	Yield per cent.
0	300	0.2	18.4	13	470-100
1	300	1.3	22.4	19	633-100
2	300	2	24	21.5	717-100
3	300	3	27	25	833-100
4	300	4	29	27	9
4	300	4.9	31.9	30	10

Now as everyone can see the per cent. of cheese decreases as the butter increases: For 1.39 per cent. butter fat the percent cheese is 4.86; for 2 per cent. butter fat the per cent cheese is 3.55; for 3 per cent. butter fat the per cent. cheese is 2.77; for 4 per cent. butter fat the per cent cheese is 2.25; for 4.90 per cent. butter fat the percent. cheese is 2.04.

According to these experiments how much would be the cost of the manufactured cheese, giving a value of 25 cents per pound of butter fat. To understand more easily, I take 1000

Milk pounds.	Fat per cent.	Pound butter fat.	Amount of money.	Price.	Lbs. cheese pro.	Cost cheese lb.
1000	0.20	2	25	\$.50	47	10 6-100
1000	1.30	13	25	3.25	633	30-100 5 29-100
1000	2	20	25	5.00	717	100 6 97-100
1000	3	30	25	7.50	833	100 8 76-100
1000	4	40	25	10.00	90	11 11-100
1000	4.90	49	25	12.25	100	12 25-100

The 4 per cent. milk cost the factory 11 4-10 cents the hundred pounds less than the 4.90 per cent. milk, a tremendous difference. How would it be with per cent. milk?

The yield obtained by the University of Wisconsin is rather small, usually 4 per cent. milk yields full 10 per cent. cured cheese (Cheddar).

Of course, milk testing less than 3 per cent. is out of question for cheese caking.

Such an important question ought to be taken into consideration by all dairy schools; but experiments should be made in a larger scale, 200 pounds of milk for example. I do not believe in making experiments with fixed milk by adding cream or skimming; but milk must be pure as the cows give it.

Southern California presents the most favorable field for experimenting, the milk being very rich; it would be very easy to find in the same creamery 2000 pounds 3.80 milk, 2000 pounds 4 per cent., 2000 5 per cent. and 2000 pounds 6 per cent. The Downey Co-operative creamery working 12,000 pounds a day average over 6 per cent. butter (churn test).

In Switzerland, where only cheese is made, the milk is not tested for fat, but only for purity. The milk, of which is made the famous Emmenthale cheese, does not test over 3.80.

In the factory I have charge of the milk is paid according to the butter fat test, but I am thinking that this is not the way to do, as it will lead the farmer to produce butter instead of cheese.—L. Chevally, in Pacific Homestead.

J. F. Adams

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