

These figures are wonderfully constant. They are indications that the manufacture is uniform, a very desirable point as regards the export-trade.

**SALT** :—The salt varies in the report from 1½ to nearly 4 per cent: by far too great a difference.

**CASEIN, SUGAR OF MILK, ASH, ETC.** :—The figures of this column are a clear proof of the general care with which the making is conducted. No invariable analogy between these figures and the quality of the butters can be established, but it may be as well to notice that the prize butters are among the number of those that contain the least waste matter. It is probable that the keeping quality of Canada butter is due, in a great measure, to the relative absence of these so eminently fermentible products.

**VOLATILE ACIDS** :—I attach great importance to the determination of the volatile acids. The figures give the number of cubic centimetres of "solv-normale" soda required to saturate the volatile acids of 5 grammes of butter.

All these figures, with one solitary exception, are higher than those exhibited by the choicest European butters, such as the Issigny butter, in which the average varies from 24 to 28 for the extreme limits. This wide difference deserves a special investigation to which all those interested should lend their support.

Three causes, in my opinion, may produce this effect: too active fermentation of the cream, too long exposure of the butter to the air, and skimming by the separator. Under the influence of these three causes, together or isolated the acid ferments, by far the most numerous in this process, develop themselves very rapidly to the prejudice of the other ferments.

**AROMA, ODOURS** :—The volatile acids furnish besides valuable indications concerning the aroma and the various scents of butter. Distillation disengages from the fatty matters and the salt all the volatile principles. These, in that state, lend themselves in the happiest manner to estimation and differentiation. It is very desirable that the judges could thus examine the volatile acids before settling the number of marks to be given for aroma. Under this head I have inserted figures that are by no means comparative "relatifs" and only the results of my personal estimation. The number 10 is at the top of the scale. The absence of this number leads one to conclude that in none of these samples did I find a pure, perfectly agreeable odour. A double notation of 2-9, 7-8, or 4-8 is the sign of a positively extraneous odour, the source of which the maker, if he will try, will probably discover. I found, in most cases, that peculiar, invariably nauseous flavour that the judges took note of.

It is as well to observe that this flavour is almost invariably due to special bacteria that are developed in the ripening of cream. Makers studious of their good reputation will correct this defect by sterilising, by steam at a pressure of 10 lbs. to the square inch, the utensils, jars, cloths, etc.; by keeping up a uniform fermentation both as to duration and temperature; or perhaps, if these attempts turn out unsuccessful, by procuring a ferment from a good maker in the neighbourhood.

I think that the competitors, as a whole, should be satisfied with this their first attempt. It is indisputable that this system of competitions, by

grouping together the efforts of all, and systematising the facts brought out, will produce beneficial results.

(Signed) The Director of the Official Laboratory.

### COMPETITION OF DAIRY-PRODUCTS.

Chief defects—remedies—report of M. l'abbé Choquette.

The competitions in cheese that took place; the first, at St. Hyacinthe, June 27th, and the second, at Quebec, August 6th, as already reported, have brought to light some special facts an acquaintance with which may be of the greatest utility to makers of cheese, and to which we would draw their most earnest attention. By applying a remedy to the defects we are about to point out, they will be in a position to obtain higher prices for their cheese.

The following is a list of the chief blemishes noted:

1. Bad flavour, caused either by the want of cleanliness in the factory or by the bad quality of the milk. The milk may be bad owing to the want of careful treatment, by its being the product of cows feeding on meadows in which grow grasses likely to give it a bad taste, or from its being yielded by ailing cows.

2. Cheese too moist and too acid.
3. Cheese too soft.
4. Cheese too full of holes (trop ouvert)
5. Cheese too hard.
6. Bad colour.
7. Butter-spots.
8. Too small cheeses, not level, with ties or bandages too large and badly fitted.
9. Bad boxes.
10. Cheeses sent out too new.

Now, here are some pieces of advice showing how these defects may be avoided: makers will do well to remember these counsels.

In order to escape bad flavour, the maker must:

1. Keep his factory scrupulously clean; as in the case of butter, this is the principal condition of success. The whey vat, in particular, must be cleaned out at least two or three times a week; the floors must be very substantial that no water used for washing-up may filter through them, stagnating and rotting below, and spreading a bad smell and injurious germs throughout the factory. The washing-up water should find its exit far from the building, and never be allowed to hang about the factory, the surroundings of which must be kept as clean as possible.

2. He must never accept milk that is not of the best quality, well aerated, perfectly clean, without any bad flavour, and quite sound. The maker must be very firm in his reception of the milk; still, before offering advice to the patrons, he should set them the example of keeping his factory in the most perfect state of cleanliness.

If cheese is heated up to a temperature too low, it may turn out too moist and too acid.

Open (ouvert) cheese is caused by a want of acid in the whey, or by an omission of working it "en bloc."

Hardness in cheese, is derived from working it too long in the whey, or by over-heating.

The colour of cheese, as well as a bad look, is caused by excess of humidity and acidity that often arises from want of sufficient working in the whey. But-

ter-spots are often derived from too much acid, or from too long working in lumps (en bloc).

The cheeses in these two competitions were, in general, not heavy enough. Dealers prefer, for export, cheeses weighing 70 to 75 pounds to smaller ones, and we cannot too strongly advise proprietors of cheeseries, when they are renewing their apparatus, to buy larger moulds.

The moulds must be quite level, and without ties. The bandages must not be too large, and should be well fitted on. They are not to be folded more than from 1 to 1½ inch over the top and bottom of the cheese.

The boxes should be more carefully made than they generally are, and large enough to let the cheese in easily, but not so as to let it joggle about.

Cheese must not be sent out too green. It is better to keep it till it has acquired a good deal of its best qualities.

In this report, we can only point out the already well known defects that are usually found in our cheese; and, as well as regards butter-making, those who are not skilled in the practical part, ought to follow a fortnight's course, in the St. Hyacinthe Dairy-school, every winter, until they become thoroughly capable makers.

We advise makers to read the report of M. l'abbé Choquette. (1)

Prizes: Cheese—Silver-medals.—Jean Girard, St-Dominique, Chicoutimi, 98½ marks.

Joseph Desgagné, Chicoutimi, Chicoutimi, 98 marks.

Bronze Medals.—Ls. Archambault, Grondines, Portneuf, 96 marks.

Jos. Bouchard, Les Eboulements, Charlevoix, 96 marks.

Money Prizes.—G. Sam. Dugal, St-Alexandre, Kamouraska, 95 marks, \$10.00.

J. J. Wales, East Dunham, Missisquoi, 93 marks, \$8.00.

J. E. U don, Hébertville, Lac St-Jean, 92½ ma. s, \$6.00.

Georges Roy, Arthurville, Bellechasse, 92½ marks, \$6.00.

H. Guertin, Ham North, Wolfe, 92 marks, \$4.00.

Augustin Jacques, St. Joseph, Beauce, 91 marks, \$2.00.

Butter.—Silver-Medal.—W. Bourbeau, Ange-Gardien, Rouville, 98 marks.

The remarks made in this report do not apply to all the cheese, and we are happy to be able to state that some of it was of the very finest quality; indeed, no fault could be found with it. Besides, many cheeses were, if not first-class, still, very good saleable cheese; so that it is to be hoped that, with a little exertion on the part of the makers and patrons, the province of Quebec will very soon occupy the first rank in the manufacture of Cheddar-cheese.

(Signed) G. HENRY.

Secretary of the Competitions.

### THE DAIRY COMPETITIONS.

The dairy competitions inaugurated by the Provincial Agricultural Department, and some of the results of which have been lately published, are conducted on a novel principle. Those entering are notified, on an uncertain day fixed by the judges, to send at once a package of butter or cheese, which the department pays for at current market rates. The article in competition is thus the ordinary product of the fac-

(1) This report arrived too late for insertion in the present number; it shall appear in our next.—Ed.

tory, and the prizes, it is calculated, will go, under ordinary conditions, to the maker of the best merchantable goods in the course of regular operations. The quality may not, of course, be as high as if special pains were taken to produce an exhibition article; but the general effect in raising the standard of the factories' output is expected to, and should, be greater. The competing operators, not knowing when the goods will be submitted to judgment, must be always prepared for it, and, if they expect to be successful must maintain a high standard of general excellence. Premiums won under such circumstances should be a better guide to the buyer than the special excellence of a single package of goods prepared for a competition. The Agricultural Department's idea is a good one, and should have the effect in raising the quality of the average products, which is the thing especially to be sought for, because, whatever the market conditions, there is always a demand for the best goods.

### MOORE ON THE FARMING OF ARGENTEUIL.

Montreal, Augt. 4th 1896.

G. A. Gigault, Esq.,  
Deputy Com. of Agriculture  
Quebec.

SIR :—

In accordance with your directions, I have visited certain parts of the County of Argenteuil and have the pleasure of submitting to you the following report.

I am Sir,  
Yours very respectfully,  
GEO. MOORE.

### ARGENTEUIL.

Historical—Descendants of old settlers—Good farming tells—Old Agricultural Society—Moving sand—Wine, butter, &c.

The County of Argenteuil, historically considered, affords many excellent object lessons for farmers. In it are to be found a great many of the descendants of the earlier settlers of the Province of Quebec, and when these have begun well and their successors have faithfully followed their lead, the comfort of their dwellings, the out buildings, the neatness of their fences, abundant crops, and thriving cattle, testify to the fact that honest, persevering effort will always be rewarded. The prosperity of the present occupants is shown by the comfortable dwellings and large and well arranged barns recently built or in course of erection.

Of course some complain of the present close competition and low prices but the majority of those with whom I conversed do not look upon this state of affairs as by any means ruinous. The faithful, pains-taking, systematic farmer is not the "croaker" it is the shiftless otherwise "old foggy", who keeps in the old net, who grumbles and is discontented.

Agriculture seems to have received a good share of attention in the early days of the County. A general meeting of the inhabitants was called in 1826 and the county Agricultural society was formed at St Andrews. The records of its transactions were unfortunately; not kept for many years, but the society,