

been absorbed by it. Atmospheric action, then, is most useful, but that atmosphere must be pure and healthy. When milk is defective, aëration, immediately, or as soon as possible, after milking, is essential, as in the case, for example, of a cow that is bulling, or that is feverish, or when she has been over-driven.

"The utility of aërating milk that has to be carried to some distance from the farm is indisputable."

Professor Robertson, the greatest Canadian authority, speaks thus on the subject:

"After straining, the milk must be aërated. Too often, the milk is poured into the can, just as it came from the cow, and left there. Hence flow the following results: 1. The nasty (1) animal flavour remains in it.—2. The germs of decomposition develop rapidly, and milk in this state is refractory to the influence of the rennet.

The peculiarity of the germs of fermentation is that they are peculiarly liable to develop in media where little or no free oxygen exists. When the aëration of milk, after it is drawn, is neglected, carbonic acid is formed, and this favours the development of microbes. Besides, if the patrons do not aërate their milk, it will require more of it to make a pound of cheese.

The aëration of milk seems to favour the action of certain ferments, which, without turning it sour, give it the necessary characteristic of ripeness. So true is this, that practice has proved that "cheddar-cheese cannot be made of perfect quality without the previous aëration of the milk."

This seems to be conclusive; Mr. Robertson is not only a Professor but also a thoroughly practical man, and his opinion, like that of Mr. McPherson, is based on experience and not on some few experiments in the laboratory.

Lastly, Dr. Fleishman, in his incomparable treatise on Dairy-work, devotes the following lines to the aëration of milk:

The rapid cooling of milk after it is drawn from the cow, is not the only way of retarding its souring. We know that the lactic fermentation can be sensibly kept back by means of proper aëration. It is well ascertained that milk that has been put in contact with atmospheric air, will keep longer sweet than milk that has been kept in a close vessel. It has been asserted that oxygen acts on milk as a preservative. Under these conditions, we are satisfied of the great advantages presented by a thorough aëration of the milk, and we consider the apparatus made for that purpose of much practical utility. It is unnecessary to insist upon the air in which the process is carried on being perfectly pure.

Here, then, are opinions drawn from divers sources, and all positively in favour of the aëration of milk. Moreover, they are the opinions of practical as well as of learned men, who are always occupied in the search after the truth. In the face of such authorities, such theories as those of M. Dellicour fall from their own inherent weakness, and cannot be taken into serious consideration. (2)

It is undeniable that the aëration of milk assists its keeping quality, and favours the perfection of the butter and cheese made from it. I say no more on the subject: experience is sufficient to prove the correctness of our opinion.

(From the French.) E. MACCARTHY, C. I.

North Lanark Farmers' Institute.

At the Farmers' Institute meeting which was held at Lanark on Tuesday, Prof. Shaw spoke in the morning on the

(1) But is there really any nasty animal flavour in pure, clean milk?

Ed. A. B.

(2) Mr Dellicour's views on *Aeration of milk* will be published in Annual Report (1891) of the P. of Q. Dairymen's Association.

Ed. A. B.

growing of rape. He thought there was a wide future for the cultivation of rape in Ontario. It will grow on any soil that will produce roots well. Fifty-four acres of rape were grown at the Guelph farm last year. The ground was sown to rye in the fall. One portion of this was pastured, the balance of it was cut and put into the silo. The ground was then ploughed and put into drills twenty-two inches apart, and the rape was put down with the turnip drill at the rate of one pound of seed per acre. The rape was then cultivated much after the fashion of turnips. The cultivation did not cease until the tops had met. The rape was also hand hoed twice. One man went over two acres a day the first hoeing, and three acres a day the second hoeing. The rape was a very fine crop. It answered the purpose of cleaning land just as well as a summer-fallow. Two crops were therefore grown on that land during the year, and the land was thoroughly cleaned at the same time. Most of the lambs fed upon this rape were bought in the county of Lanark. They were fattened on the experimental farm at Guelph, and at a handsome profit they were then sold to go to Buffalo. The speaker thought rape could be grown in Lanark as well as at Guelph, as it was an excellent section for growing roots. He thought the farmers of Lanark should try raising these lambs so that they would get \$2.00 more per head for them than they were getting now.

As a Professor at the Ontario College of Agriculture has, as will be seen above, taken up the question of growing rape to be fed off by sheep, a question I have been working at practically, as well as in my contributions to this periodical, for the last twelve years, I suppose the subject will attract some attention at last. I beg to add to Mr. Shaw's deliverance that, though rape is all the better for being hoed by man and horse, broadcast sowing will answer well; and in this province, where one man would hoe such a crop, ten would leave it untouched. A. R. J. F.

MEDALS AND DIPLOMAS.

AWARDED TO FARMERS IN THE PROVINCE OF QUEBEC FOR WELL KEPT FARMS.

The Lieutenant-Governor has, through the recommendation of the Minister of Agriculture and Colonization, awarded medals to the following persons for having the best kept farms, as shown in the recent Provincial competitions. Gold medal highest award, Mr. Charles Champagne, St. Eustache.

Silver medals to James Drummond, Petite Côte; Mrs. George Kydd, of the same place; John Nesbitt, Côte de la Visitation; George Irving, Pointe-aux-Trembles; Archibald Oswald, Belle-Rivière; Thomas A. Trenholme, Notre Dame de Grâce.

Bronze medals to Ovide Valiquette, Terrebonne; Hormidas Hotte, Saint Martin; David Morrin, Lachute; Joseph Lortie, Sainte Justine; James Hodge, Saint Laurent; Jean Bte. Deslauriers, Valois.

Diplomas of distinguished merit to Chas. Champagne, Saint Eustache; James Drummond, Petite Côte; John Nesbitt, Côte de la Visitation; Madame Geo. Kydd, Petite Côte; George Irving, Pointe aux Trembles; Archibald Oswald, Belle Rivière; Thomas A. Trenholme, Notre Dame de Grâce.

Diploma of great merit to Ovide Valiquette, Terrebonne; Hormidas Hotte, St. Martin; David Morin, Lachute; Joseph Lortie, Ste. Justine; James Hodge, St. Laurent; Jean Baptiste Deslauriers, Valois;

Diplomas of merit to Joseph Gadbois, sr., Terrebonne; Ludger Thérien, Saint François de Sales; F. X. Rocand, St. Vincent de Paul; Elie Benoit, Sainte Anne des Plaines; Stanislas Auger, New Glasgow; Wilfrid Ouimet, Sainte Rose; John Doig, Lachute; Thomas Dobbie, Lachute; John Gordon,