

of a paint for a cheap cover for creameries inside and outside. The use of hand separators was strongly recommended, provided the work was carefully and efficiently done. If the cream is not delivered in perfectly sweet condition to the central manufacturing point, then it is quite impossible for the maker to turn out a fancy article. The speaker recommended the use of cream tanks instead of cans to draw cream from the farm to the factory, and the use of ice in the tanks was advised. Advice was offered to farmers to take off and send in a thicker or richer cream, as a thin cream means a loss in churning, a thin cream necessitating a high churning temperature, and a high churning temperature means a butter with high water content. The latter statement differs directly from the results of the careful and extended experimental work carried on by Prof. Dean at Guelph, and given by him at the Whitby convention, to the effect that temperature of churning does not materially affect the water content. Salt brine was recommended as a cure for mould—quite equal to formalin. The practice of selling butter regularly each week, or at least every two weeks, was considered better than holding.

Q. Can the Babcock test be used to test cream as satisfactorily as the oil test? A. I think that eventually the Babcock test will supersede oil test.

"Continuous Pasteurization of Milk for Buttermaking."—Mr. F. C. Harrison, in developing this topic, brought out these facts: That a temperature of 140 degrees F. is too low for successful pasteurization, a great number of bacteria being left in the milk. At 160 degrees F., the work is more thorough, but still incomplete. At 185 degrees F., the work was quite thorough—all-sufficient for the purpose. This temperature is sufficient also to kill the tubercle germ. The small number of undesirable germs left in the milk or cream are easily overcome by the use of a pure culture.

Mr. Ruddick followed this paper with a practical view and application of the principles of pasteurization, stating initially that Denmark makes pasteurization compulsory, and N. S. Wales and Victoria are considering a like procedure, and we are under the necessity of looking carefully into this matter. The details of this address will be found in the report of the Whitby convention in last issue of the "Advocate."

"Loss of Casein and Fat Sustained in Washing Curd."—This subject was handled by Prof. Harcourt, Guelph, in a very clear and concise way. Some makers wash every curd—not a necessary nor desirable practice. Proper washing does two things: (1) Removes some bad flavor. (2) Removes some acid.

Washing immediately after dipping may save a fast-working curd. Warm water at about 98 degrees F. should be used. There is no real danger of washing out too much acid. But the point of this address lay in the effect of washing on casein and fat losses.

BEFORE SALTING.		
	Loss of casein.	Loss of fat.
Normal curds.....	12.3 grams.	25.3 grams.
Washed curds.....	8.4 " "	25.0 " "

AFTER SALTING.		
	Loss of casein.	Loss of fat.
Normal.....	70.6 grams.	54 grams.
Washed.....	49.0 " "	36 " "

The total moisture in these cheese showed very small variations, nor was much difference found in acidity. The total loss of cheese amounted to about 1 lb. to each 1,000 lbs. milk.

THE CHEESE AND BUTTER EXHIBIT.

The exhibit of cheese and butter was one of very great interest to all the makers, and indeed to everybody. The number of entries and the status of the goods are given in the prize list accompanying. Mr. Steinhoff, judge of butter, stated to our representative that he considered the exhibit a most creditable one and showing an honest rivalry among makers that argues well for the future of the trade. Mr. McLaren spoke in a favorable strain also of the cheese exhibits, but drew attention to the fact that some of them were so badly off in flavor that they should never have been sent to the exhibition, and also that too many of the exhibits were scored down in finish—a condition which ought not to be in Western Ontario cheese.

As a director of Toronto Industrial Fair, Mr. McLaren drew attention to the fact that the repeated demands of this Association re the need of better accommodation for dairy products at the Industrial were now to be acceded to, as the Fair management had decided to erect suitable buildings for the accommodation of dairymen and dairy products, \$14,000 having been set aside for that purpose. This speaker also drew the attention of the audience to the great transportation problem that is such a live and growing topic among Canadian producers, and very intimately connected with the successful prosecution of the dairy industry. Among other data submitted, it was shown that the freight rates from Montreal to Liverpool on cheese were \$2.10 per ton higher than from Boston to Liverpool, and \$3.31 per ton higher on butter; indeed, the rates on butter were nearly double in the former over the latter case. All kinds of agricultural produce were subjected to a freight rate 25 per cent. higher than the same produce in the U. S.

The remedy for these things, the speaker indicated, lay along two lines, viz., improved waterways from our interior to the seaboard, and the appointment of a railway commission.

Mr. Wright, of the British Linde Refrigeration Co., spoke briefly on refrigeration for dairy products. He noted that the cold-air system is much superior to the usual pipe system, indicated the necessity of having perfect insulation in the buildings, and spoke in favor of the cooled compartments on board steamships for carrying cheese. At this juncture, Mr. Ruddick said that Hon. Mr. Fisher was endeavoring to obtain at least 25 vessels so fitted for next season's trade. The President here said that owing to the poor system of insulation and lack of air currents common to our refrigerator cars, the ice wasted rapidly in them and frequently they landed in Montreal with the original ice supply entirely wasted. This he showed might be improved by having midway icing stations. This fact and its suggested cure was strongly emphasized during the convention, notably by Mr. Hodson, Dominion Live Stock Commissioner, Ottawa.

Mr. Pattullo, M. P. P., addressed the meeting, by special request, on the topic—well-worn and disagreeable—"Cheese Markets, Buyers and Salesmen." Perhaps nothing very new was elicited out of the discussion, if we except two points, the first made by Mr. Pattullo, to the effect that he believed the ultimate solution might be found in the erecting of central curing rooms or stations. These could be built in a co-operative way where necessary, and by Government help. This he thought would solve the question for buyers and largely for salesmen, facilitating inspection, etc. The second point was set forth by Mr. McLaren, viz., that all cheeses should be inspected by buyers before buying, and thus stop the pernicious practice of buying "unsight unseen," and then taking them or not, as suited their pleasure and the condition of the markets. This opinion was also endorsed by Mr. D. Derbyshire.

Mr. McLaren, on rising to speak as to our exhibit of cheese in connection with the convention, referred almost solely to the need of better finish, the majority of the exhibits having been scored down more or less in this respect. Mr. McLaren also told us that we were to have a new \$14,000-building solely for the use of dairymen and their products at the Industrial Fair, Toronto. Dropping to the question of transportation, he showed the condition of our freight rates, etc., by an example. The freight rates on cheese from Montreal to Liverpool are \$5.43 per ton; and from Boston to Liverpool are \$3.30 per ton; on butter, \$6.68 and \$3.37 per ton, respectively. Rail haul in Canada is 25 per cent. higher on all kinds of agricultural produce than in the United States, and it is the improved waterways largely that have made this difference.

Mr. Steinhoff commented in general terms on the butter exhibit.

Mr. G. C. Creelman, Superintendent of Farmers' Institutes, addressed the meeting in a congratulatory way.

Mr. Eli Bourbeau, of the Dairymen's Association, Quebec, was introduced as the most live man in Quebec dairy interests. His speech was brief, but warmly received.

Hon. John Dryden spoke at length on matters of general interest to dairymen, emphasizing the fact that the Government were willing to cooperate in any way for their advancement, provided they showed a readiness to help themselves.

In accord with his promise, Prof. Dean sent some of his experimental cheese to the convention to be scored. Two cheese were sent; the first was put into cold storage directly from the hoop and held four months at a temperature of 40 degrees F. This cheese was a surprise to the whole convention, being of good texture, flaky and silky, with full flavor and no bitterness. The other cheese had been cured at 65 degrees F. for three weeks and then put into cold storage. Little difference was noticeable in flavor, but in point of texture this latter cheese was much inferior, being dry and without the fine mellow character that the first one possessed.

Mr. Hodson spoke briefly on the value of the convention meetings to all concerned, and declared that the right education of our agricultural classes is the safeguard of our country. He then touched on the necessity of working up all the by-product of the factory, and diverged to discuss the bacon industry, in the course of which he said: "Do not produce fat pork, but well-fed, lean meat. The United States can and do produce fat pork, and we must not come into competition with it. Always finish the pork before selling. A great proportion, probably 75 per cent., of the pigs being marketed just now are altogether too thin—not finished. A lean, well-fed pig is not a miserably-fed bag of bones, as some seem to think. We want light head, neck and shoulder, with length and depth of side and a good ham. Illustrations in profusion showed the right and wrong bacon hog. Avoid sag-backed pigs, but get a rounded back. Avoid also the shoulder open on top. Thick, fat pigs should

be sold early to local trade. Old sows and stags should be fed until very fat, as their chief value comes out of the lard tank. Do not kill off the young sows; sows do not reach their best until 4 to 5 years old." The speaker then directed his remarks to some of the "small things" in connection with the convention addresses. He spoke of the frequent "robbing" of iced cars, ice being frequently taken from them as the cars stood on sidings, etc. Cheese and butter should not be allowed to stand on wharves and at stations in a broiling sun. The time of holding these convention meetings he thought might be changed to advantage, as it now conflicts with the holding of Farmers' Institute meetings. Mr. Hodson suggested November or March as a better time. Then the persons who attend the Institute meetings and the speakers who address them would be at liberty to attend the Dairymen's Convention.

OFFICERS ELECTED.

Hon. President, Hon. Thos. Ballantyne, Stratford; Hon. Vice-President, John Prain, Harrison; President, Aaron Wenger, Ayton; 1st Vice-President, Jas. Connolly, Porter Hill; 2nd Vice-President, J. N. Paget, Canboro; 3rd Vice-President, Robt. Johnston, Bright.

Directors.—Div. 7, J. W. Steinhoff, Stratford; Div. 8, Harold Eagle, Attercliffe Station; Div. 9, Jno. H. Scott, Culloden; Div. 10, Thos. Ballantyne, Jr., Stratford; Div. 11, T. B. Millar, London; Div. 12, Jno. Brodie, Mapleton; Div. 13, A. F. McLaren, Stratford.

Representatives.—To Industrial Fair, Toronto: A. F. McLaren, Stratford; J. N. Paget, Canboro. To Western Fair, London: T. B. Millar, London; Jno. R. Isaac, London.

THE PRIZE BUTTER.

Following are the awards on the butter shown at the convention, and judged by Mr. J. W. Steinhoff:

CREAMERY BUTTER IN 56-LB. BOXES—17 EXHIBITS.

1st—E. M. Johnston, Innerkip. Flavor, 43.50; texture, 24.50; color, 15; salt, 10; finish, 5. Total, 98.

2nd—G. M. McKenzie, Ingersoll. Flavor, 43; texture, 24.50; color, 15; salt, 10; finish, 5. Total, 97.50.

3rd—Wm. Waddell, Kerwood. Flavor, 43; texture, 24; color, 15; salt, 10; finish, 5. Total, 97.

4th—Jas. Ireland, Beachville. Flavor, 43; texture, 23.50; color, 15; salt, 10; finish, 5. Total, 96.50.

CREAMERY BUTTER IN PRINTS—18 EXHIBITS.

1st—W. K. MacLeod, Vanneck. Flavor, 43.50; texture, 24; color, 15; salt, 10; finish, 5. Total, 97.50.

2nd—James Ireland, Beachville. Flavor, 43; texture, 24; color, 15; salt, 10; finish, 5. Total, 97.

3rd—J. R. Laing, Avonbank. Flavor, 42.50; texture, 24; color, 15; salt, 10; finish, 5. Total, 96.50.

THE PRIZE CHEESE.

The cheese awards, made by Mr. A. F. McLaren, M. P., were as follows:

SEPTEMBER WHITE CHEESE (21 exhibits).—1st, W. G. Medd, Medina; 2nd, W. J. Goodwin, Brussels; 3rd, T. O'Flynn, Tavistock; 4th, G. M. McKenzie, Ingersoll.

SEPTEMBER COLORED CHEESE (15 exhibits).—1st, W. B. Thomson, Nile; 2nd, Frank Boyes, Kingsmill; 3rd, J. H. Williams, Lyons; 4th, Connolly Bros., Thamesford.

OCTOBER WHITE CHEESE (23 exhibits).—1st, Frank Travis, Courtland; 2nd, Connolly Bros., Thamesford; 3rd, T. O'Flynn, Tavistock; 4th, Alex. McKay, Brooksedale.

OCTOBER COLORED CHEESE (15 exhibits).—1st, Geo. A. Boyes, Putnam; 2nd, Jno. Connolly, Malcolm; 3rd, Frank Travis, Courtland; 4th, J. J. Parsons, Jarvis.

Warming Drinking Water for Cows.

Experiments have demonstrated that by taking the chill off their drinking water, the milk yield of cows has been so largely increased as to pay many times over for the cost. On this subject the Farmers' Gazette, of recent date, has this to say: "Where large numbers of animals are kept it may seem a big order to go to the trouble of heating the water given to them. The ordeal is not, however, so big as it may appear, as all that is required to be done is to add a certain quantity of hot water to the ordinary supply about to be given to the animals. The quantity so added need not be very much—just sufficient to take the chill off the contents of the troughs or other vessels in which water is being given. Dairymen in the neighborhood of towns, who find it necessary to keep up a full flow of milk all through the winter, find it a good practice to warm all the water given to their cows. Experience having satisfied them that it pays well to go to the expense of doing so. The milk-yields of cows have been known to suffer very considerably through the consumption of large drafts of ice-cold water. Some dairymen make a point of having all the water given in their cows raised to a temperature of about 60 degrees. In our experience, however, it is not necessary to have it quite so warm as this; some very successful feeders of our acquaintance obtain excellent results by using water heated to only 48 degrees to 50 degrees, even in the very coldest weather."