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a Agricul- cow test- cessful in standard, he placed 00 lbs. of milk per cans from

200 to 215 lbs. of butter-fat. Not a very high standard, but much above the average cow's yield under present conditions. If this could be reached the speaker believed that our herds might be cut in two and more milk and butter produced at greater profit. He pointed out that testing was little good unless carried throughout the milking period of a cow, and that there was no greater mistake than averaging a dairy herd. He believes in taking care of the individual, and the average of the herd will take care of itself. Citing the success of testing he quoted from a Manitoba bulletin where two of the best cows in a certain herd averaged 5,509 lbs. of milk and 219 lbs. of butter-fat, while the two poorest averaged 2,637 lbs. of milk and only 101 lbs. of butter-fat. To prove that it was necessary to carry the testing throughout the milking period of the cow he quoted an instance where a cow gave 746 lbs. of milk the first month of lactation period, while another cow gave 842 lbs. During the second month number one cow gave 831 lbs. while number two gave 1,174 lbs.; yet in ten months number one, which had given far less at the start, had given 6,811 lbs. and number two only 5,314 lbs. Two other cases of a similar nature were cited. It is also necessary to test the milk during the entire season. Cows often vary as much as 2% in the test at the beginning of the season as compared with the end of the season. In the practice of weighing every ten days and averaging the milk for the month, Prof. Mitchell thought it would be much better to weigh on the 5th, 15th and 25th of each month in place of the 1st, 10th, and 20th of each month.

GRADING OF CREAM PRACTICAL AND EFFICIENT.

One of the best addresses of the entire convention was that delivered by Prof. Mitchell on the second day, and dealing with "Grading at Creameries, its Value and Necessity, How it Works Out in Practice." Dairymen in Ontario know that considerable work has been done in Manitoba in the grading of cream, and Prof. Mitchell pointed out in the beginning that the evolution of dairying in Ontario and in Manitoba has been very much the same. Ontario has advanced from home dairying to factory or co-operative dairying, and Manitoba is endeavoring to travel the same road. Creameries in Ontario and in Manitoba are operated under much the same conditions, neither province ever having been under the Government or Government-operated form. The big problem for solution is how to obtain, not part, but all the raw material of uniformly high quality. The West is going in for mixed farming very rapidly. Manitoba's output of creamery butter for 1912 was 2,931,000 lbs., while that for 1914 was 4,761,000. An increase of 62% in two years. On the basis of this present output of creamery butter an improvement in quality that would increase the value of that butter 2 cents per pound would mean an increase in the annual revenue to creamery patrons in Manitoba of nearly \$100,000. A similar improvement in Ontario would mean an increase of from three to four hundred thousand dollars. The problem, as previously stated, is how to improve the quality of the cream supplied to the creamery. The principle of cream grading is right, but it has been rather difficult to bring about its adoption. Cream, sweet and clean in flavor will make a butter superior to and worth more money than butter made from cream overripe, hence there is just as much reason for paying for cream on the basis of quality as there is for grading wheat, beef cattle and dairy products themselves as they come on to the market. Making a difference in price per pound for the fat, according to quality, is just, and the old non-grading system encourages the careless patron in his carelessness, and tends to discourage the careful patron in his efforts. Justice to the patron who supplies good cream and justice to the industry both call for application to the grading system.

In February, 1914, a creamery convention was held at the Manitoba Agricultural College. Creamerymen from each creamery were present, and they unanimously adopted the grading system. First-grade cream was to be, preferably sweet, from which first-class butter could be made by a competent butter-maker, the flavor to be clean and fresh, and the consistency smooth and even. Second-grade cream was to be sour or sweet, which is slightly stale, old or bitter or otherwise slightly defective in flavor, but of a smooth, even consistency. All cream which would make an inferior quality of butter was to be rejected, and a difference of 2 cents per pound of butter-fat made between the prices paid for the two grades of cream. The Government was asked to make arrangements for the grading of creamery butter, and furnish the necessary facilities for carrying out the same. Cream grading was generally introduced and carried out in good faith and without appreciable friction. Instructors did good work amongst the creameries, and the produce grader did his work efficiently and conscientiously.

To facilitate the work of reporting shipments to the produce graders, all creameries were supplied with suitable forms and addressed envelopes for the purpose. These forms contained the name of the creamery, date of shipment, to whom shipped, how shipped—by freight or express, and the number of boxes of prints, number of 14-lb. boxes, 28-lb. boxes, and 56-lb. boxes, together with churning numbers, date and the signature. A simple method of marking packages for the purpose of assisting the grader in his work was evolved, for instance the fourth churning for the month of January, the first month of the year, would be marked 4, and the 10th churning for the month of February 2-10. For reporting back to the creamery a table was made out containing the name of the creamery from which the butter was shipped, to whom it was consigned, and the score, the latter being the ordinary score of 44 for flavor, 25 for grain and body, 15 for color, 10 for salt, and 5 for finish; then a space for the grade and churning numbers. The minimum for first-grade was, flavor 40, total score 91, and the minimum for second-grade, flavor 37, score 85. This report was made out in triplicate, one copy being sent to the creamery, one retained by the grader, and one going to Mr. Mitchell's office.

Results were most marked. A slump in prices was prevented, June creamery furnishings did not fall to within 4 cents per lb. of what the produce merchants anticipated they would be able to buy



Robert Myrick.

President Western Ontario Dairymen's Association, 1915.

it for, and the efficiency of the work done by the instructors was more than doubled by the system of grading. All the creameries did not make number one butter, but where good care in grading was practiced as high as 94% first-grade butter was made, and very good average of 86% first-grade butter were common. The system proved entirely practical, and should be easily worked out in Ontario.

1914 A GOOD SEASON.

The Directors' report showed a profitable season for dairying. Among the large number of dairy cows disposed of in the fall of 1913 were many animals which were inferior milkers, and consequently there was not the decrease in output anticipated in some quarters. Conditions in Western Ontario during the past season were good, and large numbers of young stock were raised. Very little increase has been observed in the export of milk. Some cream has been exported from the south-western peninsula. Largely the home market has absorbed most of the finished product. Early spring conditions were more favorable than in 1913, and the fall output was considerably increased over that of the previous year. The average price of cheese last year was the highest on record, while the butter market during the early part of the season was "weak" and "draggy." Later in the season, however, prices stiffened and the market became more active. Cheese and butter prospects for 1915 are very encouraging. The membership of the Association is 314. The usual cash prizes for the dairy herd competition were not donated on account of the necessity for strict economy, and a cutting was made in the money donated to the cash prizes for the exhibition held at the convention. However, this decrease in prize money did not dampen, to any appreciable extent, the enthusiasm of the exhibitors, and prospects are favorable for a greater exhibition than ever next year.

Present indications point to a strong future demand and remunerative prices for all dairy products produced in Canada. Milk producers in certain sections realize, as never before, the necessity for keeping the cheese factories and creameries in operation, and it would seem that in these sections at least it would be to the future benefit of both producers and manufacturers if some co-operative plan regarding the

milk supply could be worked out between the cheese and butter manufacturers and the manufacturers of other dairy products. Attention was also called to the matter of shipping cream out of the country, and the directors asked this question, "Will it, in the final analysis, pay the producers in certain localities to withdraw their patronage, thus eventually putting the home market out of business for a possible present advantage but a probable future uncertainty?"

ADVERTISE CANADIAN CHEDDAR CHEESE.

Geo. H. Barr, of the Dairy Department, Ottawa, was unable to be present, having been called to a Dairymen's Association Convention in Nova Scotia. G. G. Publow, of the Eastern Dairymen's Association, took up discussion on general matters in which he said that there was very little new to offer, believing that the butter-makers were doing the very best they could with what they had to do with. He was strongly in favor of some system of cream grading, and urged producers to put forth extra efforts in producing a good product for the maker. He suggested that factorymen should refuse to accept milk above a certain temperature, and believed that at least one-half the patrons send milk in poor condition. He was strongly in favor of some sort of campaign of advertising Canadian Cheddar cheese, and believed that producers, makers, manufacturers and dealers should each do their share in working out this campaign. For instance, factories should carry cheese to enable makers to exhibit at certain exhibitions. He believed also that many have gone too far in ripening milk before setting, and that the quantity of milk to make a pound of cheese was increased by makers over-ripening. Prospects, he believed, were never better, and he urged greater efficiency in dairying from start to finish.

Geo. A. Putnam, Supt. of Farmers' Institutes for Ontario and Director for Dairying, gave a very interesting address, and following other speakers along the same line, expressed the wish that dairymen themselves, or through Government support, might take up the matter of advertising Canadian Cheddar cheese among Canadian consumers who know very little about it. He dwelt on the dairy end of farming as one of the most substantial, certain and sure branches of the entire occupation. He also devoted considerable time to exhorting his hearers to put forth every endeavor in the near future to increase production, and came out boldly with the statement that there was room to make an improvement of 50% in the appearance of many factories by two days' work with hammer and saw. Speaking on several subjects outside of technical dairying he mentioned among other things that farmers do not want the inexperienced men from the city. They want men who know something of the business in which they are engaged. He asked dairymen who, he believed to be in a position to help in community work, to lend all their efforts to community improvements. Co-operation is required, technical education is necessary, and it should be carried to the rural districts. Better salaries for good teachers would be money well spent, and all branches interested in the uplifting of rural communities should take a lesson from the work of the Women's Institute workers, who, especially at this time of stress, are doing remarkable things in the way of supplying funds and material for the soldiers, as well as keeping up interest in things generally in the community and improving social conditions.

Owing to the fact that Prof. H. H. Dean, of the Ontario Agricultural College, could not be present at the Convention, R. W. Brown, B.S.A., read his paper, which contained some suggestions on developing the home market for Canadian cheese. Prof. Dean's paper pointed out that at present export market conditions for Canadian cheese are very favorable, but we must remember that these conditions, while favorable, are unusual, due to more or less artificial times which are not likely to continue very long, consequently, we must prepare for the "slump" which is sure to come sooner or later. Two facts stand out prominently at the present time regarding home consumption of Canadian cheese, first, the comparatively small amount of cheese consumed, estimated at 3 pounds per head yearly. Second, the fact that we are importing about 1½ million pounds of cheese annually, chiefly of the fancy varieties and worth nearly \$300,000. Prof. Dean believes that there is no reason why the annual cheese consumption should not be at least 10 pounds of cheese per head of population, and no reason why nearly all the cheese at present imported should not be manufactured at home.

The food value of a pound of cheese is estimated to be equal to that of two pounds of average meat. Estimating the present meat consumption at 25 lbs. per capita (a low estimate), Canadians are consuming about 200,000,000 lbs. meat annually, at a cost of about \$40,000,000. By a proper understanding of food values, we might save about \$16,000,000 annually on this one item alone by substituting a part of the present meat ration for cheese. This would figure somewhat as follows: A cheese consumption of