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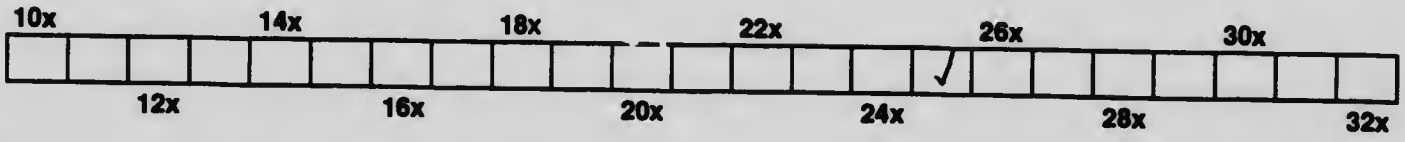

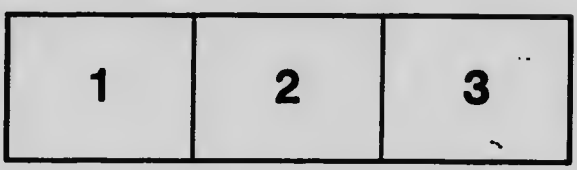

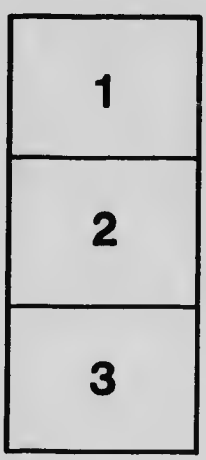

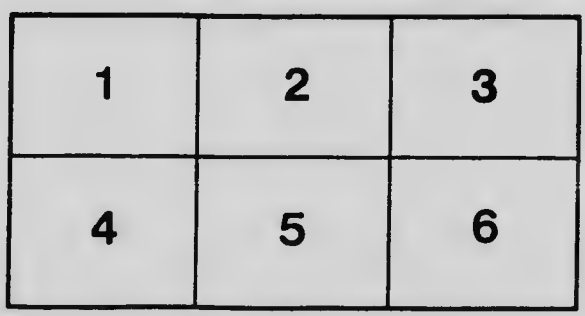

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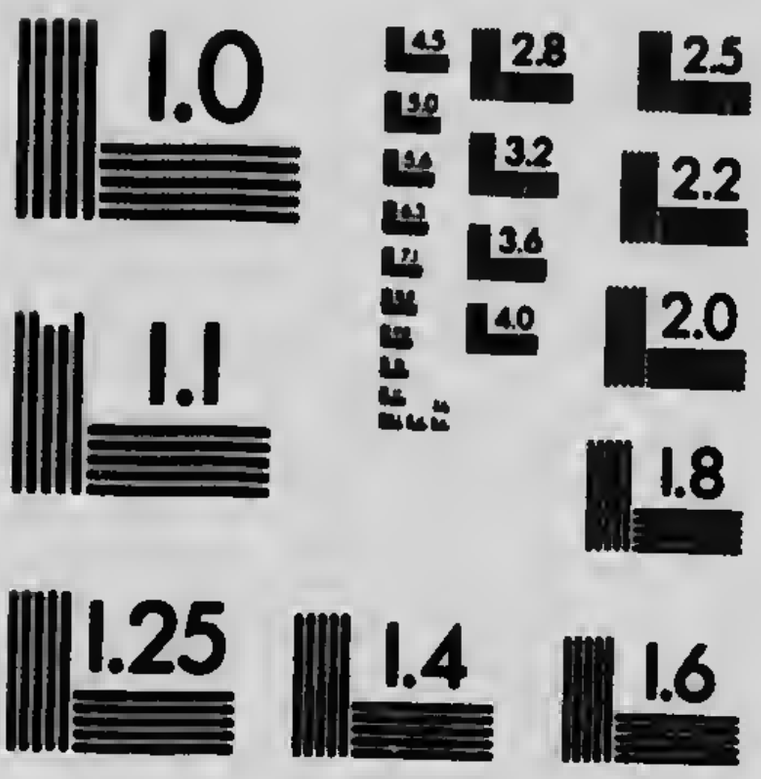

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BULLETIN No. 22

REPORT

OF THE

FIRST ANNUAL CONVENTION OF DELEGATES

REPRESENTING THE

DAIRYMEN

OF SASKATCHEWAN

Held at Saskatoon, Saskatchewan,
May 19 and 20, 1910

PUBLISHED BY DIRECTION OF
THE HON. W. R. MOTHERWELL, MINISTER FO AGRICULTURE

REGINA:
JOHN A. REID, Government Printer
1910

Report of the

First Annual Convention of the Dairymen

of the Province of Saskatchewan

The first annual convention of delegates representing the dairymen of Saskatchewan was held at Saskatoon, Saskatchewan, on May 19 and 20, 1910. W. A. Wilson, Superintendent of Dairying for Saskatchewan, occupied the chair. The following report of the proceedings is based upon the full stenographic report:

CHAIRMAN'S REMARKS.

The chairman, welcoming a full and representative gathering of delegates, expressed the hope that their convention would become an annual event. He briefly alluded to the beneficial influence of a full and free discussion on all aspects of the dairy industry in the province, and was sure they would all profit by the opinions and experience of men who had encountered and overcome difficulties. Mr. Wilson then set out the aims and objects of the convention as: Educational; to discuss and determine a uniform policy of work; to obtain and impart information; to receive inspiration to do better work; to promote harmony; to emphasise the importance of united action and its effect in improving existing conditions; to become better acquainted with one another and the work in general, and to make the dairy industry in Saskatchewan what it ought to be. Their meeting, he said, should be productive of good results in that the delegates would be able to continue, in their respective districts, the plan of work inaugurated at this convention.

A uniform, sound, businesslike policy for enlarging the scope of their operations and usefulness, similar practices in breeding, feeding and managing stock, together with modern and cleanly methods in handling milk and its products, should place the dairy industry in Saskatchewan in an enviable position from the standpoint of quality and profits. He then called upon the Honourable W. R. Motherwell, Minister of Agriculture of Saskatchewan, for an address.

ADDRESS BY THE HONOURABLE W. R. MOTHERWELL

MINISTER OF AGRICULTURE

"THE GOVERNMENT'S POLICY AND ITS BEARING ON THE DAIRY INDUSTRY."

At the outset let me express my appreciation of the privilege of meeting you all as co-workers in a good cause. The department has, in the past, and hopes in the future, to work in conjunction with you. By working together and in harmony a great deal can be done, and there is still room for much to be done. In the past we have been working on rather a small scale; we have been experimenting, as it were, but now the time has come when we should meet together and discuss the difficulties we have met with in different localities in the past, and—more important still—discuss the future. We have a great responsibility; I mean we as the first Dairymen's Convention have a great responsibility. Upon you rests more or less what the future shall be. To some of us who have been waiting and hoping for years this meeting means a lot.

PIONEER DAIRYING.

Some of you will remember in the early days in this province when we first came up here some of the difficulties we then experienced. Grain growing did not pay in those days. Most of us were from Ontario and it was only natural that with the tendency for dairying, and under the conditions existing at that time, we should try to make dairying a success. Many of you will remember that in those days some of us were saved from going to the wall by a few cows while many of our grain growers did go to the wall. But there was such a small population then and so few that were interested in dairying that it was impossible to make a real success of the industry. Then there was another reason why it did not succeed. There was such a small home consumption of butter, and you might say no outside market whatever, that the larger the number that tried dairying the worse it got, and dairy butter went down and kept going down until you could only get sometimes as low as eight or ten cents per pound for it.

In the year 1897 the Dominion Government undertook to aid the dairy industry in this province and for that purpose they established a number of creameries here. It is easy to look back now and see the mistakes of that day, which after all have been common to most new countries. I never yet have discovered the man who did not make a mistake, but the effect of those mistakes to us as an association must now be beneficial. It is a wise man who does not make the same mistake twice. Creameries were established at Moosomin, Whitewood, Grenfell, Wolseley, Indian Head and many other wheat growing districts. Everybody wanted creameries and with the enthusiasm for their own town that still characterises the west, they all wanted a

creamery in their own town. The result was that too many got creameries and it was no time till half or nearly two-thirds of them dropped off for the want of sufficient cream. We still have to contend with that difficulty and tendency. People want creameries in their own town and they don't stop to think that to make butter or to make a creamery a success you must have cream and you must have cows. There are some of those old creameries in the running yet. Tantallon, Moosomin, Qu'Appelle and Langenburg. The policy of the Dominion Government at that time, while not meeting with the success it should have had, was started with the best of intentions. Its motive was to divert the attention of the farmers from exclusive grain growing. And if the present system works out to better advantage than did that of the Dominion Government, it is probably because we can see where they fell short and profit by their mistakes.

CONDITIONS WARRANTED CHANGE OF POLICY.

This, then, was the condition of affairs when the province was formed and my department took over the work from the Dominion Government. You know the difficulties we encountered. The first question we had to face was that of putting creameries only where they would be a success. As I explained one town got a creamery, and the very next one to it thought it should have one too. The policy of centralisation was no easy one and met with not a little criticism. Only to put creameries where they will be supported has been and is the policy of the Saskatchewan Government. In determining where they will be supported, we have to take into consideration all the facts and use our judgment. At Qu'Appelle, the year before this policy was adopted, I think that a little less than seven thousand pounds of butter was made. With the government paying the express on cream from the Arcola and Estevan lines they made 34,000 pounds last year.

I am firmly of the opinion that it is only by a policy of this kind, a policy of centralisation, that the creamery enterprise can be made a success. As you increase the output you lessen the cost, but the great difficulty is to get people to understand that it is for their benefit that they are not given a creamery in their home town. It costs no more to send the cream to a creamery in another town, because the government pays the express, and every time you increase the output you lessen the cost of manufacture and proportionately increase the profits of the patron. The great stumbling block to the success is the cost of the article, and everything that can be done to lessen the cost is a step in the right direction. Therefore there is no good end attained by putting a creamery at any place unless sufficient cream for its maintenance is in sight.

There is a successful creamery at Moosomin. The people at Wapella wanted a creamery there. It wasn't because they could get more for their cream at home, but they wanted a creamery to build up their town. We must not attempt to build up towns at the expense of the dairying industry. Mr. Wilson went down to Wapella and explained the policy of the department to them. Even if they had had the cows and the cream to support a creamery I am not sure that it would have been wise to put a creamery there. It would have been robbing Peter

to pay Paul, because it would most certainly have hurt Moosomin creamery and then again you would have been running two establishments where one would have done. It was altogether contrary to the policy of the department because it was not increasing the output nor lowering the cost of production. These are the conditions that have to be met, and a representative gathering like this must do its share in meeting them.

I have outlined the policy of the government with regard to centralisation. If this meeting feels that this policy is the right one and will support that policy, you will help us out and greatly strengthen our hands for the future. It is for you to say whether this policy is in the best interests of the dairying industry. A very enterprising little town on the Grand Trunk Pacific Railway sent up a delegation and they were very anxious to have a creamery. However, we pointed out to them that it was too late for this season in any case, and suggested that they ship their cream to Tantallon. We would pay the express and they would get exactly the same for their cream as if they had a creamery in their own town, and they would in that way be following out the practical theory that you must increase the output to lessen the cost. So you see these people would be actually better off by sending cream to a creamery already established than to build one of their own.

ADVANTAGES OF CENTRALISATION.

To show further the effects of this policy on the season's make of butter I will take as instances the creameries at Langenburg and Churchbridge. Their representatives are here and will know that what I shall say is correct. One was operated privately and the other by the government. In 1906 both were running. Langenburg made 34,000 pounds, and Churchbridge 56,000 pounds of butter. The first year the Langenburg creamery was under government operation, that is in 1907, its output increased from 34,000 to 74,000, while the Churchbridge creamery's output decreased from 56,000 to 32,000 pounds From 1906 to 1909 Langenburg's output increased from 34,000 to 95,000 pounds, while Churchbridge made only 49,000. I could give you other figures but these illustrate the general tendency. Because of these and other figures like them I am satisfied with the government's policy of aiding creameries in this way.

The figures I am about to submit relative to cost per pound of manufacture will, I think, further illustrate that the policy of centralisation is the proper one. Take the two creameries previously mentioned: Langenburg in 1907 made 34,000 pounds at a cost of 3.9 cents per pound; in 1908 it made 74,000 at a cost of 2.8 cents per pound; in 1909 it made 95,000 pounds at a cost of 2.2 cents per pound. Again, Moosomin, in 1907, made 12,000 pounds at a cost of 5 cents per pound; in 1908 it made 28,000 pounds at a cost of a little over four cents per pound; in 1909, 49,000 pounds at a cost of 3.4 cents per pound. These figures bear out the contention that wherever you can increase the output you lessen the cost of production and put that much more money into the pockets of the patrons.

I can give other figures along that line too. Qu'Appelle in 1907 made about 7,000 pounds at a cost of 11.56 cents per pound; in 1908 it made 29,000 pounds at a cost of only 5.67 cents per pound, and the next year (1909) 34,000 pounds at 4.92 per pound. It is the same in every line of business. Take the grain grower for instance. The same binder that will cut 50 acres of grain will cut 100. It is the second 50,000 pounds in the season's make that will pay the best. If we can only get started right and then get the proper interest taken in the dairy business we shall find that the profits will be much larger than they are now. It is our privilege and also our responsibility to start the industry along proper lines in this province. Ohio ten years ago had 1,200 creameries. Today it has only 995. And 75 per cent. of the butter made in the state is made in only 35 of these creameries. Thus 960 creameries make only 25 per cent. of the butter made in the whole state.

Alberta has 21 creameries and made about 880,000 pounds of butter last year. But four of those creameries made almost half of the whole output. Manitoba has about 30 creameries and the butter output is very large. They made last year, I think, 2,400,000 pounds of butter. Two creameries made of that 1,500,000 pounds. Or 28 creameries made only 9,000 pounds each. Figures like these are what the department has to guide it, and they show that we surely are justified in our supposition that centralization is the best policy for this province. Some towns get very enthusiastic over having a creamery in their midst. But, gentlemen, it takes more than enthusiasm to make butter. It takes cream, and to make it profitably it takes a lot of cream. This takes cows and it must be the policy of the government not to scatter creameries indiscriminately all over the province, but to select a place where the cows and the cream are in sight.

So far we have been going into this industry a little timidly. That was quite the proper way to begin. In almost every business one must feel one's way. But it would appear that the time has arrived when we can throw off a little of this timidity. If we have gone sufficiently far to discover what we need and what is best for our association I think the time has come when we might make a forward movement. We cannot stand still; we cannot afford to if we could. And I cannot urge upon you too strongly your responsbility in the matter. A government's policy may be the best possible, but you cannot run a creamery business or build up a prosperous dairying industry on government policy any more than you can on enthusiasm. It is you who must produce the raw material without which the industry must fail.

It seems to me that the first object of this convention should be to enable us to ascertain just where we stand. We have made a beginning and a very creditable one, and now we must join hands and take a very decided forward movement in unison. I have then, clearly outlined our policy, and given its bearing on the industry as I see it. It may be, and probably it is a fact that there are features in our policy that do not meet with your full approval. It is for you to point them out.

THE FUTURE OF DAIRYING.

Now as to the future. What is the industry going to amount to. That depends entirely on the farmers—upon the patrons and those who will become patrons. Of course this is essentially a grain growing country, and farmers on the plains will not, I anticipate, go into this important branch of farming in the immediate future. But there are districts all over the province where the country is particularly adapted to this branch of farming, and these districts should, in my opinion, get all the encouragement that can be given them. We must, in looking at the future, also look back and see what mistakes have been made that can now be avoided. One of the greatest difficulties encountered in organising a creamery association has been in the disposing of the creamery stock. It is very easy to get the first stock taken or subscribed. Everyone is enthusiastic then. We are going to have a creamery here, "Sure, I'll take some stock." But when the next one comes, how many there are who drop out! I don't know why it is, but it is one of the difficulties that we have had to contend with that should be safeguarded against in the future.

If a good percentage of subscribed stock had to be paid in cash and the balance secured by approved note it would prevent people from hastening to join a company without first having considered the matter. If they are not in earnest about it there is no use in having them in the company at all. Requiring the balance of the stock to be secured by approved notes would make it much easier to finance the enterprise.

There is something else that could very well be done. I do not think our creameries and the results they secure receive enough publicity. In some places the local papers publish just what the creamery has been doing, and even what each man has received for his cream. You all get your statements, of course, and you know just what you are making, and while it may not be advisable to let everyone know that much, yet I think it would be well to secure more publicity for your creameries. I don't think you will find any trouble along this line. Your local papers will be glad, judging from what experience we have had, to get your statements. It always makes good readable copy and I think you will find that you won't have to pay advertising rates for it.

WHERE IMPROVEMENTS MAY BE MADE.

The next task for the future is an improvement in the source of cream supply. So far we have gone on with just our home stock, and that was quite right. I don't think we could have done otherwise; but if you have decided that it is a good industry, and that it will pay well to make it a permanent one, then I think our herds should be improved. Every one knows that you can't make the best out of the dairy business without keeping dairy cows. Improve your stock, so that you can get more milk and more cream and the creameries will take care of themselves. There are two requisites for the foundation of a creamery. The first one is clean cream and the second is more and cleaner cream.

With the improvement of the herd must also be considered the quality of the butter, or, speaking more directly to you, the quality of

the cream. If butter hasn't quality it has nothing. If it hasn't quality it isn't fit even for axle grease. It has often been a surprise to me that the butter has kept up in quality as well as it has. We have made a reputation for our butter, but we have to keep it up. Now, let me be honest and frank with you. There has been a slight tendency in the fall of the year for the butter to be not quite up to the mark. It is very easy to lose a reputation for making good butter, but it is harder to regain it than it was to make a good one in the first place. So I must warn you. Don't think that I have any fault to find with the butter generally. We have no cold storage in Saskatchewan and under all the circumstances the result has been gratifying. We are starting out this year trying to assist you more by appointing an inspector or instructor in the person of Mr. Zufelt. It will be his business to assist you and I hope you will make good use of him. Our conception of his work was that he could go around to the different creameries and let the buttermaker get out among his patrons. Your buttermaker must not be afraid of sending back cream if it is not fit for use. You cannot make good butter from bad cream and it is a shame to spoil a day's make of butter because of the fear of hurting one man's feelings.

We also encounter the difficulty of securing good buttermakers. It is sometimes a very difficult matter to secure a good man, but we do our best to keep you supplied with such. I ask you to work with Mr. Zufelt and give him a good reception and make every possible use of him, and we hope that through his appointment it will be easier for you to keep the quality of your butter up to the high standard it has already attained.

At the present time we have to store our butter in Winnipeg. I hope that in a short time we shall have cold storage in our own province. This would increase the profits of the patron and that is what we are all striving for.

We will try to build the creameries only in places where they will pay, and must leave the quality of the butter largely to you. The people of the west are willing to pay the price if they get the article they want. Butter is more or less a luxury, and if you can produce the quality you will secure your price.

In conclusion let me urge you, now that you have put your hand to the plough, in respect to this industry, not to look back but to press forward, until the dairy industry in Saskatchewan assumes the proportions that its importance and profits would warrant.

DISCUSSION OF HONOURABLE W. R. MOTHERWELL'S ADDRESS

Hon. Mr. Motherwell's address was the subject of an interesting discussion opened by H. C. Lisle, M.L.A., Lloydminster. Speaking of the importance of the dairy industry, Mr. Lisle gave it as his opinion that while wheat had been and would be the most important factor in the agriculture of this country it had been allowed to take, if anything,

too paramount a place. In his opinion the dairy industry was of equal, if not greater importance. Excessive grain growing depleted the farm. Dairying added to its fertility. But what was of still greater moment was the fact that in many parts of the province the land was specially adapted to dairying. He had advocated this branch of farming in Lloydminster for the past five years as he was confident of its success. It conduced to independence, particularly of the farmer with little capital, more speedily and surely than grain growing alone. Early frosts might come, but the farmer who had a few cattle and had some butter to market could generally meet his liabilities. He had something to fall back on and one bad year would not stampede the whole country. The sooner farmers were educated to the many advantages of including dairying in their farming operations the better it would be for themselves and the country at large. It was his opinion that the dairy industry formed the most profitable part of farming. During the six years he had farmed in Alberta he had kept from twenty to thirty milch cows and he could say, from his experience, that the dairy was the only branch of his farm labours which paid. He had 150 acres under crop and, taking one year with another, he had not made one dollar out of them.

He agreed with Hon. Mr. Motherwell that it was a foolish thing to establish creameries wherever they were wanted without regard to the amount of cream which could be obtained at that point. The creamery established late last season in his own district appeared to be successful, but they could quite easily receive the cream from the whole district between there and Battleford at least. He had strongly advised those, in several of the towns along the line, especially in his own constituency, who had spoken to him about securing a creamery, not to take any action until they were perfectly satisfied they could get sufficient cream to make it a success. He pointed out to them that they would just get as much by sending their cream to Lloydminster. Since then some of them had started to do that. They were receiving the same profits for their cream as they would had they a creamery of their own, and, as Mr. Motherwell had pointed out, probably more, on account of the cost of operating two creameries instead of one. When they had, say, a thousand cows within a radius of twenty miles then it would be time enough to erect a creamery.

HERD IMPROVEMENT.

Mr. Lisle next dealt with the difficulty and necessity of securing proper milch cows. Ranching, he said, had played so great a part in this country up till lately that most of the animals were raised for beef and in consequence many cows used for dairy purposes did not pay for their keep. To make dairying a success good dairy herds were essential. The need for serviceable milch cows was urgent in his own locality. They required assistance to procure these. The Government might possibly see their way to come to their aid in securing good dairy cattle, especially good bulls. He did not mean pecuniary assistance, but by giving information as to where it was possible to secure good bulls.

The same difficulty existed in regard to procuring dairy cows. He thought the solution of the problem was to get good bulls and gradually

secure good milch cows by careful selection. By this method a good milking strain could be developed in two or three generations. In his opinion the nutritious grass at present going to waste was worth more than the wheat grown upon the farms.

DIFFICULTIES IN DEVELOPING DAIRYING.

The government, he went on to say, had done excellent work in the establishment of creameries. The creameries had been well managed, as the quality of the butter testified. If the inauguration of this industry had been left to private individuals there was little doubt that it would not have been as far ahead in a great many years from now as it was today. With reference to the further fostering of the industry by the government, he referred to the action of the New Zealand Government some years ago in furnishing cows to farmers on easy payments. They had discontinued the system because the enterprises could borrow money very cheaply from the banks. Here, however, farmers could not borrow money at less than 8 per cent., and, very often, not at all. Of course he understood the difficulties in the way of the government adopting a similar plan in Saskatchewan, but he threw it out as a suggestion worth considering. He advocated the abolition of herd law by the vote of the farmers themselves in districts suitable for mixed farming. He spoke of the difficulties connected with gathering cream from a wide area and emphasised the importance of keeping the cream cool, not only before it was taken away by the driver, but also on the road. The great secret of the quality of the butter lay in the condition of the cream when it reached the factory. He supported the contention that they should have a substantial amount paid up on creamery stock. He considered that, at least, 20 per cent. should be paid up, and the balance secured by approved notes. If this were done one of the difficulties most of them had encountered would be removed. A great deal of the stock was usually sold to merchants in the towns and they could generally put up at least 20 per cent. In conclusion, he hoped they would all give their enthusiastic support to any movement the government might make in this direction and also towards the improving of their herds.

SUBSCRIPTION OF STOCK.

W. C. Paynter, Tantallon, representative of one of the most prosperous creameries in the province, stated its success had not really begun until after the province had been formed, and the creameries handled under the supervision of the provincial government. He instanced from his own experience the awkward situation created by people subscribing for stock and not taking it up, and the unfair burden of responsibility thus placed on directors in getting the creamery established and in operation. The time had surely come, he said, when people should not be allowed to subscribe for stock unless they meant to back up the creamery by their subscriptions. He favoured having, at least, 50 per cent. of the stock paid up and the balance secured by promissory notes. The man who had his money invested in an institution was the man who was going to work for its success.

In regard to centralisation of creameries he approved the position taken by the minister of agriculture. The economic development in all lines was centralisation. He did not mean that they should be combined or centralised so that a few creameries could get together and control the price of butter in the province. They need not fear as to that. The creameries were under the supervision of the government and the department could be relied upon to see that the deal was as fair to the consumer as to the producer. The people in the west were always willing to pay a good price for a first-class article and the farmers should produce it for them. They should also be able to produce as much butter as their own province, at least, would use.

ADVANTAGES OF CO-OPERATION.

Referring to the high rate of interest charged on loans by the banks he suggested the government should do something so that farmers could secure money at a reasonable rate of interest. Of course, the government did lend them $1,200 at 3 per cent. In illustrating the advantages of co-operation he pointed out that the average price of creamery butter was 24.43 cents per pound, while a fair average price for butter not manufactured by the creameries was 16.51 cents per pound. The average cost of making creamery butter was 2.92 cents per pound, leaving a net price to the patron of 21.51 cents per pound. They would see by this they had practically made 5 cents per pound by sending their cream to a government creamery. They had practically hired help to do the heavy part of the work and still were 5 cents per pound to the good. The total value of the butter manufactured at the government creameries last year was $83,649.29. Therefore, the patrons saved or made, at the rate of 5 cents per pound, $17,120.20, on the butter turned out by the Saskatchewan creameries in 1909. These figures gave an idea of what the operation of these creameries would mean some day to the dairying industry of the province.

On the other hand, he pointed out the loss sustained by those not patronising the creameries. Aside from the fact that there was a lot of the butter made privately that was not fit to eat, there was a distinct loss to the farmers who manufactured their butter in the old way. In 1908 there were 177,722 cows in Saskatchewan. He would allow an increase of 20 per cent. for the following year, so that there were 215,666 cows in the province in 1909. Reckoning the number of cows whose milk was not sent to the creameries at 213,032, and taking the average production per cow to be 130 pounds of butter in the year, there were 27,694,160 pounds of butter manufactured in the province outside the creameries. If there had been a gain of 5 cents per pound, on the creamery butter there must have been an equivalent loss on what was not made at the creameries. The loss, therefore, to the province because people did not take advantage of the creameries amounted to the large sum of $1,384,708. The farmers had thus lost in one year over a million in money. Could they begin to understand what these creameries would mean in the future? If he had placed the difference in the prices obtained for creamery butter and butter not made by the creameries too high just cut the result in two. There would still be a

loss of $692,354, enough to more than justify the running of the creameries from a financial point of view alone. If they knew nothing else than what these figures taught them they would still be bound to do everything in their power to make this industry a success.

DEPARTMENT OF ANIMAL HUSBANDRY.

Joseph Burton, Langenburg, thought what they wanted more than anything else was some criticism, some one to tell them where they were failing. He had been looking around for some fault to find with the department but he had been unable to locate any. However much they might differ on other points of policy with the government he did not thing anyone could find fault with the way they were handling the dairy industry in this province today. If only they could form in conjunction with the dairy interests an animal husbandry department? He did not know just how it could be done but if the government could see their way to supply some districts with good stock excellent results would be manifest in a few years. Mr. Lisle had told of the difficulty of procuring good dairy cattle in his locality, and he had no doubt other localities were experiencing the same trouble. A department of animal husbandry would easily find them a remedy.

The history of Langenburg showed the advantage of government control of creameries. In 1905, the year in which the creamery at Langenburg closed down temporarily, there were two other creameries operated within a short distance of it; one at Churchbridge, twelve miles away, and the other in Manitoba, about fourteen miles distant. These creameries were too close together to make either of them a real success. In the fall of 1905 they had large quantities of butter in stock at Langenburg for which they could not secure a reasonable price. They held it until the following February when they had 23,000 pounds. The best price offering was 19 cents per pound, delivered in Winnipeg. They sold out at a loss of over $500. That bad year put them behind. The farmers lost confidence in the creamery and the cream which should have come to Langenburg was shipped to Winnipeg and elsewhere. As a result they made only 30,000 pounds of butter that season instead of 70,000 pounds, which, under ordinary circumstances, they would have manufactured. It took a whole year to regain the confidence of the farmers. This, he considered, illustrated fairly well the advantage of having government supervision and a market found for their produce.

Continuing, he said he had always understood that if a patron put his name down for a certain number of shares he liable to that extent. Mr. Lisle replied that that was so, but it wa y disagreeable to have to sue those who failed to take up their shares. Mr. Burton remarked that under certain circumstances it ought to be done. He went on to say he did not think the loan to a creamery should be limited to $1,200. It might be necessary and wise to spend a little more than that. With regard to the suggestion of Mr. Motherwell to give more publicity to their creamery results, he thought they might very well be published in a farmer's paper in addition to the local newspaper.

Speaking on the question of centralisation he said the requisite number of cows in a district did not always justify the establishment of

a creamery. There were other determining facts to be considered, particularly, if there were good railway connection with an existing creamery.

SOUND FINANCIAL BASIS.

He urged upon dairymen the necessity of putting their creameries on a sound financial basis. While it was very essential that the government should lend its aid to so important an enterprise he did not approve of running to the government on the slightest excuse.

His opinion was that the class of cattle to be kept would have to be determined by the farmers themselves. He was not opposed to the idea of a department of animal husbandry which would educate dairymen to select the class of animals best fitted to meet their requirements, as well as, perhaps, assist them in getting the class decided on. It was either the government or the agricultural societies in British Columbia who imported from four to five carloads a year of bulls and cows of the most serviceable type and sold them by public auction. This introduction of new blood had the effect of improving the grade of stock very materially. It might not be the way to make money but it would be attaining the end they sought, the improvement of the dairy herd.

Another delegate, who took part in the discussion, referred to his experience in dairying in England, and advocated the rearing of good calves by the farmers. He had been much surprised, he said, to find that the farmers in this country did not do so, but sold their calves, as he had been informed by a butcher for about $1 each. He approved of the idea of the government rendering aid in procuring the right kind of cows and bulls.

DAIRY STOCK.

W. McCorkell, Moosomin, said he wished to inform Mr. Lisle who had spoken of the difficulty of getting good dairy cows that there were a lot of good bulls and cows in his (Mr. McCorkell's) district. But they were worth a lot of money and that seemed to be the great trouble. The government could not buy cows and give them away. Good cows in Ontario were selling at prices ranging from $50 to $100 per head. In eastern Saskatchewan where there were a few good milch cows they were selling at $60 each. As long as prices remained as they were there was not much use of talking about buying cows. There was no evidence of a decline in prices and the only way out of the difficulty was to get some good bulls and, with care, in two, three or four years, they could raise good dairy cattle from their present stock. Last summer yearling heifers could have been purchased in his district for from $15 to $20 and he believed could be obtained at the same price this year.

He could have taken an order in Mr. Lisle's district last summer for half a dozen Shorthorn bulls but when the Canadian Pacific Railway quoted their rates that stopped him. If he sent to Ontario for a bull the stock association would ship him up here for $5.00. They could produce the bulls here but they could not get the same transportation rate as Ontario. Perhaps the Cattle Breeders' Association or the department of agriculture could get for them a more reasonable rate for the carriage of their live stock.

SUPPLYING OF CREAM CANS.

Reverting to the quality of butter, he believed it could be improved by keeping individual cans and suggested the government supplying the cans and holding back 1 cent per pound on butter fat until they were reimbursed for the outlay. If, he said, some means could be devised of helping farmers get the cans it would give no small impetus to the industry. He asked if it were not possible to keep two or three creameries in the province running all winter as a large amount of cream was diverted elsewhere by closing down in the winter.

Mr. Burton stated that during the first year or two of the operation of the Langenburg creamery cans had been supplied, but the system had been discontinued because of the expense. When a farmer had not enough cream to send out the can would be used for all sorts of purposes for which it was not intended. They adopted another plan which, with the government's assistance, worked very well. The creamery company purchased a lot of cans and sold them, getting an order on the department from the purchaser and the department deducted the price of the cans from his cream cheque. Sometimes a patron would tell them he could not afford to have the price of the can or cans deducted out of his first cheque and in some cases three months elapsed before they got the money. But they eventually got it. The order on the department was always obtained before cans were given out. The government was helping them in this in an indirect way and he thought this worked just as satisfactorily as would the plan proposed by Mr. McCorkell for the government to provide the cans.

Mr. Motherwell asked if the patrons were satisfied with that arrangement. Mr. Burton replied that he had never heard a complaint of any kind. Mr. McCorkell asked what did they do when patrons, living twenty miles from the creamery, sent in for cans. Mr. Burton answered they had very little trouble in that way. In cases where they did not send in their orders they tried to get the department to deduct the price of the cans from the cream cheques without the purchasers' orders. Mr. Wilson, however, informed them the ruling of the department necessitated his having an order for everything he paid out. Last year they had a large number of patrons at distant points to whom they sent cans and in each case the patron sent his order.

Mr. Engesetter, of Birch Hills, bore out the remarks of Mr. Burton.

IMPROVING THE DAIRY HERD.

Mr. Whiting, Fort Qu'Appelle, spoke on the question of improveing dairy herds. The agricultural society in his district had, he stated, purchased bulls and placed them in different parts of the district. They were changed around each year so that in two or three years each bull had done service all over the district. The arrangement was that the man who took the bull had the use of him free and the others paid 75 cents for service. Of course, the matter of the breed was a big question. Each district must decide which breed would suit it best. If they adopted the plan he had outlined they would find that in a very few years they would have their districts pretty well stocked with good cattle. This could be done just as well and, perhaps, better by the agricultural

societies than by the government. He advocated the introduction of good stock into the country by the agricultural societies on account of the success they had had in South Qu'Appelle. These societies now were to some extent under the control of the government, and had financial assistance from that source.

Mr. Penson, Lloydminster, said he had some little experience along the same line in his district. One neighbour had bought a bull while the other guaranteed the cows with the result they had a lot of Holstein grades grazing in their pastures.

Mr. Burton reiterated his plea for a department of animal husbandry. If, he said, they left the selection of males to the farmers they would never agree on any particular breed. Professor Rutherford said one of the things being planned in connection with the agricultural college was a special dairy herd. They proposed to have a separate building for a dairy herd of thirty-nine cows. The building, they hoped, would be a model as far as cleanliness and convenience were concerned and particular attention was also to be paid to ventilation. This was one of the first things they were making provision for and if other things had to be laid over, the dairy barn had still to stand.

The chairman then called upon Professor W. J. Rutherford, Dean of the Saskatchewan College of Agriculture, for an address.

ADDRESS BY PROFESSOR W. J. RUTHERFORD

DEAN OF THE COLLEGE OF AGRICULTURE
SASKATOON, SASK.

"MILK PRODUCTION; THE MAN, THE COW AND THE FEED."

You are here as delegates to the first convention of its kind that has been held in Saskatchewan. You are here for a purpose—not merely to enjoy yourselves, but here to get an inspiration in your work and also to get a message to carry home to your directors and through them to the patrons who are contributing in no small measure to the upbuilding of a very stable industry. The Honourable the Minister of Agriculture is not content to mark time in this work. The superintendent of dairying is anxious to see improvement. Improvement cannot be accomplished without the heartiest co-operation on the part of all concerned and especially on the part of the men and women who keep, feed and milk the cows and in turn care for the milk until it reaches the creamery. It was thought that by bringing you here and discussing with you some of the fundamentals, that new interest would be awakened and a campaign of education heartily and enthusiastically entered into by each one of you when you return to your respective localities.

"Quality of product" must be our watchword in this creamery business. We cannot afford to have one case or even one print of inferior butter go out bearing the name "Government of Saskatchewan Creamery Butter." If such a thing should happen, the government of this

province, the minister of agriculture, and his associates, the superintendent of dairying—all would have to bear the blame and the shame. Not they alone, but every creamery patron would suffer and the province would suffer. It is much easier to get and retain a good name than it is to retrieve one once lost. I know you share with us the desire that no bad butter shall be made.

Our superintendent, Mr. Wilson, has secured a good market. He is anxious to hold it and to secure a larger one for an increased quantity from Saskatchewan creameries. The work has become too large for him to do alone, so Mr. Zufelt has been engaged to assist in the work of visiting creameries for the purpose of inspecting the work done, instructing the buttermaker and the patron alike, that all may work to the one end—that of making more and a better product. Mr. Zufelt's appointment should materially strengthen the work this year and make for better things—especially butter.

MILK PRODUCTION.

Now as to milk production there are at least three factors to be considered—the man, the cow and her management. If a man is going to make a success of dairying it is very necessary that he like his work. Of course this is true of any work, but especially so with dairying, for it is a seven day a week work. The man is constantly at it from the beginning to the end of the year. He must be a careful, patient man. The animals he is working with are to a large extent artificial. They have been developed by man into machines for consuming large quantities of food and returning for it large amounts of human food products in the form of milk and butter fat. These cow machines require to be handled carefully and patiently. He should be a student, for successful dairying is based upon science, and science is adding something all the time to the sum total of information now in our possession in regard to dairying. The man who would get to the top of his work should possess himself of the information now at hand as to methods of breeding, feeding, testing and caring for dairy cattle, as well as that relating to the care and management of milk and its products. You see he must be a student.

The cow, of course, is the animal machine that is used for converting the raw materials of the farm and mill, such as grass, hay, clover, straw, corn fodder, roots, oats, barley, wheat, bran, shorts and oil cake, into milk, wholesome for food and suitable for making high quality products such as butter and cheese. She is a product of the constructive genius of man, who has by careful selection, mating and feeding, brought her to a high state of perfection. The dairyman must recognize this if the cow is to do her best in his hands. The dairy cow takes on certain definite characteristics when she is found in her ideal form. She should be of good size, according to the particular breed to which she belongs. In form she should possess a deep broad chest, to give heart and lung capacity; a deep, roomy middle to afford good digestive capacity, and with these, large nostrils and mouth, strongly muscled jaws, large mild eyes, a flexible mellow skin covered with fine, soft hair. Her mammary system, consisting of udder and mammary veins (milk veins) and milk

wells should show strong development. The udder should be large, long, deep and broad, and attached well forward and high behind. It should milk down to a small and spongelike mass instead of remaining hard and inflexible. The teats should be medium in size so that they can be milked without wetting, and be placed well apart. The mammary veins run forward from the udder on the abdomen and lose themselves through orifices called milk wells. They should be long, large and tortuous, and the milk wells large and numerous. If a cow possesses these characteristics and during her periods of lactation is not inclined to put on fat but rather to make milk, she should show good returns for the care bestowed upon her. Cows of this description with care exercised in their feeding and management have shown wonderful capacity for producing milk and butter fat. In 1908 a Holstein Friesian cow made 998¼ pounds of butter, an amount nearly equal to her own weight. This would mean a production of more than 27,000 pounds of milk. This cow had a good pedigree. I mean that she had as ancestors dams and grand-dams that were heavy producers. So when you are selecting a dairy cow, you have more to guide you than her form and outward appearance. You should know the producing qualities of her ancestors. The use of the scales and the Babcock tester have made it possible to know exactly what each cow in a herd does every year and it is within the power of every dairyman to have his cows tested. A good cow should be not only good looking, but she should also be a good doer.

CARE AND MANAGEMENT OF THE COW.

Some of the best of cows have been spoiled in the care and management they have received from the man in charge. As I have already pointed out, the dairy cow, like all our improved breeds of live stock, is an artificial production. Man, by careful, intelligent selection and feeding, care and management, has made her what she is. She must still be intelligently looked after if she is to go on and do well for her owner. The stable in which she is housed in winter should be fairly warm so that it can be kept at about 48 degrees Fahrenheit. It must, for the sake of the health of the cow and the consequent wholesomeness of the milk, be well lighted and well ventilated. There should be about four feet of window for each cow. If the stable is placed east and west the windows on the south side will admit sunlight from early morning till sunset. If the windows are placed fairly high the rays will be carried farther across the stable and will be more effectual in cleansing it and at the same time will make it a more cheerful place for the cows and those who attend them.

The ventilation is very important. The blood and lungs of the dairy cow are called upon to perform such a heavy amount of work it is essential that fresh air be constantly supplied. A cow kept in dark, ill-ventilated quarters is almost sure to weaken and develop tuberculosis. Prevention is what we should by all means look to. Bring in fresh air from the outside and lead off the foul air from the stable. This is a difficult problem in this country where the air on the outside is so cold, but we feel sure it can be done. We hope by another year to have a well equipped, well lighted and well ventilated dairy stable at

the college, where the delegates to our dairy convention will be able to meet and study for themselves the measures that have been taken to give the dairy cow a suitable place to do her work in.

AN ECONOMIC FEEDER.

The dairy cow should be an economic feeder. She utilises a large amount of cheap roughage, but with it she must be supplied with certain kinds of food or she will not make returns. There is no time that the flow of milk is so well kept up as when the cow is on the new grass in June and early July. The grass possesses not only the nutrient but it has what we term succulence. It is juicy and is much relished. Water of course must be supplied, but water cannot take the place of the succulence of grass. So we learn from this that we must provide something throughout the year to take the place of the succulence of the new grass. Our prairie grasses or even our tame grasses do not come on early enough in the spring so, we must resort to some other means. It may be that we can furnish silage and keep it over so as to have it for spring feeding. Or we may store mangels or sugar beets and these afford an excellent succulent food for the dairy cow. Fall rye may be sown in August and used for early spring feeding. Sow a mixture of oats and peas at the rate of a bushel and a half of oats and a bushel of peas early and at intervals of two weeks.

This makes a good substitute. Then when the grasses dry up in the early autumn, late sown grain or corn fodder may be provided to keep up the flow. In winter, besides the ordinary roughage, mangels, sugar beets and potatoes may be fed with the best of results. If alfalfa can be grown, and we have every reason to believe that it can, this will add very materially to the ration of the cow and will prove an excellent substitute for some of the expensive mill feeds, such as bran and shorts. (Turnips may be fed, but care should be taken to feed them after milking at night and make sure that the odours are out of the stable in order to prevent contaminating the milk.)

The dairy cow must have full access to an abundant supply of good pure water. She cannot make milk without it, nor can she make pure wholesome milk without pure water. Salt should be before her at all times.

BREEDING.

A dairy heifer if well grown may be bred so as to freshen at two and one half years. During her first period of lactation (milking) she must be well fed and it is during this period that she is trained for her future work. Feed her well and milk her as long as you can, eleven or twelve months if possible. Do not let her dry up. It is the long persistent milker that pays. Do not breed her for at least six months after dropping her first calf. This will allow her time to build up and mature. Keep the heifer calves from good milking dams. Have all your cows tested so that you may know exactly what each is doing. The average butter producing powers of the dairy cows of New York, Iowa and Nebraska is 150 pounds of butter per year. Some individual herds that have been carefully selected with the assistance of the scales and the Babcock and well cared for, give an average of four

hundred pounds of butter fat per year. It is valuable information to have, not only for your own use but for the use of others who may wish to purchase of your stock.

Secure a bull—pure bred, of course—one that has a good milking ancestry behind him. A bull whose dam and grand-dam and whose sire's dam and grand-dam have been good producers both of milk and butter fat, has, if pure bred, a good pedigree. If you have started with some breed of dairy cattle such as Ayrshire, Holstein or Guernsey, do not cross upon your females a bull of some other breed. Select from the breed you have started with a bull that will improve upon your females. This is the system that has been followed through the years by the good dairymen. If you start cross-breeding you immediately undo the good work and in time get nothing but scrubs.

If you have a herd of grade dairy cows select a bull of the blood that predominates in your herd; see that he measures up well as a dairy bull. He, too, must be pure bred and registered if you intend to improve upon what you start with. Be persistent and do not let any one persuade you to follow a zigzag course in your grading up process. For example, if you are starting with the western farmers' dairy cow—the milking Shorthorn or her grades—use nothing but a Shorthorn bull of the right sort. In a few years your herd will be so well graded up that your cows will look like pure breds and you will have a justifiable pride in the work you have accomplished. How different the work of the man who jumps about from one kind to another, first an Ayrshire, then a Jersey, and then scrub. He will get from this just what he deserves—a lot of scrubs in which neither he nor his ca[illegible] take any pride. He accomplishes nothing but failure. Have a right purpose in this work and stick to it.

DUAL PURPOSE CATTLE.

Many of the cattle found in the prairie provinces are of Shorthorn extraction. These are very useful cattle generally, and can, as hinted above, be greatly improved by careful mating and generous feeding, together with persistent milking. Dairy Shorthorns are becoming more popular all the time and deservedly so. [illegible]ty per cent. of the milk delivered in London is from Shorthorn herds. It is not uncommon to find Shorthorn herds with an average of 7,000 pounds of milk a year. If you are near a city or in special dairy work, you may wish to keep some one of the pure dairy breeds or their grades. You must then select for your special purpose with a view to production, hardiness, etc.

THE CALF.

Take the calf away from the dairy cow at once. Feed it the first new milk from the cow and continue it for a few days. Gradually substitute skim milk for whole milk and at about a month old it may have all skim milk with a tablespoonful of flaxseed gruel as a substitute for the fat that has been removed. Always feed the milk warm to prevent scours. Make the calf grow but do not fatten it. Grow it up well as a yearling by feeding well with crushed oats and bran and alfalfa and other good roughage such as oat sheaves, corn fodder and good oat straw.

DISCUSSION OF PROF. RUTHERFORD'S ADDRESS.

Dr. C. E. Flatt, Tantallon, said he considered himself fortunate to be present at the first dairy convention in Saskatchewan. He wished to say to Mr. Motherwell, to his able deputy and to Mr. Wilson, that their position was an enviable one. Perhaps, after a few years of successful operation they would realise just what it did mean to be at the head of this movement. No doubt their difficulties would be many, but he believed that one by one they would be overcome. When they considered all the difficulties that had been in their way they must all feel pleased that they had been able to accomplish so much in so short a time. The time was not far distant when the dairying industry in the province would be second only to that of grain growing. There was one great difficulty in their way today which had not been touched upon, and that was the labour problem. To him the disagreeable part of dairying was that he had to do the milking himself. It was almost impossible to secure a good man who would look after the cows as well or get as good results from them as the owner himself. In regard to improving the herds, he agreed that to put a dairy sire in with a good grade of dairy cows would improve the breed, but, in his opinion, it would be indiscreet to let a dairy sire in with a great many of the herds in the country. They should avoid the mixing of breeds, or they would end up with a lot of mongrel cattle scattered all over the province. If they had Shorthorn grade cows the only proper bull to use would be a Shorthorn. They had really no dairy Shorthorns in this country. The type they had was more or less the beef type of Shorthorn. Most of them had different breeds and grades, and a bull that would suit the herd of one dairyman would not suit the herd of another. This was the difficulty they were up against.

CARE OF MILK AND CREAM.

Mr. Waddell, Moosomin, spoke with particular reference to the quality of the creamery butter. Every care, he said, should be taken to have the cream delivered in good condition, as on this depended the quality of the butter manufactured. He approved of the grading of the butter if it were done in a proper manner. It would, however, require, he said, to be better than the grading done in connection with their wheat. On the question of the rearing of calves it was his opinion that the best cows were developed not from sucking calves but from the calves fed by hand. He believed the best method of feeding was whole milk three times a day for about three weeks, weaning gradually by mixing skim milk with whole. After cutting off the whole milk feed the calf should be given a little meal of some sort in the milk. If they raised the heifer calves, which required special care, properly they could make good milch cows of them even if the breed was not good. As to breeding young heifers, it had been said they should come in the first time when they were two years or at most two and a half years old. From his experience they would get better milch cows if they did not come in the first time till they were at least three years old.

Mr. Rutherford remarked it would be better if the heifer were well grown and fully developed to have her come in the first time when

two years old and to milk her just as long as they could. Then she should be given a rest of about six months before being bred again. This was the general practice among the men who had been the most successful in raising milch cattle.

WINTER DAIRYING.

Mr. Hartling said that during his ten years' dairying experience he had found it of advantage to have his cows come in about the middle of December or around that time. If they were fed well with good hay and oats they would milk about nine or ten months, just about as long as though they came in in May. The price of butter was considerably better then than in the summer. By feeding the calves a little milk with some chop in it they would be strong and healthy when they came out in the spring. They would certainly be much better than the calves that came in the spring, say in May. Of course it meant a little more work in the winter time but they had the benefit of better calves.

Mr. Rutherford thoroughly approved of winter calves. If a calf came in the winter, was fed the first milk of the cow and taken proper care of, it should be a good calf in the spring. Not many dairymen kept the first heifer calf unless the heifer happened to be well developed and was from an extra good dam. They should take the calf away from the mother just as quickly as they could and give it whole milk for a short time. After that the milk should be warmed and a little corn meal put in it. He recommended flaxseed (steeped) to the extent of one cupful in the milk. It would save the buying of any other kind of feed for the calves and was, perhaps, just as good as most of them. The change in the feed should be gradual and extend over two or three weeks; that was, the change from the time the calf was given whole milk until it was given only skimmed milk with the flaxseed. A little chopped oats were a good thing as they would not physic the calf.

QUESTIONS OF FEED AND BREED.

In reply to Mr. Whiting, Mr. Rutherford said he would also recommend the use of ground alfalfa which cost about $20 a ton. However, they could grow it themselves and it would save the expense of having it ground. Mr. Whiting's remark that alfalfa was here to stay was well received by the delegates. He referred to his efforts to get his stock back to the dairy type. He was, he said, breeding Ayrshires and had already some of them half bred. He was well satisfied with the result of his experiment along this line and thought he would have good milch cows. They were rather small but this did not affect them much as milk producers. One objection, however, was that the males were too small for use as feeders. He agreed with the idea that a Shorthorn could be made a good dairy cow, and said he would like to see more Shorthorn bulls used.

In reply to Dr. Flatt, Mr. Rutherford stated he would not advise feeding corn meal dry. A little oil cake was good, but flaxseed would do just as well, and it should be steeped, not boiled very much.

Mr. Elve said flaxseed physicked his calves. He fed barley and oats which did not have this effect and the calves thrived just as well on it.

Mr. Penson said he found ground flaxseed meal, if fed carefully, not too much at first, was all right and did not physic his calves. Mr. McCorkell said that pouring boiling water on the flaxseed meal was just as good as steeping and more convenient.

Mr. Burton said one of the questions which troubled him was how were they to get pure bred cattle from what they had, and did they really want pure bred cattle for their purpose? The Shorthorn grade cow had been advocated as the best for dairy purposes. It was puzzling to know just where the grade started and ended. The question of most importance in his opinion was which was the best grade of cow for this country. It was a question which might very well be taken up in connection with the agricultural college work. They should certainly have some information along this line.

PURE BRED CATTLE THE BEST.

Mr. Rutherford said there would be no difficulty had they pure bred cows. Either the pure bred cow or the good grade cow was all right. What he wanted to say was that he would hesitate a long time before he would bring in a pure bred bull and use him with grade cows of all breeds. He would rather they stuck to the grades they had and used the same grade of bull, as good as they could get, or a pure bred one of the same class, and then train the cows. If they had or could get some good grade Shorthorns, then with a pure Shorthorn bull they could work into pure bred Shorthorns. He only recommended in any way the grade cow because from the discussion it appeared there was difficulty in securing pure bred cows and bulls. He thought that unquestionably the pure bred cattle were the best.

Mr. Burton thereupon asked for an explanation of the alleged statement of Mr. Newman, an institute speaker of the department of agriculture, that pure bred dairy cows lacked stamina.

Mr. Rutherford explained that where this was the case it was due to the pure breds having been pampered and petted. The western bred and raised grades had been accustomed to roughing it and were vigorous. The same was true of horses. Eastern bred and raised horses seldom did as well on first coming to the West as native horses raised on the prairies. The difference was in the manner of raising. A good pure bred cow raised in the West would stand as much and probably more roughing than a grade would.

Mr. McCorkell, Moosomin, supported Mr. Rutherford's statements and remarked he had found by personal experience that a pure bred cow would do well under conditions that would be fatal to a grade.

Mr. Burton closed the discussion by remarking that in any event there was no question but that the pure bred cow would give much more milk than the grade.

ADDRESS BY W. A. WILSON

SUPERINTENDENT OF DAIRYING FOR SASKATCHEWAN

"THE BUTTER MARKET; SECURING AND EXTENDING IT. THE PRODUCERS' RESPONSIBILITIES IN CONNECTION THEREWITH."

I should like to emphasise the point raised in regard to feeding dairy cattle, because it is very important and one's profits or losses very largely depend upon the practice followed. There are too many farmers who do not feed their cows anything extra in the early spring and autumn and as a result production declines rapidly; the aggregate production and consequent profits are lessened, then probably the owner becomes discouraged and says dairying does not pay. But he seldom stops to consider that milk and butter are not the products of an east wind, a May snowstorm or a cold autumn rain with a dessert of dry unpalatable prairie grass followed by a wet place without shelter in which to rest during the night. The cow will reward you for your labours only in accordance with the treatment she receives in the matter of feed and protection. You will do well to consider the recommendation given by Mr. Rutherford and provide forage crops with which to supplement the pasture feed in the spring and fall. By this practice you will profit in another way which comes under one heading of my subject.

THE BUTTER MARKET.

One would scarcely call it good business to produce a surplus of any particular commodity when the market was exceptionally weak as a result of the supply being considerably in excess of the demand, more especially when the production of that commodity is under the control of the manufacturer. Yet many of our dairymen are doing this. Despite the fact that the supply of September and October butter is always short of the demand; that butter during the winter is considered almost a luxury owing to the high price, and April and early May butter brings little relief, our dairymen year after year continue managing and regulating their business to give the maximum production during the months of June, July and August when the price is lowest and conditions for making good butter are most unfavourable. A few figures from our creameries will afford a splendid illustration. The government creameries in May, 1909, made 16,500 pounds of butter; in June 56,000 pounds; in July 77,000 pounds and in August about the same. In September the make dropped to 40,000 and in October to 13,000 pounds. In conjunction with this consider the average market quotations for the summer months: May, 25 to 30 cents; June, 20½ to 22 cents; July, 20½ to 22 cents; August, 21 to 22½ cents; September, 24 to 26 cents; and October, 24 to 26 cents. Do not these figures demonstrate in a very practical way the advisability of making a determined effort to maintain the milk flow in the spring and autumn months and how can it be done better than by succulent fodder and root crops when the pastures are failing, together with proper protection

in the matter of housing? The situation during the winter months presents a more striking contrast. From November 1 to May 1, 1910, the make of creamery butter was only 42,000 pounds and the price was 30 to 33 cents. This, too, during the time of year when the regular farm duties are light and labour plentiful. Our farmers make a mistake in not catering to the produce trade when the price of butter is the highest. Have something to sell when the demand is strong and the people want to buy. The western butter market is one of the best and our aim should be to meet its demands. How this can be done brings me to the second part of my subject.

SECURING AND EXTENDING THE BUTTER MARKET.

There are several governing and influencing factors, viz., quality, a regular supply throughout the year, style, and neatness. The first, of course, is the most important and without quality we cannot hope to secure a good market or to extend the scope of our operations. A pound of butter is a pound of flavour and the value declines as the desirable flavour disappears. I know of no commodity offered for human consumption, or for that matter any other purpose, that is subject to as close an examination or as much criticism as butter. This is due to three reasons, viz., everybody uses it; there is not anything so pleasing on one's table as clean, fine flavoured butter, and there is nothing more objectionable than rancid, ill-smelling butter. This fact brings the dairymen quite prominently before the public and be assured that our deeds will find us out. As a general rule the trade's criticism is merited and I find buyers more inclined to make known their appreciation of good quality in butter than to point out its defects. It is always more pleasing to speak pleasantly of one's goods than to be forced, because of their inferiority, to mention their defects. But the man who persists in practising methods relative to milking, separating, cooling and handling the milk and cream generally that are uncleanly, cannot expect to receive many compliments, and should his cream be returned from the creamery marked "unfit for making first-class butter," he should accept without comment the treatment he receives, always remembering that it is much more agreeable to any creamery manager to accept good cream than to reject inferior cream. The latter course is adopted as a protection to one's reputation, the interests of the patron who sends first-class cream, and the welfare of the industry in general. A market cannot be secured, much less extended, if the butter which is being offered to the trade does not meet the trade demands with respect to quality.

Assuming that the quality is good, the regularity of the supply has an important bearing on one's business. This is a matter in which the dealer is very much interested and where confidence is established between the seller and buyer it tends to make business permanent between the two. It is customary when there is a surplus of butter during the summer months to endeavour to find new customers with the hope of selling to better advantage and introducing the particular brand of butter we are offering with a view to extending the market therefor and increasing the demand. We may succeed in doing so, but when the supply declines towards the end of the year and almost becomes

extinct during the winter months and we are under the painful necessity of informing a regular customer that his orders cannot be filled, do you imagine that it is pleasing information to the dealer who has cancelled his orders with some other house and succeeded in working up a splendid trade for your commodity in the expectation that there would be no difficulty in getting a regular supply? On the contrary he will direct his attention to some other source where the supply will be constant and you remain in his estimation on a par with the common class of dealers. A good trade cannot be established by only having goods to sell six months in the year, when the supply is plentiful, when there is a constant demand for such goods throughout the year. Those who have a regular supply receive the preference and the others figure as a convenience. This is one of the failings of Saskatchowan and one which our dairymen must remedy before they can expect to secure and extend the market for their butter.

Respecting style and neatness let me simply state that the former is regulated by the particular demands of the market and should be complied with. Neatness is something that appeals to the eye and induces the consumer to buy an untried article because it "looks good." If the quality proves to be in keeping with the appearance further purchases will be made by the same party and others to whom the facts have been communicated. Thus the market is extended because somebody was careful enough to put up in a clean, neat looking package an article offered for human consumption.

THE PRODUCER'S RESPONSIBILITY.

Each patron of a creamery has a responsibility which I wish he thoroughly appreciated. Unfortunately very few are even aware of the important position they unknowingly occupy in connection with the welfare and development of the industry. Already I have spoken of the importance of flavour and it is under this heading that the patron's responsibility comes, and it is because of this that the flavour of our product is so hard to control. It is not an easy matter to educate our dairymen to adopt modern methods and yet this is the only solution of the problem. The order of the work cannot be changed to bring the control of the flavours under the creamery managers and it only remains for us to persist in our efforts to educate the farmers to a realisation of the effect their methods have on the quality of the finished product.

As to how the quality of our butter can be improved I shall only mention the two outstanding remedies, viz., "cleanliness" and "low temperatures." Milk, cream and butter are always best when strictly fresh. Time never improves the flavour. On the contrary there are changes continually taking place that result always in a poorer quality, and these are brought about by the development of minute forms of plant life which we call "germs" or "bacteria." There are many species of germ life which effect milk and cream and each produces its own peculiar flavour. Their presence is universal and their chief habitation is in unclean surroundings. The cow stable is one of their natural resorts and since they float in the atmosphere and adhere to dust particles such undesirable surroundings are a common source o

contamination. Dirty stables and surroundings, filthy cows and unclean dairy utensils are common enemies of the good flavour so much desired in milk, cream and butter, and it is such conditions that our dairymen are asked to remedy. The germs require for their existence and growth food, moisture and a favourable temperature, and warm milk and cream is one of the most favourable mediums known.

In addition to being cleanly in one's habits and thus preventing the entrance of germ life into our food products the dairymen should aim to control the growth of those that inevitably find entrance into the milk. This can be done by observing low temperature. Milk a clean cow, with dry hands, into a sterilised tin covered milk pail, and in surroundings where the atmosphere is pure and free from flying dust particles. Following this, separate the milk immediately and cool the cream to a temperature of 55 degrees or below and maintain it at that temperature until delivered at the creamery. The cooling can be done readily by putting the cream in an ordinary "shotgun" can and placing this can in cold water.

If you can provide ice for cooling purposes so much the better, and while some may not have the conveniences for storing ice for use during the summer months, I hope you will take the precautions to provide for it with the least possible delay. The market for creamery butter is becoming more particular each year and this condition can only be met by improved methods on the farm among which the cooling of cream with ice takes first place.

BULLETIN ON CARE OF MILK.

I shall not occupy the time of this convention any further on the matter of the producer's responsibilities in sending clean, sweet cream to the creamery, but I shall ask you and the patrons of your creamery to read and put into practice the recommendations outlined in Bulletin No. 15 of the Department of Agriculture, Regina. This publication has been prepared especially for creamery patrons and deals fully with this subject. It is printed in English and German and may be had free of charge. It can be studied at your leisure and I think there should be no excuse for any dairyman failing to adopt the simple means suggested for taking better care of the milk and cream on the farm.

In conclusion, there are three governing factors in our dairy work that influence the quality of the finished product, viz., the farmer, the creamery manager and the department. The responsibility of the farmer is the greatest, next to his is that of the buttermaker, and finally the department. The department's usefulness embodies ascertaining the market requirements and making recommendations accordingly, together with general educational work. If the farmer and buttermaker fail to comply with the information given we need not expect to become progressive and secure or extend our trade. Let us work in harmony to secure this end by using our best endeavours to send clean, sweet cream to the creamery; have it manufactured into fresh, clean flavoured butter, neatly put up, which will permit selling it in the best market for the highest price.

DISCUSSION OF MR. WILSON'S ADDRESS.

QUALITY OF CREAM IMPORTANT.

Mr. F. G. Whiting, Qu'Appelle, emphasised the importance of having a high quality of butter put up under any brand—and the government's name on packages is equivalent to a brand. He considered it necessary that buttermakers should show no hesitation about rejecting bad cream in the interests of the other patrons supplying good cream and of the reputation of the creamery. They had done it at Qu'Appelle and made enemies by it, but it paid in the long run.

Mr. Engesetter, Birch Hills, stated that the patrons of that creamery were well satisfied with the results that were being secured. He pointed out that the patron who buys his can at the outset is doing better business than the one who accepts the use of a can from a private creamery, as the latter will be made to pay many times over for his can before the season is over.

Mr. Schnell, Langenburg, brought out the point that some patrons of creameries state that they can make more butter from a given quantity of cream at home than the creamery operator will give them credit for. This he explained as being due to the fact that usually the cream used for home churning was taken from the top of the can and therefore was richer, and also to the fact that butter made at home has a higher moisture content than that made at the creamery. He also supported the belief that the wisest course for every patron to pursue was to own his own can from the outset.

Mr. Penson, Lloydminster, stated that he was a firm believer in quality and was satisfied that the question lay almost entirely with the producer. He thought that nine-tenths of the bad butter was made before it left the cow stable. He advocated washing the cow's teats before milking and keeping all utensils scrupulously clean. He thought that churns in particular should receive more attention than they did. In conclusion, he remarked that "the real cause of a good lot of the inferior butter is nothing else, to be plain about it, than filth."

The chairman then called upon Mr. L. A. Zufelt for an address.

ADDRESS BY L. A. ZUFELT

DAIRY INSTRUCTOR

"THE CREAM TEST FROM THE FARMER'S VIEWPOINT. CAUSES OF VARIATION: METHODS OF SEPARATION."

I should not wonder if there was a reason for allotting this subject to me tonight. I have found and still find a lot of suspicion among the farmers as to the accuracy of the cream test as applied in the creameries and I find a general misapprehension on the part of the farmers as to how the test is conducted. I had intended to give you the history of the test but I think possibly I had better omit this except to make a few brief statements regarding it. The Babcock tester which is used for

ascertaining the amount of butter fat in cream or milk has been in use for about twenty years. It was first invented by Doctor Babcock, of Wisconsin. The operation of the test is quite mechanical and is so simple that the average person with ordinary ability is able to get accurate results provided, of course, extreme care is taken in the various stages. The chief points to be observed are, first, getting a representative sample of the cream to be tested, then weighing into the test bottle the exact amount, then the proper manipulation of the test and finally reading off accurately the amount of fat recorded. I may say that where errors occur they are mostly due to the operator not getting or being able to get a fair representative sample of the cream rather than in the actual operation of testing. Very often, when you think you have taken the same care with your cream, your test is not the same as it was the week before and you are inclined to doubt the accuracy of the test on that account. You are inclined to think a mistake has been made.

CAUSES OF VARIATION.

What I would like to point out to you particularly is some of the causes for this variation in the richness of the cream. You all are well aware, of course, that the butter fat is in the shape of globules suspended in the milk. The object of the cream separator is to gather these globules out of the milk. Of course in the first place the richness of the cream is determined by the richness of the milk itself and also by the speed at which the milk is run through the separator. The speed of the separator and the temperature of the milk also will have a large effect on the richness of your cream. Now these alone, the speed of the separator and the temperature of the milk at the time of separation, will account for a large amount of the variation in the test of the cream. Then again there is another reason. After the cream has been separated it will remain at your place all the way, I suppose, from one or two to seven or eight days. The larger globules of the butter fat will come to the top. Then when the cream goes to the factory unless it is well stirred you are not apt to get a fair sample for testing. I am quite sure that the Babcock tester will give a fair test every time. The variation is due to the causes I have mentioned. Even if you have taken the same care that you usually do, even if the separator has been run at the same speed and the milk separated at the same temperature, still there is opportunity for variation on account of the cream not being in exactly the same condition each time. Cream kept in shallow pans, for instance, will be more lumpy than that kept in deeper ones and it is harder to get a good sample for testing from lumpy cream.

But before I leave the matter of test I wish to make it clear that there are various causes for a slight difference in the test and I do not think the buttermakers should be blamed or suspected in any way. There is no reason why a buttermaker should attempt to lower anybody's test. It makes no difference to him and I ask you when you are tempted to find fault with him to remember that there are many things that affect the test of your cream.

RIPENING OF CREAM.

Another point is that the buttermaker must have more control over the ripening of the cream. Mr. Wilson has told you that when you sell

a pound of butter you are selling a pound of flavour. Where does the flavour come from? Some one said that the flavour is made before the milk leaves the stable. If we take those two statements we see the position the buttermaker is in. When we consider that the flavour is largely produced at home and there are two or three hundred farmers all producing flavour we can easily understand that the flavour is pretty well developed before it reaches the buttermaker. The better condition you can let him have the cream in and the sooner you can let him have it the better it will be. It will give him that much more control over the cream and its ripening and he can be expected to turn out that much better flavoured butter. The flavour more often than not is in the cream before it reaches the factory and the buttermaker cannot take it out. I hope that you will impress upon all patrons of your various associations the necessity of sending their cream to the creamery as sweet as possible. If they will do that, and it is to their own interest to do it, they may reasonably expect to see the result of it in an improvement of the butter. The only way to get cream to the creamery in the proper condition is by controlling just as long as possible the temperature of the cream. Mr. Wilson has suggested a temperature of 55 degrees and if it could be kept at that till it reached the creamery you would have first class cream. You should be able to get lots of ice in this country. Whatever else the West may lack I have always understood that you have no trouble in getting a good crop of ice each winter. Well now, get lots of ice and you can keep your cream cool. There is no more convenient way of cooling cream than by the use of ice. I would strongly recommend that any farmer who intends to do anything in the dairying line to put up lots of ice each winter.

A remark or two has been made with regard to rejecting cream. I admit that it is a delicate subject. No buttermaker likes the idea of rejecting cream and no dairyman likes the idea of having his cream rejected. While it may be an unpleasant duty it is nevertheless a duty of the buttermaker to reject any cream that comes to him that is not fit to make first-class butter. That one man sends poor cream is no reason why all the other patrons should get a couple of cents a pound less for their butter. People may not like the idea but they must realise the importance of having a first-class article.

The question of centralisation does not come under my subject but I wish to make a remark or two on it. That is one of the mistakes we have made in the older provinces. In the county I come from, Dundas, a mistake was made in this matter. They have too many small cheese factories scattered all over the county. They have put one on every crossroad. Where I lived you could stand in town and count three cheese factories. In driving through the country you are never out of sight of one. I think there are 80 factories in that small county, only about twenty miles square. That is where they produce milk by the acre. Within five miles of my home 180,000 pounds of milk are produced every day. But the mistake they made was in having too many cheese factories in so small an area. I am very glad to see that the government are taking a stand in the matter and will avoid that mistake at least.

You have a good reputation established and a good market for your butter. If you lose that you are going to have a hard time to regain it. It is always harder to regain a lost reputation than to make a good one in the first place and the reputation of your butter is something that you cannot be too anxious about. Saskatchewan butter at the present time is known as very good butter.

DISCUSSION OF MR. ZUFELT'S ADDRESS.

Mr. Elve, Qu'Appelle, remarked that at that creamery there had been few complaints regarding the test. He named an additional factor that might affect the cream. This was a thunderstorm. He advocated the cream separator as the most satisfactory method of securing the cream and believed that the same person should have charge of it continually.

Mr. Thomas Ross, Moosomin, believed from personal experience that some variation in the test were unavoidable and thought the buttermakers should not be criticised on this account. He condemned the use of the "family" can and thought each patron should have his own in order that bad cream might be located and rejected. He emphasised the value of publicity as to the business affairs of a creamery as being calculated to stimulate interest in the undertaking throughout the district. Mr. Ross went on to discuss the problem of keeping the cattle clean. He advocated the use of stanchions, stalls 7 feet wide and 5 feet from front to back with a drop and gutter 15 inches wide. Such an arrangement he found to be handy and cleanly.

Mr. Thomas Jones, Birch Hills, dwelt on the importance of good and clean water in the production of milk. He also touched upon the condition of the cow herself as a factor in the test. Her feed and the stage in her period of lactation were to be considered.

RESOLUTIONS.

The following resolutions were unanimously adopted:

1. Moved by Mr. Lisle, seconded by Mr. Whiting: "Resolved that this convention heartily indorse the policy of the department of agriculture in judiciously centralising the creamery work as outlined by the Hon. W. R. Motherwell, and that our energies be concentrated in promoting the same; and, further, that we do strongly advise against the erection of creameries in close proximity to each other."

2. Moved by George Penson, seconded by Thomas Ross: "In view of the fact that the government are asked to sanction and help the establishment of creameries in districts in the province where sufficient cream is not in sight to make the enterprise a success;

"Therefore, be it resolved, that such amendments be made to *The Dairymen's Act* as shall prevent this danger to the dairying industry and we recommend the following amendment to the said Act;

"'That the entire capital stock of any creamery shall be fully subscribed; 50 per cent. to be paid up and the balance secured by approved promissory notes.'"

3. Moved by Mr. Whiting, seconded by Mr. Penson: "That the business management of the creameries under government supervision has been such as to warrant commendation and we do hereby express our appreciation of and confidence in their work and methods."

4. Moved by W. C. Paynter, seconded by J. N. Brown: "That directors as well as secretaries familiarise themselves with the general business of the creameries so that grievances, real or imaginary, may be dealt with judiciously to the satisfaction of all parties concerned."

5. Moved by Mr. Penson, seconded by Mr. McCorkell: "That too great emphasis cannot be placed upon the universal adoption of the following:

(1) Cleanliness;

(2) The use of the covered milk pail as a means of reducing contamination;

(3) The advisability of skimming a 35% cream which lessens germ content and propagation;

(4) The uniform adoption of cooling cream in cans placed in ice water;

(5) The regular use of the thermometer;

"That in order to secure a still higher excellence in the butter from Saskatchewan creameries all patrons carefully peruse Bulletin No. 15 issued by the Dairy Branch of the Department of Agriculture explaining the best methods of handling and caring for cream on the farm."

6. Moved by Mr. Whiting, seconded by Mr. Lisle: "That in the interests of dairying a system of cold storage should be established within the province and this matter should be brought to the immediate attention of the government with a view to the establishment of same, at an early date."

7. Moved by Mr. Burton, seconded by Mr. Ross: "That dairymen be urged to give more attention to the improvement of their present herds from the standpoint of milk production and to provide forage crops to supplement the natural pastures in the early spring and fall as well as succulent food for the winter production of milk."

8. Moved by Mr. Lisle, seconded by Mr. Snell: "That this convention urges the government to give assistance in the districts of creameries to the introduction of dairy stock and particularly bulls."

9. Moved by Mr. Burton, seconded by Mr. McCorkell: "That in view of the success of the holding of this convention of delegates from the various creameries under government control, both from the standpoint of education and the strengthening of the hands of the government in the good work they are doing in the development of the important industry of dairying, it is the opinion of this meeting that it would be in the interest of all concerned if the holding of this convention were to be made an annual affair."