

# ANNUAL REPORT

—OF THE—

## DAIRYMEN'S ASSOCIATION OF BRITISH COLUMBIA

—FOR THE—

YEAR ENDING DECEMBER 31ST, 1909.



*PRINTED BY  
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.*

---

VICTORIA, B.C. :  
Printed by RICHARD WOLFENDEN, I.S.O., V.D., Printer to the King's Most Excellent Majesty.  
1910.

ANNUAL REPORT

1909

DAIRYMEN'S ASSOCIATION OF BRITISH COLUMBIA

1909

YEAR ENDING DECEMBER 31ST 1909



PRINTED BY THE ASSOCIATION

PRINTED AND PUBLISHED BY THE ASSOCIATION

*To the Hon. W. T. Bowser, K. C.,  
Minister of Agriculture.*

SIR,—I have the honour of presenting the following Report of the Dairymen's Association of British Columbia for the year 1909 for general distribution.

Respectfully submitted,

WM. E. SCOTT,

*Deputy Minister of Agriculture.*

*Department of Agriculture,  
Victoria, July, 1910.*

Dear Sirs,

I have the honor to acknowledge the receipt of your letter of the 14th inst. regarding the proposed changes in the grading of milk for the month of August.

Very respectfully,

W. E. SCOTT

General Manager

British Columbia Dairyman's Association  
 Vancouver, B. C.

---

---

## BRITISH COLUMBIA DAIRYMEN'S ASSOCIATION.

—:0:—

### ANNUAL REPORT.

---

VICTORIA, B. C., February 3rd, 1910.

The annual meeting of the British Columbia Dairymen's Association was held in the Women's Building, Exhibition Grounds, Victoria, B. C., Thursday, the 3rd day of February, 1910, at 10 a. m.

The meeting was called to order by the Vice-President in the chair.

Mr. Urquhart: I am very pleased to see so many of the dairymen of the Province here to-day. It is an encouragement to the Dairymen's Association to have so many present. I am, however, sorry that our President, Mr. Wells, is not able to be with us. We have had a very good attendance at all of our meetings this year, and I think the general feeling is that we should proceed still further with the work that has been done in the way of stamping out tuberculosis in cattle. I know that our district feels that the sooner tuberculosis is stamped out the better. I will now call on the Secretary to read his financial report for the past year.

#### SECRETARY-TREASURER'S REPORT.

The Secretary-Treasurer read his report for the year ending December 31st, 1909, as follows:—

MR. PRESIDENT AND MEMBERS OF THE DAIRYMEN'S ASSOCIATION,—As Secretary-Treasurer of the Association, I beg leave to submit the following report: During the year 1909 the Association has made great progress and has accomplished much good work. Not only has our membership increased, but the fact that the dairymen throughout the Province are taking a live interest in the Association is most gratifying, and will be productive of good results. Our membership has grown above the one hundred mark, which is a decided advance over 1908. During 1909 the Association has held sixteen meetings in various parts of the Province, with the object of more clearly showing the necessity of improving dairy conditions, both as to sanitation and as to the health of the herd. The afternoon meetings were given up to lectures on bovine diseases, and the slaughtering and post-mortem examination of reactors to the tuberculin test. During the evening meetings, the subjects of dairy bacteriology and the proper handling of dairy produce was dealt with. The result of these meetings has been far above our expectations.

On every hand we find improved conditions; dairy barns are being better lighted, the gutters and floors are being improved, and detached separator-houses and milk-rooms are being built by many dairymen, while others are rearranging the interior of the separator-room which they already have, making them more sanitary and easier to work in. As a result of the post-mortem examinations, 2,029 cattle have been tested, and it gives me great pleasure to report that we have only found 8.7 per cent. reactors; and as more herds are tested the percentage of affected stock will decrease, as the majority of herds that were first tested were those supplying milk to the larger cities, and those in which suspects were found. I would strongly urge that this educational campaign be continued, and as much interest was shown in the post-mortem examinations of reacting cattle, held at Victoria and New Westminster fairs, that this work be extended to other shows.

The dairy regulations which were passed at the annual meeting of this Association on January 29th, 1909, and which came into force in May of the same year, have given every satisfaction, and, from the letters which I have received from many dairymen, are very popular. These regulations were framed and brought into existence not for the purpose of forcing the dairymen to alter conditions, but rather to educate; and I consider that our regulations are admirably fulfilling their mission, and I wish to thank the dairymen for the loyal support which they have given the Department and Inspectors in the carrying out of

their work. Partly through the suggestion of this Association, the Government has appointed an additional Veterinary Inspector in the person of H. H. S. George, with headquarters at Kamloops. Dr. George has the Upper Mainland as his territory for inspection work.

It is very pleasing to note the interest that is being taken in the dairy farm competition. The entries have come in well, and the friendly rivalry which this competition will create cannot but be beneficial to the industry.

Just here I beg leave to introduce a card which I have prepared for scoring the farms, and would like the criticism of the meeting on the arrangement of the various points, etc.

During the past year I have interviewed Mr. Douglas, then Mayor of Vancouver, on several occasions, with reference to securing a site for a winter fair building; also I have taken this matter up with the Tourist Association, the Board of Trade, and the various agricultural associations; in every case this movement has been promised every assistance and support by the different organizations. Also I might state that Mayor Douglas looked upon the proposition with favour, and has given the Association his guarantee of support; also the matter has been taken up with Mr. Marpole, of the C. P. R. I feel confident in stating that if the City of Vancouver will give a central site for the building, that the Government will erect a building which will be a credit to the city and a pride to the stockmen. I would impress on this meeting the necessity of passing a resolution to be brought before the Government, requesting that a winter fair building be erected on a central site at the earliest possible date. While I am confident that the proposed fair will be brought to a reality, still such a resolution, if passed by this meeting, would tend to hasten matters.

At the previous annual meeting of this Association the question of milking machines was brought up, and many opinions were expressed. I am pleased to report that we have the Hazelwood milking machine here at the present time, which has been in operation on the grounds each day since the beginning of this week, and I hope that each person present will make it a point to see this machine in operation at five o'clock to-day. If the milking machine is a success, which I believe it to be, the installation of such machines on the dairy farms will do much to relieve the difficulty in securing help.

Again, I would suggest that the creameries pay a cent or two less per lb. for butter-fat if the milk or cream is not in a first-class condition when delivered to the factory. If we are to maintain the high annual price which British Columbia creamery butter brings on the market, we must market only a high-grade, uniform product. If we market any other than the best quality of butter, prices will decrease and the dairymen will have to suffer the loss.

If this Association could see its way clear to offer prizes to be given to cheese- or butter-makers having the best-kept establishments from the sanitary standpoint, it would be an encouragement for the makers to keep their factories tidy and clean, and if kept so, there is less chance of a poor-flavoured article being marketed.

In my opinion, it would be to the interest of the industry if this Association, in conjunction with the Live-Stock Association, could give financial assistance and make arrangements to have cars come at certain regular intervals from the East to British Columbia, and to advertise the fact, so that dairymen and stockmen would know when a car would leave the East, and so, if wishing to have stock brought out, would be familiar with the dates and could send in their orders to the Agricultural Department in good time.

Again, in conclusion, I wish to thank the dairymen of the province for the kindly assistance and courtesy which they have at all times extended to the Department, to myself and to our Inspectors.

R. W. HODSON,  
*Secretary-Treasurer.*

Mr. Webb pointed out that at the last annual meeting the matter of compensation was brought up, and asked what had been done in this connection.

Secretary: I think our Government will give this matter due consideration at any time they find it necessary to do so. You know that, previous to last year, it was compulsory that animals be tested, but, due to friction, the Inspectors tested only about thirty cattle in 1908. Since this testing has been optional, however, they have tested already over 2,000 cattle. The Government is called upon for payment of compensation for a good many things, still, in grading the dairies in Grades A, B, C, and D, the Government is at least bringing you additional trade; if you are in Grade A, you can sell all your milk at higher prices. In fact, in Victoria, doctors have come and asked me where they could get milk from tuberculin

tested cows. I have, in the past, had to tell them nowhere, but from now on they can get it, and I think they will be willing to pay fifteen cents a quart for that milk. I think that is compensation in itself. If a dairyman is producing milk in B, C, or D grades, the women anyway, in the town, can see in what grade their milkman stands. They will immediately leave the C or D class and the A man gets the trade. While I think that eventually it will come to the paying of compensation, I think at the present time our system is working admirably. With only two Inspectors for a considerable time to test over 2,000 cows, over the thirty tested the year before, I think we have made a good showing. Out of the 2,000 tested, about 8 % reached to the test. Of course, it remains with you to say if this is satisfactory or not.

It was moved and seconded that the minutes of the preceding meeting be adopted as read. Carried.

Moved and seconded that the Secretary's report be received and laid on the table for discussion. Carried.

#### REPORT OF DIRECTORS.

The Directors' Report was then read by the Secretary, as follows:—

*To the Members of the British Columbia Dairymen's Association :*

Your directors beg leave to report: During the past year, the dairy industry has made splendid progress, the number of cattle kept has greatly increased, and dairy conditions are in a much more satisfactory condition than heretofore. It is indeed pleasing to note that many dairy herds have been established in the Upper Mainland and Kootenay Districts. The Association has accomplished much good work during the past year, as indicated by the growth in membership and the interest shown by dairymen in every section of the Province. The regulations governing the control of tuberculosis and sanitation, as passed by the last annual meeting of this Association, have given every satisfaction, and have produced results far above our expectations, and the industry can safely look forward to still greater benefits. We doubt if there is any Province or State in which dairying is extensively carried on which can show as low a percentage of diseased stock, and we believe that if the dairymen continue in the future as they have in the past, to show an interest in dairy matters and assist in carrying out our dairy regulations, that British Columbia will shortly become recognised as one of the most up-to-date and progressive dairy provinces in the Dominion.

In our opinion, the educational campaign, as carried on during the last year by this Association, has done much to enlighten the people as to the necessity of sanitary dairy premises and healthy herds, and we would advise that this campaign be carried on with renewed vigour during the present year. The organization of a dairy farm competition is a step in the right direction, and should be productive of good results. At this point we wish to thank the Provincial Government for the beautiful cup which they donated, to be competed for by the members of this Association, in the dairy farm competition. We also wish to express our appreciation to the Government for appointing a Creamery Inspector, whose duty it will be to inspect the creameries and assist the makers in putting out a high-class uniform product. In our opinion, it is advisable to encourage the importation of high-class dairy stock, and we would suggest that this Association do so by bearing some portion of the transportation expenses of stock to British Columbia from the East or elsewhere. There is no question of the fact that we have many high-class cattle in the Province at the present time, and we wish to congratulate those who exhibited at the Alaska-Yukon Exposition on the creditable showing which they made. We need more of this class of dairy stock, and by assisting in transportation expenses of cattle imported, we believe that many pure-bred animals would be brought into this Province, and thus upbuild the dairy industry. A winter fair would also encourage the dairymen to purchase and keep better stock, and we are pleased to note that active steps have been taken to secure a site for a winter fair building. We hope that the proposed fair will soon become a reality, and earnestly ask the support of each member in aid of securing such a show.

(Signed, on behalf of the Directors)

W. E. BUCKINGHAM,  
*President.*

R. W. HODSON,  
*Secretary.*

Mr. Trapp: Mr. Chairman, I have listened with a great deal of pleasure to the report, and I think it is very good indeed. It outlines the work done very carefully, and I take this opportunity of complimenting the Department of Agriculture on the good work which has been instituted and carried along by our Secretary, and would also congratulate the Secretary upon the very valuable work he has done. He has been most indefatigable in this direction, and we quite appreciate what has been done. As far as the compensation is concerned, I think later on the meeting should take some action in that connection, and if some compensation, if not the whole, is granted, I think it would be well received—say half the value of the animal. That would help everybody, and I think it would induce everyone to have their animals tested. Everyone wants to do the right thing, but sometimes it costs too much to do it alone. Many of our dairymen have valuable herds, and I have no doubt that among them are some animals with tuberculosis. It is certainly a surprise to me that out of the animals tested during last year the percentage of those affected with tuberculosis was so very small. I was of the opinion that the percentage would be two or three times that in some herds I know of. It is the cause of great satisfaction to me to find that such is the case. We want the public to have pure milk, and everything this Society can do to help forward this object will be in the true interest of the country at large.

ADDRESS BY THE HON. MR. BOWSER.

The Hon. Mr. Bowser being present, he was called upon to address the meeting, which he did, as follows:—

LADIES AND GENTLEMEN,—I must thank you for the kindness you have shown in asking me to speak for a few moments before this large meeting of the Dairymen's Association. I do not pretend to be an agriculturist myself, but circumstances have, for the time being, placed me at the head of this important department. We are endeavouring to carry out, as far as we can, the splendid policy carried on previously by my predecessor in office, the Hon. Captain Tatlow, who has spent a great deal of time to bring the Department up to its present high state. I am only in the Department here temporarily, but I feel that we cannot do better than to carry on the work along the splendid lines already outlined by my predecessor. I have very capable officers helping me in the Department of Agriculture. If we have done as much good in the past as possible for the development of this Province, I am sure we will do more in the future. At the same time, although we have a very substantial surplus to our credit in the bank, owing to the wise administration of the finances of the Government by my predecessor, we must remember that that has been obtained through the sale of our country's assets—timber, coal, etc. While the country is developing as it is, still we have a great many demands made on us for the balance to our credit, therefore, we must try to spend our money to the best advantage. I do not think a great portion of this could be spent in a much better way than by developing the agricultural resources of the country. After all, we really depend on agriculture; it is the backbone of this country of ours, where it has been shown that with our splendid climate and soil we can raise almost anything, particularly fruit, and also other products second to none in the world.

The B. C. Dairymen's Association has been doing good work during this past year, in testing tubercular cattle, and the percentage of re-actors has been very small indeed—out of some 2,000 cattle tested only 8% re-acting on the test. You can thus see that the health of the cattle is in a fairly good state. There is a dairy farm competition, which has also taken place throughout the various portions of the Province. Your Secretary, Mr. Hodson, is a very capable officer indeed; he is also very popular, and is doing splendid work in the Province.

I am glad to have had this opportunity of saying a few words to the dairymen of the Province, and I am glad to see such a large number present. I hope to see you all again next year. I have only a very short time to give you now, and can only hope that you will have a very prosperous and profitable meeting on this occasion.

ADDRESS BY CAPT. TATLOW.

Capt. Tatlow was then called upon to address the meeting, which he did, as follows:—

MR. CHAIRMAN, LADIES AND GENTLEMEN,—I am sure I did not expect to have the honour to be asked to address you this morning. I came here on account of my taking a great deal of interest in the dairy industry of this Province. I am anxious to see the work

go ahead, and wished to see what was being done in this direction. I thank you all for the assistance and support given me in the past, when connected with the Department of Agriculture. I also thank Mr. Bowser, who is in charge of the Department now, for the very kind remarks he has made about my work in the past. We were very fortunate in being in a position, at that time, to have more money to put into the work than at any previous time. Believing, as we did, that the agriculture of the country is the most important industry that we can have, we put our shoulders to the wheel for the time, and tried to reorganize the Department on more useful lines than it had been run in the past. In doing this, I may say that we were very fortunate and successful in obtaining the services of men who, from their practical energy, enabled and helped us to carry out this work efficiently. I speak of our Secretary, our former Deputy Minister, Mr. R. M. Palmer, and our present Deputy Minister, Mr. W. E. Scott—men who have the practical knowledge necessary, and the ability to use it to the best advantage. Agriculture is in its infancy yet, but I believe the lines on which it is organized are the proper ones, and by gradually developing the separate branches of the industry, dairying, live-stock, and fruit-growing, all separately, but combined under the Deputy Minister, the best results will be brought about.

I can only say that I wish you the greatest success for the coming year, and feel satisfied that whoever succeeds me permanently as Minister of Agriculture of the Province will be selected by Mr. McBride with a view to leaving the Department in better shape than that in which he found it.

#### DISCUSSION ON SECRETARY'S REPORT.

The Secretary's report was then taken up for discussion.

Secretary: In discussing this report, the first business on the agenda is the advisability of securing special rates for our live-stock in carload lots, and also whether we shall give financial assistance to breeders importing stock into this Province. As I suggested, I think this meeting should take up the matter of bringing cars into this Province at stated periods during the year—say two or three times a year—so that the stockmen may send in their orders in good time and advertise these facts well; and also whether we shall give financial assistance to stockmen who are importing. In my own opinion, I think it would be highly desirable. You know that last year, at the A. Y. P. Exposition, many of our exhibitors carried off high awards, and they are to be congratulated on this. If they could do this with the stock we have at the present time, I think that it should be an encouragement for others to import, and as an encouragement I think it would be well that the Government or the Association pay some proportion of the transportation. Every importer knows that when he imports a high-class animal into British Columbia it costs him a great deal. If you have a number of pure-bred animals this is a big item. I have no further explanation to make now, and would leave this matter with the meeting for discussion.

#### MAYOR MORLEY'S ADDRESS.

Mr. Urquhart: Gentlemen, I have great pleasure in calling on the Mayor of Victoria to address the meeting.

Mr. Morley spoke as follows:—

MR. CHAIRMAN, LADIES AND GENTLEMEN,—I am almost afraid I should apologize to you. It seems to me that these addresses are breaking in a great deal on the work of this Association, and knowing how important this work is, I will not delay you very long. I appreciate the honour conferred on me, and on our fair city here, in this Convention meeting in Victoria, and I may say that, speaking for the citizens at large, we feel ourselves very fortunately situated that all these Conventions naturally meet with us, as being the capital city. I may say that there has been no time that you have been more welcome to the city than this year. It gives the people of the city an opportunity of getting even with the people of the country through the members of the Associations, in getting back some of that money you have been getting from the citizens for high-priced milk, etc. I cannot claim to be a dairyman or an agriculturist myself, but I come from such stock in the Old Country and have always taken a great interest in agricultural matters over this continent. However, looking at the matter of your affairs from a practical standpoint, there is one point which always appealed to me, and which I think it is worth while the dairymen taking into consideration. While we are always willing to pay you a generous price for your products, at the same time it is to your interest, as well

as to that of the cities, that you place your products to the consumer in the most economic manner ; and it has struck me as strange that, in all these years, dairymen in this and other sections have not found it to their interest to enact a system of concentrating the milk and butter supply, particularly the milk, in a city, and distributing it in a practical and economic manner from a certain given centre. Take the dairymen of Victoria, for instance ; it costs them four or five times more than it should to lay their milk down to the residents of the city, and there is no reason why we should not divide that loss between the dairy people themselves and the citizens, by taking up the system of bringing the supply into one central depôt, where it could then be properly inspected by a Government Inspector, tested, and graded according to the test. Then the milk could be delivered under a proper grade, a certain standard could be kept up, and it could be delivered all over the city in a practical manner. Instead of a milkman jumping from a few customers in Spring Ridge to Beacon Hill, etc., it would simply mean that one milkman could go from the central depôt from door to door in a certain district. It would be a tremendous saving to all concerned, and I ask you, Mr. Chairman, that if not at this, at some future Convention, you try to bring this about. I am sure it would be to your interest, and as I say, we could divide the profits between the dairymen and the customers.

Of course, there is considerable dissatisfaction in Victoria at the present time *re* the exorbitant price of milk. This is one way in which we could cut the price and still not cut from the dairymen. It always appeals to me, because our Council takes an interest in this matter, and would be only too glad to co-operate with the dairymen in this way, provided you will do your best to supply your product to the citizens' best advantage as well as to yours.

I think I should not take up any more of your valuable time now. I am very glad that you are with us, and hope you will stay until you have spent all that money we have put in your pockets.

#### DISCUSSION CONTINUED.

..... With regard to the importation of stock. About a year ago I brought a couple of cows from the States. I could not get any in the Province and could not spare the time to go to Ontario for a carload, so I sent to Spokane and brought them across the line. I understood that they would be free of duty if pure-bred. I then had to pay a 25 % duty on the cows, but understood that this money should be returned to me when the pedigrees were accepted. That was about a year ago, and I am still short of the money.

Mr. Hodson : I might point out that this is a Dominion regulation. The Province has absolutely nothing to do with the importation of stock from across the line. The Dominion Government has its own Inspectors, who make the tests and receive the certificates.

Chairman : I think that is a matter where the Provincial Government should co-operate with the Dominion Government.

Mr. Cunningham : I have had a little experience in that line, I brought some Ayrshires from Washington last year. Of course, we had to advance the duty, but as soon as the pedigrees were received from the Dominion Ayrshire Breeders' Association, we received the money back.

Mr. Wells : We have also had a little experience along that line. Last fall we bought a valuable bullock at the Seattle Fair, and had to advance \$39.50 duty on it. We understood that when we received the proper certificates we would get a refund of this amount, but we have written twice since then and have had no reply.

Mr. Cunningham : Of course, our cattle were entered at the Victoria port of entry, and as soon as we got the Canadian certificates of registration we made application to the Victoria office for the papers. They sent along the necessary papers and a cheque for the amount.

Chairman : The question is whether the Government should assist in bringing out cattle from the East.

Mr. Davie : If you are assisting the breeders in the way of partly paying the freight, I think that will have a tendency to bring out a lot of stock of better quality.

Secretary : I may state that it was only my intention that we should pay transportation on stock. Let the people buy for themselves, and then let the Dairymen's Association and the Stock-breeders' Association assist in bringing that stock to the Province.

Chairman : I think this is rather a question for the Stock-breeders' Association instead of the Dairymen's.

Secretary : I might mention that I am bringing this matter up before the Live-stock Association, but I cannot see why both Associations cannot assist. Both Associations receive equal grants, and I do not see why one Association should bring out the stock for both. We are working along the same lines and for the same ends.

Moved by Mr. Thompson and seconded,—

“That the Dairymen's Association make a grant of 50 per cent. of the freight rates in bringing pure-bred stock to this Province, and that a man with a car of stock leave Ontario not later than the end of March.”

Mr. Thompson : I know what it means to get out pure-bred stock. It practically means that you have to keep the animals for a year to develop the best in them. You do not know whether they will turn out good or not. You might pay a high price for an animal and pay a big freight, and then you are not sure how it will turn out. I think we should get a man of good judgment to select the stock, if the Government will assist in this.

Secretary : I might state that the Government has practically promised a grant of \$2,500 for our Association for this year, and as we have not been carrying on work of this nature, we have a surplus in the bank for both Associations, and I think during the coming year it will be ample. I think perhaps the Government will give us an additional grant if we show that we need it, because the money was spent in a good cause and we intend spending it in a like manner in the future.

The motion carried.

#### WINTER FAIR.

The Secretary : *Re* the question of a winter fair. I have taken this matter up on several different occasions with Mr. Douglas, who was then Mayor of Vancouver. Mr. Douglas informed me at our last interview that should he be re-elected he would immediately go to the city and ask for a site for the winter fair building; and if that was given, the city would go to the Government and ask them for assistance in erecting a building. I have taken the matter up with the Tourist Association and the various Agricultural Associations, and have here letters from the Board of Trade and Vancouver Agricultural Association, as well as from several other organizations, which it is hardly necessary to read, as they are all about the same in promising assistance to this project. The Tourist Association, through the Board of Trade, have promised us their support, and with these two organizations, I have no doubt but that the city will give us a central property. Anything other than a central location would not be suitable for a winter fair. All who have been connected with winter fair work in the East know that I speak advisedly when I say that nothing else will be satisfactory. The people will not go any distance to a fair in the winter. If we have a central site and can erect an up-to-date building, the city could use it throughout the year for a market building, or for some other purpose, and the rental would still be sufficient to pay for the caretaker and to keep it in good condition. I have taken the matter up also with some of the Ministers and with the Hon. Captain Tatlow, who said that if Vancouver would give us a central site the Government would give assistance in the erection of a building. This will be the stockmen's own fair, to which the farmers will come from all over the Province and Alberta and all the different breeds of stock will be represented. It would not be advisable to cut into the Vancouver horse show by exhibiting high-steppers and other like classes, but we want breeding classes, and I think that if we hold our show in the winter, that would be the right time. While I feel sure that we will get this eventually anyway, I think the meeting should pass some resolution to hurry it up, and to bring the matter before the Government, so that if Vancouver does not give the property, then we can back the city's request.

Mr. Paterson : I would like to ask Mr. Hodson what time of the year he would favour for holding this show. I consider in our Province here, though I would cast no reflection on this winter fair, as I believe it would do a great deal of good, it is a question that we would have to take into serious consideration. The conditions in this Province are not as favourable as they are in the East for such a project, I think. But the fairs in the East, I know, in their infancy, were as hard to work up as one would be here to-day. I think that with careful management, and with the right man at the head, the winter fair could be made a success, but with the number of fairs we have on the coast here at present, the people in this Province are going to get “faired” to death; but I would like to see such a fair become a success if it was started, and I would endeavour, if the Government saw fit to have it, to give all the aid I could.

The Secretary: In answer to Mr. Paterson's first question, I might state that I had thought of a date just previous to Christmas as being the best time, when reduced rates could be given. A great many people would come to town to do their Christmas shopping at that time, and some would go to see the poultry shown, some the cattle, and others horses, but they would all come when they were in town. Mr. Marpole has told me that he would give us the best possible rates, and that previous to Christmas would be the best time; while we might have no fat cattle there to start with, at the same time we would have dressed carcasses of sheep and swine, and they would come in well for the Christmas trade; the butchers would be eager to buy them for their Christmas advertising. Again, this is always rather a slack time, and somehow we do not feel quite as poor at that time of the year, but after Christmas it is a different proposition. Of course, it would not be all sunshine with a show like this. I remember in Guelph when they were working up the winter fair there, there were only very few exhibitors, and may be about twenty-five people would come to see it; now it is the second best show of its kind in the world. As time went on, and the fair went from one city to another, the Guelph people felt that they would like to get it back again. They felt a fatherly interest in it, as it had started there. Then it started to grow, but when the winter fair building was put up, a great many people laughed at the idea of putting up such a splendid building. They said, "Wherever are you going to get the stock?" However, it kept on growing, until last year, outside of Farmers' Institute members, etc., there were over 70,000 people went through the gates. Guelph is a little city of 17,000 inhabitants. Not only has the attendance increased, but the entries have also increased until they added a wing which was larger than the main building itself, and this year they intend adding another wing equally as large. That has, of course, taken years to work up. We cannot look on an agricultural fair as a business proposition. It won't bring you in cash; its object is to educate. Of course, while I would like to see this come about, still it means a great deal of extra work for the Department, and if the people are not going to give it every support, it would be better to put it off, and some time in the future, when you feel that you can give your support, you could take it up again. If you think it is too big a proposition, I think we had better let it go for a few years.

Mr Trapp: If you would allow me to speak for a few moments, I would say that New Westminster tried a spring stallion and fat stock show. But in this country we do not go in for fat stock like they do in London, England. The fat stock show there, at Smithfield Market, at Christmas time, is something immense. In this country we do not fatten up our stock like they do in the old countries, but we are in a better position, for the reason that we get our fat cattle for the Christmas eating from the bunch-grass, and I may say that I have eaten some of the two-year-olds that have come from the bunch-grass ranges in British Columbia that I could defy anyone to beat. I think this show is one of the things that we should go slowly with. There is such a thing as increasing these shows too much. A gentleman from Vancouver wanted to have a talk with me last night with reference to their Vancouver show. I said to him, "Don't you think that you are making a little mistake? One of your friends, one of our members, Mr. Tisdall, said, 'Our people are not wise, for the reason that Vancouver receives from 90 to 95 per cent. of the good from the Westminster show, without any of the labour or anxiety, and without putting up a dollar.' That being the case, is it wise for them to multiply shows? It is going to clash. As President of the Royal Agricultural Society, I am willing to do what I can to help out any of the shows, yet if we do not help each other we are going to have a failure." I also said, "You are running a horse show and a good one, you have buildings second to none, and why not content yourself with that? You can run a poultry or a dog show, but why don't you let Westminster alone in the way of a fair?" I pointed out the fight we have had. I can tell you that it has not been easy, and it is only by the combined effort of our people that that show has gained the success it has, and is in the very flourishing condition it is. Lots of people say we are mean, but we have to be to run an agricultural show. You cannot be liberal, to do it successfully. Every individual member of that Association pays for his ticket, just the same as every outsider. I subscribe to everything in connection with it, and I pay for my ticket the same as every other visitor. That is the way our show has been made a success. I think Vancouver is making a mistake in running an agricultural show. As regards the dates, the arrangement has been in the past for Chilliwack to have its show first. They show their own animals at home, then they arrange to come to New Westminster, and the one day's journey does not hurt them. We have good accommodation in New Westminster for these animals, and then the next trip is on to Victoria.

There has been no trouble about that, and the cattle have not suffered injury, but when you come to increase that by another large show, I do not know how it will be. I thought that the Vancouver show was fixed for the 15th August, but my friend said that was only a date to work on, but he thought there was a circuit to be arranged. As is customary with us, we fixed our dates at the annual meeting for the 4th October. We have proved by past experience that the first week in October has been best for all purposes with us. We generally have good weather, our farmers are through with their work, and I am afraid that if you start in with another show, the people will be sick and tired of shows, but I do not wish to throw cold water on this business. I am glad to see Mr. Hodson so energetic and pushing in this matter, but I fear the result, because, after all, we all have our limits, and when it comes to the New Westminster Fair, we have to figure on Vancouver, and our prize-lists are taken largely from the people who come in from Vancouver. I am afraid somebody will suffer if you multiply these fairs.

The Secretary: I would like to point out that this is not a fat stock show. We would be very foolish to put on such an exhibition. This would be a high-class stallion, dairy, poultry, sheep and swine show. It would be an agricultural show throughout, and lectures would be given each day. We have the support of the Vancouver Board of Trade and the Vancouver people at large, and, as you state, our gate receipts will have to come from Vancouver. This is why we decided to hold our show there. The people are very keen that we hold our meeting there. A good many of the dairymen are very enthusiastic over it. We can get the people all right; those who are not interested to start with will be later on. I do not think it would interfere with an agricultural show in the fall; in the East they have about twenty-five fall fairs to one here, yet the winter fairs are more popular than the fall fairs. Of course, I do not want to have you think I am trying to force the people into voting one way or the other, because, if it is a failure, you would say the Secretary urged you to do it. I want you to speak your own minds about it, and if you put it down, all right, and if you vote it through and ask the Government for assistance, you are just in the same position as I am.

Mr. Trapp: I would like to point out that we have all the facilities for a fair like this in New Westminster. New Westminster is beginning to grow, and in the course of two or three years we will be, with Vancouver, one big city. Why should we multiply these fair buildings? It is like running from one part of Vancouver to another, and we will in the near future have a twenty-five minute service from one city to the other, with a twenty-five cent rate. Is there, therefore, anything to be gained by starting up another agricultural centre? Vancouver is the commercial capital of British Columbia, Victoria the political, and New Westminster the agricultural capital.

Moved by Mr. Shannon, seconded by Mr. Webb "That the matter be dropped for another year."

Mr. Wells: I think we should hear the Secretary's opinion. I think the fat stock fair in New Westminster was a success. This will be no experiment, but something which has proved to be a success. I feel rather inclined to think that we should try to encourage it, but I have not given it enough thought to express myself definitely. It has been brought along so far, and I would not like to see anything done to put a damper on it now. I was wondering whether the Vancouver Exhibition would not withdraw their fair and make it the winter fair. They might, by putting all their efforts into the one fair, make it a success.

It was decided to leave the matter over till the afternoon for discussion, and the meeting adjourned till 1:30 p. m.

#### AFTERNOON SESSION.

The Convention reassembled at 1:30 o'clock, when A. Knight, V. S., read the following paper:—

##### BOVINE TUBERCULOSIS.

We have before us this afternoon two tubercular subjects, one an advanced case showing clinical symptoms such as an occasional cough, and somewhat thin, the other a four-year-old cow in good condition, exhibiting no clinical symptoms but which has responded to the tuberculin test. I hope you all have made a careful inspection of these two cows. In the older cow the disease is apparently more advanced, and by all appearances we expect to find the lungs largely affected. I wish you to look carefully over this young cow; you will see that she is by all outward signs apparently sound; her general appearance looks thrifty; she eats well, and also gives a fair amount of milk. The object in bringing this cow before you is

to show you that although an animal may by all external appearances look well, she may yet be affected with this insidious disease, tuberculosis. This disease in the older cow is assuming an active progressive form which is indicated by the animal falling off in condition very rapidly during the last few weeks, the cough becoming more frequent and respiration shallow.

Now, as to how this disease obtains a foothold on an animal's system, we might first state what you perhaps all know, that this disease is contagious and infectious and due to the bacilli of tuberculosis. The disease cannot originate of itself, there must always be a previous case of the disease to commence with. The diseased animal discharges the germs through the respiratory tract or in faecal matter; these becoming dry, float in the air with dust, are inhaled by a healthy animal, the germ lodges in the system and there begins to multiply, and as it progresses the tissues are destroyed and the function of the organs which are affected are impaired. The germs may likewise be deposited on the food or in water, and thus enter an animal's system through the digestive tract. The disease does not confine itself to the respiratory organs, as we may find the disease localised in almost any or all organs of the body, but the most common seat of the trouble is the lungs and lymphatic glands, situated in this region. I find also in this Province quite a number of subjects affected with glandular tuberculosis. The stall-mate of the young cow was so badly affected with this form as to very seriously interfere with her breathing. The glands situated in the region of the junction of the head and neck (retro-pharyngeal) and extending from near the base of the ears to the angle of the jaw-bone, and sometimes the sub-maxillary glands, situated between the angle of the jaw-bone and base of the tongue, become greatly enlarged. In some cases these glands may contain the disease and yet not be far enough advanced to show any outward sign or feel abnormally large.

Tubercular disease of the udder should receive careful consideration of all dairymen, as in this organ or gland the bacilli assumes a very virulent form, and possesses highly infectious properties. As the disease progresses nodules may be felt, and the larger milk ducts contain yellowish cheesy particles, in which may be many bacilli; the disease may commence in one quarter of the udder, and gradually spread until we have the whole udder involved. The swelling is uniform, painless, and quite firm. Milk from diseased udders should not be used or sold for domestic purposes, whether the diseased condition be tubercular or other diseases affecting the udder.

Tuberculosis progresses so insidiously, and persists so long before manifesting its presence by any physical signs, that the disease may be more or less established in a herd, and it is only by the adoption of the tuberculin test that such animals may be detected, and when detected such diseased animals can be separated from the healthy. If we are ever to eradicate this disease from our herds, this is, I believe, the only method to adopt. I am pleased to see so large a number of our largest and most successful dairymen and stock-breeders taking this question up. Although our present system has only been in vogue a short time, yet the results have been very satisfactory. A good many herds have been tested for the first time, and a number of herds re-tested the second and third time. In those herds where the disease was found on the first test we have found one or two cases on making the second test, but in most cases these were suspects held over from the first test. On the third test no cases were found in the same herd. These tests were made about seven and eight months apart. Thus the results of the test are proving very satisfactory and with our mild climate, which allows our milch cows to be outside almost every day of the year, and our frame stables, which admit more or less circulation of air, our stock is thus favoured with an abundance of pure air, which is a powerful aid in combatting this disease. Another factor, and one which is often neglected, is providing sufficient light in our stables. When we remember that sunlight will destroy the germ that produces this disease in a few hours, it behooves us to make use of as much sunlight as possible in our stables by providing ample window space. The predisposing causes that aid the propagation of this disease are: lack of sunlight in stables; poor ventilation; unsanitary conditions of stables, which tends to keep the air foul, such as accumulation of manure around the stables; defective floors and gutters, which allows liquid manure to leak through and accumulate under the floor or gutters; overcrowding cattle in a close stable; foul or irritating gases that irritate the respiratory tract; inbreeding too closely, and animals of weak constitution.

Question: Are calves from diseased cows ever liable to be affected when born?

Answer: We very seldom find the calves affected, but we occasionally do find them so.

Question: Does the tuberculin test injure the cows or affect the milk when cows are milking?

Answer : No.

The animals were then destroyed, and the following tubercular lesions were found : In the older black cow the lungs exhibited advanced tuberculosis ; in the substance of the lungs large tubercular abscesses were found ; on the pleural surface were found extensive milliary nodules and masses, also adhesions to the ribs ; the bronchial and mediastinal lymphatic glands were caseous and greatly enlarged ; the portal lymphatic glands showed marked tubercular deposits, and also two small lesions in the liver. The disease in this case was far advanced, and it was evident that the animal could not have lived for any length of time.

In the younger cow we do not find the disease so pronounced ; the sub-maxillary glands are normal ; the retro-pharyngeal glands are enlarged, and, as you see, when cut open contain tubercular matter in abundance ; the lungs are comparatively free of the disease, but we find here two small nodules. The liver is normal and also the glands in this region, as well as the mesenteric glands. In the large lymphatic gland of the udder we find tubercular lesions. As our time is limited we cannot go into this subject more minutely, but you have seen enough here to convince you that an animal may look well and yet be badly affected with this disease.

It is apparent that tuberculosis is considered a contagious and a dangerous disease, and a disease that can be eliminated, or at least controlled. The adoption of the tuberculin test is a means by which a farmer, under present conditions, will go far to check and lessen the disease, by finding out the reactors and isolating or destroying them at once.

In getting rid of the disease, a farmer must be prepared to give the subject a little thought and attention, and be ready to rearrange his herd, and in some cases to alter his stables. Tuberculosis rarely spreads from one animal to another when they are at pasture ; the sunlight has such a powerful germicidal action that the tubercle bacilli are soon killed. It is in the stables where the chief danger occurs. The great majority of stables are too dark, and in some cases much smaller than they should be, and though this defect is being gradually remedied, still the condition of very many leaves much to be desired. When tuberculosis exists in a stable, the stall should be kept scrupulously clean, and scrubbed down often with two ounces of carbolic acid in every pailful of hot water used.

All new buildings should be larger, more airy, and better paved and drained. Sufficient light should be insisted upon, so as not to leave any dark corners. Ventilation should be so provided that when the stalls are full of cows the air inside should be as sweet to breathe as it is outside. This course, it is certain, will amply repay the farmer by the general improvement in the health and hardihood of his stock, and will prove of lasting benefit.

#### WINTER FAIR DISCUSSION CONCLUDED.

The Chairman : I think we had better finish this winter fair discussion.

Mr. Menzies : I propose that a committee be appointed to look into the matter for the next annual meeting.

Mr. Shannon withdrew his previous motion and introduced another,—“That a Committee from this meeting be appointed to try to arrange the matters of the New Westminster, Victoria, and Vancouver fairs and the horse show satisfactorily among them.”

The resolution was seconded and carried.

#### ELECTION OF OFFICERS.

Mr. Shannon : I believe we are to have an election of officers this afternoon, are we not ? My idea in introducing this motion was to bring it before the meeting, and then, after the election of officers, give them power to select a committee from the Board of Directors to meet this other committee. I think we were a little premature, perhaps.

It was moved, seconded, and carried “That the election of officers be proceeded with.”

The Chairman : I think probably it would be as well to have a new and younger chairman. It has been suggested that we have Mr. Wells as Honorary President and a new Chairman. In making a selection, I hope we will put in some new blood.

Mr. Buckingham : I think we should have some idea as to how the officers have been distributed through the Province during the last year, and try, as far as possible, to keep the same order of business as followed during the past year. We should have the whole Province represented on the Board.

The Secretary : I think it would be well to select the Directors as follows : two from the Kootenay, two from the Upper Country, two from the Lower Mainland, and two from the Islands, or in some such way to suit the meeting. I wish to personally thank Dr. Tolmie

and Mr. Bishop for the assistance they have given me throughout the past year, in carrying out this work.

The Secretary read the list of officers for last year.

The following officers were then elected: Mr. A. C. Wells, Honorary President; Mr. Buckingham, President; Mr. Shannon, First Vice-President; Mr. Bishop, Second Vice-President.

Messrs. Menzies, Collins and Aitken were elected Directors for the Islands District.

The Directors for the Lower Mainland of last year were re-elected, with Mr. Thompson in place of Mr. Shannon.

Last year's Directors for the Upper Country were re-elected.

Mr. Buckingham, the new President, took the chair.

Mr. Buckingham: I can assure you, gentlemen, that this is one of the greatest surprises I have ever had. I had no more idea or thought of being elected to this position half-an-hour ago than of receiving a letter stating that I had been made a millionaire. I realize two things in this: in the first place, that a great responsibility has been placed upon me as being elected to the position of President of the Dairymen's Association of British Columbia. It is a responsibility I feel I am hardly capable of accepting. It needs a great deal of attention, which I feel I am not able to give, and which is required to advance the interests of the dairy industry of this Province. I realise the fact that it takes a man of ability, of time, and of means to be enabled to fill the position as it should be filled, and to accomplish the work which should be accomplished, as President of the B. C. Dairymen's Association. I also realise that I am stepping into the position of a man eminently fitted to fill that position, our Honorary President, Mr. A. C. Wells. I assure you, gentlemen, that it is with a great deal of regret on my part, and on the part of everyone in British Columbia, that the time has come for Mr. Wells to retire from the Presidency of this Association. Time is too precious for me to say much more, but I thank you for the honour done me. In as far as I can, and as my ability will allow me, I will do what I can in the interests of the dairymen of this Province.

The Secretary then read a telegram from Mr. A. C. Wells, as follows: "Congratulations on the Annual Convention. Congratulate the dairymen for me on the advance they have made during the last year."

It was moved, seconded, and carried that the present Secretary retain his position.

#### CONTAGIOUS ABORTION.

S. Hadwen, D. V. Sc., First Assistant Pathologist, Dominion Department of Agriculture, read the following paper on "Contagious Abortion":—

MR. PRESIDENT AND GENTLEMEN,—I propose to begin my address by giving you a short history of the disease. My idea in doing this is to show you what rapid strides have been made in combatting this insidious affection in recent years.

#### *History.*

The disease has been known from the earliest times. In Genesis you will find mention of animals casting their young before the full period. In Europe contagious abortion was very prevalent in the eighteenth century. In France the peasants were convinced of its contagious nature. A French veterinarian (Flandrin) reported having seen the peasants taking an aborted foetus out of a byre window to prevent the other cows walking over the same route.

One of the first reports which gave experimental proof of the contagious nature of cattle abortion was published by the Highland Agricultural Society in 1889. The authors were Woodhead, Aitken, McFadyean & Campbell; they showed that abortion could be induced in cows and ewes by inserting into the vagina plugs of cotton contaminated by the discharges of aborting cows.

Prof. Bang, of Copenhagen, was the first to describe the bacillus or germ of contagious abortion. He gave the first reliable experiments in 1897; later, in 1906, he described a method by which the disease could be prevented in cattle. His experiments were not large enough to allow of definite conclusions to be arrived at.

In 1905, owing to the great prevalence of contagious abortion in Great Britain, a committee was appointed to enquire into epizootic abortion. The committee was constituted as

follows: Sir Edward Strachey, Sir J. McFadyean, the Very Rev. Dr. John Gillespie, Dr. Nuttall, and Messrs. Hunting, Stockman, and Jackson. Among these gentlemen are the most prominent veterinarians of England. I am giving you all these details as I am drawing largely from the report published recently by this committee. I had the privilege a short time ago of seeing some of the work which these gentlemen have accomplished; the results are most encouraging. I feel convinced that in the near future contagious abortion will be a disease which is well under control.

#### *Nature of the Disease.*

Abortion means the expulsion of a calf before it can live outside the womb. As you all know, abortion may arise from a number of causes. The form of abortion we are studying to-day is the contagious form, that is to say, which is carried from cow to cow and is produced by one cause only, the bacillus of contagious abortion. According to recent statistics, 99 per cent. of the outbreaks of contagious abortion are due to this bacillus. The bacillus is a very minute parasite; it requires to be magnified under a high power microscope to be seen at all. This bacillus has been studied by a number of scientists and it is now possible to grow it and handle it outside the body, more or less like a housewife does with her yeast. It grows in soups, in milk, on potato, etc., at body heat. You will see shortly the importance of being able to grow a disease which in reality we are anxious to get rid of; in other words, we make the disease germs kill themselves. Animals which can become affected with the disease are cows, ewes, goats, bitches, and probably sows.

#### *Symptoms.*

The symptoms of the disease are often those of a normal presentation (calving), that is to say, swelling of the udder and vulva, relaxation of the ligaments at the root of the tail, strings of mucus hanging from the vulva, and the animal is restless. When these symptoms appear a cow usually calves after twenty-four hours. In a presentation of this sort one may think that nothing is wrong with a cow, yet she may have the disease and pass it on to healthy animals. When a cow first becomes diseased she usually aborts in about four months (in ten experimentally infected cows, 126 days was the average); in this case there may be no symptoms seen until one finds an aborted calf on the stable floor. The afterbirth is usually hard to dislodge (or unbutton, as many farmers call it). If it comes away soon, all that is noticeable is a thin yellow discharge coming away from the vulva, lasting for several weeks. Of course, if some of the afterbirth is retained it keeps on longer. The fœtus is usually dead if aborted before six months; even at this period it dies shortly afterwards. If the calf comes near full time it often dies a few days later of diarrhoea or some other affection. I came across an instance of this a short time ago on this Island; two cows calved at the normal period, but both the calves died of diarrhoea a short time afterwards. It is a frequent occurrence to find mummified calves aborted, sometimes along with a healthy one. In one experiment conducted by the committee referred to above, a cow was infected, and three months after she became diseased she was killed; the fœtus was found mummified. In no case was a fœtus found putrefying in the womb.

#### *Modes of Infection.*

Ingestion or eating the germs is the commonest and surest way. Numerous experiments have demonstrated this. The bull as a disseminator of the disease is not as dangerous as was formerly supposed; but it is difficult to give good experimental proof on this point. Infection through the genital organs, however, is much more difficult and not so sure as by the mouth. Six cattle were used in one experiment and a large number of germs injected into the vagina (far more than it would be possible for a bull to introduce); only half of them aborted. The spread of the disease is brought about in a variety of ways. A diseased cow switches the virulent material about with her tail, soiling herself and other cattle; it is easy to see how cattle will eat the germs; pastures become soiled; dogs drag about the afterbirth, and the boots and clothes of attendants also help to disseminate it.

#### *Post-mortem Changes.*

If an animal is killed affected with contagious abortion all the internal organs will be found to be normal, with the exception of the uterus; the changes found here are as follows: There is abundant amount of a light yellow to chocolate-coloured exudate; the fetus usually

looks healthy. In many instances when the fœtus dies in the uterus it becomes dried up and mummified. The fœtus does not putrefy unless the *os uteri* (or opening of the womb) relaxes; in this case the fœtus will be expelled. The membranes of the afterbirth are often yellow-coloured; there are yellow patches upon them; the cotyledons (or buttons) are softened. There is not much more to say about the post-mortem changes. The uterus is apparently the only part attacked by the microbe; the rest of the body is not affected.

#### *Diagnosis.*

It usually takes a long time for an owner of cattle to find out that he has introduced the disease into his herd. First one cow aborts; probably this causes no alarm; "the cow has fallen down, has been frightened, or there is some other cause"; but when three or four more abort the owner becomes alarmed, and by this time his whole herd is infected. The only quick way of finding out if a cow is affected with contagious abortion or not is to make a microscopic examination of calf or membranes, or else test the cow. For a bacteriological examination of a small portion of the membranes, or the calf itself, should be immediately forwarded to a laboratory, together with the history of the case. The examination of the material does not take long as a rule, so that a report should shortly be received.

#### *Abortin.*

The test is made with a material similar to tuberculin; the germs are grown in liquids, then killed, filtered, etc., and this substance is injected into a suspected animal. If a cow has the disease her temperature rises; if not, there is no reaction and no damage is done. This material has been called abortin, and is being used and recommended by the Board of Agriculture of Great Britain.

#### *Prevention and Treatment.*

The disease has been successfully prevented by inoculating virgin heifers with live cultures of the germ. If these young cattle are put to the bull about two months later, they carry the calf to the full period. This method is a great advance over all previous preventative treatments. The result of this inoculation is somewhat like what occurs in nature; animals become immune and resist the disease.

As a rule, if a cow aborts once she will not abort again (though they sometimes do so as many as three times). The first time the cow aborts she generally does so at four months, the next time it is at six months, and the third time probably at full time. I have some local figures which have just been given to me by a gentleman from up-country illustrating this point. He keeps on an average 150 cows. The first year 97 per cent. of his cows calved; the second year 65 per cent.; the third year 33 per cent.; the fourth year 55 per cent.; the fifth year 70 per cent. These cattle were under range conditions. In a dairy herd the march of the disease is more rapid than in the above example, as the cattle contaminate one another more rapidly.

The disinfection of stables and cows is a difficult matter; it is theoretically a good measure, but in practice hard to carry out. The germs are easily killed with almost any of the commercial disinfectants; quicklime and boiling water are also useful. It is extremely difficult to keep a discharging cow from infecting everything she comes in contact with. True, one can disinfect her externally, but it is impossible to kill all the germs which are inside her. Unless the discharge falls directly into some germicide, she is bound to contaminate everything. Cows which have aborted should be isolated; their external genitals should be cleansed and irrigated daily with an antiseptic solution, such as 2 per cent. carbolic acid. Washing healthy cattle to prevent their taking the disease is of little avail. When a separate bull cannot be used for serving diseased cows, it will be well to cleanse his sheath after each service. Cows should not be taken to the bull for at least three months after aborting, and never while they are discharging. Cows often return to the bull a number of times. The probable reason for this is that the lining of the womb has not recovered its normal condition and pregnancy cannot take place. Many farmers have the idea that cows abort between each service, but this probably rarely happens. In all the experiments which were conducted in good stables and where the cattle were under strict supervision this occurrence was never noted.

Carbolic acid given internally has been used largely in the treatment of abortion, and there are many farmers who attribute cures to its use. I consider carbolic acid practically useless in the treatment of this affection. Abortion always gets less and less in a herd, unless

fresh cases are introduced, and carbolic acid has been given the credit. Carbolic acid does not prevent the cattle from taking the disease when they are infected experimentally, nor has it modified the course of the infection in any way. Serums are of little value; in experiments serum only protects for two or three weeks, and a cow needs to be protected for at least seven and a half months.

#### GOATS.

In England and elsewhere many farmers are under the impression that a goat kept in the byre is a preventative. A goat is supposed to be especially useful, presumably because he has such a strong odour. I have only one thing to say, and that is that she goats take the disease just like cows. The "aborting" test promises to be of great value in picking out the diseased animals from a herd; they can be separated from the healthy cattle before they have time to abort. Cows which have aborted should be regarded as valuable animals, as in all probability they will become immune, and this resistance to the disease can be further increased by inoculation. The selling and butchering of diseased cows only spreads and prolongs the disease in a herd. In conclusion, I may say that I should like to see the measures I am advocating tried in this country.

I thank you, gentlemen, for the kind hearing you have given me. I hope this address will lead to a good discussion. I know that there is a good deal of abortion about, but owners are shy to confess it. I take it, though, that from the size of the meeting and the interest which has been shown, there are a number of gentlemen present who have this trouble in their herds. I will do my best to answer any questions which may be put to me. However, the microscopic side of this disease is what I know most about. There may be many here to-day who know far more about the disease practically than I do; a man who lives with a herd day in and day out is bound to know a great deal about it.

#### Questions.

Question: Have you had any experience with Dr. Roberts' abortion serum?

Answer: Yes; a farmer showed me a bottle the other day. He told me that his cows got very wild when he attempted to give them the treatment, I hear that the Bureau of Animal Industry has just issued a report saying that this serum is not a serum, and consists of carbolic acid and water.

Question: Doctor Roberts' serum cured my cows.

Answer: In my paper I mentioned the fact that in cattle which had been treated with carbolic acid and in those which had not, the disease ran a similar course, so that I cannot see any advantage in using carbolic acid.

Question: When you told us that cattle got the disease by eating the germs, I thought you were going to tell us that carbolic acid was the thing to use, as it would kill the germs inside them.

Answer: I mentioned a short time ago that the germs confine themselves almost entirely to the uterus, and carbolic acid does not reach this part if given by the mouth. The germs get to the uterus very rapidly; in one experiment an animal was given a dose of bacilli by the mouth, and six days later the germs were found in the uterus.

Question: I should like to know if you have heard of mares taking this disease.

Answer: Yes, I have heard that a number of outbreaks have been reported in the United States. There is some doubt about the germ being identical with the cattle one.

A hearty vote of thanks was then tendered to Dr. Hadwen for his address.

#### PRACTICAL FEEDING OF DAIRY COWS.

Mr. W. J. Langdon, of "Woodland Dairy," Sumner, Wash., U. S., then read a paper on the "Practical Feeding of Dairy Cows," as follows:—

We assume that practical dairy feeding means feeding for profit, feeding for the money there is in it, and not for health or for fun. Among the things necessary for profitable feeding, one is a cow that will make good use of her feed, another is a man that knows how to feed her properly, and to do this he must have a scales, a milk sheet, and a tester.

Professor Fraser, of the Illinois Experiment Station, says the cost of keeping a cow that will give 2,000 pounds of milk, at \$34 for feed, and \$25.30 for her care, depreciation, interest, taxes, etc., or \$59.30, and one that will give 6,000 pounds of milk, at \$42 for her feed and \$32.50 for care, etc., or \$74.50; and one that gives 5,000 pounds of milk, it will cost \$56 for

feed and \$53.30 for care, etc., or \$109.30, which is low enough for most of us. We figure that it costs us over \$90 to keep a cow a year. The average production per cow for the United States is less than 4,000 pounds of milk. Figuring the milk at \$1.40 per 100 pounds, 4,000 pounds would be worth \$56, and allowing \$14 for the manure and \$2 for the calf, the average cow would give an income of \$72. The cost of keeping a cow giving 4,000 pounds of milk is given by Professor Fraser at \$38 for feed and \$29 for care, etc., or \$67. This leaves a profit (if we use the manure to its full value) of \$5 per cow. So that a man who keeps twenty such cows has an income of \$100 to educate his children, buy his automobile, travel, etc. (and attend dairy meetings.)

Some dairymen are making a good deal more than this, we know, and some must be making much less. When we started at dairying we wanted to make more than \$100 per year; we were ambitious to make enough money to enable us to hire part of our work done, and be able to get away once in a while to see what others were doing. We wanted a good attractive home with modern improvements, a good orchard with plenty of fruit of various kinds the year round; we wanted to give our children a college education; we dreamed of a holiday once a year, when we could get away from the cares of the farm and see something new—something different. We knew that \$100 per year wouldn't do this, but we thought we knew how to do better than that, but didn't, as we found out later.

Being a civil engineer, we not only figured our profits in advance, but we figured balanced rations and fed them to our cows. To our surprise, the cows failed to appreciate our efforts and we failed to realise our \$100 profit, although we studied the best dairy literature we could find. We then bought a scale and tester, and began to study something besides balanced rations. We found, to our surprise, that we knew more about figuring than we did about cows. Not having money to buy a herd of good cows, we started to breed up a herd. We have had lots of disappointments and some successes in trying to build up a good herd of grade cows.

As soon as the size of our herd would warrant it, we built a silo. We siloed corn, rye, oats, vetch, peas, clover, and even weeds; in fact, we put into our silo about everything that we could not cure. We have put into our silo quite a quantity of kale, mixed with corn. Before we were able to buy a cutter and power we put everything into the silo without cutting. The silo was so satisfactory that we have since built two more, and we consider them one of the best investments we have ever made. We would hardly know how to feed without a silo. We have something like 100 tons of corn silage and 50 tons of kale to feed this winter, and our cows are holding to their milk wonderfully well. The milk-sheets show almost as much milk at the end of the month as at the beginning. We have silage enough to feed about 40 pounds per cow until about June 1st, and can also feed about 30 pounds of kale till near spring, and we raised this on 15 acres (13 acres of corn and 2 of kale), and the corn wasn't over three-fourths of a crop. On the 10 acres of clover and timothy we cut for the silo 48 loads of over a ton each, besides over 10 tons of hay for the first crop, and we had nearly 20 tons of hay for the second crop on 8 acres of it. From two acres of vetch and barley we put into the silo thirteen big loads. We also put into the silo three big loads of weeds from some new seeding (they were mustard, wild buckwheat, dock, etc.). The cows ate this silage with a relish and did well on it. We have found the silo a splendid place to kill mustard and other bad weed seed. We let the weeds on our new seeding ripen and put them into the silo, and the seeds are effectually killed. We find corn and clover silage and kale the best and cheapest feed we can get, and we make them a large part of our rations.

We want to say a word about weighing and keeping record of the milk. Most farmers think they have not time. We thought so once, but after getting into the habit of it, it practically takes no time and there is no work on the farm that pays better. A common spring scale that can be bought for thirty cents will do, and a piece of paper ruled both ways, fastened to a board and hung near the receiving can is all that is needed. Try it, and you will find out some things that will interest you, and you and your boys will take more interest in the milking, and in each cow than ever before.

For the last year or two we have been experimenting with different rations, trying to find the cheapest ration that would satisfy the cows and hold them to their milk. One of our experiments was to change from 40 pounds of corn silage, 12 pounds of alfalfa and 1 pound of grain mixture to each 3 pounds of milk, giving 28 pounds of dry matter, 2.66 pounds of protein, and 15.8 pounds of carbohydrates and fat, and nutritive ratio of 1:6 and costing about 25 cents, to 50 pounds of kale, with some hay and grain, which gives 27 pounds

of dry matter, 3.7 pounds of protein, and 13.2 pounds of carbohydrates and fat, at a cost of 23.6 cents, and a nutritive ratio of 1 : 3.6.

Then we picked out two of our best cows and fed them mixed hay in place of alfalfa, but the change in feed made no difference in the amount of milk. Perhaps we were feeding too much, but most writers tell us to feed what the cow will eat up clean. This we did, feeding the hay last. We then reduced the feed and continued to get the same amount of milk.

We then settled down to feeding the herd 40 pounds of silage, 12 pounds of alfalfa, and 1 pound of barley for each 4 pounds of milk, giving them 26 pounds of dry matter and 2.4 pounds of protein and 16 pounds of carbohydrates and fats for the best cows, at a cost of 23 cents for the feed, until the results of Adelaide of Beechland's great work was published. We found that we were feeding nearly as much as Adelaide was getting, and getting about one-half as much.

We took a "day off" and went to Portland to study the problem and see if we could find why we were getting so little for our feed. Being acquainted with Mr. McEldowney we spent considerable time at the Ladd farm watching the feeding and milking, and studying the records. Mr. McEldowney not only gave us access to their records, but gave us lots of valuable information on the subject of feeding and care of stock.

As we have never seen the daily ration of Adelaide of Beechlands published, we will give it as we figured it from the records. It is worth studying. In September, 1908, she gave 1,228.40 pounds of milk and 76.37 pounds of fat on the following ration: kale, 40 pounds; alfalfa, 15 pounds; clover hay, 7 pounds; oats, 2 pounds; bran, 3 pounds; and oilmeal,  $\frac{1}{2}$  pound, making 30 pounds of dry matter, 3.88 pounds protein, and 14.5 pounds c. and f.; nutritive ratio, 1 : 3.6. In December, when she was fresh, she gave 1,420.6 pounds of milk, 64.84 pounds of fat on the following ration: kale, 40 pounds; oats, 3 pounds; oilmeal, 1 pound; clover hay, 7 pounds; and alfalfa, 15 pounds, making 30.42 pounds dry matter, 3.87 pounds protein, and 15 pounds c. and f.; nutritive ratio, 1 : 3.9.

Mr. McEldowney was feeding 67 cows 10.7 pounds of steamed alfalfa, 4 pounds of bran, 10 pounds of vetch silage, and 8 pounds of clover hay to each cow, making 23.08 pounds of dry matter, 2.38 pounds protein, and 10.93 pounds of c. and f., with a nutritive ratio of 1 : 4.6, and costing about 17 cents. at our prices. We then visited the Oregon Agricultural College and got what information we could on the subject of feeding.

1. Here are some of the rations being fed by Oregon Dairymen: 5.3 pounds bran, 1.3 pounds oilmeal, 8.3 pounds clover, 34 pounds of corn ensilage, giving 19.65 pounds dry matter, 1.9 pounds protein, 10.96 pounds of c. and f., with a nutritive ratio of 1:4.

2. 20 pounds of oat hay, 50 pounds of turnips,  $8\frac{1}{2}$  pounds oats and bran, giving 29.9 pounds dry matter, 1.5 pounds protein, 17.7 pounds c. and f.; nutritive ratio, 1 : 11.8 This dairyman was spoken of as one of the successful dairymen of Oregon.

3. 11 pounds of kale, 35 pounds of turnips,  $12\frac{1}{2}$  pounds of oat hay, 6.4 pounds of mixed grain (wheat, oats, alfalfa, and bran), which gives 21.8 pounds of dry matter, 1.8 pounds protein, 13.06 pounds c. and f.; nutritive ratio, 1 : 7.2. These cows were giving on this ration 23.9 pounds of milk and 1.09 pounds fat.

4. Here is a ration for a herd that is giving  $14\frac{1}{2}$  pounds of milk and .59 pounds of fat per cow, at a cost of over 21 cents per day: Oat hay,  $22\frac{1}{2}$  pounds; mixed grain (bran, alfalfa, oats, and peas),  $6\frac{3}{4}$  pounds; giving 26.9 pounds dry matter, 1.65 pounds protein, 14.56 pounds c. and f.; nutritive ratio, 1 : 8.8.

5. Here is one for a herd of Holstein cows giving 34.65 pounds of milk, testing at 3.42 per cent. fat, or 1.18 pounds fat, and costing 30 cents per day: 30 pounds of kale, 34 pounds of silage,  $4\frac{1}{3}$  pounds of alfalfa meal,  $6\frac{2}{3}$  pounds shorts, and 16.10 pounds vetch and oat hay; giving 34 pounds of dry matter, 2.97 pounds protein, 16.7 pounds c. and f.; nutritive ratio 1 : 5.6.

6. Here is a ration fed to some two-year-old heifers that are undergoing a test for the advanced registry, by the Ladd estate. It is certainly remarkable: Steamed alfalfa, 20 pounds; clover hay, 16 pounds; oats,  $1\frac{1}{2}$  pounds; bran,  $1\frac{1}{2}$  pounds; giving 34.57 pounds dry matter, 3.61 pounds protein, and 15.31 pounds c. and f.; nutritive ratio, 1 : 4.5, and costing  $26\frac{1}{4}$  cents. They were giving, when I was there, 31 to 32 pounds of milk.

7. Here is a ration fed to some Holstein cows giving 50 pounds of milk: alfalfa, 10 pounds; corn silage, 20 pounds; equal parts oats and barley, 17 pounds (or 1 pound to each pound of milk); which gives 28.26 pounds dry matter, 2.82 pounds protein, 17.83 pounds c. and f.; nutritive ratio, 1 : 6.3, and costing 37 cents.

After returning home from Oregon, we selected three cows of different ages and periods of lactation and fed them 10 pounds of steamed alfalfa, 4 pounds of barley (we had been feeding 8 pounds), 35 pounds of corn silage, or, in other words, we cut our grain ration down one-half, giving them 20 pounds dry matter, 1.77 pounds protein, and 11.9 pounds of c. and f.; nutritive ratio, 1:64. These cows were given 28 to 30 pounds of 5 per cent. milk, and continued to give the same amount for three weeks, when we commenced steaming the alfalfa for the whole herd, and reduced the grain ration to an average of less than 5 pounds of bran per cow. We continued this ration until we turned the cows to pasture, and we never had cows milk more even. We are now feeding one cow 6 pounds corn meal, 35 pounds potatoes, 20 pounds silage, and about 12 pounds mixed hay; that gives 27.1 pounds dry matter, 1.56 pounds protein, and 18.24 pounds c. and f.; nutritive ratio, 1:11.7. She is giving 34 to 35 pounds of milk (that tests 5 per cent.) as regular as clock-work. Authorities tell us that this cow should get 2.5 to 2.88 pounds of protein; and she is getting 1.56 pounds.

Professor Spillman says, "If less than 2.88 pounds of protein is fed, one of two things will happen. If her body continues to appropriate the protein it needs, she will fall off in her milk. If she keeps up the milk flow, her body will not be properly nourished, and she will lose flesh." In this case the loss of flesh is not noticeable as yet.

We are feeding to the rest of the herd 30 to 40 pounds of silage (depending on the size of the cow and the amount of milk she is giving) and about 10 pounds of hay, and from 4 to 10 pounds of grain mixture, composed of three parts corn-meal, three parts malt sprouts, and one part bran by weight. A cow that is giving 30 to 35 of 5 per cent. milk gets 10 pounds of grain, which gives her 26.08 pounds of dry matter, 2.75 pounds of protein, and 14.50 pounds of c. and f., at a cost of about 25 cents per day, or about  $6\frac{1}{2}$  cents per gallon for her milk—allowing the manure and calf to pay for the care of the cow, and allowing 17.76, as Professor Fraser does, for interest, taxes, depreciation of cow and outfit (which in our case is low enough), which makes about 2 cents per gallon, or  $8\frac{1}{2}$  cents as the total cost for a cow giving 8,000 pounds of milk. To a cow giving two gallons a day we feed about the same roughage and about one-half the amount of grain, making a cost of  $8\frac{1}{2}$  cents for feed.

We asked Hoard's Dairyman to publish the ration fed by some of the best dairymen of the country, but we have seen nothing of it. It seems as though this might help us. The question that is bothering us now, is: shall we lay our pencil by and stop figuring? Professor Otis, of the Wisconsin Experiment Station, says the total composition of feeding stuff gives very little idea of its feeding value. Only 39 per cent. of the nutrients of medium hay are digestible, and 21 per cent. of its nutrients are used up in chewing and digesting, and wheat straw requires more energy in chewing and digesting than is in its digestible nutrients.

Again Hoard's Dairyman says: "Feeds vary more or less in quality, chemical composition, and digestibility, and that it may be necessary, for various reasons, to increase or decrease the daily allowance"; and we guess that is so, for the more we figure the less we seem to know.

Mr. Langdon was asked if he found the feeding of rape affected the milk?

Mr. Langdon: No, but I have not fed it to cattle to any great extent. I would not advise feeding it until after milking time, though, and the same with turnips.

———: Are mangolds better than turnips?

Mr. Langdon: I do not find mangolds better than turnips.

———: Have you any trouble in raising alfalfa?

Mr. Langdon: No; I think it is a grand food. I cut and steam it before feeding, and am well pleased with the result. I get the same amount of milk that I would get from feeding double the quantity of grain.

Mr. Duncan: What kind of ensilage do you think is most profitable to grow?

Mr. Langdon: We grow the Late Glory or the Minnesota Hybrid. I do not like the corn that is all stock and no ears. We save the seed every year. Until last year, we planted it about  $2\frac{1}{2}$  feet apart in the row, and the rows about 3 feet apart. This year we planted it about 1 foot apart in the row, and I like that better. It should be kept well cultivated in the summer.

———: What method of drilling in do you use?

Mr. Langdon: A common horse planter, planting two rows at a time.

Chairman: Mr. Langdon is President of the Washington State Dairymen's Association, and a producer of certified milk. I am sure we have been very pleased to have him with us.

It was moved and seconded that a vote of thanks be tendered Mr. Langdon for his highly interesting and instructive address. Carried.

The meeting adjourned till 8:30 p. m.

#### EVENING SESSION.

Association met again at 8:30 o'clock, when Hon. E. T. Judd, of Salem, Oregon, read an address as follows:—

##### DAIRYING AS AN INDUSTRY IN THE PACIFIC NORTH-WEST.

First I want to express my thanks for the privilege of meeting and participating with you at this Convention. Do you know this idea of asking dairymen from other States to meet with us and take part in our discussions appeals to me. At our recent meeting in Oregon two members of the Washington Association met with us and not only read interesting and instructive papers, but also took part in the general discussions, and from them we Oregon dairymen got many new and valuable ideas that will be of much profit to us; and I expect to learn much at this meeting that will be of benefit to dairymen of my State.

We look upon dairying as destined to become *the* industry of this North-West Coast. Many think that lumber is the main thing. It is and will be of much importance, but when they once begin in earnest to cut this timber it will not be long till it is taken off, and these hills and valleys will be covered with stumps—logged-off land, and our timber industry is gone, and the thousands of men that were employed in that business will go with it. What will be done with this land after the timber is taken off? Much of it will be too rough for general farming. If we are wise we will put cows on these lands and they will last on forever.

I wonder if we dairymen of the Pacific North-West appreciate the many advantages we have over those in the less favoured localities, and that means the whole of this continent east of the Rocky Mountains. The climatic conditions in this coast country are ideal for dairying; no severe cold weather in winter, nor extreme heat in summer, with rarely more than a few days at a time when cows cannot be turned out to pasture and get a fairly good feed of grass, even in winter, at the very time our brother dairymen in the East are compelled to warm the water that their cows drink.

##### *Cow Heaven is Here.*

Outside of California, neither man nor cow can live on climate alone, and in the Pacific North-West they don't have to, for the same causes and conditions that make our perfect dairy climate, together with our rich, fertile and responsive soil give us a world of forage crops and green feed the year round. It is possible, and indeed many of our dairymen do cut and give to their cows green feed every month in the year. How it would surprise the Wisconsin, Iowa or Minnesota dairymen if he were here in either December, January or February, to see our dairymen go out to his field, cut and haul to his cows great loads of green, juicy kale. Lest it should be thought that we of the North-West are over enthusiastic and exaggerate, let me quote from Eastern dairy experts of national reputation.

Prof. G. S. McKay, while Chief Dairy Instructor in Iowa, said of this North Pacific Coast country: "Owing to its wonderful fertility, its adaptation to all forage plants, and its moist, cool climate, it is destined to become one of the leading dairy countries of the world. It is better adapted for dairying, especially butter-making, than for any other agricultural pursuit. Located as you are, the markets beyond the Pacific as well as those of Alaska should be at your command."

Prof. C. Larsen, of the Dairy Husbandry Department of the South Dakota Experiment Station at Brookings, says of this country: "In my judgment, your country has all the favourable conditions for dairy-farming which any other State possesses, and in addition is peculiarly favoured with a mild, exhilarating climate, and with a geographical location which favours the marketing of dairy farm products."

With such climate, such soil, and such feed as the North-West Coast has, one would be justified in thinking that the price of dairy products must necessarily be low. But such is not the case; in no State or country in the world is so much paid for butter-fat as is paid to the man who dairies in the Pacific North-West.

The average wholesale price for Elgin butter in 1908 was about 28 cents per pound, while the average wholesale price here (Oregon prices) was 33 cents. Here the dairyman gets butter price for his butter-fat, while in the Elgin district he gets two cents less than butter price; so during the last year the Elgin dairyman has been paid an average of 26 cents for his butter-fat, while here we have been paid an average of 33 cents, giving us seven cents more for our product than was given to dairymen east of the Rocky Mountains. In Denmark, the greatest dairy country in the world, where land is worth from \$300 to \$1,200 per acre, the men who milk the cows get several cents a pound less than we do. The same is true in the Channel Islands, where land ranges in price from \$1,200 to \$2,500 per acre.

Again, the profits of dairying are not limited to the money received for milk or cream, for that farm or country where intelligent dairying is carried on, instead of losing its fertility, is actually richer in plant food for having supported the cow. The cow is absolutely necessary for the highest development of our agricultural resources. The most highly developed agricultural regions of Europe are the noted dairy countries; and the most prosperous and intelligent farmers are the dairy farmers.

One of the saddest things about ordinary farming is the constant taking of plant food from the soil, every year wringing from the ground plant food worth \$8 or \$10 an acre, and never giving any of it back. Robbing it, if you please. Yes, robbers indeed are those who follow that practice. Not only robbing the soil, but robbing themselves, their children, and finally, "when they wrap their cloaks around them and pass to that bourne from whence no traveller returns," instead of leaving to John and Mary a rich and productive farm, they leave the poor children a worn-out and an unproductive one.

At a very conservative estimate, over five millions of dollars' worth of eastern butter alone is shipped into the States of Oregon and Washington every year. What does this mean? It means that every year over \$5,000,000 of hard-earned Oregon and Washington money goes into the pockets of eastern dairymen, and by them is distributed among eastern business men. Besides this, we pay the eastern cow-milkers nearly as much more for their cheese and condensed milk. Think of it, dairymen! With better natural facilities than any one, we don't make our own butter and cheese.

Now, friends, with our climate, our feed, and our markets, the best in the world, you would not think, would you, that any man would say that it does not pay to dairy here? But they do; and I have no doubt but there are persons present who are honest in the conviction that there is no money in dairying; and there is not for some people. And why? One man will tell you that there is money in it, and good money, too; that dairying paid not only for his well improved farm, but also for his fine house and barn; while his neighbour will swear there is nothing in it. And why? Why do so many find but little profit in the business? Because they do not go at it right. They have the wrong kind of cows; cows that they have to keep instead of the cows keeping them. Too many keep cows whose milk and cream only bring \$30, \$40, or \$50 a year each, instead of \$100 a year, as they ought to. Then, again, many do not take proper care of their cows; they let them stand out in the cold rains; in which event the cow gets even with her owner, for instead of using her food for the manufacturing of good, rich milk, she uses it for fuel with which to warm her body and to evaporate the water from her hide. Too many think that if they give a cow a wad of stuff to eat they have done their duty, regardless of whether it had any milk-producing value or not.

Perhaps one of the greatest mistakes dairymen make is in making dairying a side issue. Don't do that, for if you do the money you get from it will be a side issue too. And now I come to

*"The One-Hundred-Dollar Cow."*

By a "hundred-dollar cow" we mean one whose product of milk or butter-fat will bring her owner \$100 a year. Less than four years ago, when I first began to tell the farmers of Oregon that they ought to select and breed so that their herds would average them at least \$100 each, and to be satisfied with nothing less, some of my friends said,—“Don't, don't be unreasonable in your suggestions or demands, for if you ask more than is practicable or reasonable, what you say will lose its force, and instead of encouraging it will discourage and perhaps excite ridicule.” But I knew that I was right, and I went abroad in the land, up and down the valley, imploring, begging, and demanding the “one-hundred-dollar cow.” And now, do you know, I will soon have to reconstruct my exhortations and insist upon a \$125

cow, for from all over the State come reports of men whose cows are averaging from \$100 to \$135; but not enough of them. Too many are still milking cows which only bring \$30, \$40, or \$50 a year.

In testing cows for the different "Cow-Testing Associations," Deputy-Commissioner Maris would frequently find that the product of the best cow in a herd would be worth \$9 or \$10 a month, while that of the poorest cow would bring only \$2 or \$2.50, and the average of the herd would be from \$4 to \$6. Now, why did that man keep that poorest cow? She caused him a constant loss. Why did he keep two or three more that were nearly as bad? Just because he did not know it till Mr. Maris tested them. Think how much larger his cream-check would have been, and how much more his profits if he had selected and culled until each and all of his cows were as good as that one best cow. How many of those robber cows are you milking? Don't you think you had better find out?

Let us look into this a little farther. Here are two men, each has twenty cows. It takes one just as long to feed, milk, and take care of his cows as the other, and the cost of the feed is the same; but one man gets \$100 a year from each of his cows, while the other gets only \$50. That means that, with the same expenditure of time and money, one man gets \$1,000 a year more than the other.

Brother dairyman, which are you? The one hundred-dollar-cow man, or the fifty-dollar? You do as much work; it costs you just as much as though you were getting \$2,000 a year, instead of \$1,000. And, say, haven't you a place to put that extra thousand dollars? If you haven't, I bet your wife has.

Is it possible and practicable for the average dairyman to get \$100 a year from each of his cows? Yes. How? I will tell you. The probabilities are that you cannot buy them, for you will find it difficult to persuade the good dairyman to part with his good cows. However, you can raise them; but you must go at it understandingly, for a high-grade cow is rarely raised by accident.

The first thing to do is to get a high-grade sire. Don't be satisfied with one that is merely registered. That is good as far as it goes, but it is not enough. Be sure that the dam of this young sire was a standard milk and butter producer; that is to say, that she has a record of 14 pounds of butter in seven days, or from 300 to 600 pounds a year, according to age. Not only that, but that his granddam was of the same class. Also require that the sire of this young sire comes from a long line of standard cows, for don't lose sight of the fact that the sire is half the herd, and such an one as I have described is more than half. Won't he cost considerable? Yes; but the extra amount of butter-fat which one heifer will yield more than her dam will in three years pay for her sire.

Now ascertain which are your best cows, and from them and no others raise your heifers. There is only one way to find this out; you cannot guess it. Weigh each cow's milk and test it. It will not be necessary to do this every day, though it were better. If you will weigh the milk one day in the month, taking a composite test of night and morning milk, you will at the end of the year come very near knowing from which of your cows to raise your heifers, never considering a cow that is not a persistent milker.

And when this little calf comes that is going to make you a "hundred-dollar cow," give her a good chance; plenty to eat and a good warm place in which to sleep, always looking upon her as a delicate machine which will some day make you \$100 every year.

A most important factor in the "one-hundred-dollar cow" is the feeding of her. I would like very much to discuss the feeding problem with you, but we have not the time. But I do want to urge the feeding of a green or succulent food of some kind every day in the year. And when you have learned what and how to feed, and all about a balanced ration, be sure and feed *enough*. The cow requires a certain amount of food to repair the waste to keep up her system, and then enough more to enable her to produce the desired amount of milk. Many men are unsuccessful in dairying because they have not the nerve to feed their cows enough. Just a little more to push them over the line from an unprofitable cow to a profitable one.

Mr. Bailey: With regard to kale, does it affect the flavour of the butter?

Mr. Judd: No, if you will feed it after milking. I do not think any feed such as kale, turnips, or anything like that, should be fed before the cows are milked. When we first began to tell the people to raise kale, the condenser people over there said that it would hurt the flavour of the milk, as it was such strong food. We got some of the people to try it, and when they saw its possibilities, they finally made up their minds to raise it anyway, and if

the condenser people did not take, the creameries would. However, much to their surprise, they found that they got good milk, and they told the farmers that the kale gave the best flavoured milk that they had ever got.

Mr. Judd was asked his method of growing kale.

Mr. Judd: There are two ways. Take a batch of five or seven acres, plant the seed in the spring outdoors, as soon as the ground is in condition to work nicely. Have the ground spaded or ploughed deeply, drill in your kale seed just as you would late cabbage seed, and cultivate just the same as late cabbage. Kale loves good, rich soil, so just where you are going to put this out, be sure and fertilise the ground, putting on a lot of barnyard compost. You will then have good ground to raise something else after you are through with the kale. Plough the ground in the spring, just as soon as it will work nicely; harrow it down, and then dig it up and harrow again. Keep doing this, as it will conserve the moisture and kill the weed seeds. About the middle of June this ground should be in nice condition. If you have not a kale planter, get an armful of kale, and after you have ploughed your furrow, drop a plant in each furrow, and fill it at from 20 to 30 inches apart in the furrow. Do not put them too close together. After all are planted, go on with the roller. In a few days, when the kale has recovered, roll it again. It will straighten up and grow all right; 90 or 95 per cent. will live. When the fall rains come it will grow. I do not know whether the frosts in British Columbia would affect it or not. In the States, about 12 degrees do not hurt my kale a bit. It will stand more frost and more dry weather than cabbage. When putting out kale, half a pint of water put on each plant is pretty good, but if the ground is kept in the condition I have said, you have got the moisture down so nicely that it will be nearly moist enough; however, a little water will not hurt it. I plant just about the same amount of seed as I would cabbage seed. I never weighed it or paid any attention to the amount, but just put it in till I find it enough.

Kale is much better food than roots. It has about 2 per cent. of digestible protein in it. Give a cow a good feed of kale, and it is just like putting her out to a good pasture for a while.

Mr. Bailey: You spoke of Oregon-bred kale. We grow the thousand-headed kale; is that the same?

Mr. Judd: Yes, but there is kale and kale. For instance, the Hon. Richard Scott was the first man in Oregon to grow it. He grew kale that had more than 3 per cent. of digestible protein. You may have a dozen and one different kinds of kale. There may be some great big fellows, and others may be small. The first time you plant you cannot help this, but save your seed from the best type. When I cut the kale, when I come to a good plant I tie a string around it and do not cut that one. If I could not let it stay, I took off the leaves and let the plant stay, and next spring it raised my seed. In this way I had every plant like another, and instead of some weighing just about 6 pounds apiece, I would have the majority of good big plants, 25 and 30 pounds each. You cannot buy it like that; it will be all sizes.

Mr. Davie: Would you mind telling me what breed of cattle you keep?

Mr. Judd: I haven't a registered cow, but I have a dandy registered sire, and some of the best high-grade Jersey cows you ever saw.

The hearty thanks of the meeting were tendered Mr. Judd for his address.

#### ADDRESS BY MR. C. D. MARKER.

Mr. C. D. Marker, Dairy Commissioner for the Province of Alberta, was then called upon and delivered the following address:—

I have been feeling sorry for myself since yesterday at noon, when our train pulled into Agassiz. The stop was a little longer than the time-table called for, and when we came to make inquiries we found there was a wreck ahead. As time wore on, I began to feel that we would miss the boat for Victoria yesterday, and, unfortunately, when we came to Vancouver our worst fears were realised, and I felt that I would miss the great treat in store for the dairymen to-day. I wish to make a personal remark here. I appreciate the opportunity of being with the leading dairymen of British Columbia once more. I take it as a great compliment to be asked to appear at this gathering and give you a short talk. When I was invited I was told to select my own subject, and I thought I would then go to Victoria and have a day with the dairymen, and possibly the text of my talk would suggest itself to me when I found just about what amount of information I would be able to give, without preparing a special paper. I haven't prepared a paper, accordingly.

I am not a stranger to you. It has been my privilege to be associated in a small way with the growth and development of the dairy industry, but notwithstanding the small way, it gives me considerable satisfaction every year to note the splendid work and results you are obtaining from your dairy operations. There is one point I intended to take up to-night, but the Hon. Mr. Judd has dealt with it better than I could. I have here a report of the Dairy and Cold Storage Commissioner in Ottawa, which covers the work of the cow-testing associations in the Dominion for 1908, and I am pleased to note that British Columbia is leading all the Provinces of the Dominion, that is to say, the \$100 cow is rapidly coming to the front in British Columbia. I congratulate you on this fact, but while the \$100 cow is rapidly coming, there are some that are not \$100 cows, and I am rather disappointed to see that there are not more of these testing associations existing in the Province, especially in a country like this, where you live and work expensively, and the food question is rather serious from the point of view of cost, and I am surprised that there are not more members in the various associations. There are one or two with a very respectable membership, and I hope you will not be satisfied till quite a number of cows have been sold to men who do not believe there is much in this question after all. Now, this testing is very excellent work. It reminds one a good deal of a story written by Dr. Streeter. It is entitled "The Fat of the Land," and is published by the Macmillan Co. I have read it with great pleasure and bought up all the copies I could find in Ottawa—about half a dozen—and sent them to my best friends. Here, a professional man went into farming not merely for the purpose of spending a certain amount of money, but to treat it purely as a business proposition. He was going to be a manufacturer. He said his farm was going to be a factory, and he was not going to sell off any raw material; everything would be shipped as finished products—butter, eggs, poultry, hogs, etc. "These animals of mine," he said, "cows, poultry, etc., must be producers, every one. I am going to look on them as mere machines. If they fail in the point of efficiency, I will remove them and let someone else struggle with them." That seems a good view to take. The dairyman who takes this view considers his animals as machines to be used in manufacturing high-priced finished products out of the rough, raw material produced on the farm. Such dairymen would naturally take up this question of testing, to find out what their animals are doing and what it costs them to produce. You can go to almost any manufacturer and ask what it costs to produce any article, machine, or product, and he can tell you to the fraction of a cent. So can the creameries, on the butter manufactured. There is one step further: What does it cost the farmer to produce a good quantity of milk or butter? That is what Dr. Streeter looked upon as the real basis for successful farming—manufacture. Any of the dairymen who have not received a report, or participated in this cow-testing work, could obtain the report from Ottawa, and upon close study would find it interesting reading, as there are some splendid arguments here why the work should be taken up.

Now, my work is more along the line of manufacturing the milk or milk products produced by these cows, particularly in the creamery work, and I have taken a great deal of personal satisfaction out of the success which the British Columbia dairymen have attained through your excellent creamery system. Not only have I taken satisfaction out of it, but I have also felt that you are setting a standard which those of us competing in your market would do well to aim at. There are a few points in connection with the operation of creameries which I would like to bring up at this time. I believe you have still room for improvement, and I believe when you see any room for improvement you will soon set about effecting that improvement. The creamery work in the Province, I suppose, is largely responsible for the success of the dairy industry, or the success of the dairy industry is measured by the success of the creameries, and that of the creameries is measured by the prices you are able to bring home from the markets. As Mr. Judd said, you have one of the very best markets in the world. You occupy rather a unique position. The people in this Province are patriotic to a degree; they are willing to pay a good deal more money for products raised in the Province than for those imported. I do not know whether the quality is so much better or not, but I can tell you this, that there are several other provinces in Canada that have their eyes on your markets, and who will not let up until the products they send out here reach a standard of quality perhaps equal to your own.

In connection with creamery work, I have had some experience in that line in my own field of labour in the Province of Alberta, and we are making several improvements there from year to year, and I thought it might be of some little interest if I told you of what we are doing; not that we are doing more than you are, or that I came here to tell you of these

things, but we can always learn from one another. I came out here to learn, and if I can give any information in return, that is my object. Now, the creameries, in order to maintain the confidence of the farmers, for whom they are working, must give fair dealing, and that fair dealing means that each pound must be considered as sixteen ounces, full weight, and a fair test. We in the Prairie Provinces have had a good deal of difficulty over this testing proposition. I do not know whether any of the British Columbia dairymen have had any occasion to complain of those tests in the creameries, but we have, and in fact once I had a complaint of a test being too high. The Babcock test, as a rule, is used for determining the percentage of fat, in the creamery, and in the course of one winter we carried on certain experiments with a view to standardizing our methods, so that our factory adopted the same methods in dealing with this question. We found some of the creameries not any too particular in making up their composite samples of the cream supplied by the patrons. In order to get a true composite test, the sample taken each time must be representative of the quantity of cream or milk from which it was taken, and when we have that sample, and are ready to take the Babcock test, some creameries will weigh 18 cubic centimeters, some 18 grams, and some even smaller. Now, we found in this experimental work of ours, basing the test on an 18-gram sample, that the patrons who delivered the richest cream got the worst of the deal where the sample was measured, and sometimes to the extent of 10 per cent. That is too much, and we have a complaint on foot now in Alberta to eliminate the measuring system at the creameries and testing by weight, 18 grams. In a large number of the States we have had dealings with, they have legislation covering that point, making it compulsory that all creameries must use the scales for determining the quantity of cream used in the test. That is one point. I do not know how you do in British Columbia. I know that some creameries use the scales, but they all ought to, because the scale is the only right way. The other is unfair, because it gives the quality patrons the worst of the deal, and if a test is not fair and equitable to all, then there is something wrong with it.

Then, another point that we are trying very hard to introduce this year is the grading of the cream, and the payment according to quality. Judging by the reports of the markets in British Columbia, I find some creameries quoted at 40 cents per pound, others at 35 cents, and others possibly at 45 cents. What is the reason for that? All British Columbia has creameries. Is it because the quality is not as good in one case as another? If that is not the case, why are some creameries content to take 35 cents when others get 40 or 45 cents?

(It was pointed out that those that got the best prices were those nearest the best markets, and the others were those some distance away).

We are now taking up the question of grading, just for the purpose of grading the quality, and I know that some of the creameries in British Columbia could take up that question to some advantage—I mean for the pure flavour, not the richness of the cream. In the Prairie Provinces settlement is rather sparse, the herds small, and the cost of cream rather high, so that we cannot have the cream delivered as you do here, and that is the reason we are not as high in quality as we aim to be. This grading system simply consists in arranging as to quality, size, etc. We mean by grading, that as long as there is a difference in the quality from day to day in the output of any one creamery, so long will there be a need of trying to improve part of it, and unless we are in a position to show why this should be improved, so long will we have to be content with the average. Now, is grading practicable? We think it is, and this year some twenty creameries are going to take it up. The cream received that will make really first-class butter will be paid for at the rate of two cents per pound more for the butter made from it. That will encourage the dairymen who go to the trouble of fitting up facilities for getting good cream, and will act as a spur to those who do not. They will have to get out, or get into line with the others, and the system of paying for quality is a sound one. We look forward to a very great improvement in the quality of the dairy production, and if we improve the quality we also increase the value. That is another line of work which is being taken up, and I notice that in the United States particularly, and in Eastern Canada, considerable discussion is going on as to how they can improve the quality of their dairy product. It seems to me that the only way to improve the quality is by the grading system.

Now, Mr. Chairman, I feel that it is getting late, and while I should be very glad to prepare my address for your executive, I think perhaps I should desist now and give you a chance to discuss, if you decide that I have touched any point which should be discussed at this time. I shall be only too pleased to answer any questions I can,

Mr. Wells: Should not a creamery aim at only putting out one grade of butter, and that the best?

Mr. Marker: Yes; but we know how it should be and we know how it is. There has been practically no improvement made in the quality of the dairy production during the last ten years.

Mr. Wells: Don't you consider that if a creamery puts out two grades, people do not like to deal with that creamery, in case they do not get the best grade?

Mr. Marker: Yes; we do not want to have different grades, but to grade up. If you encouraged these people by paying for this, then you are fairly sure that they will continue and improve on their facilities. It will act as I said before, as a spur to those who do not fall in line. You can show them that this premium is in prospect if they do what they should do. If that does not help, I say, drop them. I do not advocate making several different grades of butter, but I believe that this creamery question is going to be worth more than all the reports and what we can say from the platform for years. Moral suasion has been sent forth in liberal quantities since dairying started, but results are too slow. What are we going to do? We have to bring in some other means, something that will appeal more to the pocket-book. The market is doing this grading right along; they pay your local creameries say 40 cents a pound, where they pay only 30 cents for the best imported butter. Isn't that grading? They pay premium for quality.

——: There is one point you do not point out, and that is about the facilities for getting to the creamery. What are we to do? The facilities for shipping spoil our creamery, as we can only ship twice a week, and the creamery orders us to ship three times.

Mr. Marker: I take it that you have a pretty good water supply here.

——: Yes, but even then we cannot keep it quite fresh. We could with ice, but we have none.

Mr. Marker: Of course, it would be pretty hard to say how that would work, but certainly if each day's cream was shipped separately, you would not find it all going into the second grade. If we can get the cream twice a week in the Prairie Provinces, we think we are doing well. Sometimes we can only get it once a week. We have more difficulties and disadvantages there than in this Province. The point is this: If we want quality we must make some effort to get it, and if we make the efforts we want to see some reward. It does not hurt cream to freeze it. Sometimes in the North-West the cream is frozen solid before it gets to the creamery. We do not find any bad effects from that.

——: I would like to ask the speaker, in reading the test, if the temperature makes any difference, and how it affects the cream, and in grading the cream what would be a suitable method?

Mr. Marker: With regard to the first question, we did considerable experimental work along the line of finding out the proper temperature for reading the Babcock test, or rather if it made any difference whether the test was read at comparatively low or high temperatures. The results of several thousand individual readings showed us that 130 degrees was just about right, that is to say, we found what we considered the proper relation existing when we found the test at that temperature. But increasing the temperature we used the same samples, increased the temperature to 140 degrees, and the samples would read higher than up to 150, 160, 170 or 180 degrees. We found a difference of about  $1\frac{1}{2}$  per cent., reading one sample at 130 and reading it again at 180. The point is this, the creameries usually use turbine testers driven by steam. The first sample lifted out is possibly 180 degrees, very high. You read that and keep on till you come to the last. Especially in the winter, the last few tests will have cooled down considerably, and will show a comparatively low reading. In order to overcome that, it again shows that we do an injustice to somebody unless we read all tests at the same time; so a small bath was provided, and all samples put into this bath and all tempered down to 130 degrees and then read. We find it is well to decide upon some suitable temperature at which all samples should be read, so that the relative results will be the same. We used 130 degrees.

Now, with regard to grading and the use of an alkali solution. Unfortunately, all sweet cream is not always pure cream. The alkali is simply used as an indication of the quantity of nitric acid contained in a given quantity of cream. I have seen a good deal of sweet cream not at all fit to be made into first-class butter, so for the purpose of grading, we are simply going to let the butter-maker test the sample. We are not going to say that the first grade must be all sweet, especially where the cream has been transported long distances, say twice a

week ; but it must come in pure in flavour and clean, and that would not be indicated by the alkali test. So far as I know, there is no absolutely reliable method of grading the cream for quality, as we understand it, for butter-making purposes.

— : Do you consider that first-class butter can be made from cream brought in in a sour condition ?

Mr. Marker : Yes.

Mr. Judd : Would we expect any particularly good results in furnishing cream of good quality if it was not pure ? Which cream will keep sweet the longer, pure cream or bad cream ?

Mr. Marker : The first.

Mr. Judd : Well, then, if you can get your patrons to undertake to keep the cream as sweet as possible, as long as possible, would it improve the quality ?

Mr. Marker : Yes. Then, of course, we have to consider conditions. We have one set of conditions here, another elsewhere. Now, we must consider, first of all, that these creameries are in operation ; we cannot close up the business, so we must try to arrange our work with this in view, to keep them in operation, at the same time effecting an improvement. I know districts where settlement is so close together that it is practicable to collect the cream every day. In that case, certainly use the alkali test. In other cases, where we have long distances and expensive transportation, we cannot be quite so severe as we probably wish to be. It is all a matter of conditions, but certainly you should keep your cream cool and clean. In our country we have heard of agents selling cream separators to the farmers, claiming that their particular make did not require to be cleaned more than once a day. I do not know where men of that stamp are going to go by-and-bye, but I know that this little statement alone has been responsible for a great deal of poor butter, and we are trying to counteract that by saying that the separator has not been invented that does not need to be cleaned every time it is used. Now, if we can get all the dairymen to use clean utensils and keep the cream cool, we will not have much grading to do, but I think the grading is going to induce more people to adopt these measures who would not otherwise do it.

#### COMPENSATION FOR ANIMALS CONDEMNED.

Mr. Trapp : If you will excuse me for one minute, I have been asked to ask this meeting to pass a resolution bearing upon one of the subjects in our Secretary's excellent report, namely, the testing of tuberculous cattle. Some time ago, I believe a recommendation was made to the Government to give a certain amount for each animal that was isolated from the herd. When this tuberculin test was administered, if any of the cattle reacted and were isolated from the herds, the Government was asked to give a certain amount. I understand that the Government did not see its way at that time to give this consideration. In the Secretary's worthy report he showed very conclusively that in testing some two thousand animals, only about 8 per cent. of them reacted. That being the case, I think it is a very favourable time to approach the Government again in this direction. You know as well as all the dairymen of the Province know, that there is tuberculosis in most of the herds, and I am very pleased that there was so little. It was reported some time ago that there was 40 per cent. ; I do not think that was right, however. If the Government had to stand the loss on 40 per cent., it would be very serious, but it is quite another thing to deal with 8 per cent., and if the Government could be persuaded to give so much for each animal, in a case of that kind, most of the owners of cattle would be most willing to have their herds tested. Of course, with men of moderate means only, it is a very serious thing for an Inspector to come into a herd and condemn half the cattle ; but I think now that there will be no danger of that sort of thing, because I think these tests have been made indiscriminately among the herds. I was asked to move this resolution because I am not a dairyman, and it would perhaps come better from one who was not a dairyman than one of themselves, and I have much pleasure in moving,—“That, in the opinion of this Society, the time has come when the Government should take this matter in hand and give, say, 50 per cent. of the value of any animals that are condemned, their value not to exceed \$75.”

Mr. Kerr seconded the resolution.

— : Before the question is put, I do not think the limit for a pure-bred animal should be only \$75 ; I think a pure-bred should have an outside limit of \$125, and \$75 for a grade animal.

---

Mr. Trapp amended his resolution accordingly, and the amended resolution was carried unanimously.

It was moved by Mr. Duncan and seconded, "That a hearty vote of thanks be tendered to Mr. Marker for his interesting and instructive address." Carried.

This brought the proceedings of the meeting to a close, and it was adjourned *sine die*.

---

VICTORIA, B. C.:

Printed by RICHARD WOLFENDEN, I.S.O., V.D., Printer to the King's Most Excellent Majesty.

1910.