

TENTH REPORT

OF THE

SUPERINTENDENT OF FARMERS' INSTITUTES

INCLUDING PROCEEDINGS OF THE

ELEVENTH ANNUAL CONVENTION

OF THE

B. C. CENTRAL FARMERS' INSTITUTE,

1908.



THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

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1909.

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OF THE

SUPERINTENDENT OF FARMERS' INSTITUTES

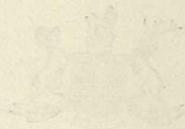
IN THE MONTHS OF THE

ELEVENTH ANNUAL CONVENTION

OF THE

D. C. CENTRAL FARMERS' INSTITUTE

1908



DEPARTMENT OF AGRICULTURE

WASHINGTON, D. C.

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DEPARTMENT OF AGRICULTURE,
VICTORIA, B. C., July 7th, 1909.

Hon. R. G. Tatlow,
Minister of Agriculture,
Victoria, B. C.

SIR,—

I have the honour to transmit herewith the Tenth Report of Farmers' Institutes of British Columbia, embodying the proceedings of the Eleventh Annual Convention of the Central Farmers' Institute, held in Victoria, B. C., February 24th and 25th, 1909.

I have the honour to be,

Sir,

Your obedient servant,

R. M. PALMER,

Deputy Minister of Agriculture.

The following information was obtained from the records of the
 Federal Bureau of Investigation, Chicago, Illinois, on the
 subject of the above-captioned case.

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TENTH ANNUAL REPORT

OF THE

SUPERINTENDENT OF FARMERS' INSTITUTES

OF

BRITISH COLUMBIA,

EMBODYING

Minutes of the Proceedings of the Eleventh Annual Convention
of the Central Farmers' Institute.

—:O:—

In accordance with the custom of recent years, an analysis of Farmers' Institute matters will be found in the Superintendent's address presented to the Central Farmers' Institute. Owing to changes in the personnel of the Department of Agriculture, and the absence of both the Minister and the Deputy Minister in Great Britain, it was impossible to hold the Central Farmers' Institute meeting until the 24th February. It is intended in future to hold Central Institute meetings late in January or early in February, to meet the expressed wishes of delegates.

There is still much difficulty in arranging the dates of regular Institute meetings to suit the different requirements of the various districts of the Province. The early months of the year are frequently unsuitable for outdoor demonstration work, and as this is becoming of greater importance yearly, especially in connection with stock farming and fruit-growing, some meetings will be held during the summer months. It is hoped that Secretaries will endeavour to keep the Department informed as to the wishes and requirements of their respective districts, both with regard to the subject on which speakers are wanted and as to the time their meetings could be held to greatest advantage.

The supplementary Institute meetings can be materially helped and strengthened by utilising the assistance of the permanent officials added to the staff of the Department. Secretaries will be able to obtain the help of trained agriculturists, horticulturists and poultrymen who have previously studied the requirements of the districts in which they are stationed. By this means it is hoped to give much more efficient and practical demonstration work than has heretofore been possible. During the winter months it is proposed to inaugurate short course classes, open to Institute members, in agricultural and horticultural subjects, also to endeavour to place Institute work generally on a more definite and systematic basis.

The following gentlemen, graduates of Ontario Agricultural College, Guelph, have been recently added to the staff of the Department:—R. M. Winslow, Horticulturist, with headquarters at Victoria; B. Hoy, Assistant Horticulturist, with headquarters at Vernon; M. S. Middleton, Assistant Horticulturist, with headquarters at Nelson; Morley Jull, Poultry Specialist, with headquarters at Victoria.

The use of charts and the magic lantern for winter Institute meetings will be continued. Additional slides will be added from time to time, illustrating agricultural and horticultural subjects.

The following persons have given addresses and demonstrations at Farmers' Institute meetings during the year 1908 :—

- M. Burrell, M. P., Grand Forks—"Fruit Growing and The English Fruit Market."
 W. H. Hayward, M. P. P., Duncans—"Fruit Growing and Co-operation."
 V. Nightingale, Cobble Hill—"Farmers' Institute Work and Island Development."
 Thos. A. Brydon, Victoria—"Commercial Fruit Growing, Planting and Care of Trees, Packing and Marketing."
 M. H. Dobie, Victoria—"Soil Cultivation, Fertilisers and Plant Food."
 F. S. Gill, Cranbrook—"Agriculture."
 J. A. Murray, Sooke—"Insect Pests."
 Thos. Corbett, Coquitlam—"Co-operation."
 A. Goldsmith, Kaslo—"Poultry Raising for Profit."
 J. R. Anderson, Victoria—"Fruit Culture."
 Rev. Geo. W. Taylor, Nanaimo—"Insect Life."
 W. L. Kane, North Vancouver—"Fruit Pests and Their Remedies."
 A. Smith, North Vancouver—"Poultry Raising."
 W. J. Brandrith, Ladner—"Fruit Culture."
 Prof. Thornber, Pullman, Wash.—"Soil Cultivation and Fertilisers, Varieties of Fruit, Diseases, etc."
 Maxwell Smith, Vancouver—"Packing and Marketing Fruit."
 Prof. E. R. Lake, Corvallis, Ore.—"Fruit Culture."
 G. H. Ashworth, Cranbrook—"Hot-bed Management."
 W. P. Hamilton, Cranbrook—"Small Fruits."
 Dr. J. J. Sparrow, V. S., Victoria—"Judging Classes of Live Stock, Diseases of Animals and Remedies."
 W. H. Stevens, Kamloops—"Fruit Packing."
 V. D. Curry, Campbell Creek—"Irrigation and Soil Cultivation."
 D. Graham, Salmon Arm—"Farmers' Institute Work."
 Dr. A. Knight, V. S., Victoria—"Live Stock Judging Classes, Veterinary Topics."
 H. F. Page, Matsqui—"Growing and Curing of Alfalfa, Handling Milk and Dairying."
 J. A. Coatham, Sardis—"Fruit Culture."
 D. McKim, Vancouver—"Handling Milk for Cheese-making."
 W. G. Way, Sooke—"Farmers' Institute Work."
 Geo. Heatherbell, Colwood—"Fruit Culture."
 J. T. Collins, Salt Spring Island—"Fruit Culture, Poultry Raising, Dairying and Soil Cultivation, Spraying and Insect Pests."
 R. Hendricks, Kaslo—"Poultry Raising."
 W. Whyte, Kaslo—"Grafting and Pruning in the Orchard."
 J. W. Cockle, Kaslo—"Insect Pests."
 W. H. Stuart, Cobble Hill—"Agricultural Exhibits."
 J. Kipp, Chilliwack—"Orchard Spraying."
 R. M. Halliday, Sandwick—"Milk Testing."
 W. T. Slavin, Kamloops—"Fruit Growing."
 Prof. Thos. Bowhill, V. S., Vancouver—"Red Water."
 N. Shopland, Sandwick—"The Bacon Hog."
 Rev. Archdeacon Bear—"Agriculture."
 W. G. Way, Sooke—"Farmers' Institute Work."
 G. A. Cheeke, Shawnigan Lake—"Farmers' Institute Work, Co-operation and Land Clearing."
 Dr. S. F. Tolmie, V. S., Victoria—"What Other Farmers are Doing"; "The Horse, and Diseases of Domestic Animals."
 Wm. Bayliss, Victoria—"Poultry Raising for Profit."
 C. A. Marker, Calgary, Alta.—"Egg Handling Stations, Marketing Butter, etc."
 H. L. Deloume, Cobble Hill—"The Pruning of Fruit Trees."
 W. J. Burns, Sooke—"The Dignity of Farm Labour, Pear Culture, Planting Hedges, and Arboriculture."
 J. C. Harris, New Denver—"Common Mistakes Made in Setting Out an Orchard."
 H. Dan, Cobble Hill—"Co-operation."
 I. Gills, Shawnigan Lake—"Co-operation."

W. G. Way, Sooke—"The Work of Insects."

H. O. Case, Cobble Hill—"Co-operation."

— Murray, Sooke—"Farmers' Institute Work."

G. S. Johnson, Salmon Arm—"Immigration,"

J. S. Drummond, Victoria—"Co-operation."

Miss Laura Rose, Guelph, Ont.—"The Value of Women's Institutes"; "The Making of Bread and Buns"; "As Others See Us"; "The Womanly Sphere of Woman"; "Butter-making on the Farm"; "Dairying in its Various Branches."

DETAILED STATEMENT OF INSTITUTE MEETINGS.

Institute.	Number of Meetings.			Attendance.			No. of Addresses.	No. of members	Cash on hand.
	A. M.	P. M.	Evening	A. M.	P. M.	Evening			
Nicola	1	1	6	12	6	96	9	31	\$ 10
Bella Coola	3	8	4	.....	274	161	8	77	167 59
Central Park .....	.....	4	4	.....	32	125	5	208	8 66
Alberni .....	.....	4	1	.....	72	8	5	42	173 45
Comox .....	.....	1	6	.....	10	223	7	68	21 57
Cowichan .....	.....	1	5	.....	20	137	7	120	.....
Nanaimo-Cedar .....	.....	.....	7	.....	.....	207	9	146	42 15
Victoria .....	.....	.....	11	.....	.....	614	12	183	27 53
Metchosin .....	.....	1	11	.....	13	414	20	72	82 75
Islands .....	.....	2	13	.....	63	281	15	65	77 30
Delta .....	.....	1	4	.....	60	91	5	108	33 25
Surrey .....	.....	4	3	.....	65	81	10	94	28 85
Langley .....	.....	1	3	.....	13	71	6	59	53 06
Richmond .....	.....	4	5	.....	191	190	11	104	146 92
Mission .....	.....	1	6	.....	15	107	7	53	16 20
Chilliwack	1	2	3	15	140	155	9	58	69 96
Kent .....	.....	2	3	.....	30	64	5	61	118 15
Maple Ridge .....	.....	.....	8	.....	.....	187	8	98	74 22
Matsqui .....	.....	1	6	.....	30	316	14	87	9 40
Spallumcheen .....	.....	8	7	.....	244	273	27	288	149 61
Okanagan .....	.....	4	4	.....	127	316	11	203	1 39
Osoyoos	1	2	15	10	14	336	26	122	43 58
Kamloops	1	3	6	15	103	188	17	92	.....
Salmon Arm .....	.....	1	9	.....	30	229	8	131	97 50
North Vancouver .....	.....	.....	4	.....	.....	86	5	82	8 32
West Kootenay	1	11	13	27	199	362	22	114	47 62
East Kootenay .....	.....	.....	4	.....	.....	127	1	44	39 00
Kootenay Lake .....	.....	.....	6	.....	.....	191	9	198	42 65
Shawnigan .....	.....	.....	5	.....	.....	246	12	64	56 10
Sooke .....	.....	2	11	7	14	375	14	80	45 85
Kettle Valley	1	.....	3	25	.....	112	6	68	55 15
Cranbrook-Fernie .....	.....	.....	8	.....	.....	154	9	82	69 10
Arrow and Slocan .....	.....	.....	1	.....	.....	62	1	70	28 50
[Lakes									
Totals	10	69	205	111	6,965	6,585	250	3,372	\$1,836 48
	284			8,661					

REPORTS, ADDRESSES, PAPERS, ETC.

—:O:—

Sooke Farmers' Institute.

PRESIDENT'S ADDRESS.

LADIES AND GENTLEMEN,—According to the rules laid down for us by the Minister of Agriculture, our meeting to-night opens with the President's report, and, thanks to the hearty support of each member of our Institute during the past year, this duty is rendered a comparatively easy and pleasant one.

We have now completed the first year of the existence of the Sooke and Otter Point Farmers' Institute, and I think that for a one-year-old our Institute is a big, robust, stirring child, with every prospect of a long and useful life before him. He has already cut some of his teeth, but his parents and guardians know that there are troublous times ahead before he acquires his full double set; however, his good constitution and careful tending will, we feel sure, bring him safely through all the troubles and trials incidental to infancy.

Since our organisation as a separate Institute, we have had the satisfaction of being told by lecturers and others who have visited us that we have fully justified our insistence in having an Institute of our own, by our large membership, our well-attended meetings, and the manifest interest displayed by the members at the meetings, several of our lecturers making pointed reference to the respectful and intelligent manner of the Sooke audiences.

Your executive, being new to the work, have to a large extent, had to feel their way during the past year, but throughout all the business of the session, the executive worked most harmoniously; there were no laggards; every man was willing to spend and be spent, if only the interests of the Institute could be forwarded thereby.

Early in the session, what seemed a somewhat ambitious suggestion was made at one of our meetings; it was that we apply for space and have a Sooke Farmers' Institute exhibit at the Victoria Agricultural Show. Now, as Sooke had not for years left the beaten track of daily tasks, nor taken any steps to bring itself into public notice, it was with a feeling of misgiving that some of us heard the proposal made; however, after a thorough discussion, difficulties began to vanish, or at least to look less formidable, and it was agreed to call a public meeting and get the mind of the district on the subject. The result of this meeting you all know; how every one was favourable to the proposal, and before the meeting terminated almost all present had signified what kind of exhibit they would aim at having. From that time on, the minds of your executive were at ease as to the success of the local exhibit, and when the day appointed for delivering the produce arrived, the anxiety then was, where room would be found for the display of all of them.

The transport and arranging of the fruit, vegetables, etc., had then to be settled, and like all the other difficulties, this was soon overcome by the ready offer of members to do the teaming to town and to fit up the stall and arrange the exhibit. This they did with the most gratifying result to all concerned; the stall, from an artistic point of view, was a thing of beauty, and from an agricultural standpoint, was a credit to this district and to Otter Point, showing that with due care and culture the rich soil of this part of the Island, aided by its splendid climate, is capable of producing fruit and vegetables equal to any grown in the Province.

I must not pass from this subject without acknowledging our indebtedness to Mr. French and Mr. Bonnycastle Dale, for the very able and instructive papers which appeared in the show issue of the "Times." Mr. French on the "Valuable Resources and Varied Charms of Sooke," and Mr. Dale on the "Natural History of Sooke." Many copies of these papers were taken away by people whose homes lay all over our Province, in the North-West and across the line, so that we cannot any longer suppose that our district is unknown beyond our immediate

neighbourhood, and it should be our earnest endeavour to employ every means in our power to make it still more widely and favourably known. Of the lectures and lecturers to whom we have listened during the past year, I must refer but briefly, as these belong more directly to our Secretary's report, but I would like to say that your officers and executive did their utmost to get the best lecturers obtainable, and to have a good variety of subjects brought before you.

Another point I would like to allude to is the number of lectures given at our outlying district of Otter Point; this matter was given a prominent place in arranging the programme for the year, and was not lost sight of during the course of the session, and your executive hope that their efforts in this direction have met with the approval of our good friends in that quarter.

I will not trespass further on your time, but would ask you to accord to your officers and executive for this coming year the same hearty support you gave to those of last year, and having brought yourselves and district before the notice of the public, let there be no retrograding, but let your motto from now on be "Forward."

J. A. MURRAY, *President.*

Shawnigan Farmers' Institute.

PRESIDENT'S REPORT.

LADIES AND GENTLEMEN,—In presenting this report of the proceedings of the Institute for the past year, I am necessarily somewhat curtailed by the fact of it being such a short time since our organisation.

However, notwithstanding this fact, I have a very successful year to report to you. We held two regular meetings and two supplementary meetings, besides directors' meetings. At the regular meetings we had two speakers from the Department, Prof. Lake and Mr. Brydon, both on fruit-growing. Mr. Brydon also gave a demonstration of apple packing, which was very much appreciated, and the greatest interest was taken in both meetings.

At the supplementary meetings we had two essays by local members, Mr. Delome and Mr. Cheeke, both of which gave us great confidence in local talent, and inspired us with the hope of having many more of the kind; also a report on the possibilities of co-operative work by Mr. Dann, who handled the subject ably, and started the thin end of the wedge, which we hope will be driven home, with the result that by co-operative influence we may make our district one of the most important on the Island. The attendance at the meetings has been good, and I may remark that I foresee a very prosperous year ahead for our Institute, by the interest that is taken in its affairs, as shown by that and the fact that, though only organised such a short time, the membership has grown until it now includes practically everybody in the district.

I am pleased to report to you that I have found amongst your officers a very general and cordial attitude of good-will and willingness to sacrifice personal interest to the good of the Institute, and I especially recommend to your consideration your secretary, who has not spared time or energy to make the meetings successful, and I assure you that almost everything depends on his work, whether the Institute advances or falls. In concluding this report I would ask you to remember that it is necessary for you to respond to your Secretary's efforts by attending every meeting possible, and taking a personal interest in its affairs; and if you do so, you may be sure that the destiny of the Shawnigan Farmers' Institute will be Success.

V. NIGHTINGALE, *President.*

East Kootenay Farmers' Institute.

PRESIDENT'S REPORT.

GENTLEMEN,—As President of this Institute, I find it is my duty to place before you my report upon the proceedings of the Institute for the year ending 31st December last. For some reason or reasons which may be known or unknown to you, I very much regret to say that the Institute does not appear to flourish or to have flourished to any very appreciable extent, taking into consideration what the Department of Agriculture is striving to do for

this and every other Farmers' Institute, both by way of giving instruction and rendering financial assistance, apart from the bulletins issued to each member from time to time, as well as books and other literature upon all matters affecting the culture of our farms, gardens and orchards. This Institute has during the past year been without a President for some nine months out of the year, until I took office some three months since. From the Ninth Report of the Superintendent of Farmers' Institutes, I find Mr. T. A. Brydon and Miss Rose were here on 1st November, 1907, and Mr. Brydon, in his report to the Superintendent, is quoted thus: "Friday, left Kaslo for Creston, arriving at noon; met by the Secretary. Something wrong at this point; meeting not properly advertised. Evening small attendance in the school, but those present gave very close attention. I spoke one hour on the different points necessary to start a young orchard satisfactorily. Miss Rose spoke one hour, principally on "The Dairy Cow." Now, this is not the kind of boost that we can afford to see appearing in print, and being issued and read by all members of the other twenty-seven Institutes, and I think it is high time that a strong body of officers and directors be elected, not only to put this Institute on a strong basis, but on a lasting one, for, mark you, unless we go ahead, our Institute is likely to be struck off the list of Institutes altogether. Since I took office, no meeting has been held of the members, excepting on the occasion of the visit of Mr. W. J. Brandrith, whom I am always pleased to see, on or about 3rd December last.

By banding and co-operating together, and holding meetings at least once a month, I feel that we can all help each other and make this Institute of far greater service to each individual member, for the more we sleep the more we are likely to. One great thing observable, and I consider very detrimental to the success of any Institute or Association, is the utter lack of regard of being prompt in attendance, so that usually business is delayed considerably beyond the time for which meetings are announced. This, I have no doubt, keeps many busy members away, who otherwise would attend on time.

A. S. WATSON, *President.*

Coquitlam Farmers' Institute.

PRESIDENT'S REPORT.

GENTLEMEN,—Speaking in a general way, the interest in Institute work during 1908 was good. Our membership increased from 70 in 1907 to 110 in 1908.

Of regular meetings, five were held at different points in the district. Unfortunately, owing to the lateness of the date of spring meetings, the attendance was smaller than usual, and again during the fall meetings the weather was very severe and wet. Still, in looking back over the year, we feel we have gained ground.

We held five supplementary meetings, at two of which papers were read on "Culture of Onions" and "Tomatoes," and also on the subject of "Co-operation amongst Farmers."

We also held eight directors' meetings during the year, at which matters were discussed with the view of arousing further interest amongst the members and increased interest amongst the public generally.

We decided early in the year that it would probably help increase our membership to get up a circular letter explaining concisely the advantages and objects of the Institute. This we did and mailed one to each ratepayer in our municipality, also to all those in Maple Ridge District whose names we could obtain. We think the results have fully justified our action, and we have a sufficient quantity still on hand for distribution in 1909, in case our new executive think it wise to use them. The Government having granted us our request to be formed into a separate Institute District, will enable us to concentrate our efforts on a smaller area, and work it more thoroughly. The balance on hand on December 31st last was \$120.0d, of which \$43.22 is due to Maple Ridge. In addition to our ordinary expenses, we secured a valuable paper on Horticulture for free distribution to the members, at a cost of \$20.30.

J. A. METCALFE, *President.*

Report on Institute Meetings.

BY GEO. HEATHERBELL, "GLEN LEA," COLWOOD.

VICTORIA, B. C., December 2nd, 1908.

To the Deputy Minister of Agriculture :

DEAR SIR,—I herewith submit a report of my itinerary *re* fall meetings of the Farmers' Institute, commencing November 16th and ending December 1st, 1908.

Left Victoria Monday, November 16th ; arrived at Kamloops Wednesday, 18th, 1 A. M., being delayed at Lytton by washout and accident to freight train.

Thursday, 19th—Drove to Grande Prairie with Mr. Smith, the Secretary of the Kamloops Institute ; arrived there 5.30 P. M. Meeting at Grande Prairie poorly attended, only three being present, on account of it being an extremely bad night and a dance going to be held on following night ; also, as I was given to understand, of very short notice being given. However, gave a demonstration on pruning and care of trees on morning of 20th, in Mr. Blackburn's orchard ; found canker or black spot on the bark. Left Grande Prairie 20th ; arrived at Campbell Creek and held a meeting in school-house at 8 P. M. Mr. Currie in the chair, who gave an able address by way of introduction ; 10 present, who, I am pleased to say, showed much interest in my subject, asking many questions. I arrived again at Kamloops at 12, noon, and held a meeting in Council Chambers at 3 P. M., with a large and enthusiastic attendance, Mr. V. D. Currie the President, being in the chair. Mr. Maxwell Smith, happening to be in town, was invited to address the meeting, which he did in a very able manner, telling them of their shortcomings in packing their fruit.

Sunday, 22nd—Drove to Sanatorium at Tranquille and had a good look over the building, also looking over the very large old orchard of the institution, that being my main object, after hearing so much about the old "Fortune" ranch and orchard, I found them caring for it bravely, after evidently long years of neglect. Some of the trees were quite ruined with canker or black spot on the bark, from which the orchard was suffering badly. Left Sunday evening at 6.30 P. M. for Sicamous Junction and Penticton ; arrived at Penticton 7.45 P. M.

Monday, 23rd—Held meeting with Mr. Clement, of the Penticton "Press," in the chair, and 10 present. Again I was confronted with the same complaints of not having sufficient notice of the meetings, those present expressing real regret at such a state of affairs. However, those present being interested in fruit-growing, they followed me with the closest attention and asked very many questions, and here I beg to thank Mr. Clement for his kind assistance. Left Penticton for Peachland 6 A. M.

Tuesday, 24th—Arrived 10 A. M. and gave a demonstration in Mr. McColl's orchard in the afternoon ; six present. Held meeting in reading-room at 8 P. M., with 15 present. This was a very good meeting.

As I could not get away to Summerland before the following afternoon at 5 P. M., it was arranged that I should give a demonstration at Mr. Burgess's orchard and Mr. Gummow's, on pruning and caring for young trees, and instructions on fruit pests and diseases of fruit trees, and how to find them. I believe I may take credit for doing some real missionary work here in this line, as I found trees badly affected with canker, and some quite dead from the trouble just under the surface of the soil, those present having no idea of where to look for the trouble or what caused the destruction of the tree. There were eight present, expressing regret at my not having more present at this demonstration.

Left Peachland for Summerland 5.30 P. M., arriving at 6.45 P. M. Held meeting in hall, 8.30 P. M., with a fair attendance of 16. Same complaint of insufficient notice, it being the general opinion that there would have been an attendance of 50 if the meeting had been held in the school-house, some distance from the town. Those present were much interested in my talk on growing the walnut.

Left Summerland for Kelowna 7.30 A. M., arrived 10 A. M. Held meeting 3 P. M. in hall, 17 being present. Here I gave a demonstration on how to trim and head young trees ready for planting, getting six young trees for that purpose. Those present showed much interest in my work and asked many questions. I wish to say here that, in my opinion, Kelowna is an exceedingly fine section for fruit-growing.

Left Kelowna Friday, 27th, for Vancouver and Central Park, arriving at Vancouver on Saturday, 28th, 1.35 P. M.

Monday, 30th—Held meeting at Central Park 8 P. M. Present, the Secretary said, 80 This was a very excellent meeting, and much credit is due the progressive young Secretary, Mr. Wright, also the President, who was in the chair. Mr. Bayliss, of Victoria, was with me here, speaking on "Poultry."

Mr. Smith, Secretary of the Kamloops Institute, was very kind in his endeavours to help along the work of the Institute, driving the 37 miles to Campbell Creek and Grande Prairie, being away from business three days.

In conclusion, I may say that I have done my best to encourage the attendance of the ladies and young folks at the Institute meetings, and asking them to try and have a little social time after the lecturer had finished with his subject, sincerely believing that that would be a very great factor in bringing about a larger attendance and more interest in all Institute work. It is with much pleasure that I state that I was received with every kindness and welcomed at each and every place I visited during my itinerary.

My subject at each meeting was, "Preparing the Land, Planting the Tree, Pruning, Summer Pruning, Thinning, Spraying, and Pests and Fungi and how to cure them."

Mr. Brydon's Report of Itinerary.

VICTORIA, B. C., December 8th, 1908.

Supt. Farmers' Institutes, Victoria, B. C.

DEAR SIR,—I herewith submit my report on the meetings which I addressed, held under the auspices of the Farmers' Institutes, from October 28th to November 24th, 1908.

October 28th—Drove to Otter Point; meeting held in small log school-house at 8 P. M., the President, Mr. Murray, in the chair; 15 present. I spoke for 1½ hours; subject, "Better Fruit and How to Grow it." Heavy rain; good meeting, very much interested, and a number of questions asked. Drove back to Sooke; arrived 1 A. M.

October 29th—Meeting held in the Sooke Hall, President Murray, Secretary Milne and other of the Directors present; 25 in attendance; spoke 1½ hours, dealing with the "Cultivation and Preparation of the Soil for the Young Orchard."

October 30th—Left Sooke 7 A. M.; arrived Cobble Hill 11:30 A. M. Evening meeting in hall, 7:30 P. M.; President Nightingale in the chair. Secretary Stuart and others of the Directors present; 45 in attendance; very good meeting, full of interest; speaking and answering questions, 1½ hours, then I demonstrated apple packing.

October 31st—Drove out with Mr. Dann to see his orchard and advise him what to do to bring an old neglected orchard into a good bearing condition. Left Cobble Hill 10:35 A. M., arrived at Victoria 12 o'clock, noon; went over to the Government Buildings to consult and report to Mr. Hodson.

November 2nd—Left *en route* for Westminster Junction.

November 3rd—Arrived at Westminster Junction; meeting in hall 8 P. M.; Mr. Metcalfe, President, and Secretary Corbett, and about 16 others present (very wet weather affecting attendance). "The Young Orchard" was my subject, and the closest attention was given, and quite a number of questions asked and answered.

November 4th—Haney; evening meeting, 8 P. M., Mr. White, Hammond, in the chair. Small but interesting audience (stormy, wet night). I heard some complaints about members not receiving due notice of the meetings. I am sure a little more advertising would do a great amount of good.

November 5th—Coquitlam, arrived afternoon. Letter from Secretary Corbett to Mr. Baker. Evening meeting in the Coquitlam School; 18 to 20 present; very attentive audience, and in the course of my remarks dealing with the different heads *re* the care and training of the young orchard, many questions were asked, which brought out interesting and useful instruction.

November 6th—Left Vancouver 3:15 P. M. for Mission; arrived at Westminster Junction and stayed there all night. Pile bridge near Mission impassable, owing to heavy rains. Arrived at Mission next morning, 10 A. M., one day late; called on the Secretary, Mr. Verchere, at once. I expected they would be disappointed, but he said no, as they did not know I was coming, as he had not received notice from the Department; but the President,

Mr. Abbott, thought it more likely that the blame rested with the Secretary. I put my services at their disposal for afternoon or evening, but the Secretary said it was of no use, we could not get a meeting. Something wants to be done at this point.

November 8th—Arrived at Spence's Bridge (Sunday).

November 9th—Left Spence's Bridge in company with Dr. Sparrow, *en route* for Coyle; arrived 7 P.M. Meeting in hall 8 P.M.; Mr. Dodding, President, Mr. Cleasby, Secretary, and 17 or 18 others present. I spoke 1½ hours to a very attentive audience. Fruit-growing is just beginning at this point.

November 10th—Morning meeting; Dr. Sparrow, class; and I demonstrated how to prune, and when, in Mr. Woodward's orchard. Merritt afternoon and evening; no meeting. Nobody seemed to know that we were coming, and consequently nobody came.

November 19th—Drove to Nicola; arrived 11 A.M. We were on the ground, but no meeting and no interest, and nobody seemed to know we were coming. Not advertised, as far as I could see, as meetings ought to be.

November 12th—Left for Notch Hill at 9 A.M.; arrived 7:45 P.M.

November 13th—Mr. Aitken had charge of the meetings, afternoon; Dr. Sparrow, evening. I spoke 1¼ hours in the hall; President in the chair; 12 to 14 present. The meeting was a useful and interesting one and I received the closest attention. Just beginning orchard work at this point.

November 14th—Drove from Notch Hill to Hugh McKenzie's farm, near Kault; Mr. Bowman in charge. Meeting 2 P.M., school; about 25 present. One of our best gatherings, especially in point of interest and questions. I spoke 1½ hours. Dr. Sparrow held judging class at farm until daylight failed. Left same evening for Salmon Arm.

November 16th—Went to see Mr. Turner to find out what the arrangements were. He said he was doubtful if he could get a class for the Doctor (and, of course he failed). Evening meeting, Orange Hall, 7:30. I spoke one hour, on packing, spraying and the proper time to harvest fruit. Meeting not well advertised. Good live officers, I find, means good meeting.

November 17th—Mara, afternoon; meeting in Mr. Little's orchard; demonstrating spraying and pruning; 12 present; young orchard in very good order; first season under clean cultivation, and the growth is so marked that it is a fine object lesson for the whole neighbourhood. Later, Doctor judging class. Evening meeting school-house; 20 present; Mr. Killett in the chair. I spoke and answered questions 1½ hours. I pointed out the necessity of good care for the young trees if we meant making a success of fruit-growing.

Left for Enderby after meeting, arrived at 12:30 A.M.

November 18th—Enderby, afternoon meeting in Mr. Lawes' orchard, 2 P.M., 15 to 20 present, when I explained my system of pruning and how I favoured the one-year old tree to plant, more than the two or three-year old; also the great need of clean cultivation; speaking and working 1½ hours. Dr. Sparrow later, judging class. Evening meeting K. of P. Hall; Mr. Lawes presided; about 20 present; very good attention. I spoke principally on drainage and good cultivation, as the foundation of our success, also the need of thinning the fruit systematically, and Mr. Lawes said he had done it for the first time this season with marked improvement.

November 19th—Armstrong. The Secretary, Mr. Bird, has the work well in hand. Afternoon meeting 2 P.M.; Mr. Wood's orchard. The Secretary drove me out; about 30 present; two hours talking and pruning and many questions asked relative to the well-being of the young orchard. Evening meeting at hall; about 20 present (raining); President in the chair, when I spoke 1¼ hours on drainage, cultivation and cover crops. Fair meeting.

November 20th—Drove to Salmon River (18 miles) to Mr. Kasir's orchard, where I spoke and pruned about one hour. Dr. Sparrow, judging class. Then drove to Mr. Mattheson's, and from there to Hullcar school, where evening meeting was held; 37 present; good meeting in point of interest and useful questions asked; speaking 1½ hours; subject, the care of young tree for the first three years after planting, also spraying and packing. Arrived back at Armstrong 11 P.M.

November 27th—Vernon; arrived noon. Mr. Lee, Secretary, called at hotel and explained his programme. Afternoon, Dr. Sparrow judging class; evening meeting, Court House, 7:30 P.M.; 35 present; received very close attention when I spoke 1¼ hours on some of the different points of the culture of the orchard and the spraying and packing. A number of questions asked which I consider very helpful to the success of a good meeting.

THOMAS A. BRYDON.

Soils and Fertilizers.

By M. H. DOBIE, VICTORIA.

MR. CHAIRMAN, LADIES AND GENTLEMEN,—I have been asked to address you on the subject of "Soils and Fertilizers," and as the subject is an exceedingly wide one, it will be impossible to do it anything like justice in the limited time at my disposal. We must, therefore, be content with a brief outline of leading principles, and, feeling keenly my limitations, I can only hope in all humility that my little effort may direct your thought toward this great theme and thereby aid in spreading the knowledge of the uses of the elements of plant food, the comprehension of which is so essential to the highest success in agriculture.

What constitutes successful farming? "Well," you say, "if I produce crops which bring in more money than I have spent in seed and labour, allowing for interest on invested capital, I am a successful farmer." But this is not enough, for the possibilities of future crops must also be considered. If the soil is left in a less productive condition, if the supply of plant food grows smaller and smaller with each crop removed, then you are *not* successful; your gain is fictitious; you are deceiving yourself. To be truly successful, the future fertility of the soil must always be kept in view, and this means the providing and maintaining of an adequate supply of plant food. The elements of plant food are at least ten in number. These are nitrogen, potash, phosphoric acid, calcium, magnesium, sodium, iron, sulphur, silicon and chlorine. But of these, the only ones we need to consider from the fertilizing standpoint are nitrogen, potash and phosphoric acid, and sometimes lime. The reason for this is that all the others exist in very large quantities, even in the poorest soils, and are removed in very small quantities by all crops, but these three exist in quite small supply even in the best of soils and are drawn upon heavily by all crops, and therefore they must be continually restored to the soil if perpetual fertility is to be maintained. And it must be borne in mind that it is the one of these three elements which exists in the smallest quantity which will be the measure of the crop, and that an abundance of one does not compensate for a deficiency of another. For example, if your soil contains an abundance of nitrogen and phosphoric acid, but a very little potash, that small supply of potash will measure your production. This law was first formulated by the great German agricultural chemist, Baron von Leibig, in the year 1840, and is called his "Law of Minimums." It may be simply expressed by saying that the strength of a chain is as the strength of its weakest link.

It is the supply of these three elements in stable manure which gives it its value as a fertilizer, and every good farmer will care for his stable manure, striving to get it on to the land with as little waste as possible, because he is well aware that it possesses an actual cash value; but, even where the utmost care is taken, there is not one farmer in every thousand who has sufficient stable manure to meet his requirements. To some of you that may seem a very strong statement, but let us think for a moment. Suppose a farmer sells no hay, straw, grain or roots, but feeds everything on the place and puts the manure back on the land. Will such a system maintain fertility indefinitely? Assuredly no, for with every pound of beef, every sheep, every lamb, every hog, yes and even with every egg, goes a certain amount of potash and phosphoric acid, which, being mineral elements, can never be replaced except by an application of some sort. Then there is always a great waste in handling the manure, even where every care is taken. It is true that, if the farm were a good one to begin with, a farmer working on such a system and carrying out a good plan of rotation might keep up his fertility for a more or less lengthy period, *but not always*. Many of the stock and dairy farmers of British Columbia are now thoroughly satisfied that they can use commercial fertilizers to advantage and profit, and, if this is true of stock farmers, how absolutely necessary the use of these plant foods must be for those who have no stock and for those who are engaged in mixed farming. It may, therefore, be safely said that the vast majority of farmers now require, or will very soon require, to use commercial fertilizers if they are to attain the highest measure of success.

Will the use of chemical fertilisers pay? This depends largely upon the user. For example, Smith and Jones live side by side on farms which are as nearly similar as possible. They both plant Early Rose potatoes and use the same brand of fertiliser at the same rate per acre. Smith secures an increase from the use of fertiliser which pays him handsomely, while Jones does not. Why? They had similar soil, the same sunshine, yet very unequal harvest. The reason was that, in Smith's case, all these agencies were assisted by a thorough

system of cultivation, while with Jones it was not so. In other words, the success which attends your use of commercial fertilisers will depend largely upon the perfection of your soil conditions, and this is under your own control. No application of fertilisers can ever take the place of intelligent cultivation, for in farming, brawn is almost as essential as brains.

"But," you say, "I am not a chemist. How am I to know what to use?" This is very easy, as you can readily ascertain your requirements by a few simple experiments. A soil analysis is sometimes helpful, but the surest method is by actual trial. There are, however, a few simple points which may help you. Peat and swamp soils are always very deficient in potash, have an abundance of nitrogen, and sometimes, but not always, of phosphoric acid. Where the soil is strong in humus, where large quantities of stable manure are used, or where clover has formed part of the rotation, nitrogen may be assumed to be in plentiful supply. In fact, where rotation is practised, it should never be necessary to buy nitrogenous fertilisers, for clover is nature's great gift to the farmer to provide for him a supply of available nitrogen for his other crops, and at the same time to supply his soil with humus. Some readily available potash and phosphoric acid will nearly always be found profitable if judiciously applied.

Fruit-Growing.

BY THOMAS A. BRYDON.

(Report of Farmers' Institute meeting in Court House at Vernon.)

Fruit-growing is the great coming industry of this Province, and no one is able to conjecture the wonderful development which will be witnessed in this connection during the next ten, or even five, years. One grand thing that is very noticeable about the people of British Columbia is the fact that they are all particularly enthusiastic about their own particular locality, and it speaks well for our future to see the splendid spirit of optimism which pervades all parts of the Province. We must not, however, fail to keep in mind that those interested in fruit-growing have, at this stage, heavy responsibilities to meet. We have for years been making records at home and abroad as producers of first-class fruit, and what we have to guard against is that this splendid reputation gets no setback by careless or dishonest shipments of inferior produce; so that when trainload shipments succeed carload lots the same high standard of quality will ever be maintained.

Anyone thinking of going into the fruit-growing business must make up his mind to stay with it, and it requires a good deal of patience. Some will fall by the wayside because they expect returns too soon. But with the splendid advantages of soil and climate which we possess, there is no reason why success should not crown the efforts of any person who gives an intelligent and systematic attention to the business—and there is no finer business under the sun.

I drove through the valley from Mara to Vernon, and was surprised and pleased to find such an unexpectedly large area of fine rich lands in this section, which is, in my opinion, an ideal locality for fruit-growing. I desire to devote my remarks on this occasion principally to beginners, and will address them on one or two fundamental points.

In a district such as this, it is hardly necessary to speak of the clearing and draining of land, which on the Coast forms a heavy part of the initial expense connected with orchard work, but if clearing or draining has to be done at all, it is a great mistake not to do the work thoroughly at the start.

My personal experience has led me to the belief that one-year-old trees are preferable for planting to those of older growth. With a tree of this age the fruit-grower is master of the situation from the start, and can train and prune it to suit his own ideas.

I strongly advocate a strict system of clean cultivation in the orchard, as by thoroughly and frequently working up the land during the summer months and keeping a dust mulch on it, the moisture is conserved in a wonderful degree, and the orchard becomes practically independent of rain or irrigation. In the first year a strip eight feet wide from the rows of the trees should be kept cleanly cultivated, and the intervening space sown in peas, oats or clover, with the idea of enriching the land by adding humus and nitrogen to the soil. I know by experience that it is impossible to grow good strong trees and allow other crops to encroach on their territory. Red clover is the best friend of the orchardist. The roots of this plant will penetrate at least three feet into the soil, adding humus and aerating the land, while the leaves extract the nitrogen from the air and add this very necessary constituent to the soil.

The first crop of clover could be cut for hay, and the second should be plowed under. In the third year all the land should be cleanly cultivated until about the middle of August, when cultivation should cease, as it is not advisable to force the trees to increased growth after this, or it will render them unfit to go into winter quarters. When cultivation is finished a cover crop of leguminous plants, such as peas or vetches, should be sown to enrich the soil, and cultivation started again early the following spring after the cover crop has been plowed in to enrich the soil.

As to spraying, a double strong Bordeaux mixture should be thoroughly applied in the fall, after which winter prune, painting the wounds; first thing in the spring spray with lime, sulphur and salt; again, when the buds begin to swell, with 1 lb. arsenate of lead and 50 gallons of water; again, except apple trees, after blossoms begin to fall, with Bordeaux mixture, in proportions of 3 lbs. bluestone and 4 of lime, I would spray the apple trees about a month after blossoms fall with the same Bordeaux mixture, with 1 lb. of arsenate of lead mixed in. In pruning, the end to arrive at is towards opening the tree out to allow free passage of the sun and air, so that the fruit buds will sprout on the strong wood. The best spray for aphid is the old reliable whale oil soap and quassia chips, mixed in the proportion of 7 lbs. quassia, 8 lbs. whale oil soap, and 100 gallons of water. The proportions for the lime and sulphur spray, which is invaluable both as a fungicide and insect killer, are 40 lbs. lime, 10 lbs. sulphur, 10 lbs. salt, and 60 gallons water.

In conclusion, I would strongly urge that the greatest care should be taken in grading and packing all fruit for shipment, so that the reputation of British Columbia fruit should attain even a higher standard than that which has made Hood River famous, and should in time become known as the best and most honest pack on the continent.

The Women's Institute—What it is and does.

BY MISS LAURA ROSE, OF GUELPH, ONTARIO.

It is with pleasure I tell the people of British Columbia of the Women's Institute movement. It is a movement which has done so much for the homes of Ontario that we would like to see the good work spread to other Provinces of our Dominion.

How true that a little leaven leaveneth the whole lump. Twelve years ago, some of the wives of the farmers near Hamilton formed a society called the Women's Institute, and which was, as it were, a branch of the Farmers' Institute. The Government took up the small seed sown, looked after and nourished it, with the result that we now have nearly 500 Institutes with a membership of over 12,000, and last year 94,000 women attended the meetings. What the Government has been doing for the men, in that it gave them aid and opportunity to study and find the latest and most approved methods of tilling the soil and raising crops and animals, it at a much later date began to do for the women along their special line of work, caring for the home and raising that most valuable crop of all, the boys and girls of our land.

Before going farther, it might be well to give the aims of the Women's Institute:—

"The object of the Institute shall be to promote that knowledge of household science which shall lead to improvement in household architecture, with special attention to home sanitation; a better understanding of the economic value of foods, fuel and clothing, and to a more scientific care of children, with a view of raising the general standard of the health of the people; mutual improvement by an interchange of views, by essays, lectures or other means found practical, upon all subjects pertaining to the welfare of our homes and families."

Surely our object is a high and noble one—to educate ourselves so as to make our homes a better dwelling-place on earth, and to learn to feed and clothe the members of the household so as to add to their health and happiness.

I am a strong believer in a close relationship between the physical, mental, moral and spiritual. The physical—the material—is the first to receive attention. Keep a child healthy by feeding him properly, let him have plenty of fresh air and sleep, then will he be mentally stronger and better able to resist the evils.

In the years gone by, one might think that women were expected to be born housekeepers, and that they were endowed with all the necessary knowledge to properly bring up children. We are glad we are not now counted so clever. We need and desire teaching along these lines which so largely comprise women's work. The Institute makes it possible to bring that

teaching to your very door. An organisation is formed in the community in which you live. One lady has such good success with raising chickens, and at a meeting will tell just how she manages from the time she sets the hen till the chicks are fully grown. Another member is a prize-taking bread-maker; she will generously describe her method. A dear, motherly woman who has sent out into the world a large family of good sons and daughters may give words of wisdom to the young and anxious wife. A lady expert with her scissors and needle, at some meeting will cut out and fit a shirt waist, giving a demonstration helpful to all. And so I might go on telling of the hundred ways or more that a real live Institute may become a veritable domestic science school in a community.

One of the most important features of such a society is the social spirit it fosters. The membership includes the rich and poor, the old and young, the Catholic and Protestant, the near-by and far-away. Women who would never meet in any other way, become fast friends by being members of the same Institute. It has a broadening, levelling and upbuilding tendency, which I strongly believe no other organisation can claim. It broadens and strengthens the narrow-minded. The woman who stays at home, never meeting the outside world, is apt to grow self-centred and narrow in her views. It levels the lofty and rich, by opening up avenues of usefulness to them and showing them there is a wealth of character far beyond the price of gold. And especially does it develop the timid woman, working marvels in her by bringing out hidden talent, which nervousness, shyness and lack of opportunity had kept dormant. I have seen a timid woman develop into a most capable president, and the most surprised person at her achievement was the woman herself.

The meetings are usually held one afternoon of each month, either in a home or public building. Many Institutes prepare and have printed the programmes for the following six months or a year. The topics discussed are usually appropriate to the season. Each Institute is under the direct supervision of the Government and all reports, etc., have to be sent in to the Department. A small financial aid is given each Institute, as well as especially qualified speakers sent at certain times of the year.

I have travelled quite extensively over your interesting and beautiful Province, and I feel that the ladies are missing much that might add to the joy of living in such surroundings, by not having the benefit of an Institute. The ladies I have talked with on this subject seem anxious and willing and ready to help carry on a society. The time, I feel, is now at hand for the Government to take up the work and carry it to a successful issue. The success of the work in Ontario bespeaks for it a similar success in British Columbia. My sincerest wish is that many Institutes may soon be found flourishing in your land.

Fruit-Growing.

BY GEORGE HEATHERBELL.

(Report of Farmers' Institute Meeting held in Penticton on 23rd November, 1908.)

I have been in the fruit-growing business for twenty-three years. Part of my land is dry and part irrigable, but on the island irrigation is not so much resorted to as in the interior. For a young orchard too much water should not be applied, but the moisture should be conserved by cultivation. If the trees are taken up in the fall they should be planted without delay, as they contain little surplus moisture and would be dried out and probably killed. The roots should be trimmed even and cut slant on the bottom to prevent decay. In setting the tree in the ground, care should be exercised to keep the roots separate. The top ones should be kept up and the bottom one set first. The hole should be dug deeper than the tree is to be set, and the tree should be put in a couple of inches deeper than it stood in the nursery. The hole should be filled with rich soil, but no manure should be applied. The earth should be tramped down until the hole is about two-thirds full. A pail of water might be added, after which the hole should be filled with loose earth. One-year old trees are preferable for planting, and should be headed to within about two feet of the ground if it is desired to keep the tree low.

There are two methods employed in pruning. One is to produce a pear-shaped tree and the other a goblet-shaped. Personally, I prefer the goblet shape, as the trees are not so high and fruit picking can be done easier. I approve of the summer pruning of two or three-year old trees, as the cutting off of limbs not required throws the growth into the remaining ones, and a much better and larger tree will thereby be obtained by a season's growth. The practice

might also be followed in respect to older trees, but in taking out the limbs there is danger in tearing the trees or pulling off the foliage or fruit. By summer pruning, Northern Spy trees can be made to bear much younger than they ordinarily do.

Trees can be prevented from splitting by boring holes through the forked limbs and inserting bolts with eyes. Wires should be stretched between and then twisted tight with a stick to prevent the limbs from spreading.

Improved crop returns are being obtained by cross pollination. That is, an orchard—apples, for instance—would be planted with two rows of one variety and then two rows of another. The varieties should be of kinds that blossom at the same time.

Old and even moss-grown trees can be made profitable, if not too far gone, by cutting off the limbs near the trunk and grafting in new shoots. This method is often followed, even where blackspot and canker exist, provided the roots are vigorous.

The triangular method of planting is superior to any other, as it allows more trees to the ground planted.

As regards spraying, arsenate of lead and lime-sulphur solutions are most satisfactory. The lime-sulphur remains on the bark for weeks and keeps on working. The fall is a good time to put it on, and it should not be applied after the buds begin to break into leaves in the spring. It should be mixed 1 lb. sulphur and 1 lb. lime to 3 gals. of water and then boiled. If boiled too much it crystallizes.

Orchard Care and Fruit Pests.

BY PROF. W. S. THORNER.

(Report of Farmers' Institute meeting held in Court House, Vernon, July, 1908.)

I am very decidedly in favour of low-headed trees, as being much more profitable than tall trees; it has been ascertained by experience that it costs nearly double as much to pick apples from tall trees as from low-headed ones. Apple trees should in no case be planted closer than $27\frac{1}{2}$ feet apart, and I favour 30 feet on the triangular plan as the best rule to adopt in planting. Trees planted on the square system, 30 by 30 feet, give only 46 to the acre, while if put in on the triangular plan, 55 trees to the acre is the result. With peach tree fillers the distance between the apple trees should be 35 feet, and if the peach trees are properly placed the distance all round will then be $16\frac{1}{2}$ feet.

Regarding cultivation in the orchard, I am strongly in favour of potatoes or some such crop, as the orchard then gets lots of cultivation at the right time. I do not favour strawberry culture in the orchard, as they are generally planted too close to the trees. I do not believe, either, in growing grass crops in the orchard, under ordinary conditions, as it detracts from the growth and nourishment of the trees. Heavy winter pruning is productive of wood growth, and summer pruning of fruit buds. Regarding cultivation, work should be started early in the spring, just as soon as the land can be worked. Deep, thorough, spring tillage should be followed by frequent, shallow cultivation through the summer up to the middle of August. On irrigated land, if the tillage is not good and deep, the result will be that the tree roots will remain close to the surface. Cultivation should be stopped about the middle of August, as further cultivation keeps the growth up too late, and fall cold then is liable to injure the trees, killing the new growth. A cover crop should be sown in August, especially where the land is lacking in humus. The best way to put humus in the soil is to grow it in the orchard, and some green crop—such as winter wheat or rye—is about the best for this purpose. It should be drilled in between the trees about the 15th of August and plowed under in the spring. Peas or vetches make an excellent cover crop, and add nitrogen to the soil where trees are not making enough growth.

Alfalfa or clover can only be recommended as a grass mulch when there is plenty of water available and a porous sub-soil exists. Otherwise, it robs the trees of too much strength. A man in Washington took three excellent crops from his orchard last year, namely, honey, alfalfa and apples. But he had plenty of irrigation and a porous soil, while a neighbour a short distance away, who followed the same plan, got smaller crops of alfalfa and honey but hardly any apples, on account of lack of these conditions in his orchard.

The most suitable varieties of apples for this district, where the altitude does not exceed 1,400 feet, are Spitzenberg, Newtown Pippin and Winesap. The Winesap needs plenty of

moisture. The next three varieties that I would name for this section would be Rome Beauty, Wagner and Jonathan. My advice is to keep your list down to three or four of the best commercial varieties. I have noticed that there are not a great many sweet cherries in this country, and I consider this a mistake, as sweet varieties are more in demand on the market than the sour kinds. The varieties I would recommend are : Lambert, Bing and Royal Anne.

In planting apple trees, I would recommend that they be set out in the fall, provided the soil is in good condition ; but all other fruits should be planted in the spring. An apple tree should be cut off 18 inches above the ground, one-sixteenth of an inch above a bud. Peaches should be cut from 12 to 14 inches, cherries and pears from 24 to 30 inches.

I am glad to know that you have no codling moth north of the International Boundary Line, but if it ever arrives, it can easily be fought with arsenate of lead spray, under high pressure, when the apple petals are falling. Apple scab is a bad pest in eastern Washington, and I saw several traces of it in this country. It is easy to keep down the scab, but there is a danger of "russetting" or scalding the apples when applying the spray. The proper method to follow is to spray with the Bordeaux mixture, just when the blossoms are showing pink ; an application of the spray later on will probably scorch the fruit. As for lime and sulphur application for this, I have been experimenting with it, but am not yet prepared to say that it will give satisfactory results.

Peach leaf curl is common wherever peaches are grown. Spray early for this trouble, just before the buds open, with either Bordeaux mixture or lime and sulphur.

Peach mildew is a trouble that is frequently met with, and for this Bordeaux mixture should be used, just before the buds expand. Another very effective mildew remedy is the "Cupram spray," which is made as follows :—Five oz. copperas, 3 pints water ; mix and add 3 pints strong ammonia ; dilute with from 45 to 60 gallons water. This is the first time this formula has been given out. This will not stain the fruit—or even roses—and has been thoroughly tested for mildew, and always proved effective. It can be used effectively on gooseberries ; but the best spray for that fruit is to use lime-sulphur early in spring before the buds start to expand. Do this and there will be no difficulty with mildew on gooseberries. If this is not done, and it becomes necessary to spray gooseberries for mildew later in the season, "liver of sulphur," 1 oz. to 2 gallons water, can be used.

The best means I know to eradicate leaf blight, rust and mildew from a strawberry patch is to mow the leaves as soon as the crop is off, let them dry and then burn them on the ground. Then spray whole patch, ground and all, with Bordeaux mixture, and the plants next year will be clean.

The pear leaf blister or mite is a common pest, and to combat it successfully the trees must be sprayed with lime and sulphur early in the spring, when the buds are expanding. This will catch another pest, the bud moth, at the same time.

The pear or cherry slug should be treated with an application of dust—ashes, earth dust or lime—if the slugs were on the fruit. Then, as soon as the fruit is off, spray with arsenate of lead.

Pear blight is a difficult problem to handle, and can't be reached by sprays. The only thing to do is to cut it out. The saw or knife should be sterilised in carbolic acid after each application.

A common disease in old orchards is the apple canker or sun scald. For this trouble spray with Bordeaux mixture of double the ordinary strength, between 1st and 15th October.

Apple spot, or punk, or brown knot should be treated by a thorough application of Bordeaux mixture in winter.

The kerosene emulsion is the best remedy for green aphid and is made as follows :— $\frac{1}{2}$ lb. whale oil soap, 1 gallon water, 2 gallons kerosene, diluted 8 to 12 times with water. It must be thoroughly emulsified before using, or it will burn the trees.

Don't irrigate too much. In Washington they are now using one-fourth as much water and five times as much cultivation as was the case five years ago, and much better results are being obtained. They found that under this system they got better colour, flavour and uniformity of size in their fruit.

Establish and maintain a reputation for honest packing. By these methods such results will certainly be obtained as those which made the Washington fruit famous. I know that this can be done here, because it has been followed out in the shipment sent to the International Exhibition last year, when Okanagan fruit from Kelowna captured the \$100 gold medal in competition with Washington, Oregon and Idaho.

Horticulture and Agriculture.

By MAXWELL SMITH.

Of the four great industries of the Province, mining, lumbering, fishing and agriculture, although the latter is the least developed, the day is not far distant when it will be the most important. I estimate that there are upwards of two million acres of land in the Province suitable for horticulture, while between fifty and one hundred million acres are adapted for agricultural purposes.

The horticultural lands comprise various valleys between the International Boundary and the 52nd parallel of north latitude in the Interior, and as far north as the Portland Canal on the Coast.

At the present time there are only about 100,000 acres planted in fruit trees, and the fruit produced during 1908 is estimated at \$1,250,000. It must be remembered, however, that a large portion of the orchard-planted areas does not yet bear. East of the Rocky Mountains and west of the Great Lakes there is an enormous territory, capable of supporting upwards of fifty millions of people, and this is the natural market for British Columbia fruit, exclusive of the Australian and Oriental trade, which we can never fully supply.

A twenty-acre apple orchard in the Interior of the Province can be bought at \$150 an acre for the virgin land; the fencing of the land will cost \$200; preparing and breaking the land, \$150; planting, \$75; cost of 960 trees, including freight, \$262; making a total of \$3,687. The cost of maintenance for five years will be about \$3,600, making altogether a complete total of \$7,287, or \$364 per acre.

When the orchard is five years old it should bear in paying quantities, and when it is seven to nine years of age it should produce all the way from \$3,000 to \$6,000, or a net profit of \$125 to \$150 per acre.

The commercial market to-day demands a moderately sized apple of good quality; generally speaking, a bright red apple. Small or abnormally large apples are not in demand and do not bring the best prices.

I deplore the danger to the nation of congested towns and cities, and the desertion of the land, which is the real backbone of the country. "Back to the land" should be the watchword of the future.

There is more profit for the investment and more real pleasure in caring for bleating flocks, lowing herds and prancing steeds than in most of the precarious pursuits of commercial life, and the man who causes the rose to bloom in place of the thistle, and converts a desert sage brush waste into fields of waving yellow grain, or who causes a fruit tree to yield its increase where the primeval forest formerly held sway, has done more to fulfil the destiny for which he was created and has lived nearer to Nature's God than in filling most places in the artificial spheres of city life.

The Poultry Industry.

VICTORIA, B. C., May 25th, 1909.

R. W. Hodson, Esq.,
Live Stock Commissioner, Victoria, B. C.

DEAR SIR,—In reviewing the poultry industry for the past year, I am very pleased to inform you that we have made very great progress in all parts of southern British Columbia. In and around Victoria we have a large number of new settlers, who have taken up fruit-growing and poultry-raising in a very practical manner and in a short space of time have built up the nucleus of very profitable ranches. The same may be said of Duncan District especially; also Ladysmith, Nanaimo and the whole of the south part of Vancouver Island and the surrounding islands. On Pender Island we have several exceedingly good poultry-raisers; their stock and their honest business methods are a credit to any community. Vancouver and Westminster Districts have added wonderfully to their number of good poultry-raisers and standard bred stock. Okanagan and the Kootenays have also taken up poultry-raising in a very practical manner, and by the number of new Poultry Associations started during the past year we are evidently on the eve of progressive poultry-raising upon a profitable commercial basis.

Five or six years ago we imported two-thirds of our eggs from other Provinces in Canada, Washington and Oregon; this year, I am pleased to say, we have reversed the figures, raising two-thirds and importing one. A few years ago the amount of market poultry produced in British Columbia was practically nil; this year we raised about fifty per cent. marketed in British Columbia.

During the past two years we have endeavoured to impress upon the Department of Agriculture of this Province the desirability and the enormous advantage it would be to the Province as a whole to establish a poultry experimental farm and school near Victoria, for these reasons: Victoria District is recognised by poultry judges and experts from every part of Canada and the United States as the most ideal climate for the raising of poultry to be found on the American Continent. Chicks can be raised practically all the year round and with considerably less expense than other Provinces, as our buildings cost comparatively little. The average cost for housing is one dollar per head in the Eastern Provinces; in Victoria District we can house our birds well for fifty cents per head.

One of the chief reasons why the Provincial Government should assist to develop the poultry industry, especially on Vancouver Island, is that the majority of holdings are small and only adapted to fruit-growing and poultry-raising, and the fruit-grower will produce better and more profitable fruit by raising poultry, as fowl will materially assist in cleaning the orchard of insects, besides manuring the ground with the very best fertiliser for fruit trees. The poultry-raiser will also find it more profitable to grow fruit, as the cover crop necessary for mulching the fruit trees is one of the best feeds for poultry, both for eggs and table purpose. A great deal has been said against poultry-raising in British Columbia, on account of the cost of grain, but modern experiments have proved that if poultry are fed with more clover and green food, therefore less grain, far better results will be obtained, and in Victoria District we have green foods all the year round.

The cost of feed grain will become very much cheaper here, now that the wheat is being shipped from Alberta and the North-West wheat field, by way of Vancouver and other ports on the Pacific Coast.

The demand for eggs and poultry is increasing each year, and as Alaska and the northern part of British Columbia become settled, the demand will be enormous, to supply the lumber and mining camps, mills and canneries; and also, as shipping increases, it will be many years before we can supply the demand, and especially now that eggs have become a necessary article of food for the working people, instead of a luxury, as they were regarded a few years ago.

During the last year Victoria, Vancouver and New Westminster imported a million dollars' worth of poultry and eggs. This should not be; with the beautiful climate in which we live and the natural advantages, we should export instead of importing.

I have, etc.,

W. M. BAYLIS,

Editor of the B. C. Poultryman and Horticulturist.

The Dignity of Farm Labour, with notes on Pear Culture, Arboriculture and Planting Hedges.

BY J. W. BURNS, SOOKE.

(Delivered before Sooke Farmers' Institute, December 10th, 1908.)

As an idealistic picture, farming gives us bright vistas of pastoral life, for even in its hardships and toil there is ever the home life pictured and revealed in charming brightness and simplicity, with its freedom from many of the irksome influences that bear heavily on other callings in life. And as we look in retrospect and recall in memory the happy recollections of those good old days—for are we not all more or less inclined to live them over again in memory—what has given us so many real joys, and in less strenuous days, when we had more real satisfying pleasure and sweet concourse from nature unfolding with lavish hand pictures that left impressions never to be effaced? Even the hallowed memories of those past days gave more genuine joy than can be gleaned from the more artificial pleasures of to-day. And whilst nature responded with generous hand to the toil given in sunshine and rain, yet a deeper and

more enriching recompense was given for transcending material things, the benefits that are eternal. For the illusions of life ever seek to allure us on to build up the susceptible spirit fibre. For our life is an education, and our toil and labour all tend that way, not so much for what we get out of it in a material sense, as what is attained in strength of purpose, self-command, discipline of mental energies. We see this principle evolved in the common walks of life. The principle is, that the reward we get is not the only one, not the reward for which we worked, but a deeper and more permanent one, a much deeper one than we dreamed of; habits of perseverance, a character trained by industry; and that is what God does. His promises are true, though elusive. We work for a low, mean, sensual happiness. All the while He is leading up on to a spiritual blessedness, and as you become like God you will find rest. The life of the farmer is one of hope, faith and trust. But the difference in character will determine his elevating and dignifying his calling. The finer spirit will look upon his calling as the arena of successful deeds, ever keeping the higher aim in view, the desire to elevate and benefit his fellow. In doing this he builds up a spirit fibre that is indestructible and eternal. On the other hand, the self-seeking person selfishly seeks personal enjoyment. There are two ways of considering this life of ours; one is in the way of sentiment, the other is by the way of faith. Could we see our route or course of life open before us straight and unbroken, it would be a dreary monotony; we would scarcely find energy to go on; but the uncertainty of what may be seen at the next turn keeps expectation alive, and so beguiles the traveller on from mile to mile; and if you would rise above the servility of labour and would add dignity to your calling, keep the higher aim in view, then the attainments will be the ennobling of life and the formation of a character that will become a fixed inheritance forever, and will find its full fruition in an endless sphere of ceaseless activity, of which this life is only the beginning. God is anxious that we fulfil our destined end and secure that which shall enrich our life beyond compare. A sordid nature is unsusceptible to the charms of nature, which have so potent an influence and thrill the finer instincts of the soul in the moulding process of life. Our environment is an inspiration in the direction from whence it takes its colouring, and out of it, to a great extent, are the issues of life. Hence the ennobling tendency in agricultural pursuits, amid scenes of entrancing beauty, charms of earth, air and sky. It was amid such rural surroundings that the genius of Burns found expression, calling forth those heart-stirring scenes which vibrate again in us as we read his description of turning under the fragile flower and disturbing the nest of the mouse by his plough. Having spent his days on the farm amidst scenes which fed his impassioned muse and thrilled all the chords of his poetic nature, he was able to give us vivid pictures of country life as portrayed in the "Cotter's Saturday Night," so soul-stirring and heart-filling, because so near to nature's heart, and the pathos and charm depicted in "Afton Water" and "Yarrow's Braes." In these he reveals his fine sense of reverence for the sacred and esthetic, and his quick intuition for the things of God as seen in nature. And how his indignant manhood was stirred as he gives that heart-stirring wail of man's inhumanity to man, which to-day, as then, makes countless thousands mourn. Such men have added lustre and gave a higher status to the ennobling profession of agriculture.

And what a charm Cowper gives us of rural life in his "Early Morning's Walk." And Thomson, in his "Seasons," presents realistic pictures that give added dignity to a calling that stands so high in the estimation of the world. What a vision of peace is revealed in the words of Graham:—

"How still the morn of the hallowed day;
Mute is the voice of rural labour,
Hushed the ploughboy's whistle, the milkmaid's song;
The scythe lies glittering in the dewy wreath of tedded grass
That yesterday morn bloomed swaying in the breeze.
Sounds the most faint attract the ear,
The hum of the early bee, the distant bleating midway up the hill;
Calmness seems throned in yon unmoving cloud,
And from yon lowly cop whose smoke surmounts the mist
Is heard at intervals the voice of psalms, the simple song of praise."

They who pursue this calling live in touch with God's handiwork, as He reveals Himself in Nature's silent teachings, unfolded in harmony of colour, charmed environment and aroma of perfume, as each sense is appealed to and so touches a responsive chord in our nature, touching all the chords of life in the memory, will, conscience, affections and understanding, so closely inter-related with the senses of the body. How eagerly do we recall in retrospect the

early scenes of pastoral life ; those vivid pictures have been so impressed and enthroned in our affections that when brought to remembrance they kindle a flame of hallowed associations that have become interwoven into our being and are inseparable. As we go back to those early days and picture the preparations in early morn for haying, the clarion call of chanticleer, the roseate blush of early dawn as the King of Day flushes the morning clouds with matchless colours, the garden redolent with perfume, the orchard trees bending with beauteous fruit, the cows patiently waiting to be milked, the men grinding the scythes, the morning meal eaten with well-stimulated appetites, the father invoking the blessing—not thanks of form, a word, a grimace, but reverently, with covered face and upward earnest eye. Then the morning sacrifice for the altar was not ignored. Did time permit, the scenes of early spring, the search for the early flowers in sequestered places, the charm of the sugar bush, and the fitful charm of the storm, as it breaks in on the scenes of peace and contentment. In summer the farm becomes the Mecca for the dwellers in cities and towns and its enchanted precincts are invaded to revel amid sylvan scenes, recalling the flush of health to jaded nerves, unstrung by enervating life in the chase after the things that die. And when they bid a reluctant farewell, it is with expectant hope that the day may come when they too would spend their retiring days far from the madding crowd and enjoy a restful repose amid scenes of reposeful rest. There is ever an increasing desire of men in city life to pursue a profession that is so popular in the eyes of the world. In the intensive methods prosecuted in farming in Britain to-day, requiring a scientific knowledge along specific lines to meet all the required conditions, this calling is looked upon with honourary distinction, even scions of royalty vieing to emulate a more than honourary distinction, pursuing it both for pleasure and profit. And in our own fair Canada wonderful advances have been made in the last decade, schools for agriculture being established all over the Dominion, each one for its own locality, testing the different products of the soil and recommending those best adapted for the climatic conditions of its respective locality. From all these institutions reports are given of the carefully conducted experiments in agriculture, the outcome of practical and scientific research in field, farm, dairy and poultry building, including the orchards and plantations, and the raising of cereals and determining their relative value. There is also research work in the chemical laboratories, bearing on the many branches of agricultural and horticultural employment. And there is the careful study of the lives, histories and habits of injurious insects and methods for their destruction, and the methods by which noxious weeds are propagated and spread, with the most practical and economical measures for their eradication. There is an ever-increasing demand for results. From these colleges are going men to all parts of the earth, and in these schools are men from all classes, popularising the farmers' vocation as the most honourable on earth.

PEAR CULTURE.

Perhaps amongst the sweetest recollections of our boyhood days were those on the old farm. How eagerly we watched the growth of the orchard, and what a picture of beauty never to be forgotten were those heavy-laden trees of rosy apples and pears ; the luscious cherry, then free from disease, gave prolific results. What mattered it if birds shared the harvest ; there was enough for all. The princely symmetry of the pear tree, with branches pendant with fruit roseate in richest hues, the mottled russet hue of the fruit only excelled in the October days ornate in radiant yellow and russet.

Pear culture is a branch of horticulture that deserves better recognition. The pear is really more hardy than the apple, and needs less cossetting. They can be kept in good condition for 300 years ; apples, at least, 100 years. The two things always needed for successful pear cultivation are plenty of humus and a reasonable supply of water. This humus is incipient soil ; it has a mission of its own, in not only feeding the plant, but equalising the temperature of the soil, excluding excessive cold, and the one simple condition needed to ensure entire success is mulching ; underneath a mulch you will find the heat has not penetrated so as to endanger the fibrous roots. The reason so many fail is they allow these fibrous roots to be burned up from lack of mulch, and when these little delicate fibres are lost, then the growth is slow and restrained, and the tendency is to produce fruit hard and woody, by the lack of moisture. Instance, the well-fed animal for the table with its tender juicy meat, in contrast with the ill-fed or starved beast. The law of life with a pear is precisely that of a human being, head cool, feet warm, and to stop this burning we must mulch, and as this becomes decomposed, work into the soil, and thus gain more humus. Forest leaves make an excellent mulch, being free from noxious seeds, and in their decay become impervious to drought. In

planting, the roots should never see the sun; the top should be pruned back, leaving a few inches of leaders, the torn or bruised roots carefully cut off, and the tree re-set into a hole not less than twice as big as the roots will fill, having the dirt friable. If the soil is sticky, postpone until in better condition, as it is a case of more haste and less speed, and when the tree is well set and firmly pressed down, mulch, add a light covering of soil and mulch again, and if dry weather, a pail of water poured in before the mulch is put on, and it will conserve the moisture for a long time. Afterward, in the pruning, two things desirably to be followed are the annual heading back to nearly one-third of the growth and cleaning away all shoots as they appear, and this will conserve the vitality of the tree. Keep the head well open to the light and air, for with light you have colour, and in fulness of colour you will have flavour. The two great foes to the pear tree are blight and fungus. Fifty years ago there were few pear orchards either in Canada or the States. Downing, Wilder, Barrey and Ellwayer were foremost in giving an impetus to pear culture, and became famous in introducing the Bartlett, Sheldon, Clapp's Favourite and many others valuable in quality. Some delicious varieties developed out of Chinese stock, among them the Kieffer and Mongolia, which, though late in ripening, yet are delicate in flavour. The Stone, among the same pears, is a much earlier variety.

CEDAR HEDGES.

In places where the cedar is indigenous or native to the locality, it can by very little labour be made a thing of beauty in home adornment, superseding the deciduous shrub or tree in its being an evergreen and withstanding extremes in heat and cold, and its readiness to crop out and thicken under the knife or shears making it a valuable acquisition to the hedge-making species in shrubs or trees, and, so far, its immunity from predaceous insects and blight render it most suitable for propagation. A well trimmed hedge of native cedar is a most valuable accessory in beautifying any lawn or approach to a residence, and for a windbreak surrounding an orchard it is second to none in efficiency, and in places where snow is liable to drift it is one of the most effective snow fences obtainable, both in cheapness and durability, besides lending an artistic charm, as a picture of beauty, in the adornment of any landscape. Besides, it is one of the warmest shelters for stock obtainable, both in cheapness and strength, the trunks in time presenting a formidable barrier to stock, and its quick growth commends its use as such. To make a live fence or windbreak, get growing trees, as far as possible, from three to five feet high, and to secure the best results, get them from the outskirts of a swamp or copse—all the better those growing in sod—and with an axe cut a circle (not too circumscribed) with an assistant drawing the tree towards him, and with a blow the top root is easily severed. When free, either leave in the hole or in a position with the top toward the sun, to shade the roots from blistering the sending gum, which is fatal to the life of an evergreen. This precaution, if better observed in the planting of deciduous trees, would insure a larger percentage of living trees; consequently, the early morn or the declining day is the better time if the best results are desired. A low truck waggon is the most convenient vehicle for moving the trees.

In planting, plow a width of five or six feet, throw out the sods sufficiently far, so as to leave room for the next ploughing of friable soil, which is left on either side next the ditch; a third furrow is made to make a soft root bed. Begin at the end, and plant by partially lapping the roots over those set, mixing the small trees between to prevent gaps, and also to have the trunks not too far apart, which in time will make your hedge stock proof. Cover with the finer soil, pressing firmly down with the foot, then cover with straw, leaves or chaff or any other good mulch free from rank manure. This will conserve the moisture most effectively; cover with inverted sods, water a few times to give a start, then with a short blade with a sharp edge cut back to a uniform height, cutting the sides pyramidal or perpendicular, as fancy inclines, and the top flat or dome-shaped; continue to clip or shear once or twice a year if for a quickset or ornamental hedge. If a wind-break, cut only the out-standing branches, until the less forward parts even up to a uniform height. A beautiful hedge can be made by hand-pulling small shrubs a foot or more, cutting all back to less than a foot. Have put out over 600 yards and had no gaps, and some in excessively dry seasons.

The Management of the Dairy Herd and Tuberculosis.

BY A. KNIGHT, V. S.

In the breeding and management of a herd of stock, I consider the health of the animals is of primary importance. First, a cow that is diseased will not return the profits that she would if she was healthy. Second, as milk and its products are consumed by the public in their natural state, or without sterilising, it is important that all milk for human consumption should be the product of healthy cows.

We may define tuberculosis as being an infectious disease, characterised by the formation of minute nodules or tubercles in various organs of the body, and these tubercles contain the bacillus tuberculosis. These bacilli are of vegetable origin, and will withstand drying for a considerable time if protected from the action of the sun, but if exposed to the sun they are destroyed in a few hours; for this reason stables should be provided with sufficient windows so that all parts of the interior of a stable should be exposed to the direct action of the sun.

The statistics concerning tuberculosis show that it is a disease prevalent in all civilised countries, and we find legislative enactments for the prevention of spreading this disease and governing the importation of animals so diseased. Statistics also show that a greater percentage of cows are affected than other classes of stock, the number increasing with the age of the animal; thus, if we take the number of cases of animals of a year and under affected with tuberculosis as a unit of comparison, animals from one to three years old furnish ten times, those three to six years old thirty times, and those over six years forty times the number of cases, and, by tests I have conducted in this Province, I find about the same proportion to these ages.

The cause of this disease may be considered as two-fold: First, the tubercle bacillus, without which the disease could never develop; second, certain predisposing causes which prepare the way for it.

The ways in which the bacilli find their way into the body are: 1st, by inhalation into the lungs; 2nd, into the digestive tract; 3rd, from tuberculous mother to the fœtus in the uterus. Bacilli can only get into the lungs when inhaled. They must be thoroughly dry before currents of air can carry them, and it is known that the bacilli withstand drying for months before they lose their power of producing disease.

The diseased animal may give off the bacilli in various ways, according to the organs affected; thus, if the lungs are the seat of the disease, the animals may exhale or cough up a discharge from the diseased lung, and these becoming dry are carried by the currents of air and lodge in the lungs of healthy cattle or lodge on the fodder and are taken into the intestinal tract, where the disease develops, and when this occurs a great number of bacilli may be eliminated through the alimentary canal. The eliminated matter and bacilli may become dry and float in the dust, or the cows when dirty may lick themselves and thus take the bacilli in the system.

When the bacilli are taken in they may lodge in an organ or tissue and there begin to multiply and cause an irritation in the tissue, around which it leads to the formation of a tubercle, whence originates the name tuberculosis. A change takes place in the tubercle, disintegration begins, and a soft cheesy substance is formed in the centre, which may contain particles of lime salts, which are gritty when cut. When these tubercles form in large numbers, they run together and form large yellowish masses. The disease is thus a development of these tubercles in one or more organs of the body. In a large number of cases the disease is limited to the lungs and serous membranes, and the lymphatic glands near the diseased organs are usually involved. Other organs, such as the liver, may become affected or the disease may become generalised.

Tubercle disease of the udder has received considerable attention from sanitarians, owing to infection of milk. In this gland we find the disease usually commences in one quarter and in time may involve the other quarters. The udder becomes swollen and quite firm and painless. The milk ducts contain yellowish, cheesy particles in which are many bacilli. Nodules may be felt in the udder as the disease progresses.

One of the most common sources of intestinal infection is by using the milk from tuberculous cows. The source of infection is always some previous case of the disease; hence in those stables in which there is frequent change of cattle, the introduction of tuberculosis by cattle coming from other infected stables is the most frequent source of infection.

Since the disease germs, when dried, can be carried by the air, it is not necessary that healthy animals should come in direct contact with cases of disease to become infected. Various conditions favour the disease bacilli in their growth and spread of this disease.

1st. Unsanitary conditions, such as unclean stables and ungroomed cows, over-crowding in poorly ventilated and poorly ventilated stables.

2nd. Lack of proper nutrition.

3rd. Conditions which injure the lungs, such as inhalation of dust and smoke and all conditions which may induce chronic inflammation of the air tubes.

4th. Continual inbreeding, and the consequent inheritance of constitutional weakness.

Animals on the open pasture are less susceptible than stabled animals.

Symptoms:—Two forms, acute and chronic,

The symptoms vary with the organs affected, and often an animal may be affected and not exhibit any physical symptoms.

In the acute form, we may have a quick respiration, fast pulse beat, eye brilliant and glistening, dry nose, disinclination for food. Death generally occurs in the course of a few weeks.

In the chronic form (which is the form usually seen in this country), and when the lungs are involved, there may be shortness of breath and a chronic cough which may be noticed on over-exertion, and certain lymphatic glands enlarge, but often all symptoms are lacking, and it is only in the later stages of the disease that the animal may gradually waste through the organs becoming impaired by the growth of the disease.

In pigs (which usually contract the disease from milk), they become unthrifty, erratic appetite, cough and tendency to diarrhoea; many of these outbreaks occur on dairy farms, and often large numbers of pigs are attacked. It spreads from one pig to another, and the lungs, spleen and liver are the organs chiefly affected, but brood sows which are diseased become affected in the udder and so give the disease to their offspring.

A temperature of 140 degrees for 10 minutes destroys the germ of this disease; so if milk is heated to pasteurizing temperature, 160 degrees, for 20 minutes and immediately cooled to 50 degrees, the disease germs are destroyed and the milk keeps longer; but in this country the majority of farmers have not the means for cooling the milk quickly, which is necessary when pasteurization is adopted.

To protect ourselves against the ravages of this disease, much might be accomplished by the isolation or destruction of any diseased animals at present in the herd, any new purchases being subject to the tuberculin test, prevent outside cattle from mixing with the herd unless recently tested, keep stables sanitary, plenty of pure air and sunlight in the stable, keep cows well nourished. breed from stock of strong constitution, and rear calves on milk from healthy cows.

Common Mistakes Made in Setting Out Orchards.

BY ONE WHO HAS MADE THEM.

If you want to know what I think is the very first step to take in planting an orchard, it is this: get married, that is if you have not already done so.

Bachelors may be good enough to grow wheat on the prairies, though I doubt even that, but for a man to come here and plant an orchard without a wife to help and advise him, and some boys and girls to work for—why, the thing is an absurdity. This was the first mistake I made and it was a very serious one, but I soon saw the error of my ways, and to-day there are four little Harris's growing up to sample the apples.

The second mistake I made was that I had very few neighbours, and that I was so busy clearing land, etc., that I did not half use the ones I had. By using your neighbours I mean consult them, watch them, use their experience. I have often worked when it would have paid me better to have been watching someone else.

A Farmers' Institute is mainly useful as it affords its members a chance to use each other's experiences and profit by the successes and failures of each.

I was too isolated, and it is a very bad thing to be isolated. We want small, well tilled, highly cultivated farms, not big, half cultivated wildernesses. I am glad to think that around Nakusp you are starting right in this way. Most of you have neighbours close at hand, and for that reason your lives should be far happier and your work more successful.

The very large fruit-grower may get along without co-operating with his neighbours; the small grower is bound to co-operate if he is to achieve any real, lasting success. Co-operation looks simple—so does skating or swimming—but it is one of the fine arts of life, it cannot be practised by mean, greedy, unneighbourly people; the true co-operator is a gentleman with a just perception of his own rights and the rights of others. May I urge you to practise this noble art and learn to work together from the very start of your enterprise.

I am a crank on the telephone question, I want the Government to give us telephones to every farm-house, because it is not fair or right to dump a woman down in the bush without near friends or neighbours, as the farmer's wife often is. It was one of the mistakes I made, that for years I had no telephone, and I advise that you kick until the Government takes up the matter. Creston has provided their own telephone system at a very cheap rate, but I could show you many reasons, if time permitted, in favour of Government ownership.

Now you have the advantage of this Institute and there will be frequent lectures from authorities on agriculture and horticulture. These lectures and demonstrations they give may be of the greatest service to you, but you must not follow the lead of any of these men blindly; they cannot definitely settle most of the problems for you, you must work them out for yourselves.

From the start the good folks of this district should decide on what they are to grow; you should consider especially your shipping facilities, as compared with other points, and decide whether this is a good place to grow small and perishable fruit. We in the Slocan are unquestionably handicapped by the extra railway haulage and the extra handling our fruits would have to undergo. If you go in for small fruits, you want to go into it on a scale that will command respect and attention from the express and railway companies, and you must grow such sorts and handle the produce in such a way that Nakusp fruit will be in demand.

Now is the time when you should lay out a general policy for your district in the matter of planting fruit trees. Not only is it found best that each grower should grow only one or two varieties, but you will be well advised if in this whole district you decide on two or three sorts and stick well by them. We in the Slocan are concentrating on Wealthys and Wagners; these are both good sorts, very possibly not the best, but in time we hope that the dealers, etc., will come to know they may be sure to find a supply of these apples. I have planted too many sorts and I want to advise you to avoid this common mistake.

Remember, in deciding on the main varieties that you will grow, not to be too much influenced by personal likes and dislikes; you must study the question and the requirements of the markets and remember that the market will become more discriminating. I don't believe we will be able to sell our old friend Ben Davis quite so well in the future, as the public will require a beauty that is more than skin deep. The people of Kaslo are devoting themselves largely to growing Gravensteins, and it is a most beautiful but extremely delicate apple to handle.

Now, about an entirely different class of mistakes into which I have often fallen, and I hardly doubt but that some of you will do the same. These mistakes arise out of our being in too great a hurry to plant our trees and get things started to grow. The loss of a year seems a terrible thing; therefore, we order more trees than we are really ready for. It does not pay. The trees may live and even turn out well, but you may be sure they would have done better if the ground had been thoroughly worked beforehand. Don't plant amongst stumps if you can possibly avoid it, and don't plant on steep hillsides; you can grow fine fruit both amongst stumps and on very steep banks, but it is going to take a whole lot of work to do it, as I have proved to my sorrow. Don't plant near buildings, except cherry trees to use as shade trees. Plant a good distance apart, it is hard to work with horses in an orchard where the trees are under 20 feet apart; 30 feet apart is better; trees need light and ventilation to flourish. Get clover growing on your land as quickly as possible; it will do more good for your land to get it mellow and productive than anything else. Build good fences before planting trees.

These are only specimens of the mistakes I have made and by no means exhaust the list, but I have no doubt I have already completely exhausted your patience. I thank you for your patient hearing and hope that some representative of the Arrow Lakes will come over to an Institute meeting in the Slocan before long and read a paper.

J. C. HARRIS.

The Pruning of Fruit Trees.

BY H. L. DELOUME.

(*Paper read before Cobble Hill Farmers' Institute.*)

The subject of tree pruning has been treated extensively by various authors. Unhappily, the systems and rules advocated by those authors are sometimes uncertain and in contradiction to each other, and the reading of their works often leaves in the mind confused ideas as to the value of their teachings. The fact is, that the different systems must be modified to meet the particular conditions in which one is placed, and we can say that the whole system of pruning is based on the study of those conditions, as well as on the knowledge of the general principles which are the foundation of all sound and rational pruning.

In writing this little paper, I have had only in mind the four principal kinds of fruit which are grown commercially on Vancouver Island, namely, apples, pears, plums and cherries, and the principles and explanations which follow apply only to these. I know that other kinds of fruit may be grown successfully here, such as peaches, grapes and figs, but it has not yet been fully demonstrated that they could be cultivated profitably, and so I will limit myself to the above-mentioned varieties.

For the sake of clearness and better comprehension, we shall divide and study the principles of pruning under four general heads:—

First—The manner of growth of trees.

Second—The trimming of young trees when planting.

Third—The training of the trees.

Fourth—Practical points on pruning.

First.

In the spring of the year, when both air and soil have acquired a certain degree of heat, the sap absorbed by the roots begins to flow and, ascending through the sap-wood, reaches the remotest branches, supplying all parts of the trees with the materials it requires to fulfil the different functions of vegetable life. But the sap must be modified by contact with the air, and the influence of light and heat, before it can be utilised as nourishment for the various parts of the tree. Coming directly from the roots, and only partly elaborated while ascending the trunk of the tree, the sap is fit only to produce shoots and leaves. We know that young trees, and old trees which have been very heavily cut back, will only grow wood and leaves for a long time without producing fruit, because they have to grow branches and leaves, or, in other words, a large enough elaborating surface, before they can form fruit buds and, subsequently, flowers and fruit. The sap, flowing into the growing leaves, comes in more direct contact with light and air, which transform its substance, and it appropriates from the latter a large quantity of materials, the principal one being carbon. Then, being completely elaborated, it is now fit to produce fruit and fruit buds, and later on, as it descends through the inner bark or cambium, to form wood and roots.

We have seen that one of the conditions which causes the sap to flow is a certain degree of heat. Another condition is that the atmosphere must be drier and warmer than the soil. The comparative dryness of the air will cause a great evaporation of the water contained in the sap, thereby producing a partial vacuum in the sap-vessels, which attracts more sap from the roots; that continued evaporation will cause the sap to become denser and thicker, and as the season advances the soil also dries up and the roots cannot supply enough sap to replace what has been utilised by the tree in its growth, and what has been taken away by evaporation, and the tree ceases to grow. But let some heavy showers, in the latter part of summer, refresh and dampen the soil; the sap will flow again and the tree will grow new branches and leaves, and sometimes, but seldom, flowers.

This second growth will not last long, the previously described process of evaporation and thickening of the sap will take place again; and in the fall, as the elaborated sap has left the leaves, they change colour and fall; also, when the fruit has drawn from the tree all the nourishing fluids it could get, its stem begins to dry up at its junction with the branch and the fruit falls. Then the tree, deprived of leaves, enters a period of apparent rest until the following spring. That rest is not complete, however; the elaborated sap is present in large

quantities in the green wood, inner bark, and especially in the buds, so that in winter, whenever there is a warm day and some sunshine, the buds will grow a little, as can be detected by the difference in their size from fall to spring. It is that same elaborated sap contained in the buds which causes them to swell and open up in spring, before the root-sap begins to flow.

Now, considering the growth of trees in general, we know by experience that young trees make a strong, rapid and vertical growth; as they are nearing the time when they shall have attained their normal size, they grow less rapidly, also fruit-bearing will reduce their growth.

Tillage, manuring, and especially irrigation, may be carried so far as to induce a very active growth of shoots and leaves, with no or very little fruit. In this case, pruning would not remedy the defect. The only way would be to withhold plowing and irrigating or partially cut the roots.

The tendency of a tree is to grow from the uppermost buds, especially when young, and to follow its natural habit and form in growing, according to the variety it belongs. Very heavy pruning will increase the production of wood, while the pruning or cutting of roots will lessen the production of wood and induce fruit-bearing. The heading-in of young branches will cause the lateral and dormant buds to develop and grow and, to a certain extent, induce fruit-bearing.

Second.

Young trees must be trimmed when they are being planted, because a large portion of the roots has been broken or cut off, and the top of the tree must be cut back to a proportional amount, or else the tree will have too many buds to be fed, and supplied from the few roots left and it will not start well. If the trees are being planted in spring, it is well to trim them right away, but if they are planted in the fall, it is better to wait until spring before trimming, because the cut parts would not heal so well during winter.

It is not advisable to trim the trees too close. The branches should be cut back to a few buds and the top cut off. The trees may come from the nursery without any branches; in that case, cutting a few inches off the top will be all the trimming required.

There is a great advantage in planting one-year-old trees of moderate size. They do not have to be cut back so much, and they give greater scope in starting the top at the desired height and training it more easily to any form or shape.

If the trees have branching or forking tops, the branches should be cut back to two or three buds each, except one which is left as a leader and the top of which should be cut off, unless the tree is to be trained to a vase or cup shape, then three or four branches are cut back to a few buds and the remainder cut entirely away.

Some prefer trimming all young trees to a whip. Such method may be good in certain cases and under certain conditions, but it is not always so, and I think that in this country, as a rule, trees should not be trimmed too close. Special conditions, climate and the species of trees must be considered before selecting one method or the other. In that respect let me quote Prof. L. H. Bailey; he says: "It is evident that there is no one method of pruning young trees which is all wrong, nor any method which is all right. The method must always be modified by the age and shape of the trees, by the climate (or part of the country) in which the plantation is set, by the species of plants, and especially by the ideal which the grower has set for himself. In general, it may be said that the younger the stock, the more nearly to a whip it may be pruned."

Third.

The importance of properly training young trees cannot be over-estimated. It is not a very difficult thing to do, and it does not require a great deal of work, but it must be attended to diligently and systematically every year, if one wishes to have the best results.

We must train our trees to a strongly built and regular shape; first, to equalize the flow of the sap to all parts of the tree, so that one side will not grow stronger and larger than the other; then, to make the fruit grow evenly, both in size and quantity, on all the branches, and also to keep the head well open, so that air and light can have a free access to all the parts, and to make it easier to spray thoroughly and evenly.

To what shape shall we train our trees? This question is difficult to answer, for one style of training is as good as any other, provided it is as near as possible in accord with the natural habit of the tree. It is the grower himself who must decide what style will suit his conditions best. A low, natural shaped, well open head and the pyramid form have been much advocated

as being the best for apples and pears, and since they have been tried and found successful, it seems that we should select them in preference to any other; yet there is no reason why other forms, such as globe or vase, should not be as good. Besides, all varieties cannot be trained exactly the same. I have seen apple and pear trees trained to a vase form with very good crops. Cherries seem to do very well when trained to that shape, while a thick round head appears to be more suitable for plums. Whatever shape is selected, it should be evenly and strongly built, and the pruning should be attended to every year.

There are a few points which must be borne in mind when training fruit-trees. For an example, let us take a shoot from last summer's growth; we will see that just above the place where the leaves join with the shoot, or at the axis of the leaves, a bud has been formed; we will notice also that the buds are larger as they are nearer to the extremity of the shoot, the terminal bud being the stoutest of all. Those buds which are nearer the base of the shoot seldom or ever grow; they are called the dormant buds. Now, if we were going to let this shoot grow without any pruning, we would have in a few years an extremely long limb, but it would be weak and slender. When pruning, that shoot will be cut back; that will make it grow stouter and stronger, at the same time that cutting back causes some of the dormant buds to develop into branches, some of which will in time become or bear fruit-spurs.

It must be observed, when pruning the branches which are to form the framework of the tree, that they should be cut to an outside bud. The natural tendency of a shoot is to grow vertically. Pruning to an outside bud will help, to a certain extent, to make them grow away from the tree and nearer to a horizontal direction.

Now, let us suppose that we are going to train up a young apple tree. When we planted it last spring, it was formed of a single stem, without any branches whatever, and we trimmed it by cutting back the top a few inches. This summer a number of shoots have grown all around the stem. We will select three or four of these shoots to form the framework of the tree, taking care that they should be placed evenly around the tree, and that there are none growing opposite another at the same height; that would make a crotch, which is always a weak spot. The vertical distance between the branches should be, according to the best authorities, six to nine inches. Those branches we selected will be headed back to a strong large bud, and the remaining shoots cut entirely away. Next summer a number of shoots will grow up again; some of these will be kept to continue the framework, pruning back only the ends, and the rest will be cut off close or cut back to one or two buds. These will in time become fruit-spurs.

When pruning the main branches, we must remember to cut them to an outside bud if we want them to grow in the same direction, and to a lateral or side bud if we want them to fork. The following years the same process will be repeated, until the framework is well established and the tree is bearing fruit. Then it will be an easy matter and it will require but little work to keep the tree in shape.

What I have just said as an example on training, applies to a low-headed, open centre, natural shaped tree. Other forms would, of course, require a somewhat different treatment, but the main points to be observed would be practically the same.

This question of training might have been discussed to a greater extent. But, apart from the fact that the subject cannot be treated exhaustively in a short paper like this, and would undoubtedly furnish material for a little volume, no amount of explanation will benefit the fruit-grower as much as his own observations and experience. I trust enough has been said, however, to show that an intelligent person, who is willing to give the subject the attention and care it deserves, will find no difficulty in training fruit trees.

Fourth.

Now, assuming that our trees have been properly planted, correctly trained, are being well taken care of and sprayed regularly and thoroughly, there will be very little to do in the way of pruning. After the trees have attained their normal size, all the pruning will consist of keeping them in shape, in cutting off or heading back branches and shoots where they are too thick and prevent the free passage of air and light, and in removing suckers and dead wood.

A point which must be remembered is that fruit trees, in order to thrive well, must be pruned regularly every year. It is injurious to the wellbeing of the trees to leave them one or several years without any pruning, and then, all at once, cut off shoots and branches in a wholesale manner. In the same way, it will upset the growth of a tree to train it a certain way for several years, and then change the style and amount of pruning.

The heading-in of fruit trees has been the subject of considerable discussion. Practical experience shows that heading-in causes a large number of shoots to grow the following season; it makes the head of the tree too thick. It is much better, then, to remove part of the shoots completely, or prune them back to one or two buds and cut the remainder from two-thirds to one-half of their length.

What is the best time of the year for pruning, is a question upon which all growers are not in accord. Yet the great majority will agree that the best time is in the early spring, just before the sap commences to flow, because the wounds will then heal better and quicker. I am not speaking, of course, of special pruning, such as budding, pinching, ringing and so on, which is always done in summer. This kind of pruning is of little moment to us, as it is only used in small garden orchards and is not practicable in large commercial orchards.

An item of interest which may very well come under the head of pruning is the thinning of fruit. I cannot do better in that respect than to quote once more Prof. Bailey. He says: "The thinning of fruit for the purpose of improving that which remains is a practice which is always advised, but comparatively seldom followed. It has been demonstrated, time and time again, that no work in connection with a fruit plantation pays better than this thinning. It not only results in a much finer product, but it is also a means of destroying the insect-infested and diseased specimens, and of saving the energies and vitality of the tree."

Land Clearing.

BY G. A. CHEEKE.

(Paper read before Cobble Hill Farmers' Institute.)

MR. PRESIDENT, LADIES AND GENTLEMEN,—I must first of all congratulate the Directors upon the wisdom they have shown in selecting the speakers for to-night's entertainment. It would have been the height of folly, Sir, to have had, crammed into one short session, two essays, each replete with interesting matter and each inviting a lively discussion. It would have been, Sir, a waste of good material. To obviate this very distressing situation, and to save our indulgent audience from an attack of literary indigestion, I have made this paper as short as I consistently can, and you will be relieved to hear, as I am relieved to state, that I positively cannot explain any of it, nor can I answer any questions, nor take part in any discussion upon it, and I feel sure my friend, Mr. Deloume, will appreciate my generous motive in thus practically limiting the discussion to-night to his most interesting paper on pruning.

From this preamble, Sir, it may have been borne in upon you that I know nothing, or at most very little, of the subject upon which you have ordered me to write. Such, Sir, is unfortunately the case. But I have done what I conceive will be far more useful and instructive than if I were to put forth my own crude views and experiences upon this question, which is, may I say, such a burning one, namely, the clearing of land.

I have, therefore, with very little trouble, and much pleasure to myself, collected and edited the views and advice of some of my neighbours, and some recent literature, which I have boiled up, together with one or two actual experiences, into the literary soup which I am about to ladle out, and I hope you will not think it necessary to take it with a grain of salt.

The scope of this paper is not wide enough, nor, indeed, does time permit of the description of any of the subsidiary questions in land clearing, such as fencing, underdraining, etc., so I will confine myself to treating of the operations connected with 1st, Slashing; 2nd, Burning; 3rd, Stumping, with a few incidental remarks on seeding and the destruction of bracken.

1st, *Slashing*.—This should be done, if possible, between the end of May and the end of July, and should be directed to the cutting down and piling of smaller second growth firs, fir and cedar saplings and deciduous trees, such as alder and willow. The large, second growth firs and the first growth firs and cedars do not come into these slashing operations, as they can usually be profitably disposed of by sale even at a very low figure. If near a railway or other shipping point, they should fetch a good profit; if more remote, the land will be cheaper, so it cuts both ways.

Opinions differ as to whether this large timber should be got out of the way before slashing or after. Local preference would seem to point towards disposing of it first, whereas, Mr. Chas. E. Hope's bulletin, to which I am indebted for much of the material in this essay, advises leaving it; for the principal reasons that the standing timber takes up no more room than the stumps, and that the tendency of the price of the cordwood, etc., which they produce, is to become greater.

On no account should they be burned on the ground, as, apart from the labour and consequent loss, the fire made by burning large coniferous trees, such as fir, cedar and hemlock, is so fierce that the vegetable humus is burned out of the ground, and there are then none of the fertilising elements left by deciduous trees to take its place.

Always start your slashing from the south end, for the obvious reason that the more you open up your clearing from that direction, the better the brush, etc., will dry out. Fell the trees all one way and let them and the brush run in windrows in preference to heaps. Some settlers, however, prefer to lay it all close along and covering the ground, except in wet places, where windrows are necessary. Your windrows should run east and west to insure the best drying. If, however, there is standing timber to the south of your clearing, cut the windrows north and south for about 50 yards, and then you can commence piling it east and west.

Do not pile the brush on logs, as they are thus prevented from drying out, and, in any case, the brush does not burn so well. Cut all deciduous trees, such as willows, right into the ground; everything else should be cut about $2\frac{1}{2}$ feet from the ground. If you want any of the wood for your own use as fuel, cut and haul it away before the burn, and split it as soon after as possible, as it may become dozey if left lying unsplit during the summer.

Between slashing and burning, mow the ferns between the windrows. These will become excellent material for causing the fire to run.

2nd, *Burning*.—The best time to burn is from the middle of August to the end of September, and, if the brush, etc., has been chopped at the right time, the fire should run well, as the more leaves there are on the trees when cut the better the fire.

Before burning, it is well to consider what means you intend to adopt to get rid of the large stumps. One method is to blast them open after slashing, together with the largest logs, and let them dry out before burning. After the burning, while they are still smouldering, and during the operation known as "branding up" (which means gathering together into heaps the charred or partly burnt sticks, small logs, branches, etc., left after burning), put all convenient pieces into and round the stumps. This will, in a great many cases, burn the stumps completely out. Another method I will deal with later in my remarks on stumping.

If the burning is not left too late, there should be at least a month of good, hot, dry weather, and this is a good time to go over any large decayed logs with a mattock and split them up. These have been too wet to be burned by the fire. After two or three days pulling about with a mattock, put a spoonful of coal oil here and there and hundreds of little fires can be started in these old logs which will go on smouldering until most of them have been completely burned out.

When the fire has done its work, and before heavy rain sets in, is the time to do your seeding. The reason for this is that if a heavy rain falls on the ashes before seeding it forms a thin skin or glaze when it dries, which prevents the seed from germinating.

At this time of the year, the new crop of seeds is not in the dealers' hands, and they may be hard to get, so it is as well to buy your seed in May or June. Each man has his own opinion on what grass is best for this purpose, and I will not pin myself down to any advice on this point. Mr. Hope gives 7 lbs. timothy, 2 lbs. small white clover, and about 8 lbs. medium red clover as the mixture. In low damp places, use most of the timothy and none of the small white clover, and on higher ground all the white clover and very little timothy.

Shortly after burning, we notice our friends the bracken poking up their inquisitive noses. We allow them to have a good look round, and, when the fronds or leaves have been open about a week, we cut them down. Bracken should be cut down three times the first year, twice the second year, and once the third, and they will be gone. It is also said that sowing red mammoth clover will kill them out. We can comfort ourselves with the fact that a heavy growth of ferns denotes good soil.

3rd, *Stumping*.—We now come to a few observations on stumping, and here we have our answer to the gentleman with his waistcoat pocket full of dyspepsia tablets, who comes here from the prairie and throws up his hands in horror at the price of our cleared land. One method of getting rid of large stumps I have spoken of, namely, splitting with a blast and burning.

Another plan is to blast it and then grub out the roots if you have not been fortunate enough to get the whole thing out at one blast, which is what must be aimed at. The deeper you can put the charge the more likely you will be to accomplish this, and on no account should any digging be done round the stump or any root exposed. If you are fortunate enough to blast a stump in this way satisfactorily, the subsequent labour is comparatively trivial, and merely consists in burning the pieces, but where the trouble and expense arises is where one of these stumps has been imperfectly blasted, for, the earth being disturbed, it is difficult to get another charge to act and interminable grubbing has to be resorted to. In such a case as this, the greatest assistance to man is a good stump puller, about which I shall have a few words to say presently.

The foregoing remarks apply to large stumps. Perhaps even more trouble is occasioned by the green stump just cut, and anywhere about 18 inches in diameter. This fellow is not as innocent as he looks, and it will require about a pound and a half of powder to each foot in diameter, and put right down under the very centre, to lift them. The stumps of alder and maple will, in four years at most, require no stumping at all, as they will be rotten and even capable of being ploughed out.

The most convenient way to dispose of stumps and large logs, a good many of which are sure to be left over from the burning, is to dig a burning pit and haul them up to it with a horse or team. Find a gully or bank at a handy distance and dig out the side of it to the extent required, making a flat floor with what is dug out. Pile up to the top of the bank from the floor with stumps, etc., and, on the top of the bank, so as to be easily toppled over, collect all the remaining stumps, roots and logs that you want burned. You can now start your fire and at any odd time topple over a log or a stump to keep it burning. In this way you can burn up everything clean and you will have the great advantage of not burning your land in a hundred and one different spots, and will also have a goodly pile of ashes to spread where they are most needed.

The latest method of getting rid of stumps is by the use of a machine worked by horse power. I have had the opportunity of seeing one of these at work during the last few days. In fact, have had it working on my place for the purpose of carrying out a little experiment. It is the most modern machine on the market, and is apparently capable of doing a good deal harder pulling than any I asked it to do. When there are green stumps such as I spoke of, and lots of them, that have to be taken away quickly, I think it is preferable to the old methods. I have not seen it applied to old stumps, but have no doubt it would deal satisfactorily with them too.

On a patch of ground somewhat under a quarter of an acre there were 110 alder and fir trees, ranging from 10 inches to 4 feet in girth. We cut the trees and hauled them away with a horse, made a large stack of them and then put the machine on to the stumps. My enterprising neighbour, who owns the machine, was more or less new to the management of it and many hitches occurred at first, which was not the fault of the machine, and which caused a good deal of delay. Nevertheless, the 110 stumps were pulled out in 49 hours. The best day's work was 58 stumps extracted in 8 hours.

I don't know whether the actual cost would have been greater or less by the old methods, though I am inclined to think it would have been more, but, in any case, the experiment showed that within a week a heavy patch of alder can be transformed into a vegetable garden—not, perhaps, with vegetables actually growing in it, although I daresay even that might be possible.

In conclusion, let me say that, whilst the subject-matter of this paper may be stale news to many, still here and there a point may strike somebody as new, and success is inevitably made by taking infinite pains to store up any useful knowledge which may have been gained, and by being ever on the alert to profit by the knowledge of others. If I had had the opportunity, even 18 months ago, of acquiring the limited amount of information contained in this small paper, I should, next year, have been able to keep four or five cows.

I have to thank you, Mr. President, Ladies and Gentlemen, for your kindness in listening so patiently to this somewhat tedious essay, and to express the hope that I may have the pleasure of hearing many more papers on this and kindred subjects before it again becomes my turn to take the stage.

Egg-handling Stations.

BY C. A. MARKER.

(Address given at the organisation meeting of the Egg-handling Station at Duncan, B. C.)

The people of this district have shown what can be done by their creamery along co-operative lines. The people worked together and got results. To work together is necessary along egg lines just as it was with the creamery work. You have only one grade of butter, the best; have only one grade of eggs. In starting this business, go slowly and spend as little as possible at the start. In one year you can tell if the co-operative work appeals to the people. If it does, then expand.

Have the patrons bring in the eggs on the same days as they bring the cream. Have some one in charge of the candling; also grade the eggs as to colour and size. Each patron should be given a number on the books, and also a corresponding number on a rubber stamp to stamp each egg on the butt end. The patrons should collect the eggs every day. The creamery should stamp each egg with "Cowichan." It might get trade, as it denotes quality.

If the eggs do not sell quickly when put on the market, put them in cold storage; don't glut the market.

I would advise you not to pickle the eggs if they are only going to be held over for a few weeks; put them in storage, and keep at a temperature as near freezing as possible. Eggs can be kept in storage for three months and not show it if they are put in in a fresh condition and kept right.

If we estimate the cost of handling the eggs, we can then give an estimated cost of the price paid to the farmer.

The only building which you will require to start with will be a combined candling and store-room. A man will candle twenty cases, or 600 dozen eggs, a day.

For candling, an electric, acetylene or coal oil light will do. (*See Danish system.*)

Cater for a select trade, and grade the eggs to suit the demand, and sell as number one and two. Pay the patrons according to the size and quality of the eggs which they supply, *e. g.*:

SMITH'S EGGS.

No. 1.	No. 2.	No. 3.	Too old.	N. G.
10	1			1

At the end of the month the creamery can figure up what numbers one and two brought. The eggs which were bad were worth nothing; therefore, the farmer gets just what his eggs brought on the market, minus the expense of handling them. In candling, look at the air space for the age of the egg. The egg must be clear; only handle strictly fresh eggs if you hope to work up a business. The expense of handling the eggs should be spread over the good and bad eggs alike; therefore, the patrons will bring only good ones, as the bad eggs are thrown away, and the good ones have to stand the expense.

Run the business a month before making payment to the farmers, then pay monthly, just as you pay for the butter.

The farmer must keep the eggs dry and cool before delivery and they must be clean. The nests must be clean and dry and the nest-egg be artificial, or the eggs will become contaminated and will have a musty taste.

MAKING PAYMENTS.

For making payment for the first month, money can be obtained on the warehouse receipts, or else money may be borrowed from the bank. There are many farmers who will not join the business until they see how the first month pans out.

Creamery shares might be issued at \$10—\$2.50 down and the balance quarterly or on call. This would give a working capital, would be sufficient to erect all the buildings needed (which would not cost over \$50), and would also give money for the first month's payment on the eggs.

By issuing separate shares you are defeating one object of the work. Why not let the poultrymen put a share in the creamery, and go with the 6% interest for two years or until the egg business is worked up and on a paying basis? Make the creamery and egg business

one, but keep the books separate. If \$2.50 is only called up, then in two years the dividend is only paid on \$2.50, not on \$10. A farmer may or may not have a share, but the non-shareholder is to be charged extra for the handling of his eggs

RULES NECESSARY.

1. Eggs to be numbered.
2. Cleanliness.
3. Gathered once a day.
4. Delivered on creamery day.
5. Every egg, good or bad, shall bear its share of expense.
6. Patrons to supply all their eggs except those used for the home or for hatching purposes.

Moved, "That the poultry-raisers request the directors of the Cowichan Creamery to co-operate with them to enable the poultry-raisers to build up a successful egg business."

The Oriental Question as applied to Agriculture.

BY MAXWELL SMITH, DOMINION FRUIT INSPECTOR.

The question of the best kind of farm help is one having a national or international significance, and should be viewed more or less from a patriotic standpoint. Speaking from a Canadian point of view and particularly as a resident of the Province of British Columbia, I contend that the full privileges of citizenship, which carry with them the franchise, should not be extended to any but those of the white races, notwithstanding that full protection and consideration should be afforded all others sojourning in the country. But as the country has been pioneered, opened up and developed to the status of a nation by the white race, we are under no obligation, nor would it seem expedient, to extend the franchise to any race of people who will not become readily absorbed and assimilated by those already owning and governing the country. Moreover, the opportunity is afforded the humblest labourer of becoming the owner of sufficient land from which to earn a comfortable living, and the same opportunity is afforded the most obscure clerk of becoming a partner in any of the larger commercial concerns of the country. Therefore, it would seem to me to be unwise to import any class of labour which had not in it the elements of good citizenship, and for this reason I contend that the best interests of the country, its future peace and well-being, depend on the care with which we select the immigrants who come here ostensibly for the purpose of supplying a needed want in the labour market, because, though these people (speaking of the white races only) may not have very exalted ambitions on arrival, their very environment will kindle within them that spark of independence and progress which is a latent element in nearly all of our own kith and kin, and it should not be long ere they look forward to having a home of their own and taking an active part in the government of the country, with universal franchise and free institutions such as ours.

I do not believe in the idea of importing a class of labourers which we covertly regard as an inferior race, and which we would not rejoice to see advancing and improving themselves as we and our ancestors have done. We should assume an attitude towards our labouring classes that will blot out the last traces of that tendency of one class to hold another in bondage or slavery.

Suffice it to say that, in consequence of these views, I am irrevocably opposed to the importation to this country, for any purpose whatsoever, of the Oriental or black races.

All labour is honourable and, with our boasted civilisation, can only be dignified by providing the possibility of advancement and rising in the scale of human progress.

So far as agriculture is concerned, its future success depends upon intensive scientific cultivation and the rendering of the relations of employer and employees pleasurable, and throwing the responsibility of the success and progress of the individual upon his own mental capacity and the skill of his own hands.

CENTRAL FARMERS' INSTITUTE.

—:o:—

ELEVENTH ANNUAL CONVENTION.

The Eleventh Annual Convention of the Central Farmers' Institute of British Columbia was convened on the 24th day of February, 1909, at 10 P. M., in the rooms of the Department of Agriculture. The following delegates were present:—

R. M. Palmer, Deputy Minister of Agriculture, Superintendent.		
John Dilworth.....	Osoyoos	Farmers' Institute.
Thos. Corbett.....	Coquitlam	"
J. C. Harris.....	Arrow and Slokan	"
V. D. Curry.....	Kamloops	"
Jas. Rooke.....	Kettle Valley	"
H. H. Mathews.....	Nicola	"
R. Carter.....	Comox	"
D. Matheson.....	Spallumcheen	"
Geo. Heatherbell.....	Metchosin	"
W. H. Stuart.....	Shawnigan	"
A. E. Farquharson.....	Central Park	"
Jas. Johnstone.....	West Kootenay	"
H. R. Phillips.....	Matsqui	"
R. Gillespie.....	Okanagan	"
F. Cowley.....	Alberni	"
J. B. Sylvester.....	Bella Coola	"
Wm. T. Abbott.....	Mission	"
Jos. Randle.....	Nanaimo-Cedar	"
W. J. Harris.....	Maple Ridge	"
J. Whelpton.....	Kent	"
F. G. Quick.....	Victoria	"
J. T. Collins.....	Islands	"
J. K. Wilson.....	Delta	"
A. Dinsmore.....	Surrey	"
A. Goldsmith.....	Kootenay Lake	"
W. C. Way.....	Sooke	"
H. Harris.....	Langley	"
J. Bailey.....	Chilliwack	"
W. J. Hamilton.....	Cranbrook-Fernie	"
Patrick Owens.....	Salmon Arm	"
J. Cooke.....	Creston, East Kootenay	"
Jas. Tarry.....	Tarrys	"

It was moved and seconded that Mr. R. M. Palmer, Deputy Minister of Agriculture, be Chairman. Carried unanimously.

Moved by Mr. H. Harris, seconded by Mr. W. J. Harris—"That Mr. J. T. Collins act as Secretary." Carried unanimously.

The Chairman: I think that the Hon. the Premier and the Hon. the Minister of Agriculture will be with us presently, to welcome you to Victoria, as they have done in the past. The Mayor of Victoria has also intimated that he would like to say a few words of welcome,

but will not detain you very long. The next thing in order is to appoint a Resolutions Committee, but before doing so I would like to say a few words. In order to expedite the business of this Convention, I must impress upon you how very desirable it is not to wander to far afield when discussing the various subjects which will be brought forward. There are a great many questions that can very well be thrashed out at your local Farmers' Institute meetings. The central meeting does not differ in its object from any of your ordinary meetings, excepting that it deals with a great variety of questions. I do not wish to dictate to you in any way; my intention in saying this is to expedite business and avoid useless discussions. We will now accept nominations for the Resolutions Committee.

The Resolutions Committee was then appointed, consisting of Mr. Corbett, Mr. Dilworth, Mr. Rooke and Mr. Collins.

The Secretary: Before going to work on the resolutions, I wish to say a few words, with your permission. We ought to be given more time to prepare the resolutions. Last year we were rushed through and could not do our work properly.

The Chairman: What time do you suggest? The Ministers are going to address you this morning, but they will not take up much of your time. In the meantime the delegates will have to hand in their resolutions. Some have already come in this morning; these have been summarised, in order to save time.

Mr. Corbett: It occurs to me that it would be advisable to have some of the resolutions laid over from last year reviewed.

SUPERINTENDENT'S REPORT.

The Superintendent read his report, as follows:—

The Institute work for the past year has been satisfactory. The membership increased from 2,900 in 1907 to 3,250 in 1908. The number of Institutes has been added to by four, giving a total of 35, with membership as follows: Spallumcheen, 288 members; Central Park, 208; Okanagan, 203; Victoria, 183; Nanaimo-Cedar, 146; Salmon Arm, 131; Osoyoos, 122; Cowichan, 120; West Kootenay, 114; Delta, 108; Richmond, 104; Kootenay Lake, 98; Surrey, 94; Kamloops, 92; Maple Ridge, 98; Cranbrook-Fernie, 88; Sooke, 80; Bella Coola, 77; Matsqui, 87; North Vancouver, 82; Sooke, 80; Metchosin, 72; Comox, 68; Kettle River, 68; Islands, 65; Shawnigan, 64; Kent, 61; Langley, 59; Chilliwack, 58; Mission, 53; East Kootenay, 44; Alberni, 42; Nicola, 31. Annual reports have been received from secretaries of all Institutes excepting Bella Coola, Richmond and Maple Ridge.

Distribution of literature has been maintained and the records of the department show that upwards of 26,000 bulletins and reports were sent out during the year, mainly to Institute members. A larger number of supplementary meetings have been held than during the previous year, and the lecturers for these have principally been arranged for by local Institute officials. There is a growing tendency to make Farmers' Institutes something more than organisations for the purpose of hearing lecturers sent out by the department. This, I trust, will proceed until the various Institutes become fully representative of the best thought and agricultural practice in their respective districts.

I regret to state that transcripts of only a small percentage of the addresses delivered at Institute meetings are forwarded to the Department. It is expected that in future Institute secretaries will comply with the requirements of the Institute regulations in this respect and send transcripts of at least two addresses delivered during the year, in each case. It is also to be regretted that in some districts no supplementary meetings have been held. This also is in disregard of the requirements of the regulations, and will, I trust, receive attention.

The duties which devolve upon Institute secretaries were dealt with fully in the report of the late Superintendent, recently published and distributed. I desire to add that Institute directors are expected to give the secretaries every assistance possible, this is specially necessary in districts where the members are scattered over large areas.

The Department has experienced difficulty as in former years in securing the services of thoroughly competent men for lecturing and practical demonstration work. This it is hoped to overcome, at least in part, by the increases made and to be made to the permanent staff of the Agricultural Department. It is planned to largely increase demonstration work in connection with the fruit industry, including pruning, spraying, fruit grading and packing; also to conduct stock judging classes and demonstrations. It is also hoped to secure the services of experts on irrigation and the raising of crops on irrigated lands.

It is desired that the present meeting will, in conformity with the spirit of the Act constituting it, consider carefully methods for improving and developing Farmers' Institute work generally. It is confidently expected that its deliberations will result in promoting agricultural interests throughout the Province and guide the department in Institute work particularly.

In conclusion, it is largely due to the efforts of the secretaries and directors that the work for the past year has been so successful as a whole, and it is my privilege to express the thanks of the department for their efficient work and to congratulate the successful institutes on their standing. (Applause.)

Moved by Mr. Bailey, seconded by Mr. Cook—"That the Superintendent's Report be received." Carried.

The Chairman: I think that it would be advisable to refer the report to the Committee on Resolutions.

Mr. Bailey: It could be included in the resolution.

The Chairman: It is customary for some of the officials of the Department to be present on these occasions, to assist you in your work. Messrs. Cunningham and Brandrith are here, and I will, with your permission, extend to them an invitation to take seats in the room during the meetings.

Mr. Bailey: The Secretary of the Mutual Fire Insurance Company of British Columbia, Mr. Hubbs, is here, and would like to say a few words about his business.

The Chairman: I have had a letter from this gentleman requesting that he might say a few words to you concerning the business of the company he represents. I requested him to put his statement into circular form, in order to save time, and you can all get a copy of it. Mr. Hubbs will now present his report:—

"THE MUTUAL FIRE INSURANCE CO. OF BRITISH COLUMBIA.

"VANCOUVER, B. C., 23rd February, 1909.

"*To the Chairman and Gentlemen of the Central Farmers' Institute,
Victoria, B. C.*

"Again we beg leave to report to you a satisfactory year for the Mutual Fire Insurance Company of B. C., which was incorporated on the initiative of the gentlemen representing this Institute in the year 1902.

"One year ago we were happy to tell you of a membership of 1,147; business in force, \$1,562,075.30, with securities amounting to \$37,588.26. To-day we are happy to tell you of a membership of 1,460; business in force, \$2,102,357.63, with securities amounting to \$51,355.60. Thus in 1908 you will note an increase of 313 members, \$540,282.33 of insurance and \$13,767.34 of securities. The company is now in its seventh year, and while the Government demands that the rate to be charged or taken by way of premium note shall not be less than one dollar per hundred dollars per annum, till such time as the gross amount at risk is \$2,000,000, in order that a large surplus security may be available at any time, yet with the seven years there has been no cause for any call on this security, and with the close of 1908 the securities held exceed the Government demand by \$9,308.45. The standing of the company being such, we beg to report it receiving the commendation of its auditors and bankers.

"The officials of the company are not slow to understand that the representatives of this Institute, as well as introducing this company, have operated a big lever of success for her, and for this they feel very grateful, and are one in hoping that every institution which you launch for the good of British Columbians may meet with the same favour as this Fire Insurance Company which sprang into life through your introduction.

"On behalf of the officers and members of the company, I beg leave to thank you and would ask for your continued patronage. To the Chairman, who, in his official capacity of Deputy Minister of Agriculture and Superintendent of Farmers' Institutes, extended to us every courtesy toward arranging for a meeting with you, on behalf of the officers and members of the company, I beg leave to express our appreciation of this favour.

"Yours faithfully,

"C. S. HUBBS,

"*Secretary-Manager.*"

Hon. Mr. McBride, Premier, and the Hon. Mr. Tatlow, Minister of Agriculture, having entered the room, were loudly applauded.

The Chairman: The Hon. the Premier and the Hon. Mr. Tatlow, Minister of Agriculture, would now be pleased to address you.

ADDRESS BY THE HON. THE PREMIER.

MR. PALMER AND GENTLEMEN,—This will make perhaps the fourth or fifth occasion upon which I have had the privilege and pleasure of saying a word of greeting to the members of the Central Farmers' Institute of British Columbia, through the kindness of their chairman. I do not hesitate to say that I have always esteemed it a great favour that you have been pleased to honour me with such an invitation. Of late you will have observed that the Department of Agriculture, presided over by Mr. Tatlow, has devoted a great deal of time and attention to the upbuilding of Farmers' Institutes. It has been readily demonstrated to the Department that a good deal of aid could be rendered to the Province of British Columbia through your Institute, and already results that have come about from representations that have been made to the Government have been most gratifying. The Minister will to-day introduce a Bill which has a great bearing on your organisation, and this goes far to prove the great interest he takes in agriculture. Now, gentlemen, you are not here to listen to a prolonged address. You are here to transact affairs of paramount importance to the Province of British Columbia, and I trust that the same tolerance will be shown and the same good feeling and moral confidence prevail as in the past.

We may congratulate ourselves on the presence of Mr. Hodson, Dairy Commissioner, who is an expert in the art of dairy farming and who, we hope, will stimulate the growth of this industry in the Province and put British Columbia on a par with the other Provinces of the Dominion.

I might digress a moment to make an observation. I am, I must say, most grateful to have the assistance of such a colleague as the Minister of Agriculture and Finance, and you must agree with me that, as far as the present Minister is concerned, we have never in the history of this Association had a man so thoroughly interested, so earnest and practical, as Mr. Tatlow (applause). If I may say so, I am afraid that he is sometimes more of a farmer than a politician. No man has a stronger desire to help the farmers in every way than my colleague.

I may also congratulate you and myself upon having the assistance of the officials of the Agricultural Department. Mr. Palmer, Deputy Minister, has the confidence of the Government, and in the conduct of their business he and his staff spare no effort. We try to meet the people of British Columbia in their wishes and do everything in our power to further their ends.

I thank you again for your presence here and hope that your deliberations may be profitable to the Province and to yourselves. (Loud applause.)

ADDRESS BY THE HON. MR. TATLOW.

MR. CHAIRMAN AND GENTLEMEN,—I have great pleasure in welcoming you all again to Victoria and am especially glad to see such a representative meeting. In the resolutions you passed last year you asked me to have the meeting called earlier. For many reasons this was impossible to achieve this year. We wished to re-organise the whole Department. There were many changes to be made, and it was no use to call this meeting until they had been effected. Then Mr. Palmer and myself were in England and have only recently returned. The re-organisation of this department has been in view for some time. We propose to do what we are trying to do in all departments, and that is to create departments within departments, which will naturally come under the direct control and be presided over by the Minister of the Department. For instance, live stock, including dairy matters, and horticulture, will come under two separate heads. The business in various departments has increased so much in the last years that this is imperative. We will endeavour to have an experienced man at the head of each department. These men will go through the country and give advice and information to the farmers. This briefly shows the line I propose to take and we have been very fully occupied with this since our return from England, so it was impossible to call the meeting earlier. In the future you will be asked to meet together as soon as possible after the opening of the session (applause). I will not make any further remarks just now, as it is customary to give an address at the close of the meeting, when considering the resolutions passed.

I can only say that, speaking for the Premier and myself, our hearts are in the work we have before us and we wish to give you all the assistance in our power. I am not a practical farmer and have not had the experience I should like to have, but I take a great interest in the agricultural interests of this country, and I have good men to assist me who will, I am convinced, show that this department will take as large a place in the affairs of the Province as any other department. (Applause.)

The Premier and the Minister of Agriculture then left the meeting.

The Chairman: Gentlemen, will you now be good enough to send in your resolutions, for consideration by the Resolutions Committee. As your Resolutions Committee will take some time over their deliberations, I think it would be in order to ask Mr. Cunningham, who is here by invitation, to address the meeting.

ADDRESS BY MR. CUNNINGHAM, FRUIT INSPECTOR.

MR. PALMER AND GENTLEMEN,—I wish to thank you most sincerely for the privilege you have given me of again addressing this meeting. I can assure you that I esteem it a very great one. Last season, a year ago, I was overlooked when the notices were sent out by the Secretary of the Farmers' Institute and I did not know the date of the meeting. I regret this extremely, as there were some subjects which came under discussion which affected me and my position.

I congratulate you on the good showing you are making at this Convention and look forward with great interest to the meetings. On looking round, it seems to me that it would make a very good Parliament, and I think we compare very favourably with the gentlemen of the Legislature down stairs.

I am one with you in pushing the development of British Columbia. I have always held, and the longer I live the more it is borne upon me, that agriculture is the basis of a progressive country. Look across the line to the south and you will see that the basis of that prosperous country is agriculture. This is the same all over the world. The country which does not foster agriculture suffers from poverty and misery. Look at the United Kingdom and the poverty which exists there. There were 10,000 failures there last year. The people have left the land and gone into the cities. They have neglected agriculture and, in my opinion, the only remedy for all this misery is to go back to the land.

This being so, it is a matter of very great importance to everyone to make the best of our agricultural and horticultural resources. The Premier and the Minister of Agriculture were quite right in their views of this industry. The land was given to us by God to cultivate, and he expects man to make the best use of it; if he does not do this, he fails in his duty.

I endorse all that the Premier has said concerning the agricultural interests of the country. Other businesses die down and we must fall back on agriculture. Mines become worked out, the lumber business fails for lack of trees to cut down after a time; ten years ago the salmon industry was of the greatest importance; everybody was putting their money into the canning business; now it is becoming worked out and there is nothing to replace it; but every tree planted, every acre of land cleared, is adding to the resources of the country. Look at California; at one time no one thought of anything but of mining there. But what forms the staple wealth of California now but agriculture. I am thankful to say that the horticulture of this country is progressing by leaps and bounds. Every tree or plant that comes in is inspected; 350,000 trees and over 1,000,000 seedlings, grafts and fruit bushes were inspected during the past year. Only yesterday we were obliged to destroy a quantity of trees that came from France. I remember the time when no thought was given to France as being an infected country or as being dangerous. On these trees were found woolly aphis, scale insects and other diseases. We were obliged to burn them all. In addition to this, every package of fruit is carefully inspected, and every box that does not come up to the mark is quarantined or destroyed. This is a most important matter; it not only keeps out disease but it prevents the market from becoming demoralised.

I am sorry to say that the importations of American fruit during the past year have been very heavy. Seventy-two car-loads came into Vancouver alone, besides those imported into Victoria. These were all inspected. Only three weeks ago I had to send back a car-load. This work I have under my supervision and it is very hard sometimes for me to carry it out. One needs to have a heart of steel to enforce the Horticultural Regulations.

I regret to report that in French nursery stock we have found the larva of the brown-tailed moth, which is very destructive. I have had warning concerning this from the Departments of Agriculture at Ottawa and from Albany, New York. I wrote to Dr. Felt, who has charge of the New York Department, on this subject. He finished his letter thus:—"I appreciate the steps you have taken; if we had been as careful we would have escaped the brown-tailed moth." I consider this a great tribute.

The most serious part of my work is the inspection of the local fruit, and a good deal of fault has been found with me and attacks in the local press have been directed at me for enforcing the regulations. The law is in my hands and I am obliged to administer the regulations which prohibit the sale of infected fruit. This is very important in dealing with the imported fruit. We treat all alike, the home producer and the foreign producer. We show no favour; if we favoured any class of producer we could not prohibit infected imported fruit from being sold. We must treat all in the same way, without showing any favour. If a car-load of American fruit is infected it must be destroyed and a car-load of British Columbian infected fruit is treated in the same way. This is the only safe course to pursue. We must see that there is no sale for infected fruit, either from the States or from British Columbia. In the case of any infection of fruit, nobody can tell how much danger there is or how far it may spread.

This is the work I have in hand, and I cannot hope to succeed unless I have the sympathy and help of such men as yourselves. We have the commercial men to consider, who do not take the same view of the case as you do, but whose object is naturally to make as much money as they can out of the sale of fruit. So you must help me in every way you can, in keeping the reputation of our fruit to a high standard so that it will always be an available asset. If we are true to ourselves and true to the selection and grading of our fruit and care of our orchards, I am sure that the time is not far distant when any one putting capital into fruit-growing will realise 25% on his money.

I will not detain you any longer. I hope to co-operate with you during this meeting and any information I can give you will be entirely at your disposal. I have lived for many years for nothing else but the development of British Columbia, and I will retain this desire to the end of my life. To my mind, there is nothing that will add more to the permanent interests of British Columbia than the development of agriculture and horticulture. (Applause.)

Mr. Hamilton: I would like to ask if Mr. Cunningham is aware that there are diseased trees being shipped into East Kootenay?

Mr. Cunningham: If you will give me the name of the man who receives infected trees I will have him prosecuted. We have inspectors at Fernie and Cranbrook.

Mr. Hamilton: Last fall a car-load of apples came in from Ontario. I heard that some of these had been dumped into Cranbrook and made it my business to go down to the store and ask whether they had been inspected. They said that they had been; that the best had been picked out and the rest thrown on the dump to rot; and you know how rotten fruit carries infection; they were not even burned. Trees come through by the Great Northern that are not inspected at all.

Mr. Cunningham: We have a very capable Inspector at Fernie who makes me a very satisfactory report. A little time ago he condemned 900 boxes of fruit. This was partly destroyed and partly deported. As far as Fernie is concerned, it is inspected. Why did you not send me a report concerning the smuggling of trees in and non-inspection of the fruit? I should have attended to this at once. Smuggling fruit trees is against the Dominion laws. One provision of the inspection law is that they must go to Vancouver for fumigation. Smuggling may be done to a certain extent; we cannot help that. Not only the man who sells the goods, but the railway company and the man who receives them are liable to punishment. There is not much fruit imported into Cranbrook, and I appointed Mr. Hutchinson to inspect fruit because everybody said that he was a good man for the job. I asked some of the leading people, who said that he was well suited. The matter will be looked into at once.

Mr. Hamilton: The merchants in Cranbrook are guaranteed from the wholesale houses that the fruit will pass inspection.

The Chairman: This matter will be taken up at once. I do not think that it is necessary to continue the discussion further.

Mr. Hamilton: I wish to say that I got up out of a sick bed to come here, so important do I think this matter.

The Chairman : You may rest assured that it will be attended to.

Mr. Hamilton : There ought to be Government Inspectors at all places of entry along the border.

Mr. Cooke : I live close to Mr. Hamilton and I heartily endorse what he says. I would like to ask Mr. Cunningham if there is any inspection made at Moyie, where the cars come loaded with fruit from Idaho.

Mr. Cunningham : There is one at Kingsgate.

Mr. Cooke : Have you any reports of apples destroyed there.

Mr. Cunningham : I have records at hand of these places.

Mr. Cooke : Who does the work at Creston ?

Mr. Cunningham : Mr. Compton.

Mr. Cooke : This question affects us who live near the border particularly. We have not an extended field for marketing our fruit as you have here, and when we meet with competition like this it is hard to fight. They send in boxes marked Gano and they are filled with Ben Davis apples. If I did that I would be punished.

Mr. Cunningham : We do not deal with the marking of the boxes ; it is the Dominion Government official who does this.

Mr. Cooke : We want a different kind of inspection.. It is very hard for a local man to condemn his neighbour's fruit.

Mr. Randle : I understand that there is a resolution dealing with this subject ; would it not be better to debate the matter then ?

The Chairman : The resolution will be dealt with by the Committee.

It was then moved by Mr. Phillips, and seconded by Mr. Farquharson, that the meeting adjourn until the afternoon. Carried.

Afternoon Session.

Mr. Palmer : The Committee on Resolutions have not finished their labours but they have done enough to enable the session to continue.

The Secretary : Mr. Chairman and Gentleman, we have been through the list and you must not blame us if some of your resolutions have been taken out ; you can bring them in at a later date. There are several resolutions not in accord with the Institute Act. There is one asking the Government to engage the services of an authority on irrigation, but I do not think that this need be taken up.

Mr. Curry : I do not wish to monopolise the time of the meeting, and I was not the mover of the irrigation resolution, but I think that there is a great necessity for us to learn more about irrigation. We have had all kinds of speakers from the East, but they do not know our local conditions ; they try to teach us to farm in a way that is not possible in the "dry belt" of British Columbia. We want somebody to teach something that we can apply and point out to us a line of operation that will work in this country. The new-comers, especially, are in total ignorance of this subject.

The Secretary : There is no motion before the meeting.

Mr. Curry : The resolution has been cut out.

The Chairman : Resolutions which are thrown out by the Resolutions Committee can be brought in again by delegates, after the approved resolutions have been dealt with.

EXPERIMENTAL FARMS.

The following resolution was submitted—

"That the Government be asked to establish an Agricultural College in conjunction with experimental farms."

The Chairman : Before I ask the mover to speak to this resolution, I might remark that this pre-supposes that the Government will establish experimental farms.

The Secretary : Last year's resolution asked for the establishment of an experimental farm in the Kootenay.

The Chairman : That resolution stands, and before your resolution is in order it should be re-considered.

This being agreed to, the resolution was referred back to the Committee.

STUMPING POWDER.

Moved by H. Harris, seconded by Thos. Corbett—

“That in view of the great cost of clearing land and delay in receiving returns from same, the cost of stumping powder should be lowered by the Government granting a bonus of say \$1 per box on powder used for land clearing purposes.”

Mr. Corbett: We went to Captain Tatlow with this question, not only in the interest of the older settlers but more so in the case of the new-comers, who find it a very difficult matter to prepare land covered with bush and make it fit for the plough. It is so long before any return can be made and the operation is so tedious and expensive that I thought it would be a great encouragement if the Government would grant us a bonus say of \$1 per box. Not only then would the settler be materially encouraged by the bonus, but he would also feel that the Government was aiding him to overcome these serious and peculiar difficulties; it would be a great incentive to him to persevere in clearing the land. Take the case of a new settler who has never in his life before encountered such difficulties; if, when taking up a piece of land, he felt that the Government was at his back and helping him, it would be a great incentive to go ahead with his clearing. The Government would be directly benefited by the quicker returns in taxation, which would reimburse them for their outlay to a certain extent. The Government have been very good about helping to dyke lands and they might extend some help to clear the bush lands. Captain Tatlow said last year that he was very pleased that the subject had been brought up; that he had been considering a slight reduction in Provincial taxation and asked if we thought than an allowance on stumping powder would be more popular than a reduction in the taxes. The majority decided that the reduction on stumping powder would be more popular than a reduction in taxation. We do not know that any action will be taken this year, but we hope to hear some more about it.

The Chairman: The case might be met by re-affirming the resolution of last year. The matter could be presented to the Minister and he could give you his decision. I think this is the simplest way.

Mr. Matheson: I think that there is considerable change in the situation this year. With the new rates the railway has imposed upon us stumping powder costs us \$1 per box more than last year. This is a great tax on the people.

Mr. Corbett: The rate has always been first class.

The Chairman: The C. P. R. gave a special rate, single first class, instead of double first class, but we are getting away from the subject under discussion. Everything should be presented by resolution, or we cover too wide a field.

Mr. Hamilton: Our powder costs us something like \$10.50 per case. If we could get Government rates it would be only \$5.50, or \$6 at the outside.

The Chairman: With regard to the rate on stumping powder, as soon as it was known that the original rate had been re-established, a communication was sent to the C. P. R., and we have received a telegram from Mr. Marpole to this effect: “That the officials of the C.P.R. will be hear next week and this subject will be considered”; so it will be seen that the Department is doing its best to help the farmers and secure the restoration of the special rate.

Mr. Phillips: Could this matter be brought up before the Railway Commission?

The Chairman: The Railway Commission meets on the 26th and 27th inst., but I do not think that this is a case for the Railway Commission to deal with. You have had a rate in your favour, but if we carry the matter to the Commission you might lose it.

Mr. Stewart: Do I understand that the resolution presented covers all the resolutions which have been sent in on this matter.

The Chairman: No, we take them in order.

Mr. Stewart: How many resolutions are there in connection with powder?

The Secretary: There are four, but we have not been through them all.

Mr. Abbott: I might say that we knew nothing about the raise in the rate.

Mr. Phillips: This winter we have obtained supplies of powder from the Hamilton Powder Company at such a low figure that we were able to sell 5,000 feet of fuse at 50 cents per hundred feet, and caps at 65 cents per box.

The resolution was withdrawn, the question to be brought up later.

 BOUNTY ON COYOTES.

Moved by Mr. Dilworth, seconded by Mr. Matheson—

“That the Government be requested to raise the bounty on coyotes to \$3 per scalp.”

Mr. Dilworth: Mr. Chairman and Gentlemen, This matter came up before the meeting last year and we had quite a discussion over it and recommended that \$5 be the bounty, but this year, as the Government have taken no action in the matter, we thought that we would reduce the sum to \$3, and that they would perhaps then grant our request. They are very numerous in our country and very destructive; they kill sheep and fowls, and the present bounty is not high enough to induce our young men to go out after them.

Mr. Matheson: From my own experience, I consider that they are the most destructive wild animals we have. Last year I lost from 100 to 150 chickens, and you cannot get the coyotes. Sometimes it is possible to shoot them, but not often. They are very destructive to sheep. I would like to go in for sheep myself, but there is no profit in it while there are so many coyotes. I think the Government ought to do something in this direction; if the bounty were sufficient, in a short time they would be killed off. They are also most destructive to grouse and prairie chickens; they kill more than the sportsman do. If only in the interest of the game, they ought to be exterminated. It would pay the Government to raise the bounty to \$5.

Resolution carried.

BOUNTY ON PANTHERS.

A discussion ensued with regard to the bounty on panthers.

Mr. Bailey: I think that we ought to have a resolution thanking the Government for raising this bounty to \$15.

Upon motion of Mr. Heatherbell, the Government was cordially thanked for raising the bounty on panthers from \$7.50 to \$15.

The Chairman: I may mention that the Government has during the past year paid out \$12,573 in bounties upon wolves, panthers and coyotes.

NOXIOUS WEEDS.

Moved by Mr. Mathews, seconded by Mr. Cowley—

“That the Government be requested to enforce the Thistle Act through Provincial Constables, including the Indian Reserves.”

Mr. Mathews: This comes under the “Noxious Weeds Act.” We are greatly troubled with the Canadian thistle. They are most prevalent on the Indian Reserves; the Indians pay no attention to them, and however much you may clear them off your own land the seeds blow from the reserves. A man on one side of the road allows them to grow, the man on the other side does not, but the seeds blow. The Act is there; I would like to see it put into force.

The Chairman: There is a special Act dealing with Canadian thistles.

The Secretary: Unless the constable is asked to do so, he will not take action.

Mr. Corbett: Does this resolution apply to the districts where the taxes go direct to the Government and municipalites?

Mr. Mathews: It refers to the unorganised districts.

Mr. Cowley: With regard to the Canadian thistle, it is the plain duty of everybody to set their foot down on it; it should be sent to destruction. Nobody knows, except those who have to do with it, what it is to get it out of the ground. It grows on our Indian Reserve just as it does in the Nicola; it is covered with the thistle. My place is 3½ miles away, but the seed blows from there. It is no use speaking to the Indians, the Provincial Constable should see to this. It will cost millions of dollars in the future to keep this weed in check. I think that everyone will agree with me on this point.

Mr. Heatherbell: I endorse the last speaker. The Act is all right, but no one enforces it. There is no doubt that something must be done.

Resolution carried.

The Chairman: Will the delegates keep the Department informed as to the occurrence of Canadian Thistles.

The Secretary: One does not care to inform against one's neighbours. The only person who can enforce the Act is the constable.

Mr. Hamilton: I went to see the Government Agent, but he said that he had no power to do anything unless someone informed, then he could go to work and take it into Court, but this is all very costly.

Moved by Mr. Bailey, seconded by Mr. Dilworth—

“That the Government of B. C. be requested to impress upon the Indian Department the necessity of clearing up noxious weeds on the Indian Reserves.” Carried.

ADULTERATION OF MILL-FEEDS.

Moved by Mr. Collins, seconded by Mr. Corbett—

“That the Government take over the inspection of Cattle Feeds at either the mills or wholesale houses.”

The Chairman: The adulteration of mill-feeds comes properly under the Dominion “Adulteration Act.”

The Secretary: This is a very important question. The farmers in this Province are being flooded with weed seeds in mill-feeds of all kinds. Last year I put in a patch for my pigs and it contained no less than three kinds of new weed seeds, which I had never seen before, but which, I learn, are very prevalent in the East. Our neighbours over the line have their seeds inspected. I have found oats in bran. They dump all their trash in British Columbia. It is the work of the Dominion Government to inspect our fruit, but we should attend to the seeds ourselves. The dairy industry is most important, but if we cannot get good food-stuffs, we cannot feed our cows properly and the return of milk decreases. We must have good food.

Mr. Corbett then read the resolution.

Mr. Corbett: The difficulty which I and a great many others have found is this, that the adulteration of food stuffs has become so extensive that it is almost impossible for anybody to take the matter up with any show of success whatever. The time has come when the Government should give instructions to their inspectors of meat and other foods, that they should take up also this question of foods for cattle. If the food-stuffs were pure it would prevent a great variety of noxious weeds from coming in. I might mention the instance of a dairyman of my acquaintance who has gone to the expense of putting in a mill of his own to grind cereals into cattle foods, in order to get rid of the nuisance of impure cattle foods. We know, of course, that the Dominion Government have passed an Act regarding the adulteration of food-stuffs, but the question is—can it be taken hold of?

Mr. Cowley: Do you not think that it would be better to grind our own grain; we would know then what we have?

Mr. Phillips: We have got tired of buying bran, shorts and other inferior food-stuffs, so at Matsqui we have decided to grind them ourselves. We buy the grain for \$23, \$25, or \$27 per ton, and by co-operating and using a chopping mill we grind our own feeds. This is cheaper than paying \$30 per ton for inferior stuff. You can go to a store and buy bran and it turns out to be sawdust; there is nothing to distinguish it; it is not marked. Across the line the millers have to name the constituents of the food and mark it on the sacks.

Mr. J. C. Harris: Is there an Act concerning the adulteration of feeds?

The Chairman: Yes, there is.

Mr. Abbott: In the fruit district we cannot grind our own corn, there is not enough grown. But the cows in this country need bran; all our stock need it. I use a lot of bran. You cannot make it out of oats and we are not like those in the grain-growing countries who have wheat, so I am forced to buy bran. Is there no means of enforcing the Act?

The Chairman: Yes, but it is a long way round.

(Mr. Palmer read part of the “Adulteration Act,” referring to its enforcement.)

Mr. J. C. Harris: Mr. Chairman, I might state that I have found 16,000 weed seeds in one pound of mill-feed, but nothing is done and the same stuff is being turned out to-day.

The Chairman: This resolution calls upon the Provincial Government to do certain things, but there is no Provincial legislation, whereas there is Dominion legislation.

Mr. Matheson: I have been in connection with a mill myself for some years and I do not want to see the farmers injured. At the same time, I do not see how you can get wild seeds in bran. This is impossible unless they are put there, and I do not think that any miller would be as bad as that.

The Secretary: I will send you a sample.

Mr. Matheson: You can hardly get wheat without bad seeds; from Winnipeg west it is impossible. There is no crusher can crush it small enough to eradicate all the seeds. I think that it is a very hard problem.

Mr. Bailey: In regard to our present feed, it is not ground, it is crushed, and the small seeds remain uncrushed. Until we get back to the good old-fashioned way of grinding, we can never hope to get rid of the seeds. All we can do is to ask the Dominion Government to enforce the Pure Food Act in British Columbia.

The resolution as it stood was then withdrawn.

LADY SPEAKERS.

Moved by Mr. Heatherbell, seconded by Mr. Corbett—

“That the Government be asked to use their best endeavours to secure lady speakers on Domestic Science for the Fall Farmers' Institute meetings.”

Mr. Heatherbell: This matter is very important, to my mind, to all of us. All institutions everywhere in this country want ladies to be brought in. We are attempting a plan of having social meetings after the debates; this encourages the ladies to come. Domestic Science should be brought into the home, and if the ladies are brought into our meetings I think that it will be of great benefit to all of us. Of course, the Government has provided us with lady speakers—I mean Miss Rose and Miss Maddock, who certainly did us a great deal of good and gave us a great deal of information; but I think that it would be a good thing to obtain local speakers.

Mr. Corbett: I wish to mention one point, I can safely say that the attendance was almost double when there were lady speakers. Miss Rose's subject was most interesting. I have great pleasure in seconding this motion.

Mr. Bailey: I personally like to see ladies round. Miss Rose and Miss Maddock were most interesting and I would like to see them more often.

Mr. Phillips: I am very pleased to say that the best meeting we ever held was when these ladies addressed us. We had a little social gathering after the meeting and brought baskets. We have most interesting meetings.

The Chairman: We have here Mr. Hodson, who was connected with Guelph College and can give you information on this subject.

Mr. Hodson: In connection with the question raised by the meeting, securing the services of lady speakers to address the meetings, I might say that last fall Miss L. Rose, of Ontario, addressed meetings along quite different lines from anything that had been attempted before. She had much to do with the organisation of the Women's Institutes in the East, and she endeavoured to show what is being done there. The Women's Institutes have accomplished there for the women what the Farmers' Institute has done for the men. The main object of the Farmers' Institutes is not social, but is to offer instruction to the agricultural classes, to show them how to use the materials at hand to the best advantage, how to take care of trees, how to treat cows, how to cultivate the soil, and so on. I think that Women's Institutes and men's should be separate. Women's Institutes deal with household matters; if they are divided you obtain better results. I can point in this connection to the success of this system in Ontario. I think that practical demonstrations are much better than any lectures, no matter how learned the lecturer may be. Practical demonstration in the orchard or on stock teaches much more than any lecture. The Department sends a man to demonstrate tree planting, pruning, and fruit packing. If you see this demonstrated it is much easier to do it. If you see the man prune the trees or make a graft, or he shows you in what way an animal is deficient and tells you in what way it could be improved, this is more useful to you than any lectures. In Ontario there is only one annual meeting; this takes place in the summer, when practical demonstrations are held and two or three speakers give addresses at the evening meeting. The speakers are limited as to time. Women ought to lecture to Women's Institutes and men to Men's Institutes.

Mr. Curry: With reference to this matter, I spoke on this subject last year. The chairman said that it was impossible to get local speakers. I do not agree with him, I think that it is possible to get lots of men who can give us sound advice; there are plenty of them who are practical men. I do not say that it is always desirable for a man to speak in his own locality, but we could interchange them. Take, for instance, the methods of irrigation. There are people throughout the country who can tell us a great deal about these things.

The Chairman : If the Institutes will help the Department in this matter, I think that it could be managed. It is difficult for the Department to get suitable men ; there are many difficulties that arise. I think that much of the practical work should be done in the summer months, as Mr. Hodson says is done in the East. The Department is quite ready to meet your wishes as far as possible, but we must be kept informed as to your requirements.

Mr. Dilworth : It seems to me that in this matter we are to blame for not sending in the necessary information, as often requested. We have often been asked to provide speakers. It is our own fault that outsiders have been got in ; we did not send in the names of any men that could speak on these subjects and cannot blame anybody.

Mr. Phillips : Dr. Tolmie is well fitted, for one, to speak on subjects concerning stock and would be a help to the Department.

Mr. Gillespie : In reference to local speakers, we have adopted a very good plan, that is to have monthly meetings, and of calling on men from our own districts to speak on different subjects.

Mr. J. C. Harris : There is not an Institute that has not got some good man who knows something. The delegate from Kaslo, with whom I travelled down, is a perfect gold mine of information in this direction. I should think that he would make a very good speaker. When you can get men of that sort, it seems to me that there is no lack of local talent in this direction. It would be well to communicate with the different parts of the country, and we could then interchange speakers and get men from the outside to come and address us. At our meetings we have papers written on various subjects and read them before the meetings.

Mr. Stewart : Have the secretaries followed out the rules and regulations which provide for this ?

The Chairman : We have not very much to choose from. They do not send in their reports, so we cannot be expected to pick out the good men when we do not even know their names. The plan of the Department will be this : To have at command men of intellect who understand the needs of the Province. Take your local speakers, they are certainly good, up to a certain point ; but in farming, as in everything else, you reach a stage when something else is required, and it is then that the Department can step in and help you with your difficulties, by sending men who will be experts at their business. This is what we propose to do. These men will be in touch with the local men and I think by working along these lines we can bring the local organisations up to a point which will equal anything in the Dominion.

Mr. Whelpton : I do not think that there is an Institute in existence which has not some men who are well up in certain subjects. Some know about ploughing, some about spraying, and so on. There is some pretty poor ploughing done in British Columbia. I do not think that it is a good plan for Institutes to hear their own men, but they can exchange speakers.

Resolution carried.

INSPECTION OF SPRAYS.

Moved by Mr. Heatherbell, seconded by Mr. Way—

“That the Government be asked to inspect tree sprays.”

Mr. Heatherbell : We have been talking about the adulteration of feeds. We know that the fruit business is going to increase very fast, and in order to have good fruit we must have good sprays. As time goes on, I believe, for one, that we shall have chronic adulteration of sprays. If not at present, at all events as soon as possible, we should have an inspection of fruit sprays. Something certainly should be done in this way.

Mr. Way : This question came up last year. Some will remember the talk that took place, concerning the different sprays and the difficulties found in getting the various sprays to work. I thought myself that the Rex spray would be the standard, but I am told that it is no good. If you take the advice that other people give you, you will leave it alone. It seems to me that if the Government would analyse these sprays, and let us know the result of the analysis, we would know better what we are about.

Mr. Curry : In speaking to this motion, I might say that the people who put up manufactured sprays do it to make money. You ought to make your own spray and then you know that it is pure. If we use two sprays in the fruit business, we have all that is necessary. First, lime, sulphur, and salt, and there is no better spray than this ; secondly, arsenate of lead. These are both simple and both effective. Surely any intelligent man can make his own spray.

The trouble is that many use poor sprays and poor sprayers, which do not kill the insects. I have no sympathy with the men who do not mix their own sprays; they deserve all they get. If you use poor sprays and inefficient sprayers, what results can you expect?

Mr. Corbett: Would Mr. Cunningham give us his views on the subject.

Mr. Cunningham: I have received some very sharp criticism on the case in point for having endorsed the Pendray spray. Some years ago I used Pendray's spray with very good results, and naturally recommended the spray. But manufacturers even can make mistakes. Sometimes, in order to make more money, they cheapen the article and use bad material. I believe that this is the explanation of the failure of this spray. I think that bad sulphur was used in order to keep the price down, and the result was most disastrous. Sublimated sulphur is good; it is very fine, like dust or flour. We have been experimenting for the last few years. Rex and Niagara sprays are good, and a spray made by Mr. Pendray, which is as clear as wine and has no sediment, was used last year at Kamloops with the best results. These, outside our own manufacture, we decided were the best. The manufacture of lime, sulphur and salt is very simple, and it is absolutely successful if you get good ingredients. The manufacturers, of course, try to cheapen stuff; they do the same in all lines; we ought to make our own spray. A great deal of the want of success comes from the way in which the tree is sprayed. A man will spray the large branches and neglect the small ones; then he only sprays the lower part or the tree and leaves the top branches where the insects naturally congregate. Every branch should be sprayed; begin from the top and spray down. At one time I had a mind to ask the Government to manufacture the lime, sulphur and salt themselves and show what could be done; but the Government thought that it was too much to ask, because, if they did such a thing for one class, they must do it for everyone. Arsenate of lead is the very best all-round remedy against the ravages of the codling moth, the Egyptian moth and the brown-tailed moth, as well as all insects which prey upon the leaves of the trees; it is an absolute and positive remedy. But it, of course, can be adulterated. I had the honour of importing arsenate of lead into this country. The Department proposes sending out the results of their tests to the farmers. Another spray which is being extensively used is the black leaf spray. This contains nicotine and is made from the strong and pungent tobacco of Kentucky. It was tested last year with good results. It was found to be an effectual and certain remedy for the flea beetle which ravages hops. I am trying to make arrangements, with the assistance of the Government, to bring out a car-load of this spray, in order that it may be available in abundance for fruit and hop-growers in the Province, who can then test it for themselves. Such insects as the oyster shell bark scale and the woolly aphid should be attacked when they are breeding and in the act of hatching, if good results are to be obtained. The black leaf spray operates very quickly and is better than whale oil soap. I hope to use it this summer. By diluting one gallon of the lime and sulphur spray with fifteen gallons of water and adding six pounds of lime to each barrel, a spray can be obtained which can be used in the months of April, May, June and July, without the slightest injury either to the leaves or the fruit. It is better than the Bordeaux mixture in preventing scab and fungus.

Mr. Curry: With reference to spray pumps, we have a great deal of trouble with them; there are many of them no good, and in order to have good results we must have good pumps. For pests like the codling moth, for instance, you must have a pump which will force the spray into every crevice. In my opinion, the Bean pump is the best one to use. With this pump you can force the spray right into the crevices of the trees. One effectual spraying has secured 95 per cent. yield of first class fruit.

Mr. Cunningham: Mr. Curry has raised a question of the very greatest importance. Ninety per cent. of the failures in spraying are due to the use of cheap and inferior pumps. One of the best pumps I ever used was manufactured in London, Ontario. It was called the Spramotor, and was sufficiently powerful to burst any hose I have ever possessed; indeed, it was capable of blowing the hose from the couplings. It has another important advantage, and that was that it had no leather or rubber attachments. All the working parts, with the exception of the lever, were made of metal, and that metal brass, so it could not possibly corrode. The pumps should be kept thoroughly clean; they should be cleaned every time they are used and put away in perfect order and condition. If you neglect these precautions and use bad sprays, I do not wonder that you fail with spraying.

Mr. Curry: What does this spramotor cost?

Mr. Cunningham: The pump can be bought for \$18—hose and attachments extra—with two lines of hose, which is necessary if the work is to be done quickly, as it should be, and

bamboo extensions 10 feet in height. The hose costs all the way from 15 to 21 cents per foot, and with this apparatus you can spray from 30 to 35 feet in height. A great deal also depends upon the kind of nozzle you use. I sent only yesterday for two dozen of a new kind of nozzle, which I had tried at Kamloops and which is very highly recommended. I wish to experiment with these.

Mr. Phillips: We are using a spramotor in Matsqui and whitewash the trees. I sent up three more yesterday, thus making in all four. With two nozzles and 20 feet of hose they cost \$26 each.

Nr. Heatherbell: I do not think that we can make our own spray properly, especially Bordeaux mixture. Of course, we can make lime, sulphur and salt, but most of us would rather buy it if we could get it of a proper quality. The question is, will the spray remain as good as it is now, or will it suffer from adulteration? I have used Rex spray and Pendray spray, and I shall use the new Pendray spray. In regard to spray pumps, I have used a \$25 spray motor pump for 10 years and it has done excellent work; it is a No. 1 pump.

The Chairman: Before the question is put I will read the result of the analysis the Department has had made of Pendray's spray by Mr. Carmichael:—

“GOVERNMENT LABORATORY,

“VICTORIA, B. C., 23rd February, 1909.

“*Examination of lime and sulphur spraying mixture for Department of Agriculture.*”

“The sample was found to contain lime and sulphur in combination and 2.33 per cent. of common salt and no other impurities.

The specific gravity of the mixture was 1.295

Specific gravity due to the common salt..... 014

Specific gravity due to the lime and sulphur compound 1.281

This equals 31.5 on the Baume scale.

The correct reading for pure lime and sulphur mixture is given as 32 degrees Baume, so this sample may be taken as practically pure.

“HERBERT CARMICHAEL,

“*Government Analyst.*”

The Chairman: I cannot help thinking that this resolution will do little good. It is almost impossible for the Government to appoint inspectors for the purpose requested, but you can have the sprays analysed and the result published from time to time.

Mr. Bailey: If the spray was stamped by the Department of Agriculture, we should know what we are getting and would buy none that did not have that stamp. I do not think it proper for an official to put his name on a spray. I saw Mr. Cunningham's name on a spray. Let the Board of Horticulture do this. If the resolution was such as to require all sprays to pass the analysis of the Department of Agriculture I would support it.

The Chairman: This would mean holding up every barrel of spray coming into the country and this is impossible.

Mr. Curry: It seems to me that it is absurd to ask the Government for so much. We want many things that are necessary, but we should look after ourselves a little. I think that this resolution is going too far.

Mr. Corbett: I would just like to say a word. It is difficult to get desirable sprays, and the question arises, what is the best way to get hold of a spray which is good? Would it not be a good way for the Government to test the sprays?

Mr. Collins: Would it not be possible to make Pendray have his spray up to the standard? The Government or Mr. Cunningham are placing Pendray's spray. The reason why we do not like this spray is this: Some years ago it was a very good spray, but after that it was a very bad one. Now, I understand that he would guarantee that we shall not have a bad spray again, and I think that the Government could analyse this spray frequently. We put in fruit trees and these are destroyed if infected. Why not put the spray on the same footing? I like to support a local industry, but we must be supplied with good stuff.

Mr. Tarry: What we want to do is to get the Government to analyse these sprays frequently, then we can buy them ourselves and be sure of them. I think that the man who makes his own spray is making a great mistake.

Mr. Curry then moved as an amendment—"That the Government be asked to analyse sprays frequently to protect purchasers."

Mr. Randle: Will spray deteriorate in value when put up in tins?

The Chairman: In Oregon they have used last year's spray with good results. It should keep for a year.

Amendment carried.

INSPECTION OF DAIRIES.

Moved by Mr. Gillespie, seconded by Mr. Mathews—

"That a more rigid inspection be placed on dairies, especially those selling milk in the cities of the Province."

Mr. Gillespie: I have introduced this motion more especially for the consumers of milk in the small cities and the districts where there are men who keep a few cows and often do not come under the eye of the Inspector. The milk is often peddled round by children or sold to the middle-man, who makes a good profit. This milk often comes out of filthy dairies which are never white-washed and the manure is heaped against the stable, and this milk is sold to children to drink. There should be a more rigid inspection. However, since coming down here, I find that the Department are making out a plan of inspection. If Mr. Hodson's plan is carried out it will cover the ground. I would also advise that not only the dairies should be inspected, but that cows purchased for dairy purposes should be put through a very searching inspection for tuberculosis.

Mr. Matheson: I think that small places are very much neglected, as far as their dairies are concerned. Where I come from we have only had one Inspector since I came there. I could keep my dairy as filthy as I please. I notice that there is a great deal of adulteration going on in Vancouver, where there is inspection, but it is not so in small places, and when you buy milk in these places you do not know what you are getting.

The Secretary: This question has been thoroughly thrashed out. We had a very good meeting of the Dairymen's Association at Eburne. We met Hon. Mr. Tatlow and he promised that this question should be gone into. Mr. Hodson and Dr. Tolmie also attended the meeting. Mr. McFee said that nearly 85% of the milk is spoiled after it leaves the farm, through careless handling. He also informed us concerning the amount of bacteria that can enter into the milk after it has left the dairy. I would like to hear Dr. Tolmie and Mr. Hodson speak on this subject.

Dr. Tolmie: It affords me great pleasure to meet you here to-day, I had not intended to address you, but will be pleased to give you any information I can concerning sanitary dairying, which is attracting so much attention at the present time. There is one thing which is very important in dairy farming, and that is that the dairies should be kept in good, clean and sanitary condition, because while many cattle are robust and will not suffer particularly from a dirty place, there are others that are not so robust and do suffer, and their milk in consequence is not healthy. This milk is sold to invalids and small children, who suffer in consequence. I know that this is very important, but it is very difficult to obtain any good results if the dairymen do not help us. If the farmers do not support us it is little use for the people in towns to complain. At Eburne the question of grading the dairies came up. We felt at that meeting that by bringing forward a resolution of this kind it would be up to the purchaser to obtain good milk, if he chose to pay for it. A man who kept his dairy in a good sanitary condition would get grade "A." This man would get the highest price for his milk, and I do not think that any consumer of milk would hesitate about paying a little more in order to obtain a good article. In the East, in large dairies, they have all the plant for sterilising the milk. The average farmer cannot do this, but he can keep his place clean, have sanitary pails, have clean straw, keep his hands clean, and keep his cows clean. He can do a great deal in this way himself. I think that it would be a good thing to have this practically demonstrated at the fair which will take place in the fall. I will now close, as I suppose that there are many others who would like to say something on this subject.

Mr. Hodson: As Dr. Tolmie has given you his views on sanitary dairying, there is no object in my going into this question, but I will give you an idea of what the Government is doing along these lines. We have at the present time only two Inspectors, who cannot possibly visit all the dairies more than twice in twelve months. These Inspectors are sent out, not so much to enforce regulations but to advise the farmers as to the best methods of keeping their dairies in a sanitary condition. They tell a man to clean out his dairy, but they tell him why;

they are sent to teach. We cannot force you to milk your cows in a clean way, neither can we force people to be clean themselves, but what we are trying to do is to educate along these lines. We can go to a man and tell him that he is killing children by selling bad milk, but when your back is turned he may do the same thing again. What we propose to do now is to grade the dairies and notify the dairymen of this fact. We will then publish an official list of the different grades. Then people can see in the papers which dairyman is class "A" and which is class "B." Any woman reading this list will know where to get the best milk, and I do not think that anyone will be averse to paying for it. By this means those whose milk does not come up to the standard will be touched in their pockets, and I think that it will be effective. It will do what no amount of talking will do. As to the creameries, the co-operation of the farmers is necessary in this matter, and I am sure that it will be forthcoming.

Mr. Gillespie: Where I come from we have thoroughly clarified milk and we know what we are drinking.

Mr. Bailey: Mr. Gillespie says that he knows what he is drinking, I differ from him on that point; he does not know what he is drinking. The milk may be clarified, but if the cow is affected with tuberculosis it is injurious. The tuberculosis test should be applied to all herds. There is another thing I should like to mention, and that is the inspection of carcasses. I maintain that every carcass that is offered for sale should be inspected and receive the Government stamp. At present animals killed for tuberculosis can be offered for sale, provided they are not too badly infected. Every carcass should have the Government stamp on it to show that it is fit for food. Let every man know his own standing; we cannot tell whether our herds are infected or not without the test. A man told me yesterday that he had had a cow sent to him which was infected with tuberculosis, and he is a butcher. Who has the authority to deal with this matter?

Mr. Hodson: From now on the services of a veterinary surgeon will be supplied free of charge to any farmer wishing to have his herd tested, if he will apply to this Department. (Applause.)

Mr. Gillespie: Going back to the milk question, where I come from, I drink thoroughly clarified milk from a tested herd, and I think that these companies who take all this trouble to have pure milk should be protected. With ordinary strainers you cannot possibly take out the substances which are removed by the clarifying system.

Resolution carried.

PRESERVATION OF GAME.

Moved by Mr. Heatherbell, seconded by Mr. Collins—

"That the Government be asked to amend the law so that deer will come in season at the same time as the grouse, on Vancouver Island and adjacent islands."

Mr. Heatherbell: The question of the preservation of game in this country is a very important one. At present the deer come in earlier than the grouse. I think that they should come in at the same time.

Mr. Collins: The reason that I inserted "Island" in this resolution is that the game laws of Vancouver Island differ from those of the Mainland. I agree with Mr. Heatherbell on this point. We find on Salt Spring that a great many go out ostensibly to shoot deer, but they shoot grouse. The grouse have not yet gone to the trees and are quite easy to kill, whereas the next month they are a good deal more difficult to get at.

Mr. Randle: I agree with the last speaker; I think that they should come into season at the same time. Among those who go out many are poachers and they kill off the grouse, the Game Wardens being powerless to prevent it. I think that all game should come in at the same time.

Mr. Collins: There is no law concerning this; the grouse is protected by an Order in Council.

Mr. Goldsmith: I think that that amendment should cover the Interior as well as Vancouver Island.

Mr. Dilworth: We have got to have a more rigid law on the Mainland, so this can apply to the Mainland as well as to Vancouver Island. We will bring in another resolution on this subject.

Mr. Cowley: The deer are in the open in September, but in November they go into the bush and are harder to get.

Mr. Bailey: Does not the Game Association look after these things?

The Secretary : We do not want the Game Association to look after them.

Mr. Goldsmith : I think that this should apply to the Upper Country as well, as the game there is being rapidly killed off.

Mr. Dilworth : My experience is that it is much easier to get a deer early in the season than later, but it does not matter which end you cut it off at, as long as the game is protected.

The Secretary : This resolution referred to the Island ; let the Mainland people put in their resolution if they want to ; this is our resolution.

Resolution carried.

The meeting then adjourned until 10 A. M., February 25th.

SECOND DAY.

The Convention was called to order at 10.15 a. m.

The Secretary : Your Committee on Resolutions report favourably on the following resolutions :—

Government to clear out large creeks.

Lecturers on Irrigation questions.

Lady Speakers for Institutes.

Government to provide a well-boring outfit.

Approving Irrigation Act.

Analysis of Sprays.

Dairy Inspection.

Enforcement of Thistle Act.

Increase of Bounty on Coyotes.

Co-operation.

Recompense to local talent.

Roads through subdivisions of land.

Weeds on Indian Reserves.

Approving action of Fruit Pests Inspector.

Mr. Bailey : I do not think that anybody should speak for more than five minutes at a time.

Mr. Curry : I do not agree with this ; a man may be at a most important part of his speech when the five minutes is ended and I do not think that he ought to be shut up.

The Secretary : I do not think that it is necessary to discuss this subject. I think we might leave this to the Chairman.

The Chairman : So far as yesterday's business is concerned, I was quite satisfied.

PROTEST AGAINST ACTION OF FRUIT INSPECTORS.

Moved by Mr. H. Harris, seconded by Mr. Phillips—

“That we enter a strong protest against the arbitrary manner in which the provisions of the Horticultural Act have been carried out during the past year by the various inspectors on the Lower Mainland.”

Mr. Harris presented the following report from Langley Institute :—

“This meeting of the Farmers' Institute and fruit-growers of Langley resolves to enter a respectful but vigorous protest against the hardship and financial loss incurred by the fruit-growers of the Fraser Valley, through the arbitrary and unnecessarily severe enforcement of the regulations of the Board of Horticulture regarding apple scab or fungus. The interpretation placed on these rules by the Inspectors, and confirmed by an officer of the Board delegated to attend our meeting by Mr. Cunningham, is, that no fruit in any degree affected by this fungus may be offered for sale, and any such affected fruit offered for sale is to be condemned. Against this drastic regulation we protest for the following reasons :—

“1st. That this regulation cannot be justified by any practical danger of the spread of the fungus through the sale of such fruit. This was admitted by Mr. Cunningham's representative.

"2nd. That there is a demand and a market for this class of fruit, at fairly remunerative prices, in the Coast cities, for cooking purposes by private houses, hotels, restaurants, logging and mining camps; also for table use in the homes of persons of moderate means who cannot afford to freely purchase fancy fruit at fancy prices. In this connection it may be pointed out that the blemish is only skin deep, and in no way impairs the flavour of the fruit.

"3rd. That it is admittedly difficult, if not impossible, to control this fungus in some seasons in the moist climate of the Coast region, and we would here point out that the action complained of has been sprung upon the fruit-growers just at the time that an earnest effort is being made to improve the conditions of the orchards. Our local Institute has purchased an up-to-date spraying outfit, and growers generally are endeavouring to carry out the latest methods of spraying.

"4th. That this regulation has been put in force in the very height of the fruit shipping season, without warning to the fruit-growers, who, as far as this fungus was concerned, believed that they were to be governed by the regulations of the 'Fruit Marks Act.'

"In conclusion, we would point out that this ill-advised action on the part of the Board of Horticulture has practically paralysed the apple trade in this section, the dealers taking advantage of it to beat prices below the level paid for perishable fall varieties, while many growers have allowed their fruit to rot on the ground, rather than risk the arbitrary decisions of Mr. Cunningham's inspectors.

"We wish it understood that we only ask the right of selling this class of fruit on its merits, and we submit that the provisions of the 'Fruit Marks Act' (which we heartily endorse), or enactments by the Board on similar lines, would cover the needs of the case. And in this connection we would point out that the present system of dual inspection by the Dominion and the Province is not only a waste of money but a petty annoyance to dealers and growers alike, and we would respectfully suggest that the two Governments should provide for the enforcement of both Federal and Provincial regulations by the one force of inspectors."

Mr. H. Harris: This resolution was got up after some fruit had been condemned. We have not been fairly dealt with. Last spring the spray was late in arriving and we were not able to get our trees sprayed early; then some of the spray was bad. As a matter of fact, some of the trees that had not been sprayed had better fruit on them than those which had been sprayed. I sent some fruit to Vancouver; it was sent back. The Inspector said that it was bad, but it was not. He said that it was not up to the mark. On the Lower Mainland it is impossible to get a clean apple, because of the insects and the damp. I had to go to Vancouver twice and so did a great many others, at some expense. We sent for Mr. Cunningham, who did come himself, nor did he send anyone, and it is very hard on us.

Mr. Phillips: We have a good deal of competition in our part of the country, which makes it pretty hard. I sent two boxes to Vancouver; they said that two of the boxes had all the diseases you can imagine and that the other eighteen had nothing the matter with them. Now, some of the apples they took were off the same trees as those they condemned. I do not understand this. The Inspector pointed out two or three little spots that a pin or a pencil could cover. I then sent another lot of apples and he said that they had European scale; there was hardly a blemish on these apples.

Mr. Cunningham: I have here a report from the quarantine officer from Langley. During the past year, in this locality, only 116 boxes were condemned—not a very large average. If you take out the infected specimens the fruit brings a better price. I sent two good men to Langley to inspect the orchards, who reported as follows:—

"*Thomas Cunningham, Esq.,*
"Inspector of Fruit Pests, Vancouver, B. C.

"DEAR SIR,—In compliance with your request, I beg to submit the following report of inspection of fruit at New Westminster from 5th October till the 18th December, 1908, inclusive:

"In company with Mr. W. H. Lyne, and according to your instructions, I went to New Westminster on October 5th, and began inspection of fruit on the market under the supervision of Mr. Lyne. We found that a great deal of the fruit exposed for sale was infected with fungus, oyster shell scale, *Mytilaspis pomorum*, European scale, *Aspidiotus ostreaeformis*, and larvæ of the bud moth. Very little fruit was destroyed, as will be seen by

the following report, and some was returned to the growers to be repacked and wiped. Not in any instance was there anything bordering on harsh or disrespectful treatment. With one exception, the New Westminster merchants expressed great satisfaction with my inspection, and the quality of the fruit exposed for sale gradually improved after the first inspection.

"As far as the Vancouver trade is concerned, the business people and consumers have never lost an opportunity of expressing their great satisfaction at the improvement in local fruit. Mr. Robert Kelly, on one occasion, took pains to express his thanks to me personally because I compelled a shipment of apples which was consigned to him to be either repacked or returned to the grower for repacking. Nearly all the apples condemned in Vancouver were sent to the jam factory.

"The effect of inspection in both Vancouver and Westminster was to bring the price of local fruit up to something near that of imported apples. A large quantity of Chilliwack apples were sold readily at \$1.50 per box. I feel sure that such prices would not have been realised had the infected fruit not been quarantined and dealt with. If a calculation were made, I believe it could be shown that a great deal more money was paid to the Lower Mainland growers as a whole, because of the inspection, than would have been realised if there had not been one box quarantined or condemned.

(Signed) "DANIEL GAVET."

Mr. Cunningham: You can grow as good fruit in this part of the country as in any other. One of the most successful men I know in this line lives in Chilliwack, where the conditions are the same as in Langley. But he uses his brains; he is a thoughtful and hard-working man.

Mr. H. Harris: How many apples were condemned in Chilliwack?

Mr. Cunningham: I cannot quite say from recollection. I am only following out the regulations of the law. It is a very difficult question. It is not a pleasant job to have to do this. I have known Mr. Harris for a long time and I respect him, but I must carry out the regulations or I should not be doing my duty. I make no difference between the foreign and home-grown product. Every box of imported apples found to be infected and which I destroy raises the price of the home-grown apples. Out of twenty boxes, if five are destroyed the remaining fifteen bring a better price. You must keep your orchards clean and spray frequently or you will never succeed.

Mr. H. Harris: You admitted that they could not grow fruit on the Lower Fraser.

Mr. Cunningham: I did not say so. You can grow as good apples there as anywhere.

Mr. Phillips: I got a diploma at St. Louis for my apples. A man at Chilliwack makes a practice of buying up all the bad apples and marks them "Chilliwack Apples, A1."

Mr. Cunningham: I know who you mean, and if he continues to do this he will be prosecuted. There were 203 boxes condemned in Chilliwack. Some of these were sent to the jam factory, some were re-packed, and some sent to the cider mill. In Surrey there were 4 boxes condemned; 25 altogether from Hall's Prairie and Surrey.

Mr. Phillips: How many were condemned from Mt. Lehman?

Mr. Cunningham: Three boxes.

Mr. Phillips: I had two myself.

Mr. Cunningham: Three boxes are reported. I want to set any point right.

Amendment moved by Jas. Bailey, seconded by J. Dilworth—

"That the Central Institute approves of the action of the Provincial Inspector of Fruit Pests condemning all fruit that does not come up to the requirements of the Horticultural Board Act."

Mr. Bailey: In moving this amendment there is one thing I wish to state: If the farmers of British Columbia are not prepared to support the officials whose duty it is to inspect and condemn fruit, they cannot do their duty. (Applause.) In the letter read it seems to me that the trouble is that the people had not sufficient notice. We have had notice for two years. A year before I spoke to Mr. Cunningham about enforcing the regulations. If you think the regulations too hard, ask the Government to alter them, but do not blame the officials for doing their duty.

Mr. Dilworth: I think that the inspection ought to be more rigid, not only with our own fruit but with fruit coming across the border; this is most necessary.

Amendment carried.

MORE RIGID INSPECTION OF FRUIT NEEDED.

Moved by Mr. Dilworth, seconded by Mr. Bailey—

“That the Department of Agriculture of British Columbia impress upon the Dominion Government the necessity of a more rigid inspection of fruit coming into this country, as well as into the North-West Provinces, including Manitoba.”

Mr. Dilworth: I was requested by the Institute at Kelowna to bring in something along this line, as we are the dumping ground for fruit from across the line, as are also Manitoba and the North-West Provinces. It is shipped to points where it is almost impossible to detect it, and this causes us considerable loss. We want good clean fruit and fruit that will bring good prices. All through the Okanagan Valley this is being done. We are doing our best to have good fruit and we want protection for it and inspection. To obtain good results, the regulations of the law must be carried out.

Mr. Bailey: I find no fault with the present regulations; we want more Inspectors to look after the imported fruit. Mr. Smith is not enough; there are so many ports of entry; he cannot be everywhere at once and the fruit comes in undetected. We must have a more efficient inspection from Ottawa. Bad fruit is coming into the country, in spite of the Fruit Marks Act.

Mr. Hamilton: I showed this to Mr. Cunningham yesterday (shows apple and mark of box).

Mr. Maxwell Smith, Dominion Fruit Inspector: Mr. Chairman, Gentlemen, I thank you for the privilege of being here to-day and shall not detain you long. I will say that, in Vancouver City especially, the question of fruit inspection is a very difficult one; also that of fruit pest inspection. Now, farmers and fruit-growers are different. They get mixed sometimes on the question of the Provincial regulations and the Dominion ones. These regulations have done a great deal of good. The question of fruit pests inspection is one which requires a great deal of attention in order to prevent the importation of bad fruit. I think that it requires more men. Dominion inspection is placed on the fruit wherever it is imported or home-grown, and does not require so many men. I think that you are making mountains out of molehills. There is a great deal of talk about fruit coming into the Upper Country and the North-West and competing and interfering with the home-grown fruit. This is not true. I think that the fruit should be graded. I understand that where this complaint is made you are getting high prices for your fruit, if it is good. It is your own fault if you do not grow good fruit. I know men who are getting the highest prices for their fruit and can sell it all, viz.: Messrs. Stirling and Pitcairn, of Kelowna. There are a few shipments coming in that have not been graded, but the greater part of the fruit is marked and graded. I hear a great deal of talk of fruit coming into Creston and Greenwood which has not been inspected and marked; this is not so. Wholesale dealers have been prosecuted both in Cranbrook and Victoria for not having marks on the boxes of fruit. You must be sure of your facts before making these statements. It would not look well, as you know, to make representations to the Dominion that were not well founded. If you are meeting with competition from the importation of inferior fruit in the Prairies and Manitoba, and this is a fact, why do you not report this to the meeting? If it is a fact that the inspection in the Prairies, Manitoba or British Columbia has not been properly enforced, that the Dominion fruit regulations are not carried out properly in regard to imported as well as domestic fruit, then representation should be made to the Dominion Government to have the matter dealt with.

Mr. Bailey: There was a statement made that infected fruit trees were being brought in from Niagara and Montana.

Mr. Smith: This matter is for the fruit pest inspectors to deal with. They have the right to inspect in this Province only. The Dominion has nothing to do with this. You have not given sufficient study to two clauses in the Act relating to this matter. The two duties are quite distinct and I do not see how they can be amalgamated.

Mr. Hamilton: Before I went to East Kootenay I was in Cranbrook. There they buy from Washington and Idaho. Is the fruit inspected? You have not been through there for three years, to my certain knowledge.

Mr. Smith: I have been there every year.

Mr. Hamilton: Then I have not heard of it and I have made enquiries. I heard of your being in Cranbrook four years ago. The merchants in Cranbrook have had no inspection this year; they get in their apples before it gets cold and lay in a big stock of them. Well, have these apples been inspected? They veneer their boxes with Gano apples and fill in with Ben

Davis. You need not go over the border to find this, however, it is going on in British Columbia, notwithstanding your inspection. I have known of cases of facing from some of the best fruit-growers in the Province.

Mr. Stewart: Have you never been notified of this trouble?

Mr. Smith: I have once. You make a great deal of fuss over very little, but I have had only one report from Cranbrook to say that there was anything wrong. I have yet to receive a complaint from any district that I did not go and investigate at once. I went all the way to Nelson and turned down three carloads of fruit from Ontario; I went to Alberta to protect the merchants there. You are not doing your own duty, you go against the Government and the inspection and neglect your side of it. Why are you not reporting these cases to me or the Department at Ottawa? I have not had a single report from any of you.

Mr. Bailey: In regard to imported nursery stock, does Mr. Wilson pass on this or the Department?

Mr. Smith: The Superintendent of Fumigation deals with this, and then the Inspector of Fruit Pests inspects the stock and finds out what pests there are.

Mr. Hamilton: Do you recollect the boxes of strawberries coming in three years ago only half full? Last summer dealers were bringing in boxes and selling them for 15 and 18 cents, as against British Columbia fruit at 20 cents.

Mr. Smith: I found very few boxes that were not up to the standard; there were a few. The Dominion Government has nothing to say as to the weight of the boxes; it only prescribes the measurements. Closed boxes must be packed full like apples, but strawberries are open; there is no necessity for them to be full. The boxes must be a certain size. There are two sizes, $\frac{4}{5}$ quart and $\frac{2}{3}$ quart. I have to see that the boxes are the right size, but not to the weight of the fruit.

Mr. Johnstone: The boxes we are using now are $\frac{2}{3}$ quart or $\frac{4}{5}$ quart; I have never heard of two sizes prior to last season.

Mr. Smith: We refrained from prosecuting when the boxes were wrong, and tried to educate people up to using them. It took two years to work off all the old boxes.

Mr. Johnstone: They are all worked off now.

Mr. Smith: Nelson was the only place where unreliable berry boxes were sold last year, and yet no report came in from Nelson on this subject.

The motion carried.

AGRICULTURAL COLLEGE.

Moved by W. T. Abbott, seconded by John Dilworth—

"Whereas it would tend greatly to the benefit of the agricultural interests in British Columbia;

"And whereas there is at present time no Agricultural College in the Province of British Columbia;

"And whereas the methods and needs of agriculture in British Columbia are themselves distinct from those of the other Provinces in the Dominion of Canada;

"Therefore, be it Resolved, and it is hereby resolved, That the Central Farmers' Institute do hereby petition the Provincial Government to establish an Agricultural College in the Province."

Mr. Abbott: I think that the resolution speaks for itself. We should have an Agricultural and Horticultural College here. There is one in every other Province. We want to send our boys where they can learn practical farming. At present we have to send them to Ontario. We think that it would be a good thing for the Province to send our sons and daughters to these colleges to be taught farming and domestic science. I think that the resolution speaks for itself.

Mr. Dilworth: You must all know the necessity of a college of this sort as well as I do, so I will not take up your time any further.

The Secretary: There is a Bill under consideration by the Legislature in which it is proposed to have an Agricultural College in connection with the University. But I do not think that this will act. We want an endowment for the college. There is plenty of land now, and in a few years there will be none. The University will be in town most probably; we cannot farm in town. We want to be practical as they are in Guelph, which is about the best Agricultural College in the world. I might say that something like ten pupils from British

Columbia are at Guelph. If you had a college here you would have something like ten hundred. I think that we must impress upon the Government that we want a grant of land ; if we get an endowment we will get a college.

Mr. Abbott : You might add to the resolution " With a farm in connection with it."

Mr. J. Cooke : I think that we might leave the matter in the hands of the Government, as far as the land proposition is concerned. When they are prepared to do anything they will know what is best ; they know their business ; we can leave it all to them.

Mr. Curry : I think that there is a little misunderstanding. Our object was to ask the Government to sell lands for this purpose.

Mr. Dilworth : We do not want to ask too much. We want the college ; the endowment will come later on.

The Chairman : As has already been stated, the Government proposition is to establish a University, including an Agricultural College. A farm is part of the scheme, but need not be necessarily in the same place. The question of land can very well be left to the Government, as the University has already been endowed with land. The College could with advantage be on the lines of the Guelph College, with a farm in connection. You might add something to the resolution to this effect.

Mr. Bailey : You say you want the college for your boys and girls ; in Ontario, old farmers take a course during the winter for \$40. I myself might take a course if Guelph was a little nearer.

Mr. Collins : I took a course in the Old Country myself, and there is the result (shows medal).

The following words were added to the Resolution :—" and that the lines followed at Guelph should be adhered to as closely as possible, including the establishment of a farm in connection, for practical instruction."

Resolution carried.

WATER RIGHTS.

Moved by V. D. Curry, seconded by Jno. Dilworth—

" Whereas Farmers' Institutes have in the past frequently urged the introduction of legislation having for its object the improvement of the system of acquiring water rights ;

" And whereas the Bill now before the Legislature is, in our opinion, just in principle and carefully guards existing rights with a view to their complete utilisation, and finally provides adequate means to insure a fair distribution of water ;

Now, therefore, be it resolved, that this meeting heartily endorses the principle of the proposed legislation, and congratulates the Commission upon bringing in this Bill."

Mr. Curry : I may be permitted to say a few words on this subject. I brought this matter up by urgent request and I think it is a very important one. The Government have brought out a very good Bill on the water question which has met with the approval of the leader of the Opposition and of all the practical men in the country.

Mr. J. C. Harris, Arrow and Slocan : I do not think that there is a man here who has really studied this Bill. Should we pledge ourselves to the approval of this Bill when we know absolutely nothing about it? I for one protest.

Mr. Matheson : This matter has been before the House for several years. I have been in the country 30 years and have had water rights for that time, and as far as I can see, after reading the Bill, I consider it very well framed for the preservation of everybody's rights.

Mr. Stuart : I have had a little experience with the old Bill, and the new Bill is just what we want.

Mr. Heatherbell : I think that we should pass a vote of congratulation to the Government on this Bill, I think that this should be done.

Mr. Harris, Maple Ridge : I think this seems a good Bill.

Mr. Bailey : We asked for this to be done last year and we ought to be thankful to the Government for acceding to our wishes.

Mr. Phillips : We ought to give credit where credit is due. This has been a burning question in the country for years.

Mr. J. C. Harris : I desire to give credit to the Government, but we do not know anything about the Bill. I do not approve of bringing in a resolution to say that we are glad of

this measure, when we do not understand it as yet, and after the trouble we have had with the old legislation. I do not believe that there are ten men here who understand it, and I think it most unwise to take that stand.

Mr. Collins : I agree with the last speaker.

The resolution was carried.

OPEN SEASON FOR DEER ON MAINLAND.

Moved by Mr. Dilworth, seconded by Mr. Curry—

“That the meeting request that the open season for deer be from the 15th of October until the last of November on the Mainland, and that no one be allowed to kill more than three deer in the season.”

Mr. Dilworth : We passed a resolution for the Islands yesterday, and I promised to bring in something for the Mainland. I wish to add to the resolution that everyone be limited to the killing of not more than three deer during the season. I think that this is necessary if the deer are not to be killed off. Men go out early in the season and slaughter the deer, not only Indians but white men. Panthers kill a lot, but they are not so bad as the white man. This is a motion we should all support.

Mr. Curry : I used to be a hunter ; the game was then very plentiful, but now they are so scarce that it requires the most stringent regulations to preserve it at all and to prevent it being exterminated in a few years.

Mr. Matheson : I support this resolution. I am not a hunter, but I like to see the deer about. Formerly I could see bands of them from where I live ; now I see none. The Indian even has to hunt for two or three days before he will get a deer.

Mr. Harris : I think that this ought to apply to ducks as well as deer.

Mr. Corbett : I should like to remark that the matter is most important ; also that the men who kill the most game are those who have the least right to do so. Men like ourselves have not the time to go out ; it is only those who have nothing else to do who go, and if one of us finds a little time to go out he does not find any game. I heartily support this resolution.

Mr. Goldsmith : This resolution is all right for those who have spare time, but farmers cannot go out in October and November. I think that it would be better to extend the season until the end of December.

Mr. Gillespie : I would be inclined to limit the number to two and stick to the season you mention.

Mr. Dilworth : That is the reason I put this clause in. On account of the snow in the month of December, it is very easy to track the deer in the snow ; you can get them almost every time.

Mr. Heatherbell : I am in accord with this resolution. It is a question of deer or no deer, if we go on as we are doing.

Mr. Carter : I heartily endorse this resolution. To give you an instance : I could tell you of one man who cleared \$85 out of heads two years ago. This should be put a stop to. We must do something towards having a closer season. The deer are a valuable asset to the country and should be preserved. I heartily endorse this matter.

Resolution carried.

STUMPING POWDER DEBATE RESUMED.

Mr. Corbett : I think that this matter, which appeals to all of us, is a very important one and concerns most of us directly or indirectly. The clearing of land is one of the most important questions in the country. I have cleared land and have sufficient knowledge of the cost of clearing to have the greatest sympathy with those who are just starting in on this difficult task. Take in my own district, it is a very hard matter for a man to clear more than one acre a year, and very often he cannot get that in shape until the following season and it is two years before he can get any returns. The view I take is this : We have a claim against the Government, because in certain instances they have given assistance to others—for instance, in the matter of dykes. The Government built the dykes and charged the cost against the land. In respect to Lulu Island, the people could not pay the taxes, so the Government came to their assistance and adjusted the amount, which caused the charge to be reduced. Another claim we have is that every acre of land cleared gives an annual return

not only to the person who has cleared it, but also to the Government. The more land that is cleared the more produce can be grown, and this will help to put a stop in a great measure to the large importation of foreign produce which is coming into the country.

Mr. Collins: My name is on that resolution. There are two resolutions dealing with this question. I do not think that we shall get the bonus, but the distribution of the powder could be better done. It is sold at \$5.50 per box at the Coast, but it is a great deal more in the Upper Country. I think that the best way is to ask the Government to distribute the powder in a better manner.

Mr. Stuart: I heartily endorse what the first gentleman says and I would like to bring one point before you. According to the reports of the Minister, the agricultural importations last year amounted to \$4,000,000.

The Secretary: \$7,000,000.

Mr. Hamilton: We can buy our powder almost as cheaply from the Hamilton Powder Works. I think that the better way would be to ask the Government to make some arrangement whereby we would get all our powder from the Hamilton Powder Works and they could give us a reduction.

Mr. Dilworth: I understood yesterday that this matter was to be referred to the C. P. R. officials. I must say that this case is brought up year by year and nothing is done. We pay too high for the powder; it is a burning question; the freight is excessive. We are using a great deal of powder, but we would use ten times as much if we could get it. I do not approve of the bonus, but we ought to get it cheaper.

Mr. Sylvester: If we had a bonus of \$1 per box it would help a little towards paying the freight. It is pretty hard for the Government to send the powder a long way. We must try and find out the best way of getting it shipped.

Mr. Phillips: I take it for granted that we all will take all we can get. I think that at the present time the Government are giving us a good deal. The only kick I have coming is the increase in the rates. We must help ourselves a little.

Mr. Heatherbell: At the present time the Government pay nothing out for cheapening the powder. They act as our bankers. Cleared land is an asset to the Government; it is a better investment than a bank. We must go back to the statement of the Minister of Agriculture that everything possible was to be done to assist the farmers of this country. Powder is the best way to get out the stumps; it is better than any stump-puller. I have used many methods and find that powder is the most effective. I endorse this resolution.

Mr. Matheson: I had a resolution to this effect last year, and the Minister promised me that the Government would consider the matter.

Mr. Dilworth: The Minister said that he would give some assistance to the farmers. He asked if it would be more popular to grant an allowance on stumping powder or to give a slight reduction on the taxes.

Mr. Matheson: Stumping powder this year will cost \$1 more than last year in our particular case. The Government should see some way to remedy this. In Armstrong there is a great deal of powder used.

The meeting was then adjourned until 2 p. m.

Afternoon Session.

Debate on stumping powder resumed.

Mr. Tarry: It seems to me very small and pettyfogging to ask the Government for a \$1 bonus per box on stumping powder. I have used two or three tons of powder a year in blasting out stumps and am willing to pay for it. It is, to my mind, preposterous to take up the time of the meetings with such requests as this. It is carrying things too far to ask this from the Government.

Mr. Matheson: There is a good deal of discussion on this matter of taking money from the Government. I do not agree with this sentiment; I think that it is the duty of the Government to do everything in their power to induce settlers to come into the country to populate it. For my part, I have been here 30 years, the first settlers got the cream of the land. We did not think anything worth having unless it was fairly level and well watered and pretty free from trees. Now, these bush lands have come in later; they are heavily timbered and very hard to clear. The people who are coming now are taking up the side-hill lands that we

thought could never come under cultivation ; but these people are perfectly willing to go on to the side-hills, which are all timbered and with which nothing can be done without stumping powder. They come from the North-West and Manitoba and have little or no means. Every family like this should be helped ; they are good, hard-working people and valuable assets to the country, and if they were helped to get the powder cheaply it would be a very good thing.

Mr. Heatherbell : So far as asking the Government for money is concerned, I consider that it is quite right. If they do take it out of the treasury and help the farmers, it comes back to them. It is better than any bank. If a man can succeed in getting his powder \$1 cheaper he is quite justified in doing so.

Mr. Curry : I do not use powder, but I have had occasion to travel among the people who are using powder on Salmon Arm. They have to clear out the stumps before they can grow anything and are working hard at it. I am as much opposed as anyone to asking the Government for too much ; but this is a question which affects the whole country. We have immense areas of timber lands throughout the country, and when they are cleared they are very fertile and prove a valuable asset to the country. I think that this progressive Government, who have done so much towards furthering the agricultural industry in this Province, ought certainly to do something towards providing cheaper stumping powder and thus assist in the clearing of land.

Mr. Corbett : As mover of this resolution, I wish to say that I am disinterested ; I do not intend to clear any more land myself, but I know the difficulties that beset the newcomer and would like to help him out if I can.

Mr. Gillespie : If they do make a reduction of \$1 per box it will only come to the same price as before. The rate has been raised and this only brings it to where it was before. I think that the better plan is to ask the Government to get us a reduction in freight rates.

The Chairman : The Government has already taken steps in this direction.

Mr. Tarry : The Government got the rate reduced, and as the C. P. R. have raised it, I think the only thing we can ask of the Government is to get it back to the old rate.

Mr. Phillips : I think that we might safely leave this matter in the hands of the Government. (Applause.)

Mr. Cowley : I would like to move as an amendment that the Government be asked to give \$10,000 in bonuses, and that the powder be reduced to \$4 per box. (This was not seconded.) It has always seemed strange to me that if a railway company or any manufacturing company ask for a bonus, they always get it, but if the farmers ask for anything they are thought to be absurd. The farmers represent a great industry in this Province, and this question of stumping power is a great one at the present time. Anyone who has tried clearing land can tell of the hardships he has had in doing so. I think that we ought to get powder for \$4 per box, and I think that this amendment covers the ground pretty well. It would benefit the farmers and everybody in the country.

Mr. Owens : We have been notified that the C. P. R. is going to withdraw the privilege of cheap rates on powder in less than carloads. We have had 400 boxes and would like some more, but at these rates we cannot get any more. Any assistance in this direction would be welcomed.

Mr. Randle : This discussion is occupying a good deal of time. I believe in getting powder as cheap as possible. A great many settlers have no means and unless they get some assistance they cannot get on, but it is no use asking the Government impossibilities. Three years ago we were giving \$7.25 for our powder ; we are getting it now for \$5.25. The Government made this arrangement. But I do not see how they can get it reduced \$2.50 per case. I think we had better leave it to them to make the best arrangements they can.

The Secretary : The Government has done a great deal for us in reducing the powder from \$7.50 to \$5.25. At the time when the Government boat carried the powder for us, we got it at a wholesale price because it was carried by the Government boat, and they carried a big load at a time.

Mr. Curry : The Government gets the money back.

Mr. Harris : The Government does not make anything on the powder.

Mr. J. C. Harris : I do not believe in the bonus ; we do not want charity. (Applause.) But the man who comes to this country from miles away to settle wants help. (Applause.)

Mr. Dilworth : I might say that I have spoken on this subject on several occasions and we cannot be too strong on this point. I do not approve of the \$1 per box bonus, but I would like to impress on the Government the necessity of getting cheap powder, as cheap as possible.

Mr. Bailey : I will support this motion if it will take in the prospector, who requires cheap powder as much as we do. I do not think that it is a right precedent.

Mr. Owens : The Government expend money on dykes, and we want money just as much to clear our lands as the people on the Lower Fraser did to reclaim their lands.

Mr. Cooke, Creston : I am as much interested in this question as anybody. Our powder costs us from \$9 to \$9.75 ; quite a lot of money. In my district there are many Prairie people coming in with their families ; they are often very hard up. I think that this measure will help out in this country. I was instructed to support any motion of this kind.

Mr. Whelton : The question of powder is a great one. When we got the Government to take it in hand we thought we were all right. I would like to see powder cheap, but I do not like the \$1 per box bonus. The Government will think that we want too much. I do not think that it is any use asking them for this. It is the rates that are excessive and are causing the trouble. If the Government get things to where they were before, it ought to be enough. We use 400 boxes, quite a bit for a small place, and we could use more if we could get it.

The following amendment was moved by V. D. Curry, seconded by Jno. Dilworth—

“That the Government be asked to take steps to have the price of stumping powder reduced to enable the farmers to clear the vast areas of timbered lands.”

Mr. Owens : I wish to state that I am not trying to secure any favour for myself ; it does not make much difference to me whether the powder is reduced or not. I have got over the hard time, but the country is young, new settlers are coming in, and they need the powder more than even we did. They need help both from us and from the Government.

On the question being put the amendment carried.

(MEMO.—The reduced rate on stumping powder has since been restored.)

PESTS ON WILD TREES AND SHRUBS.

A resolution was then brought in concerning pests on wild trees and shrubs, as follows :—

“Resolved, That trees and shrubs affected with pests, wherever found, be subject to the same laws as infected orchards.”

The Chairman : All trees and plants are subject to inspection already so the resolution can be withdrawn.

The resolution was withdrawn, as suggested.

ARTESIAN WELLS FOR IRRIGATION PURPOSES.

Moved by Mr. Collins, seconded by Mr. Heatherbell—

“That the Government be asked to sink one or more experimental artesian wells for irrigation purposes. This resolution refers to Vancouver and adjacent islands.”

Mr. Collins : My reason for bringing in this motion is this : we suffer very much from the want of water upon Vancouver and the adjacent islands during the summer months, which during the recent years have been very dry, so much so that we have thought of resorting to irrigation. Now, boring for water is very expensive, and we do not want the Government to give us a bonus but to experiment ; and should these experiments prove successful, they would be for the benefit of the country at large. If we could get water in the late season it would benefit us to a great degree, but no one present can afford to do this. If we could only get water in abundance, we could beat anybody in the country.

Mr. Scott : I do not know much about artesian wells, but I think that anything that would relieve the dryness of the late summers, such as they are now, would be a very good thing.

Mr. Heatherbell : I do not know much about this matter, but I do know that there are some places where it would be a great benefit to prove that the water could be obtained. I would like to see something done in this direction.

Mr. Curry : I do not wish to speak adversely on this subject, but it is like this : We ask the Government for a water law, but we cannot ask them to find the water for us. The Government sank two artesian wells in the vicinity of Kamloops, but did not find the artesian basin. I do not think, from the formation of the land, that there would be one here.

Mr. Farquharson : I do not see why Vancouver Island and the islands should be favoured more than any other part of the country.

Mr. Dilworth : They can have permission to sink a well on my farm at Saanich, if they want to. I do not think that we should bother with this. I think that, of course, it is very much needed in a great many parts of the Island, but it would be a great expense to the Government.

Mr. Scott : Like the speaker at the end of the table, I do not know much about artesian wells, but, as I said before, in view of the dry summers they would be very useful, though I doubt whether it would be advisable to ask the Government to do this. I also doubt whether we can get an artesian basin. We will certainly have to go in for irrigation if the summers continue as dry as they are now.

Mr. Collins : On Salt Spring Island, while boring for coal, when they got down 300 feet the water gushed up and has been flowing ever since.

The Chairman : Then, Mr. Secretary, I will take the liberty of pointing out that, as far as Salt Spring Island is concerned, you have proved your proposition. (Laughter.)

The resolution was lost.

CO-OPERATION.

Moved by Thos. Corbett, seconded by Geo. Heatherbell—

“That in view of the serious loss incurred by the present mode of marketing farm produce (including fruits and market garden), the time has come when a more sensible and business-like method should be adopted in the interest of both producer and consumer ; and, whereas, a system of co-operation established upon sound business principles is the only true solution ;

“Resolved, That the Government give a grant in such way as found most desirable to educate farmers to the great necessity and advantage of establishing co-operation in each district adjusted to its requirements.”

Mr. Corbett : I am not personally so much interested in this subject as many others, being very convenient to a market and having a good deal of business with the retailers. But I have taken some interest in this question and am firmly convinced, from my experience, that until this matter of the marketing of fruit is put on a firm and business-like basis, there will be no success obtained. The first point in connection is to secure the disposal of goods direct from the producer to the consumer. I have often noticed in the case of potatoes, for instance, they are handled three or four times before they get to the consumer and become blackened and lose their good appearance. I mention this one instance to show the importance of as little handling as possible between the producer and the consumer. The next point is to do away with, if possible, the liability of glutting the market. At certain points the market is glutted with a certain article, while in other places there is nearly a famine. By co-operation we could force the handling of fruit to a produce exchange at certain points in the district, from which point it would be distributed. This system would not go very far, perhaps, but it would do away altogether with this crowding of one market and neglecting others. The demand could be regulated. I was asked the other day how much we were being paid for potatoes in my district. I replied, from \$18 to \$20 per ton. At that time they were selling for \$30 in Victoria, and the potatoes on the Mainland were equally good. The third point is the high cost of handling farm produce under the present system ; we know how much we are mulcted. Whenever we bring fruit into the market we have to send it to agents ; they buy it to the best advantage ; we have to take what they give. There is too much margin between the price the agent pays us and the price he gets from the consumer.

Mr. Heatherbell : I do not know much about co-operation, but I know we have to work hard to get what we do, and we try to dispose of it as well as possible. If there is any way of forming an association which will enable us to dispose of our fruit to better advantage, such as Mr. Corbett describes, I think that it would be well to look into it.

Mr. Matheson : The motion is all right, but it gives us no remedy ; it only suggests one. I have had a great deal to do with co-operation and I am sorry to say that, although I was strongly in favour of co-operation in former days, I have greatly weakened on it. For some time in Armstrong it proved very successful. It seemed a very good system and was very well managed. In four months in one year we sold over \$120,000 of produce and fruit. Other associations started and some are existing to-day, but most of them have not been a very great success. It is a one-man job ; if you get the right man it will succeed. For the first three years we got the highest price and received dividends, but after that everything went wrong and we were placed “in the hole” to the extent of some \$15,000 ; I do not know how it came about, whether it was bad management or not, but the fact remains.

Mr. Owens: Salmon Arm was in the same position for some time, but now it has started up again. We tried it last year but it did not answer. We thought that the Central Exchange would help us. I do not think that it will succeed. It is a commission house, so the producer has to pay two commissions. We wanted the local exchanges to appoint a central board to find out the demand and the supply and to put the producer in touch with the consumer. If the railway company would reduce the rates it would put the producer nearer to the consumer.

Moved by Jas. Bailey, in amendment, seconded by V. D. Curry—

“That the Government be requested to supervise the work of marketing the fruit of the Province, by a system of supervision and inspection which shall insure to the grower an honest return in the market for his fruit, and that the cost of such inspection and supervision should be assessed against the fruit and produce handled, and thus establish that confidence necessary to success in the co-operative marketing of fruit and produce.”

Mr. Bailey: In connection with that amendment, I looked over the statistics. In Manitoba and the North-West we all know the condition of the wheat market until the Government took over the grading of the wheat. It is all marked; it is graded three times, at Port Arthur, Montreal and on arrival at Liverpool, and the grade stamp is all that the people want. The dairy industry of the North-West was in a bad way before the Government took hold of it; now we all know how successful it is; they brought order out of chaos, and the Provincial Government could do the same with the fruit industry; they have the machinery. What we ought to ask for is for the Government to appoint competent men to look after this industry. We want one man at Calgary, one at Regina, and one at Winnipeg. This man could pass on the fruit, and if it were not good could say so. But if it arrived in good condition he would make his report to that effect. What we want is an authorised man at these points. The fruit business is in a bad way. If something is not done which will have the effect of increasing the confidence of the people, the fruit industry will go down. Such a man ought to be paid out of the sale of the fruit. If the fruit industry of British Columbia cannot afford to pay a man to look after its interests, it deserves to go down. (Applause.) We want a good man at the end of every shipment to see that we are not imposed upon; if this were the case, we would have confidence and try again. (Applause.)

Mr. Curry: I do not know that there is anything more to say on this subject; I quite agree with the last speaker. I note the clause in the amendment in reference to cost. I, for one, would not think of asking the Government to pay for this; it should be made a charge against the fruit and produce. The Government are the only people who can take care of this, as Mr. Bailey said; they are the only one to bring order out of chaos. The fruit can be assessed to pay the costs.

Mr. Harris, Arrow and Slocan: I support the resolution. If we have not an umpire at the point of distribution, we cannot expect to get justice. We are at the mercy of the wholesaler, who can put what price he pleases on the fruit, if there is no one there to stick up for us. This should be done in every town, but it is very difficult to get a man to act if he be not authorised by the Government. The Government is really the only one who can decide on these matters. The beef that comes to us from Alberta all bears the Government stamp; why should not our fruit be treated in the same way? This system is pursued in New Zealand, Australia and the Old Country. It really means a Government guarantee, and the fruit industry needs this more than any other. There is often delay in forwarding the fruit; we want this reported. The Government should appoint the proper officials; they could look after them and see that they were doing their duty.

Mr. Dilworth: As I understand this amendment, all goods have to be stamped by the Inspector of the Crown. You cannot have an agent sell your goods; but the Inspector might be in favour of the wholesale people as well as many others.

Mr. Corbett: Might I ask permission to make a few remarks? In connection with the failure of these exchanges I might ask, what guarantee have the members of the Association of the honesty of the man in charge of the exchange? Where will you find an influential law firm or a big commercial firm that will put anybody in a position of such trust as that of the head of these exchanges, without having some guarantee as to his honesty? I do not think you will find such a thing anywhere. If we start a business along these lines we must expect failure. I have never heard of such a thing. It is absurd to condemn the system because of the failure of these organisations. We should establish two exchanges, one at the Coast and

one in the Interior, that would work together, and these exchanges could be supplied from the different Associations and could place the fruit to the best advantage. The exchange at the Coast could place the fruit all the way up to the Yukon. It does not seem to me necessary to ask the Government to have a lot of agents throughout the Province and the Territories; it would be better to have two exchanges, one at the Coast and one in the East, to handle the fruit and produce throughout the country. Then the farmers could control the output of the Province and they would be better off than they are now. They could combine in their districts and send a carload at a time. The fruit would all be placed in one building, taken care of, and sold direct to the retailers. If we do this and combine together we can dictate to the retailer, instead of him dictating to us.

The question being put, the amendment carried.

B. C. FRUIT AND PRODUCE EXCHANGE.

Moved by J. Cooke, seconded by W. T. Abbott—

“That the Government be requested not to give any grant to the B. C. Fruit and Produce Exchange for the season 1909.”

Mr. Cooke: I have put in this motion at the request of some members who have come up pretty hard against the B. C. Fruit Exchange. I learned on arriving here that there was a scheme on foot to ask for a grant of \$2,000, or even more, to the Central Exchange. I consider that this is throwing good money after bad. Most of the people who sold their fruit through this exchange lost their money. Take the institution at Nelson; they told you how they sent a man out to drum up the business, and these men were drawing their money from the wholesale dealers they were sending their fruit to. Carloads of fruit were shipped that were never accounted for; no record can be found. In one case one of the shippers only got 27 cents a crate for his strawberries, although they had cost 74 cents a crate placed on the boat, and yet nobody knows where the shortage comes in. There was \$5,240 lost in Nelson alone through this exchange. In my own district a man shipped 500 crates to the Central Exchange. He did not get his money for a long time, and then all he got was \$58.70. In conversation with one of the express officials, I asked him how they were getting along with the berries in Winnipeg. He showed me a telegram from the manager which said: “Berries in refrigerator in first class condition; berries on express car in fair condition; berries on ordinary car very bad condition.” This is a pretty state of affairs, and then they ask the Government for a grant. They once came over to Creston to ask us to join, but I am glad to say that we voted them down. Some of them wanted to join, but I would not let them. I had sold 75% of our berries before they came over. What berries we did sell we got our money for, but I think that we are about the only people who did. I sold the berries at \$2.50 per crate and sold 1,700 crates for the Association. The only debt outstanding is \$2.50 from the H. B. Co., which is as good as gold. Mr. Brock and Mr. Johnstone tried to explain; they said that they stayed out of our market; but we shipped fruit to Regina, Calgary and Winnipeg, and got paid. I went to a couple of firms and they are willing to take all our berries for next year.

Mr. Abbott: I think that Mr. Cooke has covered all the ground. Mr. Cooke has not been pinched, but I have. I went into that concern. What we sold through them only realised 10 cents per crate, and we have not got even that yet, but we are charged \$10 per head to belong to this valuable organisation. (Laughter.) One thing was rather conflicting. We got a telegram from the B. C. Exchange to ship to the Pioneer Co., at Brandon. I made a mistake and shipped to McPherson. They wrote back and said that they had received so many crates and asked if I would be satisfied with \$2 per crate. The Exchange billed them at \$1.60 and we got returns for less than \$1.

Mr. Heatherbell: Is there not a mistake being made, and is this association not being confused with the B. C. Fruit Growers' Association?

The Chairman: The B. C. Fruit & Produce Exchange received during the past year a grant of \$1,000 for organisation purposes in connection with the local exchanges.

Mr. Bailey: Is this organisation incorporated under the Joint Stock Companies Act?

The Chairman: Yes.

Mr. Bailey: Then I would ask for an investigation into their affairs.

Mr. Cooke: I understand that the application is already in for a Government grant?

The Chairman: Yes, the application is in.

Mr. Matheson : This matter calls for investigation.

Mr. Cooke : I think that we have plenty of evidence ; I have plenty in my pocket.

The motion was carried.

FRUIT EXHIBITIONS IN GREAT BRITAIN.

Mr. W. E. Scott, of Salt Spring Island, was introduced by the Chairman and requested to address the meeting with regard to the exhibitions of B. C. Fruit in Great Britain. He spoke as follows :—

MR. CHAIRMAN AND GENTLEMEN,—I am sure that there are a great many of you, I think I may say all of you, have heard about our fruit exhibits in the Old Country. I will only say a few words. I might say that I made a record trip home from Liverpool to Victoria, only 12 days. I left here last October, in company with Mr. Palmer, the Deputy Minister of Agriculture, with about 1,000 boxes of apples and a few boxes of pears. On our arrival at Liverpool the fruit was placed in cold storage, to be drawn on as required. At the Colonial Fruit Show of the Royal Horticultural Society, in St. Vincent's Square, London, we showed 366 boxes, and for the fourth time we were awarded that society's gold medal. At the Crystal Palace the fruit was shown twice, while we also made displays at Windsor, Islington, Plymouth, Cheltenham, Chester, Bath, Liverpool, Birmingham, Leeds, Hawick, York, Aberdeen, Belfast, Dublin and Ipswich. Displays were also made at Edinburgh, and the fruit took the gold medal of the Scottish Horticultural Society. Regarding the packing of fruit for exhibition, always put a layer of corrugated paper between the tiers of fruit and do not pack on the straight system, but on the diagonal system, because in straight packing where the apples rest together, they become bruised. Another point is that the boxes must be well filled.

I opened some boxes of apples two days before I left London, two of Kings and two of Gravensteins, and they were in perfect condition. These came from Kaslo. I had no idea that they would keep so well for so long. The Spitz were all quite right, and the Kings were hardly bruised at all ; in these the Californian pack was used altogether. We showed altogether 20 different varieties of apples, and showed them all over the United Kingdom. There has been a great deal of work done in advertising the country and a number of people are coming out here this year. Most of these are going in for fruit-growing and farming, and, as a rule, will be a very desirable class. We also gave a number of lectures and illustrated them with cinematograph views, which interested the people extremely. They dealt with farming, fruit-growing and packing, the lumber industry, fisheries, etc. One that attracted the most attention was that of the live stock shown at the Victoria Exhibition last fall. After Mr. Palmer left I gave two lectures at the Wye Horticultural College and two lectures on fruit-growing at Swanley College. There is a great interest taken in England in British Columbia, and at the exhibitions the B. C. fruit exhibit was always crowded. A great many retired men who have not sufficient means to live in England have the idea of coming out here, where they can acquire 20 or 30 acres of land and employ themselves in raising fruit and farm produce.

One thing that impressed me very much was the dreadful state of affairs in the old country and the armies of unemployed. A great many of these are broken down professional men, and I had a great many enquiries from them as to the wisdom of coming out here. But these are not the class we want.

The fruit was in excellent condition when we arrived at London and caused no small surprise. At York one man accused us of painting the apples, and another said we had dipped them in something to give them a colour. The varieties which attracted the most attention were the Cox's Orange Pippin, Grime's Golden Pippin, Spitzenberg, Jonathan, King and Northern Spy. Cox's Orange Pippin still is first favourite, but the people are getting to know the other varieties.

British Columbia is at the present time the best known of all the Canadian Provinces, and I think that much credit is due to the Government for this. (Applause.)

On motion of Mr. Harris, seconded by Mr. Abbott, a vote of thanks was tendered to Mr. Scott for his interesting address.

The Chairman : I can corroborate everything that Mr. Scott has said in connection with the interest taken in this country. It is well advertised and the advertising work is cumulative ; every year it becomes easier. Personally I do not hope to take part in exhibiting as I have

done during the last few years, but I feel sure it will be maintained, to the advantage of the Province. In the ancient City of Aberdeen, Mr. Scott addressed a most representative and interested meeting of over 1,000 persons, and had a rather strenuous time.

Mr. Scott: When I got to Dublin I found that there was a strike on, and for some time I could not get anyone to remove the fruit. I thought that I should have to carry it myself, but eventually got a man to help me.

WELL-BORING OUTFIT.

Moved by J. Cooke, seconded by Wm. J. Hamilton—

“That the Government provide a well-boring outfit to assist farmers in procuring water for domestic purposes; that a practical man be sent in charge of the outfit, all expenses to be paid by the person on whose property the outfit is used.”

Mr. Cooke: This resolution does not refer so much to water for irrigation as for water for domestic purposes. One part of our district has water, but the other has not. Near Creston some of us, during the past season, have been obliged to pack our water for a mile or more. We want the Government to help us. We have put down 49 wells; the deepest well is 115 feet and the shallowest 10 feet. We would like the Government to give us a test well. If the Government would show us that we can get water at 300 or 400 feet, we would know what we were about. We thought that perhaps the Government had the plant and we could have the assistance of this meeting in bringing forward this resolution.

Mr. Dilworth: Do you ask the Government to supply the machine?

Mr. Cooke: In the North-West and Manitoba the Government have a machine. We do not ask the Government to pay for the boring, but we cannot afford the machine.

Mr. Hamilton: I think that Mr. Cooke has covered this question. What we want is wells in the dry district.

Mr. Cowley: The motion provides that a practical man come with the well-boring outfit, and the party will pay the man and agree to take care of the machine.

Mr. Bailey: You would also pay the expenses and breakages.

Mr. Dilworth: This machine could be used on the Island. (Laughter.)

Mr. Dinsmore: I do not believe in asking the Government to help us in this matter. In Cloverdale all the farmers club together and get a boring outfit which costs about \$1,500. In Langley they have 15 flowing wells, and some are at the depth of 100 or 200 feet. If they want to test for water they should club together.

Mr. Palmer: Can you tell us the cost of the outfit?

Mr. Dinsmore: About \$1,500.

Mr. Harris: In Langley they have sunk wells 100, 200 and 300 feet. They put a casing down to the bottom and in some cases the water went up within 15 feet of the surface.

Mr. Cooke: They will not tackle such work under \$2 per foot in my district.

Resolution carried.

NOXIOUS WEEDS ON INDIAN RESERVES.

Moved by Mr. Bailey, seconded by Mr. Dilworth—

“That the Government of British Columbia be requested to impress on the Indian Department the necessity of clearing up the noxious weeds on the Indian Reserves.”

This resolution carried without discussion.

RURAL TELEPHONE SERVICE.

Moved by J. C. Harris, seconded by W. J. Harris—

“Private enterprise having failed to provide adequate telephone service throughout the Province, and further in consideration of the fact that the public service requires telephone service where private enterprise can never be expected to provide it; that such telephone service is needed to preserve our forests, to help the inhabitants to co-operate, to enable the Farmers' Institutes to be worked more successfully; that the Government be asked to take up this question energetically and provide a rural telephone service.”

Mr. J. C. Harris: This is an important question, especially as it concerns the Institutes. We live in unorganised districts at the present time; in some parts there are private telephones, but there are no public telephones. I could cite a great many instances where they have failures of Institute meetings solely because they have no telephones to let the people know

about it. Sometimes the meetings are called and for some reason or another the speakers cannot get there; the people come, but there is no one to lecture to them. All this could be avoided if we had a system of telephones. In America there are 25,000 miles of telephones all through the country and forest districts. They can let each other know if the forests are on fire and whether there are any trees across the tracks; it is most efficient.

Mr. H. J. Harris: I second that motion, not for personal reasons, because we are within the radius of the telephone company and have one; but I certainly think that the Government might do something along these lines.

Mr. Heatherbell: I am a firm believer in Government-owned telephones; our Development Association has been fighting for this for two years. The Dominion Government built a telephone line to Colwood and to Metchosin. If you want people to settle in the country you must make things pleasant for them; you must have cheap communication, good roads and mails as often as you can get them.

Mr. Way, Sooke: I endorse this motion. The way we are situated is tantalising. We have the Government telegraph line with the telephone line attached to it. The telegraph people can telephone into Victoria, but we cannot; we have to pay for a telegram. I think that we ought to have a Government telephone.

Mr. Corbett: In our district, running from Vancouver through Westminster by way of the Mission Junction, there are two or three lines. Several united together to put up the poles and then they found that they could not get connection, through some technicality of the B. C. Telephone Company. We have a system in our portion of the country, but throughout the country they have only telephone in each village. The company do not want rural telephones. We are tied up by them; they want long distance telephones and do not care to put in any other.

Mr. H. Harris: The telephone company you speak of has given a very efficient service as far as we are concerned; nearly all the farm houses have telephones. We put the poles up on their extensions. We have a central at Port Hammond and can get to every point. We have put up 1,000 poles and the company furnishes the telephones for \$1.50 per month.

Mr. Way: We pay \$1 per month, or \$10 per year.

Motion carried.

MANNER OF BUILDING ROADS.

Moved by Mr. W. J. Harris, seconded by Mr. Way—

“That the Government be requested to take up the subject of improving the methods of making or building roads throughout the Province, by introducing up-to-date machinery in districts under Government control.”

Mr. W. J. Harris: I think that this is a most important question and one of the most difficult problems of the farming industry. Everything has to come out over roads to the market. We are greatly indebted to this present Government for what it has done way; they have done their duty to the people of the districts in many ways, but they have not done their duty as far as the roads are concerned. Our roads are a disgrace; they have been badly built. I had a talk with one of the road-masters. He said that the system of road-making employed by the Government of British Columbia was useless. Hundreds of thousands of dollars are wasted in this matter. The work is not up-to-date; it ought to be done by proper specifications. The day has gone past when trails would do; we have got more facilities now and should avail ourselves of them and have better roads. I know that I have the sympathy of the whole Institute with me on this question.

Mr. Way: I am sure that you will all agree with me in regard to this motion. In this district we have pretty good roads. The defect in road-making is the way that they are built. We had an object lesson this year. One piece of the road was built with road-making machinery; it is hard and good to-day; in the piece built in the old way, the road has gone into holes and bumps. The old style of road-making is a thing of the past; we should march with the times and get proper machinery. Machinery saves labour and time and does the work better.

Mr. Dilworth: I know that in our district we get our roads in good shape; the Government is doing good work. When I first went into the country the money was certainly badly spent, but we remedied that. I believe in using graders wherever you can, but in some places you cannot use them, such as on hills or sand, but I think that the Government is doing all they can to provide good roads.

Mr. Matheson : According to this resolution, we are only speaking about what the Government is to do for us ; the people should organise together to better their own condition. I do not think that we can fairly ask the Government for much more appropriation than we are getting for the public highways. There is at present a very good movement going on in the United States ; it is the "Good Roads Movement," and it develops road-making quicker than anything. We had it here at one time, but we were too young a country then ; the movement was before its time. I think that if they would work this they could get better results.

Mr. W. J. Harris : We are not asking for better appropriations, we want the money better spent.

Mr. Bailey : In regard to the question of good roads, it is the duty of every man in this country to see that we have good roads. I do not find fault with the Government ; they have given us a good appropriation. The Government have the whole country to build roads in ; it is sparsely settled and every man wants a road out from his place, however far away it is. I do not think the Government can do any more. When the country gets more settled up, then we can ask the Government for a permanent system of road-building. This is a question which arises in every municipality. I think that we ought to commend the Government for what they have already done and ask them to lecture on this subject. I think that the Government are doing well by the people of the country.

Mr. W. J. Harris : I am not finding fault with the Government.

Mr. Heatherbell : Just a word on this road question. I believe thoroughly in the Good Roads movement. We ought to do something ourselves. In this respect the United States is ahead of us ; a great wave of feeling in this direction is going over it. Every locality should take up this question.

Mr. Phillips : The delegate from Chilliwack said that the Government might send round an expert to lecture to us. I think this a very good idea.

Mr. Tarry : I was requested by my Institute to say a word on this matter. We have no roads whatever in my district. I had to make a road five miles long myself, through my own property. I would not have brought this forward myself, but was requested to do so by the Institute. I am sure that we want roads in my part of the country.

Mr. Curry : The only thing that I feel about this is that it is a censure on the Government about the road question. No Government ever before has done so much for roads as this one. The roads are a great credit to them. Look at the way that the roads have been brought to the door of every small farm. In such a large business as this building of roads, you cannot expect but that there will sometimes be some loose management. I think that, on the whole, the roads of this country are in a splendid state. (Applause.)

Mr. Cooke : I heartily endorse this sentiment. (Applause.)

Mr. Curry : Speaking again on this resolution, I say that it implies that the Government are not doing their duty, and I say that they are.

Mr. W. J. Harris : I do not see how anybody can say that this motion is a censure on the Government ; it is only asking them to take up a question which is an absolute necessity. It is absurd to take this as a censure.

Mr. Cowley : I understand that we wish to be a progressive people, not in fruit-growing and farming generally, but also in road-making. I think that the Government has done all it can in building roads, but everyone will agree that there are better methods in force now than formerly. I do not think that it is out of the way to ask that up-to-date machinery be used.

Mr. Dilworth : But I want to know whether the Government are not using up-to-date machinery ; they are using graders in our district and in other districts also. It is a censure on the people who are building the roads to-day. I think that they are building roads as quickly as possible.

Mr. Heatherbell : I cannot see it the way Mr. Curry does. We have a grader at Esquimalt and it does very good work, but it will get old and have to be replaced. We must have up-to-date machinery.

Mr. Way : The remarks made by the delegate from Kamloops are out of place ; there is no censure on the Government. All we want is better work and more of it.

Mr. Tarry : There is no censure whatever upon the Government. I cannot understand anyone saying this. When Mr. Green was Minister of Lands and Works two petitions on this subject were sent in from my district, but nothing came of it. I then wrote to Mr. McBride, who said that he would attend to it at once. A road was surveyed, but not built.

This has all taken ten years; I think that ten years is a long time to wait for a road. I have brought out 40 families myself. Now I know that a road and a bridge will be put in this year.

Mr. Harris: At Pitt Meadows we have no machinery but old-fashioned kinds, nothing but scrapers and old machinery.

The mover and seconder consenting, the resolution was amended to read:

"That the Government be requested to take up the subject of improving the methods of road-building by introducing an increased quantity of up-to-date road-building machinery, for use in districts under Government control." Carried.

On motion the meeting adjourned until 7:30 p.m.

Evening Session.

LAND CLEARING.

Moved by W. G. Way, seconded by Geo. Heatherbell—

"That whereas (1) the methods of land clearing adopted by the individual settler (by far the greater majority of whom are men possessed of little or practically no capital) are not such as are calculated to rapidly extend the area of arable land in this Province:

"And whereas (2) the difficulties which these men have to face are even greater than those which the early settlers of Eastern Canada had to overcome:

"And whereas (3) retardation of the development of the arable lands is a marked drawback to the advance of the Province as a whole:

"And whereas (4) extensive co-operation in agriculture, more particularly along the line of fruit-growing, is impossible until the land is ready for the plow:

"And whereas (5) Governments have found by practical experiments that their assistance along such lines as well-boring, creameries, irrigation, etc., has been productive of great public benefit.

"Resolved, therefore, that as a matter well within the scope of and deserving of Government aid, the Provincial Government be asked to take steps to assist settlers to clear their lands along the lines suggested as follows:—

"(1.) That an appropriation be made sufficient to purchase first-class land clearing machinery and operate and maintain the same:

"(2.) To put the same in the field under the charge of competent men:

"Appropriations so laid out may be gradually recovered as follows:—

"(a.) By a charge of so much per day for the use of these outfits:

"(b.) In those cases where the settlers do not elect to pay such charges at once, that the amount due be recovered gradually in a series of yearly instalments, the first instalment being due two years from date of clearing:

"A formal rate of interest to be charged and a lien on the land taken as security:

"(c.) Or such other method as may commend itself to the Government."

Mr. W. G. Way: I have heard a good deal at this meeting about clearing land and about the different plans that have been used to this end. We also know, from what has been said by the Minister of Agriculture, that they have had this matter under consideration for some time past, and, from what the Premier said last year, we can take it that they were ready to consider this scheme. I should say that everyone was willing to consider this question, provided we put forward a practical scheme. The preamble to this resolution states fully the reason why this should be advisable, and I must say it is a feasible scheme. We have heard considerable talk about stumping machines; some say that they are a success, some say that they are not, but I would go a step further. I have had considerable talk with men across the line who clear land by using stumping powder; they have reduced this to a science. Now they can clear logged-off lands for something like \$65 per acre. I enquired into their methods, and it is possible for them to clear land at that price, why should we not do the same? We should cast about for some means by which this could be made possible. We might insert in the resolution that preparation be made to clear land. My reason for putting this in in this way is this: Anything we ask for from the standpoint of money is looked down upon; we are told that we must not ask the Government for money. I know the Government has given us help along the lines of stumping powder and we are grateful for it, but this has not cost the

Government much. This scheme will cost the Government something, but it will come back to them. The scheme is this: That the Government purchase first class machinery to take into the districts that requires clearing, and thus help the settler to clear the lands. We want something that will clear land at so much an acre. Some lands cost more to clear than others. I would suggest that the Government put clearing outfits into the field. But you will ask how they are to be paid for. I propose that the Government furnish two or three good men who understand handling expensive machinery. The machines cost about \$3,000 each and can be easily handled by two or three men. The farmer would pay so much a day for the use of this outfit; add to this the services of the two or three men and a rate for wear and tear; this latter would go to replace the machinery when it is worn out. Neighbours could band together to furnish the extra help. If a man has to pay so much a day for the use of the outfit, he will take it where it can do the most good; he will also see that the outfit works to the best advantage. In this way the Government will get their money back. If the land is cleared it can be sold for more than it cost to clear it. Say that the Government put money in this; we know that it will cost a good deal to procure the outfit, but they will get their money back, and if we work this scheme well it is bound to be a success. See what they do on the other side. The American Government voted a certain amount to reclaim desert lands. When these were reclaimed they paid for themselves, over and over again, while the money is put into other schemes and goes on and on. There is a great amount of money going out of the country for articles that might be produced here, but they will never be produced until the land is cleared. (Applause.)

The Government can borrow the money at 4% and anybody would pay 7%, so the Government would be secure of their money anyway. The land is the backbone of the country; if the Government would do something along these lines the country would be developed.

Mr. Heatherbell: Mr. Way has gone into this matter very exhaustively. We know that powder is used on the other side very extensively. Every acre that is cleared is a great asset to the country. Every industry fails sometimes, but good land always remains and will last for all time, provided it is properly treated.

Mr. Randle: I am in favour of the scheme, but I think it impossible at the present time. We would have to get four machines on the Island at least, and many more on the Mainland, and I do not think that the Government would do this. They might try one in one section of the country, but others would want the machine in their section; if you did clearing for one section of the country the other parts would want the same advantage. I believe that the scheme is practical as far as clearing land is concerned, but it would be very expensive. I think that most of the small farmers would rather clear their land with powder; they would prefer this to going into debt to get their land cleared.

Mr. Harris, Arrow and Slocan: I would like to support this scheme. I have had a little experience in clearing two bush farms, and if I had had a machine I would have been far ahead in this matter. I do not know why, but there is always an objection raised when the farmers ask for anything. The Government is giving a big subsidy to the smelter at Nelson and they get subsidies for steam lines. The farming industry is surely as important as these, and I think that we have a right to expect the Government to take up this scheme. We should use the Government where we can; we will pay for it in the taxes; we know that. If we can make them do anything in this matter we ought to.

Mr. Phillips: I do not see how you can move these outfits around. In our municipality, for six months, you would not be able to move them, and we would require at least 20 in the Province.

Mr. Sylvester: I do not think this scheme very practicable. It would not help the new settlers. I think that the better way would be for the Government to lower the price of stumping powder.

Mr. Cowley: I have a resolution which has not come on yet. I had instructions to bring it forward. My bad time is past; I do not want help now, but I know what clearing bush lands is. You must all remember the first days you put in clearing the bush in British Columbia. The boys of nowadays will not go into the bush and clear land like we did; you cannot make them; they know too much for that, and this drives them to the towns. The Government is bringing people from the Old Country. You cannot put these people out into the bush and tell them to clear the land; people are too enlightened these days. I went over the road to Alberni 15 years ago and went into the bush there, and I know what it is to clear that kind of land. I think the scheme is all right. We should get the land cleared, so that

when settlers come and go into the bush they will find some encouragement. I arrived 17 years ago from London, England, where I was doing very well. I read about market gardens near Vancouver and how they paid, and how all the market gardening was in the hands of Chinamen. I came out to Vancouver and went to Mr. Sutherland and said that I wanted to stake 160 acres. He informed me that there was no land to be staked within 100 miles of Vancouver. After trying in vain to get work in Vancouver, I came to Victoria with five cents in my pocket, a wife and two children, and had to set out into the bush and make my living. I consider that it would be wrong to invite settlers to do this. I think that the Government should clear up land and put it on the market.

Mr. Curry: I have listened with great interest to the last gentleman, but I do not agree with his sentiments. If we have to import a class of immigrants who have to be spoon-fed, it is better not to have them. I am sure that there are plenty of people in the Old Country who can dig in and work like others. If a man wants his land cleared with machines, he should be able to arrange this himself.

Mr. Bailey: Is it true that the Vancouver Island Railway Company are going to clear land in this way?

The Chairman: It all resolves itself into a question of cost—how much land is worth when it is cleared, and how much the clearing will cost. The C. P. R. is carrying out this kind of work at the present time, and is being closely watched by the Government. I understand that the cheapest cost of clearing land has been found to be \$125 per acre, and all the way up to \$300 per acre. On the American side the land is cleared for \$75 per acre, but that is land that was logged off years ago and on which nearly all stumps are more or less rotten. I visited Bellingham Bay district with Mr. Cambie and found the conditions as described. It seems to me that if you would ask the Government to experiment in this direction, the proposition would be more in order, but to ask the Government to clear the land at an unknown cost is, I think, a little premature.

Moved by Mr. Dilworth, in amendment, seconded by Mr. Matheson—

“That the question be laid over for twelve months.” Carried.

ROADS FOR SUBDIVIDED LANDS.

Moved by Mr. J. C. Harris, seconded by Mr. Randle—

“That before any plans for the subdivision of agricultural lands be accepted by the Land Department, the surveyor be required to show that due provision has been made both for practicable roads to each lot on such subdivided land, and also practicable roads to such lands as lie beyond.”

Mr. Harris, Slocan: This is a burning question in unorganised districts. There is a lot of land subdivided into small lots and sold in Winnipeg and elsewhere to purchasers who have never seen them. They lay out the land as if it were flat like the prairies, and when the unfortunate purchaser gets there he finds himself up against a mountain and finds the roads running up and down, with no grading. They lay out the subdivisions without any regard to the natural conditions of the country. A farmer coming there may find himself without any decent road to the territory beyond. If the surveyor, before laying out the subdivision, laid out the main roads up the valleys where they naturally go and planned out the other roads before laying out the lots, never mind cutting up some lots—and this could be done with a little forethought—the people would be benefited and the Government saved a great deal of expense.

Mr. Randle: If we could live on plans, these roads would be all right, but you cannot divide a mountainous country up into squares like the prairie; and when you find that your road leads you tight up against a precipice, which could have been avoided, it is a little hard. The Minister says that there is no provision at the present time for this, but something should be done. There is not much room, unless in the valleys; you must take what you can.

Mr. Matthews: I would like to call your attention to the legislation on this matter in New Zealand, where the same conditions prevail. The first thing a surveyor did was to lay out the roads, then they can lay out the lots to suit them.

Resolution carried.

CLEARING OUT LARGE CREEKS.

Moved by F. Cowley, seconded by R. Carter—

“That the Government be asked to clear out large creeks where necessary.”

Mr. Cowley : This is one of my instructions. There are several instances of men having land cleared on the large creeks ; the logs get into great piles and float, and the men cannot get at their land until late in the summer ; and as the Government have the water rights it was considered that the Government ought to take steps to clear out the big creeks.

Motion carried.

WANT GOVERNMENT TO SURVEY AND CLEAR LAND.

Moved by F. Cowley, seconded by R. Carter—

“That the Government be asked to survey land in 40-acre blocks, and clear 10 acres and to sell at actual cost of clearing.”

Mr. Cowley : This resolution is not for men who have been in the country for 15 or 25 years and do not care whether the land is cleared or not. They think that the world is too far advanced to get into the bush. The C. P. R. is bringing settlers, and these men will not want to set to work and clear the land.

Mr. Phillips : The men in the Old Country must be getting soft, according to you. I was an Englishman who came here and had to go into the bush and I have done well enough. I do not think that Englishmen are any different now to what they were then.

Mr. Dilworth : I think that this had better be laid over for 12 months.

Motion laid over.

PROPOSED AMENDMENT TO BUSH FIRE ACT.

Moved by F. Cowley, seconded by R. Carter—

“That the Government be asked to change Bush Fire Act to lengthen season for burning.”

Mr. Cowley : I want to say that, as a man who has had experience in the bush, I think that this Act is too strict.

The Chairman : Do you wish to start earlier ?

Mr. Cowley : It would be better to begin to burn at the end of August.

The Chairman : It is too risky in August ; the Government would have an objection to this.

Mr. Dilworth : Be careful in touching this matter of firing. Was it not in your locality that the people lost a good deal of money through the fire running ?

Motion withdrawn.

RECOMPENSE FOR LOCAL TALENT.

Moved by Mr. Carter, seconded by Mr. Cowley—

“That the Government be requested to recompense local talent, to the extent of three dollars per manuscript, for papers accepted for publication.”

Mr. Carter : This motion was brought forward in this way. In looking over the Superintendent's report, he refers to the fact that very few manuscripts concerning the Farmers' Institutes were sent to him. We could get people to give addresses, but it takes time to prepare them, and a good many think that they should be recompensed for their trouble. We thought that if the sum of \$3 was paid for these addresses, it would encourage local talent.

The Chairman : I think that the resolution comes to this : If an article is worth publishing it is worth paying for, and the Department is willing to recognise this request.

Motion carried.

RED CLOVER SEED FOR FARMERS.

Mr. J. C. Harris (Slocan) moved—

“That the Government be asked to handle clover seed at cost.”

Mr. Harris : In bringing forward this motion, I wish to ask that clover seed be treated in the same manner as stumping powder. Somebody said that that was absurd, but I do not think so. Clover seed is the most useful seed for the settler ; it is as useful as powder, and if

the Government can cheapen this product they will be doing a very good thing indeed. It is most important to put our land in clover, and if the Government gave us cheap seed it would encourage this and be especially helpful to the newcomers.

There being no seconder, the motion was withdrawn.

FRUIT AND PRODUCE EXCHANGE.

Moved by D. Matheson, seconded by R. Gillespie—

“Resolved, That in view of the fact that the Provincial Government advanced \$1,000 to the Fruit and Produce Exchange of B. C., and that grave irregularities appear to have been committed in the transaction of their business, this meeting is of the opinion that the Government should appoint a Commission to investigate the manner in which the business of the Exchange has been conducted and have the finding published for the benefit of those concerned.”

Mr. Matheson: Mr. Chairman, gentlemen, the object I had in view was this: There are a great many people throughout the Province who have had a great deal to do with the B. C. Fruit Exchange and some of them are short in returns, and they would like to know something of the management and how the Exchange comes to be short. A great many have not got anything at all, and there is a great difference between the price the Exchange agreed to pay and the price paid. Then I should like to know how the thing was managed to account for such a difference. The Government having had to do with it in the organisation, ought to find out about it and where the fault lies. I think that with proper management such an organisation ought to be a success. If the management can clear itself, it would be better for the public to know this, and to this end, and to satisfy everybody, I think that it would be better to have an investigation.

Mr. Gillespie: I second the motion and endorse what Mr. Matheson has said; it should be investigated.

Mr. J. C. Harris, Slocan: I doubt if it will lead to a satisfactory result, if we hear Mr. Johnstone. If we ask for a commission to investigate the matter it would be the better plan. This discussion will only lead to squabbling. I think that it would be better to ask for a commission to investigate this.

The Chairman:—I do not anticipate anything disagreeable.

It was moved and seconded that Mr. James Johnstone, President of the B. C. Exchange, be heard.

Mr. Johnstone: Mr. Chairman, gentlemen. It affords me great pleasure to hear a resolution of this sort, it is what I want myself. I am here to get the Government to look into this matter. Investigation has been made by business men representing my own district. My district suffered more than any other. The business men sent up to investigate were to see and investigate the causes which led up to such bad results. Their report was good. The Exchange was unfortunate in a great many ways. We were promised business to the extent of \$400,000 and prepared to handle this business. We were led to invest in furniture necessary to cover \$400,000 of business. We had hard work with certain parties who had not succeeded, and they spread bad reports concerning the Exchange. Reports were circulated that the Exchange was going bust, and growers, especially in the dry belt, became very nervous, with the result that in a great many cases, instead of shipping all their fruit to us, as they had promised, they shipped small quantities. When a man had 50 or 60 crates to send, he would send 15 or 16 to an old customer, where he was sure of getting the money. This fruit would go to the same places on the same car and he would get better prices for the boxes sent to the private people. The whole thing was want of confidence. If only we had got some assistance and inspection on the part of the Government, so that the growers would have had confidence, we should have had a great success. This is the only thing that will do good. At the last meeting of the Exchange, I and others put up a guarantee of \$4,000 to pay off the indebtedness. We did so, taking a single security of the furniture and supplies on hand. This money is intended to pay off certain claims, one being from the Victoria Association. At present the money is in the bank.

Query: Did the B. C. Exchange pay all claims against them?

Mr. Johnstone: This will pay all local claims.

Mr. Matheson: This money has not been paid out yet?

Mr. Johnstone: No, not yet. We are holding this money until we see where we stand from the local point of view. We will pay everything off as soon as we can.

Motion carried.

B. C. DAIRYMEN'S ASSOCIATION.

Mr. Hodson, Dairy and Live Stock Commissioner, then addressed the meeting.

Mr. Hodson: Mr. Palmer has allowed me a few minutes to speak in connection with dairy matters. I will confine my remarks to the B. C. Dairymen's Association. This Association started two years ago, its object being to instruct the farmers so that they may obtain the best result from their cattle. We will show them how to grade the herds. The association will hold meetings throughout the Province, four meetings through the year, one in each district. The cost of joining this association is \$1 per year, and this dollar gives you a weekly dairy paper, "The Farm and Dairy," which is a very good little paper and is full of farm and dairy reading. Every member's name that can be sent in will strengthen the association and we want dairymen to join. The Canadian Dairymen's Association did a great deal for the East; we would like to see the B. C. Dairymen's Association do as much for British Columbia.

The Chairman: The Government will make a grant of \$500 towards the Dairymen's Association. (Applause.) Mr. Hodson has been very successful in securing membership; he has doubled it already and hopes to double it again. The Minister of Agriculture will be pleased to receive a report from the Resolutions Committee, the Superintendent's address could be taken up by the Committee on Resolutions and placed before the Minister to-morrow. Mr. Dilworth, Mr. Collins and Mr. Rooke will take charge of the resolutions to the Minister. I now will ask you to kindly give a few minutes to Mr. Cunningham.

Mr. Cunningham: Mr. Chairman, gentlemen—It is the first time, in an experience of 40 years, that I have risen to a question of privilege. I wish to correct a statement made here yesterday, as it is likely to deceive the public. Mr. Hamilton made the charge, which was published in the evening paper, that there was no inspection in Fernie. Now, that is not correct. We have had an Inspector there for several years. Last fall I received a wire from our Inspector there to say that he was in trouble with a car-load of fruit. I could not go myself, so I wired to the Inspector at Nelson to go to Fernie and inspect the conditions there, and he went. He made a return of how the Inspector there discharged his duties. The inspection there is carefully done. If Mr. Hamilton had only given me a hint that Cranbrook was not all right, I would have sent Mr. Adie to see about it. I want you to bear in mind that if anything in this line is neglected, if you will advise me I will engage to do anything I can at once. Inspection is a very unpleasant duty; to have to condemn 1,690 boxes of fruit is not pleasant. I think that all the farmers should help the Inspectors in this business.

Mr. Hamilton: I have no doubt in the world that Mr. Cunningham gets good reports from his Inspectors, but I think that they are slack. I think that he ought to take a trip himself and see that these things are looked after.

Mr. Chairman: I think that the discussion might close here.

Mr. Hamilton: I wish to draw Mr. Cunningham's attention to one thing. There are small orders of fruit trees coming in; I want his agents to stop them. I will inform Mr. Cunningham about the fruit when it comes.

Mr. Curry then asked permission to read a letter from Mr. Smith concerning better transportation facilities, which was as follows:—

"KAMLOOPS, October 30th, 1908.

"To the President and members of the Kamloops Agricultural Association:

"GENTLEMEN,—The representatives of the Agricultural Associations of the Province, in their deliberations at the convention of the Provincial Exhibition Association of B. C., held in the City of New Westminster on the 30th September last, passed the following resolution, with a view of assisting the rural district societies:—

"It was moved by Mr. Keary, seconded by Mr. Duncan, of Comox, and carried—'That a committee of three, members of the Farmers' Institute, interview the Dominion and Provincial Governments, through their respective representatives, with regard to obtaining better transportation facilities for the farmers. This committee to meet with the Central Farmers' Institute at Victoria in January next.'

"By a subsequent motion this matter was placed in the hands of the Farmers' Institute.

"I am, therefore, submitting this resolution to you, which I trust you will be good enough to have placed in the hands of the delegate to the Central Farmers' Institute meeting.

"I have the honour to remain, yours truly,

"JOHN F. SMITH,

"Secretary, Provincial Exhibition Association."

The Chairman : What is the wish of the meeting with regard to this communication ?

Mr. Harris : Did you not say that something was being done in regard to freight rates ?

Mr. Curry : This refers more particularly to express rates.

The Chairman : With regard to freight matters, there is to be a conference between C.P. R. officials, representative fruit growers and the Government. They are going to deal more particularly with the fruit industry. The resolution embodied in this letter is so wide I do not know what to make of it.

Mr. Carter : The intention is to get better transportation facilities.

Mr. Curry : I might say that, as I understand the idea of this letter, it was considered better for the resolution to come from an Institute than from an individual, as it would carry more force.

The Chairman : This resolution would call for a committee on better transportation facilities.

Mr. Dilworth : If a committee is appointed from this meeting they should formulate some scheme to place before the proper parties. This would have some weight. We want a proper resolution on the subject. It is no use coming before the officials of the C. P. R. without we really know what our wants are.

Mr. Harris : I think that this matter could be safely left to Mr. Palmer, who has had so much experience in these matters.

The Chairman : I think that the committee which dealt with the other matters should deal with this. Will you nominate a committee ; I do not desire the responsibility.

Mr. Curry, Mr. Dilworth and Mr. Collins were appointed to be on the committee.

The Chairman : These delegates can place such matters as they are interested in before the Railway Commission. I might say that in meeting the officials of the C. P. R. you must know definitely what you are asking for.

Mr. Matheson : I think that this question must be most carefully dealt with ; we want to get the best rates we can.

Mr. Harris : To give the delegates appointed more standing, they ought to have authority from this meeting.

Mr. Bailey : In regard to this action, they can obtain a good deal of information from Mr. W. H. Keary and Mr. Smith, who have had a great deal of experience in these matters.

Mr. Harris : I do not think that any committee appointed here can deal with these matters properly.

Mr. Abbott : I agree with you.

Mr. Dilworth : I think that Mr. Keary has a great deal of information on this point ; I will see him to-morrow. Mr. Pitcairn, also, is well informed on the subject.

Mr. Harris : The Chairman is well posted in these matters ; I should like to see him take hold of it.

The Chairman : I do not think it possible for me to take up any new work. The matter will be dealt with next week at the Fruit Conference to a certain extent.

Mr. Gillespie, Vernon : We have been three months working on this and we have the matter pretty well in shape and can place all this information before the commission.

The Chairman : You must remember that the Central Institute does not meet again for a year, so to deal properly with this question the committee appointed should be able to clearly define what they require from the Railway Company.

Mr. Curry : Under the circumstances I must decline to be on the committee. If I try to deal with the C. P. R. I should want time to work up the subject. It is no use coming before these gentlemen without a clear and definite case. I have not the time nor the desire to go into the question of freight rates. If any one has the time I think that they should certainly go before them, for we certainly have a great many grievances.

The Chairman : You can present your case to the C. P. R. officials in Victoria, and also to the Railway Commission.

Mr. Curry : We shipped tomatoes into the North-West Territory by the Express Company ; they got \$2 and we got 50 cents. The grower gets nothing, and the consumer cannot buy the goods ; they are too high. We want some means whereby the producer can get his produce to the consumer so as to make a reasonable profit.

The Chairman : The Railway Commission can deal with this question ; it exists for that purpose, and has very extensive powers. You have all the machinery now at hand ; it is for you to take advantage of it.

Mr. Dilworth : Mr. Rogers, of Vernon, is coming down to represent a number of the Farmers' Institutes and has a fund of information. He is a lawyer and is going to place his information before the Railway Commission. Mr. Pitcairn, who is also a delegate to the Railway Commission, can represent these matters.

Mr. Matheson : There is nothing to work upon, unless it is put into shape.

Mr. Palmer : There will be a meeting of delegates next Tuesday, representing all the fruit districts and the Canadian Pacific Railway Co.

Mr. Curry : We ought to have some one to meet this body.

Mr. Dilworth : Would it not be better to confine the case to a certain class of products ?

Mr. Curry : Then we will appoint a committee of one to meet the delegates.

It was moved that Mr. Curry be appointed delegate from the meeting.

The Chairman : If you send a committee from this meeting it purports to represent the whole of British Columbia.

Mr. Curry : I shall have much pleasure in presenting this matter, but I feel nervous about my ability to do so. I will do what you ask me, to the best of my ability.

It was then moved and seconded that Mr. Curry meet the delegates who are to meet on the following Monday and Tuesday.

Mr. Bailey : He will be our delegate from this meeting ?

Mr. Cooke : For my part I think this is a very grave question. I would like to send a delegation from this meeting, but the subject must be put into shape. The fact of having a representative who will go to the meeting without a specified case would only injure the cause.

Mr. Randle : In view of the fact that there is to be a meeting on the subject of freight rates, would it not be better to drop the matter altogether.

An amendment was then moved and seconded that the letter of Mr. J. F. Smith be returned to Mr. Curry. Carried.

AGRICULTURAL FAIRS AND EXPERT JUDGES.

Moved by Mr. Matheson, seconded by Mr. Collins—

“That the Department endeavour to arrange for agricultural fairs in rotation and provide expert judges.”

Mr. Matheson : If the Government arranged the dates of the fairs, this could be done.

The Chairman : A circuit could be arranged for the Upper Country and probably for the Islands. As far as the Department is concerned, we will help you when possible. I think that in these matters you could do a good deal yourselves.

Mr. Hodson : Some time ago, perhaps three or four weeks ago, this Department sent notices to the secretaries of the various associations throughout the country asking them to co-operate with each other so as to arrange for fairs and to enable the judges to go from one fair to another. The Dominion Government are sending three experts from Ottawa, who will go to all the shows possible during the time between the Victoria and New Westminster fairs.

Mr. Cowley : I would like to say that we would be very glad to advance the time of our show so as to come in line with the Comox Show, if we can get a judge. Two years ago we were promised a judge, but we never got him.

The Chairman : You had better take this up with the Department, and we will endeavour to meet your wishes. I have here a recommendation from the Agricultural Associations in other parts of the country to have the fairs in rotation.

The resolution was withdrawn.

A resolution was brought in by Mr. Matheson to allow farmers to shoot grouse on their own premises.

Mr. Matheson : I want that resolution to apply to certain seasons in the Okanagan.

After some discussion, this resolution was withdrawn.

VOTES OF THANKS, ETC.

The meeting then offered votes of thanks to the Hon. R. McBride and the Hon. R. G. Tatlow, which were carried unanimously.

Mr. Matheson : I wish to bring forward a resolution to divide our Institute, which has grown too large to permit of handling it properly.

The Chairman : This question rests between the Institutes and the Department, and can be taken up at any time.

Question : When shall we get the Report of the Superintendent's address ?

The Chairman : As soon as it can be printed.

Mr. Curry : Last year the report was a great deal cut up.

The Chairman : You must leave that to the discretion of the Department. We will endeavour to include everything that should be included.

It was then moved, seconded and carried that Mr. Corbett take the chair.

Mr. Phillips : I wish to move a vote of thanks to the Chairman for the efficient manner in which he has served us during this meeting ; it is a pleasure to sit under such a man.

Mr. Corbett : I think that we ought to take a standing vote.

The resolution was carried unanimously, the meeting singing " For he is a jolly good fellow."

Mr. Palmer : I feel quite overwhelmed by the vote of thanks which you have given to me. Before closing, I wish to state that very much of the Institute work has been in the hands of Mr. Hodson during the last three months, who has helped us materially. We have plans in view for the extension of Institute work, and with your assistance we hope to carry some of these out during the coming year. After all, the success of the Institutes rests mainly with the local officials. We must all work together.

Mr. Corbett then left the chair.

A vote of thanks, moved by Mr. Phillips, seconded by Mr. Whelpton, was also tendered to Mr. Hodson.

Mr. Hodson : I hardly know how to express my appreciation of your kind remarks. I assure you that it has been a very great pleasure to me, and I appreciate the help various members and the Secretaries of the Institutes have given me. It is through their kind assistance that I have been able to carry out the wishes of the Institutes.

Mr. Curry : I have heard rumours that the Department intend to call this meeting only once in two years. I think that this would be a pity. Some people question the good they do, but I think that they do a great deal of good. We exchange ideas ; we make requests to the Government, who often take up our ideas. I think that it would be a great loss to us if we were not allowed to meet here year by year.

It was moved by Mr. Bailey, seconded by Mr. Curry, and carried, that a vote of thanks be tendered to Mr. Cunningham.

Mr. Cunningham : I appreciate this very much. I am one with you in the matter of the development of British Columbia. I have not another thought in life. There is one thing I wish to impress on this meeting and that is this : You will help me greatly during the coming year if, when you see anything wrong in connection with matters under my control you will tell me in time and I will correct it.

Mr. Hamilton : I will assist Mr. Cunningham next year in Creston. I do not think that any place needs more attention than this. Votes of thanks were then tendered to Mr. Maxwell Smith and Dr. Tolmie.

The Chairman : I may state with regard to meetings, especially in the Upper Country, it has been decided to defer these to a later date than usual, to permit of special speakers being sent and demonstration work being done in the orchards.

The meeting then adjourned.

REPORT OF RESOLUTIONS COMMITTEE.

Superintendent's Address.

We, your Committee to report on the Superintendent's address, beg leave to report as follows :--

We are glad to see that there has been considerable improvement in the Secretaries in the matter of forwarding their reports to the Department. We, your Committee, would still urge on the Secretaries the importance of the prompt performance of their duties.

We are glad to see that there has been a large quantity of literature sent out by the Department and we trust the good work will be continued.

We suggest that the Superintendent use every means in his power to secure local speakers.

We are glad to note a better attendance and more active work is being done by the different Institutes.

We are pleased to hear that the Department have now under consideration the forming of a more efficient staff for demonstration work.

Your Committee wish to express the thanks of the Institute for the efficient manner in which the work of the Department has been carried out during the past year.

We wish to especially thank Hon. Mr. Tatlow, Minister of Agriculture, for the valuable services rendered to improve the state of Agriculture in the Province generally.

(Signed) JOHN T. COLLINS.

" JAMES COOKE.

" JOHN DILWORTH.

A Recommendation.

We, your Committee on Resolutions, beg to report as follows :—

We recommend that in future all resolutions to be brought up by delegates before the Central Farmers' Institute be carefully drawn up at a meeting of the local Institute concerned, and sent to the Superintendent at least ten days before the meeting of the Central Farmers' Institute.

We recommend the publishing of Mr. Hobb's Report (including the Auditor's Report) in the Annual Report of the Central Farmers' Institute.

(Signed) JOHN T. COLLINS.

" JOHN DILWORTH,

" JAMES COOKE.

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