PROVINCE OF BRITISH COLUMBIA

NINETEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR THE YEAR 1924

PRINTED BY
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VICTORIA, B.C.:
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1925.

To His Honour WALTER CAMERON NICHOL,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

I have the honour to submit for your consideration herewith the Annual Report of the Department of Agriculture for the year 1924.

E. DODSLEY BARROW,

Minister of Agriculture.

Department of Agriculture,

Victoria, B.C., June 30th, 1925.

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REPORT OF THE DEPARTMENT OF AGRICULTURE.

REPORT OF THE DEPUTY MINISTER OF AGRICULTURE.

D. WARNOCK, O.B.E.

Hon. E. D. Barrow,
Minister of Agriculture, Victoria, B.C.

SIR,—I have the honour to submit herewith the report of the Department of Agriculture for the year 1924.

GENERAL REVIEW.

Climatic conditions during the year were on the whole normal. In January low temperatures were experienced during the early part of the month, followed by a mild February and March, with spring work well under way. April was backward and held up farm operations in many districts, but very little damage appeared to have been done through winter frosts and all crops wintered well. A decrease was noted in small-fruit acreage and early in the season small-fruit growers were anxious about their markets, these difficulties being later overcome to a considerable extent. Stock wintered well and there appeared to be little or no shortage of feed, while the prices for farm produce were firm, with the exception of eggs and pork.

The month of May was exceptionally dry and crops in many districts were in need of rain, the hay yield on Vancouver Island and the Lower Fraser Valley being affected.

June and July were fair, with light rainfall, the Interior ranges being reported to be badly burned up. In June the British Columbia Poultrymen's Co-operative Exchange wound up their business largely owing to lack of loyal support from members. The result of the strawberry-crop was very disappointing as regards quantity marketed, although returns to growers were generally better than in 1923.

Harvesting in August and September was carried out under excellent weather conditions, the hay and grain crops being below average in many districts. Market conditions in the Central Interior were better, farmers experiencing less difficulty in disposing of their produce.

Milch cows commanded good prices during the year and much interest was evidenced in the sheep industry, but the scarcity and high price of breeding stock precluded any forward movement of consequence.

Throughout the year there was but little demand for farm-labour, several districts reporting outside work as very scarce.

GRASSHOPPER OUTBREAKS.

From reports received at the close of 1923 it was obvious that a further outbreak of grasshoppers would occur in the present year in several sections, the Okanagan Valley in particular showing evidence of heavy infestation. Thorough co-operation for control measures was effected between the Dominion Entomological Branch and this Department, large quantities of poison (white arsenic) being furnished free to farmers and growers, as well as the other ingredients—bran, molasses, salt, etc.—necessary for the complete formula. Several central mixing-stations were established, particularly effective work being done in the Kelowna District. The widespread nature of the outbreak in the Lower Nicola Valley was not so easy to control and there was also lack of local organization among the ranchers, the consequence being that hay and range grasses in that section were seriously affected. Outbreaks of this pest were also reported in the Francois Lake District in the central portion of the Province, effective control, however, being obtained by use of poison bait.

AGRICULTURAL PRODUCTION.

The total agricultural production for 1924 was estimated at $60,029,224, being an increase of 1.47 per cent. on the figures for 1923. Imports of agricultural produce, both from Dominion and foreign points, valued at $16,399,502, also showed a decrease of nearly 14 per cent. Agricultural exports from the Province are also becoming a feature of increasing value each year, the total exports for 1924 amounting to $6,022,019, the chief items being fruit and vegetables, amounting to $4,580,808, meats, poultry products, evaporated milk, hops, etc.

The fruit industry showed a distinct advance, due no doubt to the better organization effected through the efforts of the Associated Growers of British Columbia, which were responsible for marketing over 80 per cent. of the year's crops.

Field crops and grains both showed a slight decrease, due to the drought of the summer months. Prices, however, were well maintained, potatoes averaging $9.40 a ton more than in 1923.

There was a considerable increase in the area of grain-hay, due to the shortage of the clover and timothy crop.

The acreage in alfalfa continues to increase slowly but surely, there being now almost 19,000 acres under this crop in the Province. The average yield, however, for the past year was rather lower than the average, being 2.62 tons per acre.

The outstanding feature of the year was the splendid increase in dairy production, the total value for all dairy products being $9,769,549, constituting a record; the item of creamery butter having shown an increase of practically 24 per cent. for quantity manufactured over the previous year.

Live Stock.—Horses increased slightly in the Province during the year, whilst milch cows increased in number by 4,875. Swine also showed a forward movement after a period of depression over several years.

The poultry industry experienced a normal year, the average market price received by producers for eggs during the year being 32 cents, or 4 cents higher than in the previous year. The high price of feed, however, proved a serious handicap to the industry. The "Eggs Marks Act" of the year 1923 had a salutary effect, due to the clause which required every egg-dealer who had in his possession or under his control eggs which had been imported into the Province, and which had not been marked, to mark such eggs with the words "Produce of," followed by the name of the country of origin.

Bee-keepers experienced a very favourable year, the total production of honey being estimated at 679,289 lb., as against 432,518 lb. the previous year. Values were also satisfactory.

The detailed reports of officers for the various branches of the Department are appended herewith.

Respectfully submitted.

D. WARNOCK,
Deputy Minister.

Harvest scene on the farm of Guichon Bros. at Ladner, in the Delta of the Fraser River.

REPORT OF DEPARTMENTAL SECRETARY.

WM. J. BONAVIA.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I have the honour to submit herewith the annual report for this office for the year ended December 31st, 1924.

STAFF.

The Estimates for the fiscal year 1924-25 provided for a similar number of appointments as in the previous year.

The following table will show the number of permanent appointments made and removals. The year was marked by the untimely loss of two members of the staff of the Department, D. Gavet, senior assistant of the Fruit Inspection Branch at Vancouver, dying on January 28th suddenly whilst on his way to work, and W. T. McDonald, Live Stock Commissioner, dying after a very brief illness on November 26th.

1924. *Permanent Appointments.*

April 1. J. B. Munro, Assistant Agronomist, Soil and Crop Branch.
April 1. M. S. Middleton, District Horticulturist, Vernon.
April 1. H. W. Epps, Inspector, Fruit Inspection Branch.
Feb. 1. Miss W. R. Parsell, Stenographer, General.
April 1. Miss A. P. Woodward, Stenographer, District Agriculturist, Duncan.
April 22. Miss E. V. S. Bickle, Stenographer, Dairy Branch.
Aug. 1. Miss C. McG. Bigland, Laboratory Assistant, Entomology, Vernon.
Dec. 1. Miss F. Gates, Stenographer, General.
April 1. R. Whitlaw, Messenger, General.

Removals.

Jan. 28. D. Gavet, Inspector, Fruit Inspection (died).
Mar. 31. W. T. Brookes, Veterinary, Veterinary Branch (retired).
Mar. 31. R. Anderson, Messenger, General (resigned).
April 12. Mrs. J. Stewart, Stenographer, Dairy (resigned).
Aug. 31. Miss M. M. MacLoud, Stenographer, General (resigned).
Nov. 26. W. T. McDonald, Commissioner, Live Stock (died).

Temporary Appointments.—The usual number of temporary appointments were made during the season in connection with the work of the Horticultural Branch, Soil and Crop Branch, Dairy Branch, etc.

CORRESPONDENCE.

The total number of letters received was 25,214, and dispatched, 21,855, the latter being an increase of 4 per cent. over 1923.

A considerable increase in the correspondence of the Dairy Branch was noted, as well as that of the Soil and Crop Branch, both in and out. (*See* Appendix No. 1 for full details.)

Circular Letters.—A total of 35,962 circular letters was dispatched, this being an increase of over 8,000 as compared with the year 1923. These letters were grouped under the following general headings:—

Agricultural Associations	977
Farmers' Institutes	940
Women's Institutes	7,060
Dairy Branch	6,806
Horticultural Branch	2,425
Live Stock Branch—	
Brand Recorder	100
British Columbia Goat-breeders' Association	1,560
British Columbia Stock-breeders' Association	260
Soil and Crop Division	6,060
Poultry Division	6,855
Miscellaneous	1,404
Statistics	1,515
Total	35,962

Stencils.—The arrangements for stencilled addresses of persons whose names have been put on the various mailing-lists have been improved and enlarged. During the past year a total of 3,237 names were filed, this being a big increase over the previous year's total of 1,801. The increase is very largely accounted for by a new mailing-list created in connection with seed-certification work by the Soil and Crop Branch.

POUND DISTRICTS.

The past year has been one of unusual activity in the investigation of petitions for the "Pound District Act" to be made applicable to new areas. The correspondence in connection with the Passmore area in the Slocan Valley was active throughout the entire year.

The following new districts were organized by Order in Council:—

	1924.
Keremeos Pound District	Jan. 22
Wardner Pound District	Jan. 22
Nakusp Pound District	Nov. 7
Passmore Pound District	Nov. 25
Mountain (Nelson) Pound District	Dec. 8
Harrop Pound District	Dec. 23

At the close of the year investigations into applications from the Hillbank District on Vancouver Island and from Dewdney were still incomplete.

Returns from pound-keepers in forty-seven active districts showed considerably higher figures than usual for estrays, sales, and fees. No prosecutions were recorded.

Operation of Pound Districts in British Columbia, Year 1924.

Pound District.	Estrays captured.		No. of Sales of Estrays.	Amount realized from Sales.	Fees charged for Sustenance.	Total Fees paid to Pound-keeper.
	Horses.	Cattle.				
Balfour	5	10	....	$ 12 00	$ 10 00	$ 12 00
Burton (Carroll's Landing)	5	18	....	.....	.....	87 55
Castlegar	2	10	....	.....	.....	6 10
Brilliant (Crescent Valley)	11	42	....	.....	.....	18 45
East Kelowna	22	4	11	44 10	109 58	273 15
Elko	2	....	....	.....	.....	2 00
Gray Creek	1	....	....	.....	20	1 75
Grand Forks	8	21	2	63 00	39 20	23 15
Ladysmith	1	3	1	5 00	14 50	6 00
Naramata	4	26	....	.....	15 00	24 00
Nelson and Fort Sheppard	....	7	....	.....	.....	12 00
North Bend	....	3	....	.....	.....	7 50
Okanagan Centre	3	6	....	.....	1 00	4 50
Oyama	36	35	3	31 00	99 75	162 00
Totals (47 in operation)	100	185	17	$155 00	$289 23	$640 10

SHEEP-PROTECTION AND GRAZING DISTRICTS.

No new sheep-protection districts were constituted during 1924, although at the close of the year investigations were being carried on as to the advisability of organizing the whole of the South Okanagan Electoral District into a sheep-protection area.

One grazing district was organized under the provisions of the "Animals Act Amendment Act"; this covered a tract of land on the east coast of Graham Island, the Order in Council approving same being issued on May 27th.

Petitions were also received during the year from the Cranbrook area, situated within the Columbia-Kootenay Grazing District, setting forth that the presence of bulls at large in the Cranbrook extra-municipal school district were found dangerous to school-children, and also that the beef bulls permitted to be at large during a certain period of the year interfered with the grazing and proper care of milk cows in the vicinity of Cranbrook. The area in question was withdrawn from the whole grazing district by Order in Council approved November 5th.

Agricultural Poison Licences.

The total number of licences issued under the provisions of the "Pharmacy Act" with regard to the sale of agricultural and horticultural poisons was twenty-six, being two less than the previous year. This reduction is due to the consolidation in the supply of spray materials, weed-killers, etc., that has taken place in the Okanagan Valley under the auspices of the Associated Growers.

Special Rates on Crushed Lime Rock.

Permits for the special tariff on crushed lime rock, to be used as fertilizer by members of Farmers' Institutes and other agricultural bodies on Vancouver Island, were issued for 75 tons, this being a slight decrease on the previous year.

A recapitulation of departmental action with regard to the lime situation may be of interest and is appended herewith.

The Department has had an arrangement with the Canadian Pacific Railway and Esquimalt & Nanaimo Railway Companies since the year 1912 with regard to a special freight rate on crushed rock lime used for fertilizer purposes and consigned to farmers individually or collectively to Farmers' Institutes.

The deposits of lime that have been most used in recent years are in the vicinity of Victoria, the companies operating same being the North-west Lime Company, the Rosebank Lime Company, and the Victoria Lime Company. None of these companies are operating at the present moment, however.

The arrangement with the E. & N. provides for a special tariff on agricultural lime when shipped in car-lots of 60,000 lb. minimum. The shipments have to be accompanied by a certificate signed by the Deputy Minister of Agriculture, certifying that the lime was to be used for agricultural purposes. The usual procedure has been, when an order was received by a lime company, for them to bring into the Department the bills of lading, when a certificate was issued in duplicate, attached to same, and handed to the transportation company. The rates applied on shipments of lime from Colwood and Palmer's Siding, some of the rates being as follows:—

	Per 100 lb.
Colwood and Palmer's Siding to Cobble Hill	3½c.
Colwood and Palmer's Siding to Duncan	4c.
Colwood and Palmer's Siding to Nanaimo	4½c.
Colwood and Palmer's Siding to Parksville Junction	5½c.
Colwood and Palmer's Siding to Courtenay	7½c.
Colwood and Palmer's Siding to Alberni	7½c.

A very similar arrangement has been in effect for a shorter period on C.P.R. Mainland points from Vancouver as far east as Penticton, including points on the main line in between.

The Great Northern Railway and the Canadian National Railway have also issued special rates, subject to departmental certificate, for Mainland points served by them.

Re Price of Agricultural Lime.—The price of agricultural lime has risen steadily in recent years. In 1912, when the first arrangements were made with transportation companies, Evans, Coleman & Evans, Limited, were offering farmers crushed rock lime in car-lots at $4 per ton bulk or $5 per ton in non-returnable sacks for all points in the Lower Fraser Valley between Sumas and Vancouver. In more recent years and up to the beginning of 1924 the Rosebank Lime Company's rate has been $8.50 per ton sacked, at the close of the year reaching the very high rate of $10.50 when handled through a local firm.

Farmers' Institutes and similar bodies should make a definite effort to place a stated quantity of lime among their different districts, and when they know the quantity they want and the points of delivery they should then open up negotiations with the different lime firms with the aid of this Department and thus secure a stated contract price. Such procedure would be more satisfactory to farmers and manufacturers both, for it would enable the farmer to strike a bargain somewhere among the different firms competing for business, and it would give the manufacturers a definite contract upon which they could estimate the cost per ton f.o.b. in quantity.

Farmers' Institutes.

The total membership of Farmers' Institutes as recorded at the close of the year was 5,076, being a decrease as compared with the previous year. Five new institutes were incor-

porated, as follows: March 20th, West Quesnel; June 11th, Winlaw; August 2nd, Capitol Hill; October 14th, Pender Island and Refuge Bay (reorganized).

The net total number of institutes in good standing at the end of the year was 140, being a slight decrease also. The following ten institutes were those with the largest membership:—

Surrey Centre	156	Metchosin	113
Coquitlam	141	Islands	108
Nanaimo-Cedar	128	Victoria	94
South Saanich	121	North-east Burnaby	92
Kitsumgallum	119	Mission	88

The movement continues to progress satisfactorily and during the year, from correspondence received, it was evident that certain United Farmer Locals are contemplating organizing as Farmers' Institutes, and in the case of Winlaw this was actually accomplished.

A rather interesting summary of the progress of Farmers' Institutes was prepared for the Advisory Board for their annual meeting in this city and is attached herewith as a matter of record:—

Progress of Farmers' Institutes, Ten-year Period, 1913–23.

	Year 1923.	Year 1913.
Farmers' Institutes organized	148	92
Meetings held	453	449
Attendance	8,652	10,162
Average attendance at meetings	19	22
Addresses given	156	282
Members	5,643	8,144
Receipts	$127,992.97	$30,949.73
Expenditures	116,339.42	25,041.67

Lectures and Demonstrations.

Two extended itineraries were organized by the Department during the year, one in which J. B. Munro, Soil and Crop Instructor; Geo. C. Hay, District Agriculturist, Kamloops; and H. E. Waby, District Poultry Instructor, Salmon Arm, were associated. The institutes visited were along the main line of the C.P.R. from Salmon Arm to Malakwa and also up the North Thompson, eight centres being visited.

A longer itinerary was arranged covering practically the entire month of February in the Columbia Valley and Boundary Districts, in which Angus L. Hay, District Agriculturist, Cranbrook; C. Good, District Poultry Instructor, Nelson; and A. Morton, Dominion Sheep and Swine Promoter, took part. Thirteen institutes were visited, including some of those that had been missed in the itinerary of the previous year when severe winter conditions necessitated the cancelling of dates.

A further itinerary was arranged on the Island for A. Morton, several Farmers' Institutes in the vicinity of Victoria being given lectures and demonstrations.

Gopher-control.

The Department was able to get a vote passed by the Legislature in aid of gopher-extermination competitions amounting to the sum of $750, and early in the year the Department circularized all Farmers' Institutes, United Farmer Locals, and other bodies of agriculturists, outlining a scheme whereby a grant of $20 would be made by the Department where competitions were held for killing gophers and where the local body agreed to put up an equal amount of prize-money. The scheme outlined was taken advantage of by several institutes, especially in the Kootenay, Columbia, and Boundary Districts, as follows: Arrow Lakes, Arrow Park, Briscoe, Columbia Valley, Cranbrook, Eagle River Valley, Elk Valley (two competitions), Horse Creek, Midway U.F. Local, Moberly to Donald, Procter and Balfour, Rock Creek, Rossland, Slocan Valley, and Winfield.

The largest number of tails reported came from Brisco Farmers' Institute with 1,200, and from Elk Valley, first competition, 1,098.

Fairs held by Farmers' Institutes.

The total number of fairs organized by Farmers' Institutes in districts where no Agricultural Fair Association existed was eleven; the places being as follows:—

Circuit I.—Metchosin, September 17th; Denman Island, September 26th.

Circuit II.—Howe Sound, August 29th and 30th; Whonnock, September 6th; Fern Ridge, October 1st.

Circuit IV.—Crawford Bay, September 6th; Boswell, September 10th; Kaslo, October 1st.

Circuit V.—McBride, September 4th; Vanderhoof, September 5th and 6th; Forest Grove, September 26th.

Other farmer organizations held fairs also at Pemberton Meadows, Falkland, Birch Island, and Houston, making the grand total of these events fifteen, as against sixteen recorded the previous year.

Co-operative Activities of Farmers' Institutes.

The returns for the year 1923, the last available, showed that twenty-four institutes exceeded the sum of $1,000 for receipts as compared with the year 1922, when the total was twenty-three. The success of the Crawford Bay Farmers' Institute co-operative store is outstanding, the figures recorded for receipts and expenditures each exceeding the sum of $16,000. Other items of interest were fruit sold by the Kitsumgallum Farmers' Institute, $3,496, and from Bella Coola the sum of $7,465 in connection with the purchase of feed, flour, hay, and fertilizer for members.

Table showing Chief Lines of Activity of Farmers' Institutes whose Receipts were over $1,000, Year 1923.

Name of Farmers' Institute.	Receipts.	Expenditure.	Powder, Fuse, and Caps sold to Members.	Seed sold to Members.	Feed, Flour, Hay, Fertilizer, etc., sold to Members.	Miscellaneous.	Remarks.
Aldergrove	$ 4,742 88	$ 4,087 11	$ 2,533 29	$ 214 99	.....	$ 437 10	Drain-tile sold.
Bella Coola	9,006 18	8,708 97	1,115 60	.....	$ 7,465 67	.....	
Cranbrook	1,542 66	1,500 62	185 01	.....	1,211 51	.....	
Crawford Bay	16,869 63	16,069 58	111 43	.....	14,673 55	1,151 23 345 36	Sale of eggs. Sale of apples.
Chilliwack	4,714 70	4,519 61	4,075 00	.....	.....	.....	
Delta	1,406 97	233 71	.....	.....	.....	100 00	Prize-money for fair.
Denman Island	1,020 07	672 25	868 35	.....	.....	.....	
Fern Ridge	1,193 46	1,107 70	419 67	.....	.....	.....	
Graham Island	5,468 62	5,162 38	189 00	.....	4,815 86	.....	
Gray Creek	2,713 69	2,513 95	95 60	.....	2,442 36	.....	
Horse Creek	1,254 48	1,114 00	362 05	.....	773 12	.....	
Kent	4,747 98	4,485 13	3,103 02	615 54	.....	598 67	Implements.
Kitsumgallum	11,181 32	11,052 09	2,057 10	.....	3,496 81	3,904 07	Fruit sold.
Matsqui	2,037 13	1,964 46	1,722 13	.....	.....	.....	
Moberly to Donald	2,947 32	2,634 59	175 80	.....	2,450 71	.....	
Northern Okanagan	3,364 50	2,977 21	2,132 15	345 75	.....	410 65	Ensilage-cutter, etc., bought.
Otter District	4,808 58	4,758 13	2,174 35	.....	2,228 44	.....	
Powell River	1,709 41	1,620 70	1,500 00	.....	.....	.....	
Smithers	1,939 43	1,797 25	711 25	.....	1,091 55	.....	
Spallumcheen	2,228 39	2,167 20	1,903 00	.....	.....	166 70	Payment on bulls.
Strawberry Hill	2,630 22	2,549 78	2,351 00	.....	.....	.....	
Surrey	9,880 13	9,701 54	9,461 79	.....	.....	78 00	Prize-money for fair.
Whaletown	2,151 01	2,093 96	.....	.....	2,049 80	.....	
White Creek Valley	2,756 44	2,592 41	599 56	.....	1,913 15	.....	
Totals (24 institutes)	$102,315 20	$95,454 33	$37,846 15	$1,176 28	$44,612 53	$7,191 78	

The Advisory Board of Farmers' Institutes and District Conventions.

The Advisory Board met for its annual meeting from November 12th to 20th, sitting in the Provincial Public Library, there being present the following: District A, C. E. Whitney-Griffiths; District B, no representative; District C, R. J. Blackburn; District D, W. Harrison; District E, Jas. Bailey; Districts F and H, O. B. Appleton; District G, M. P. Williams; District I, D. O. Bricker.

Including the legislative reports, over 150 resolutions were handled arising through the Farmers' Institutes as well as coming from other agricultural organizations. A printed legislative report was issued on the work carried out.

In addition to the annual meeting the Executive of the Advisory Board met during the summer at Westminster. The district institutes met at the following places during the year: District A, January 22nd, Victoria; District B, no gatherings; District C, February 29th, Vanderhoof, and August 1st, Prince George; District D, January 12th, Kamloops, and October 23rd, Salmon Arm; District E, February 8th and October 31st, New Westminster; Districts

F and H, January 24th and September 18th, Nelson; District G, February 11th and October 23rd, Vernon; District I, January 30th and 31st, October 29th and 30th.

District B did not hold a convention, but a visit was made by the Chairman and Secretary to that section and arrangements will be made for a convention in 1925.

The district conventions have reached during this year their highest point of efficiency, meeting no less than twice in the year. It should be noted that the district institutes pay their own expenses and no delegates are paid by the Government. Whilst development may seem slow in consolidating the Farmers' Institute movement, the records clearly show marked and steady lines of progress.

Statistics re Stumping-powder used by Farmers' Institutes and Similar Organizations in clearing Land for Agricultural Purposes.

The past year shows a decrease in the use of stumping-powder, there being 1,247 less cases used by the above bodies than in 1923–24, although the applications for payment of special rebate have increased.

The following table shows comparative data:—

Fiscal Year.	Cases of Powder purchased.	Value.	No. of Cases Rebate paid on.	No. of Applications.	Acreage cleared.
1923–24	12,301	$85,030	8,276½	2,796	5,141¼
1924–25	11,054	73,036	8,988¼	3,072	5,094½

WOMEN'S INSTITUTES.

The total recorded membership for the year 1924 was 3,177 for 109 institutes, both figures being a slight decrease on the previous year. The ten institutes with the largest membership were as follows:—

Nelson	143	Cowichan	51
Cranbrook	67	Similkameen	51
Esquimalt	61	Vernon and District	50
Hatzic	52	Parksville	48
Kaslo	52	Peachland	48

Six new institutes were incorporated during the year and it will be no very long period of time before the Women's Institute organizations will catch up with those of the Farmers: January 23rd, Patricia; January 25th, Luxton and Happy Valley; February 12th, Cedar; May 9th, Wistaria; June 6th, Squamish Valley; September 4th, Shirley.

Fall Fairs, Flower-shows, Exhibits of Women's Work, etc.

Eighty-seven events of the above character were organized by Women's Institutes, all previous records being surpassed again. The following rough grouping will give some idea of the wide scope that these annual functions embrace:—

(*a.*) *Vancouver Island and Gulf Islands.*—Twenty-seven events, including seventeen flower-shows, one fall fair, two better-baby clinics, and seven exhibitions of school-children's work, etc.

(*b.*) *Lower Mainland.*—Twenty-five events, including fourteen flower-shows, three better-baby clinics, one manual-training exhibit, five exhibitions of school-children's work, etc.

(*c.*) *Okanagan and North Thompson.*—Nineteen events, including six better-baby clinics, one health exhibit, nine flower-shows, etc.

(*d.*) *Kootenay.*—Sixteen events, including twelve flower-shows, seven exhibits of school-children's work, etc. (*See* Appendix No. 2 for full details.)

PUBLICATIONS.

The past year was a more active one than 1923 in connection with the issuing of bulletins and circulars, a total of 92,500 being received from the King's Printer, as against 80,950 the previous year. The majority of the issues were reprints. Bulletin No. 68, "Diseases and Pests of Cultivated Plants," was, however, completely rewritten, although retaining the original series number.

Agricultural Journal.—This publication was continued during the year, but owing to intimation that it would likely be discontinued early in 1925 fresh subscriptions were not actively canvassed for and renewals in many cases were carried on automatically without pressing for payment. The average monthly circulation was 1,800.

The following statement shows the total number of bulletins, circulars, etc., printed during the year:—

Date.	Name.	Description.	No.
	Bulletins.		
Feb. 4	The Potato in B.C. (2nd Ed.)	Bulletin No. 86	8,000
Mar. 31	Practical Poultry-raising (8th Ed.)	" 26	5,000
April 16	Climate of B.C. (9th Ed.)	" 27	1,500
May 12	Agricultural Statistics for 1923	" 95	1,500
June 16	Diseases and Pests of Cultivated Plants (2nd Ed.)	" 68	5,000
	Horticultural Circulars.		
Jan. 2	Spray Calendar		3,500
Feb. 22	Gardening on a City Lot (Reprint 3rd Ed.)	Hort. Circ. No. 43	2,000
" 22	Planting Plans and Distances (Reprint 2nd Ed.)	" 62	2,000
Mar. 24	Fire-blight (Revised Ed.)	" 66	3,000
" 31	Strawberry-root Weevil (4th Ed.)	" 33	3,000
Aug. 15	Top-working of Fruit-trees (Reprint)	" 42	2,000
Nov. 4	Selection of Orchard Sites and Soils (4th Ed.)	" 53	2,000
" 4	Currant and Gooseberry Culture (3rd Ed.)	" 56	2,000
	Agricultural Department Circulars.		
June 12	Some Facts about B.C.	Agr. Dept. Cir. No. 44	2,500
Oct. 11	Vancouver Island and Gulf Islands (3rd Ed.)	" 33	1,500
Nov. 26	Agriculture in West Kootenay (2nd Ed.)	" 34	2,500
	Circular Bulletins.		
Mar. 31	Poultry-keeping on a City Lot (4th Ed.)	Circ. Bulletin No. 11	5,000
	Dairy Circulars.		
May 15	Certified Milk and Butter-fat Records	Dairy Circ. No. 8	1,000
	Soil and Crop Circulars.		
Jan. 26	Kale and Rape	Soil and Crop Circ. No. 3	5,000
Feb. 22	Certified Seed-potatoes—Rules and Regulations	Soil and Crop Circ. No. 3	1,000
	Reports.		
Jan. 10	Report of B.C. Agricultural Legislative Work		750
July 2	Report of Department of Agriculture, Year 1923	18th Annual	1,100
" 18	Report of Secretary of Women's Institutes for Year 1923		500
	Agricultural Journal.		
Jan. 18	Agricultural Journal	Month of February	2,000
Feb. 18	"	" March	2,000
Mar. 17	"	" April	2,000
" 25	" Index		250
April 15	"	Month of May	2,000
May 19	"	" June	2,000
June 13	"	" July	2,000
July 22	"	" August	2,000
Aug. 18	"	" September	2,200
Sept. 13	"	" October	2,000
Oct. 21	"	" November	2,000
Nov. 21	"	" December	2,000
Dec. 19	"	" January	2,000
	Miscellaneous.		
April 4	List of Publications		1,000
May 5	Poultry-keeping	Booklet	2,000
June 13	Book-keeping Methods for the Farm	Leaflet	200
July 15	Our Banking System and how it affects the Farmer	"	500
Sept. 30	List of Publications		1,000
	Total		92,500

Bulletins and Circulars distributed during 1924.—The total number of all publications issued by mail was 98,303, being practically identical with the figures for 1923. The details are as follows:—

Horticultural circulars	27,795
Poultry bulletins and circulars	18,129
Mixed Farming	15,117
Department circulars	10,808
Circular bulletins	685
Miscellaneous bulletins	8,396
Miscellaneous circulars and posters	3,415
Dairy circulars	6,009
Soil and Crop circulars	6,170
Agricultural Department Report	908
Women's Institutes and Farmers' Institute Reports	871
Total	98,303

Respectfully submitted.

WM. J. BONAVIA.

REPORT OF DEPARTMENTAL SECRETARY *RE* FALL FAIRS.

WM. J. BONAVIA.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I have the honour to present herewith the report on fall fairs held in the Province in 1924.

The total number of fairs held was sixty-four, divided into the following circuits:—

Circuit I.—Vancouver Island and Gulf Islands	14
Circuit II.—Lower Mainland	22
Circuit III.—Okanagan and Dry Belt	8
Circuit IV.—East and West Kootenay	11
Circuit V.—Central British Columbia	9

Of the above number, two were stock-shows held in June at Ladner and Knutsford.

Fifteen associations cancelled their events after dates had been allotted to them.

Early in the season it looked as though all records would be broken for the number of fairs, but actually the number held was considerably less than in 1923, when the total was seventy-five.

Reports of judges indicate that in spite of a very dry season exhibits were, generally speaking, of excellent quality and the management of the majority of fairs excellent. Reports, however, indicate, from many districts, that attendances were small, and this indeed has been quite a general feature during the last two or three years.

JUDGES.

As in past years, the Department again supplied judges free of cost to all associations, very few requests being turned down. The total number of judges supplied was as follows:—

	Department Officials.	Outside Men.
Horticulture	10	8
Field crops	4	7
Live stock	6	14
Poultry	4	11
Domestic science and women's work	2	14
Totals	26	54

The total number (80) constitutes a new record, the chief increases being in field-crop and women judges.

Picking hops at Sardis, in the Lower Fraser Valley, Where there is over 500 acres under this crop.

Taking hops away to be dried in the kiln. Scene at the hop-yards. Sardis.

New System of Reports on Fairs.

In 1924 an additional method of reporting on fairs was initiated by the writer in the form of a score-card. The underlying idea was that, in addition to the usual written report, the judge should endeavour to condense the value of a fair to a standard percentage basis. A brief description of the system is as follows: The maximum points obtainable by a fair were fixed at 100, divided up as follows:—

	Points.
Fruit and vegetables	10
Grains, field crops, potatoes	10
Live stock	10
Poultry	10
Dairy products and honey	5
Domestic science and ladies' work	10
Support of fair by local exhibitors	10
Grounds and equipment	10
Interest of public in exhibits and judging	10
Management of fair	15
Total	100

This scoring system may be modified and improved in the future. The results, however, were extremely interesting, and in the cases where from three to five judges were at certain fairs a very good average check was obtainable.

The classifying of these score-cards has meant considerable work, but the table prepared should be of much interest to members of Agricultural Associations. (*See* Appendices Nos. 3 and 4.)

Under this scoring system, which is of course more or less arbitrary, it is noted that the fairs scoring highest, in the opinion of judges for the year 1924, taking into consideration all the items enumerated above, were as follows:—

	Per Cent.		Per Cent.
Mission	84.7	Saanichton	81.6
New Westminster	84.0	Lumby	81.6
Courtenay	83.0	Enderby	77.8
Armstrong	82.9	Kelowna	77.6
Maple Ridge	82.8		

Grants.

A notification was sent out to associations advising that the rate for the year would be 18 per cent. From the correspondence that ensued it was evident that this allotment was a disappointing one, resulting eventually in the cancellation of several fairs.

At the close of the year 1924 grants amounting to $22,676 had been paid, and in view of special representations made by eight associations (Ladysmith, Coombs, Saanichton, Agassiz, Chilliwack, Knutsford, Armstrong, and Windermere) additional grants totalling $2,986 have been paid since January 1st, the total amount thus paid in grants being $25,598. (*See* Appendix No. 5.)

Annual Returns of Associations.

The records in this case are necessarily one year behind as the returns for 1924 are only partially to hand, some of the annual meetings not yet having been held.

The record figures for 1922 with regard to receipts and expenditures have not been maintained, there being a slight decrease shown, taking the whole number of associations, for all the items listed as follows:—

Year 1923—

Total receipts	$263,875 19
Total expenditures	252,945 68
Cash prize-money paid	101,717 80
Assets	190,554 26
Liabilities	70,593 42

This reduction is amply accounted for by the cancellation of the fifteen events previously referred to.

THE BRITISH COLUMBIA FAIRS ASSOCIATION.

The affairs of this association have progressed satisfactorily during the past year, the paid-up membership having increased slightly.

The annual meeting was held at Vancouver on March 1st and a meeting of the Executive at Victoria on August 20th. At the latter meeting the Hon. the Minister of Agriculture was present and many matters of moment to Agricultural Associations were discussed with him. The Hon. the Minister stated that he recognized the Royal Agricultural and Industrial Association at New Westminster as the body which was holding the Provincial show for the Province.

The increasing number of small fairs and the recognition of the difficulty that the Department has in providing adequate grants has met with considerable attention from the members of the association during the past year, and the Executive undertook to make a special effort to outline some plan which would meet the wishes of the individual members and at the same time be agreeable to the Department with regard to prize-money.

RECOMMENDATIONS AND SUGGESTIONS BY JUDGES.

A. J. Mann, B.S.A., Assistant Superintendent of the Dominion Experimental Farm at Summerland, who acted as a judge, at the close of his work for this Department submitted the following interesting remarks and suggestions:—

"*Fall Fair Buildings.*—In travelling about the Province attending fall fairs (including Vancouver and New Westminster) I have always been impressed with the high overhead and depreciation in the many poorly constructed buildings on the fair-grounds—buildings with far too much useless and expensive upper superstructures at the expense of adequate serviceableness and durability below where needed.

"The above impression is considerably aggravated when it is considered that these buildings are only used from one to a few days each year.

"The ideal would be to have fewer fall fairs in the Province and these located permanently at convenient centres in compact, durable, and well-ventilated and lighted buildings in park-like grounds kept in good condition and planned in such a way as to be of service when needed to the community all the year instead of from one to a few days each year. In other words, to have fair grounds and buildings become community centres for other district programmes beside fair-work.

"The second ideal would be to have same as outlined above, except on a smaller scale and located at a different place each year, so as to give each district an opportunity to exhibit at home once every few years and maintain a wholesome spirit of goodwill amongst the different towns or districts concerned.

"For the above suggestions to be practical more prize-money would need to be given to attract exhibitors and assistance in transportation of exhibits and people.

"*Judging.*—The lack of standardization from year to year in judging, and in the public, especially the exhibitors, not knowing along what lines or principles the judge worked, has been and is still disappointing and often defeats the true purpose of a fair—education. To illustrate this point: No two judges work alike; one year a judge goes to a certain district and judges along certain lines, and the public, especially the exhibitors, take notice of the awards and endeavour to exhibit next year accordingly. Next year, however, another person with different ideas and methods of judging may judge; the result is often a confusion of ideas and principles and the exhibitor does not know what to do or not to do in exhibiting next year.

"*Prize-list.*—The prize-list should be carefully reconstructed and standardized and kept up to date. Owing to the extreme variable soil and climatic conditions of the Province it would probably be necessary to modify the standardization for certain districts. The Department might have printed sectional models of prize-lists (not in bulletin form), the same to be sent as guides to the Secretary of the various fall fairs. Examples: The prize-list would show a class for green squash and a class for yellow squash and not have these two different types of squash competing with one another in the same class. The prize-list would suggest, say, the exhibit of six worthy varieties of potatoes known to do well in the district instead of sixteen varieties and two-thirds of them not known and not on the list of potatoes recommended by the Department.

"*Department Assistance in Prize-money.*—The Department might help the fairs more by giving special prizes, especially for boys and girls. These prizes need not necessarily be given in actual cash, but in the form of well-bred young cattle, sheep, horses, pigs, poultry, seeds, and plants.

"To sum up briefly: Reduce unnecessary overhead in buildings; to have fewer and better fairs; standardization of judging and prize-lists; better exhibits through education and more attention and encouragement to the work of the boys and girls—the farmers of to-morrow who, we hope, will not break faith."

All of which is respectfully submitted.

Wm. J. Bonavia.

REPORT OF PROVINCIAL HORTICULTURIST AND INSPECTOR OF FRUIT PESTS.

W. H. Robertson, B.S.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

Sir,—I have the honour to submit herewith my report as Provincial Horticulturist and Inspector of Fruit Pests for the year 1924.

Horticultural Conditions in British Columbia.

The year 1923 may be considered as the year of reorganization in the fruit-growing industry of the Province. As pointed out in a previous report, two large organizations for the marketing of fruit were formed in that year. While it seemed as if at the beginning of 1924 there might be a tendency on the part of many growers who were members to break away from both of these organizations, the membership has on the whole remained about the same, and the results in 1924 from a marketing standpoint have been most encouraging. Prices for tree-fruits on pools which have up to the present date been closed are in advance of 1923 and the indications are that the later pool returns will be satisfactory.

Small-fruit returns have been in all cases equal to and in some cases better than in 1923. One outstanding feature of the past season was the securing of a loan from the Provincial Government for the purpose of assisting the Berry-growers' Co-operative Union in the financing of their fruit-pack which was put up in their canning and jam plant at Mission. This enabled the members of the Co-operative to dispose of their berries when there was a tendency for the fresh-fruit markets to weaken. In this way satisfactory prices were maintained not only for the co-operative member, but for the independent shipper as well.

One of the features of the marketing of small fruits has been the increasing sale of loganberries for wine-making purposes. In 1923 approximately 9,000 gallons of wine were manufactured, while in 1924 the quantity manufactured had increased to 48,000 gallons, requiring approximately 100 tons of fruit. While it is early to forecast the production of wine for 1925, it is expected that the quantity manufactured will be double that of 1924.

From a seasonal standpoint it should be pointed out that in many sections the rainfall has been even less than usual. This was particularly noticeable in the Coast sections. In the irrigated sections of the Okanagan certain districts have suffered materially, due to lack of storage-water in the reservoirs. This was brought about by light snowfall in the mountains during the winter, as well as the fact that because of the undertaking of repairs certain reservoirs could not be made ready in time to collect their full supply of storage-water. In the Kootenays, while the most of the growing season was very dry, heavy rains in the later part of the season resulted in materially increasing the crops. In the same section also there has been a considerable amount of winter-injury, due to the rapid fall in temperature on December 15th following a comparatively high temperature.

Pruning Schools and Demonstrations.

A change in the policy relating to pruning-schools was instituted during the past season. The policy of your Branch had been to hold a five-day pruning-school at any point where a group of eight or more growers requested it. While a school of this length had proven of value in the past, there was a demand in many of the districts for schools of shorter duration. To meet this demand your Branch instituted a three-day school; the fee to be $1 per pupil with the same minimum requirements as to pupils.

In addition to pruning-schools, pruning demonstrations were also held. These were of one-day duration and were instituted for the purpose of assisting districts which felt that they did not require a three-day school. No minimum as to the number of pupils was required and no charge was made.

For detailed information regarding both pruning-schools and pruning demonstrations *see* Appendices Nos. 6 and 7.

SMALL-FRUIT SURVEY.

In co-operation with the Statistical Branch, a survey of the small-fruit acreage was made in the Province in order to determine the acreage devoted to the various small fruits. This was carried out along similar lines to the surveys conducted in 1920 and 1922. The survey shows but slight increase in the acreage devoted to the growing of small fruits. For tables showing the comparison of acreage as given by the last three surveys *see* Appendix No. 8. A table also is submitted showing the acreages devoted to the various small fruits in the different districts. (*See* Appendix No. 9.)

ORCHARD SURVEY.

The last orchard survey of the Province was conducted in the years 1920–21. In view of the fact that there have been many changes in the tree-fruit acreages in the principal tree-fruit sections during the past five years, it seemed advisable that another orchard survey be made. This was started in the late fall and your Horticultural staff are busy collecting the data. It is hoped that this work will be completed by the end of 1925, when a full report will be submitted.

DEMONSTRATION-WORK.

Gordon Head Strawberry-plot.—Since its inauguration in 1919 this work has been carried out under the supervision of E. W. White, District Horticulturist. With regard to this work, Mr. White reports as follows:—

"This 6-acre plot, which was established in March, 1919, and reported on in 1919, 1920, 1921, 1922, and 1923, was again operated in 1924. This opportunity is taken to express appreciation for the conscientious and earnest way in which Councillor G. A. Vantreight, on whose farm the plot is located, co-operated in the work of the plot.

"A brief description will here be given of the operations carried out on the various lots during 1924 and the rotation which is being followed.

"The work in connection with the weevil-barriers was very carefully and efficiently attended to during the season by Wm. Downes, Assistant Entomologist, Dominion Entomological Branch.

"*Lot 1.*—In 1919 this lot was in clover; 1920, Sir Walter Raleigh potatoes; 1921, planted to strawberries; 1922, first crop; 1923, second crop; 1924, third crop.

"The spring work on this lot consisted of three hoeings and four cultivations. On March 29th an application of chemical fertilizer was made. An effort was made to get some comparison between muriate of potash and sulphate of potash. On half the lot a mixture of 100 lb. of muriate of potash and 150 lb. of superphosphate was applied, while on the other half 100 lb. of sulphate of potash and 150 lb. of superphosphate was applied. On May 16th an application of 100 lb. of nitrate of soda was made.

"Strawing was completed on June 7th, twenty-eight bales of straw being used.

"The following table shows the dates of picking and the quantities of both crate and jam berries harvested:—

Date of Picking.	Variety Magoon.		
	Crates.	Hallocks.	Lb. Jam-berries.
June 1	1	2	.....
,, 4	6	17	.....
,, 10	20	....	.....
,, 14	42	....	.....
,, 21	64	....	.....
,, 28	12	....	650
July 5	....	....	150
Totals	145	19	800

"At the approximate average price received for crate-berries and for jam-berries, the gross return per acre would be as follows:—

145 19/24 crates at average price of $2.08	$303 25
800 lb. jam-berries at 7 cents	56 00
Total	$359 25

"In 1923 the yield on Lot 1 and the average prices received were as follows:—

372 13/24 crates at average price of $1.88	$700 38
1,513 lb. jam-berries at 7 cents	105 91
6 1/6 crates (fall crop) at $3.50	21 58
Total	$827 87

"In 1922 the yield on Lot 1 and the average prices received were as follows:—

160 2/3 crates at average price of $2.10	$337 40
1,350 lb. jam-berries at 10 cents	135 00
Total	$472 40

"Drought conditions during the season of 1924 undoubtedly affected the production of this lot as it did in 1922, when the lot produced its first crop and was in excellent condition. The third-year crop in 1924 almost equalled the first-year crop in 1922.

"Four rows on the east side of this lot were affected by weevil and practically produced nothing. On the basis of the remaining plants the approximate average yield per plant was 0.313 lb. In 1923 the figure was 0.68 lb. and in 1922 0.356 lb.

"The price of crate-berries showed an improvement of 20 cents per crate over the 1923 figure, although the price of jam-berries remained the same.

"Picking commenced earlier this year than usual, beginning ten days sooner than in 1923, but also finishing ten days sooner.

"This lot having produced three crops, the decision was made to remove it. The straw was burnt on July 12th, the plants ploughed out on July 22nd, harrowed twice on July 23rd, and piled and burnt the same day. On August 11th the lot was ploughed and on the 16th 130 lb. of fall wheat were sown by hand. The lot was harrowed twice and floated the same day.

"The wheat made satisfactory growth during the fall months, but at the present time it is impossible to say what damage the heavy frost of December may have caused.

"*Lot 2.*—In 1919 this lot was in Sir Walter Raleigh potatoes; 1920, planted to strawberries; 1921, first crop; 1922, second crop; the plants were ploughed up and burnt in September, 1922, and in October the lot was seeded to fall wheat and clover. Owing to winter-killing of clover the lot was reseeded to clover on May 4th, 1923. The wheat was cut for hay on July 12th. During 1924 this lot was in clover-hay. The crop was cut on June 19th, raked up and cocked on June 21st, and hauled in on July 9th. The crop was fair, yielding about 2 tons. This lot was still in clover at the end of the year.

"*Lot 3.*—In 1919 this lot was in fall wheat; 1920, oats and vetch; 1921, Sir Walter Raleigh certified seed-potatoes; 1922, planted to strawberries; 1923, first crop; 1924, second crop.

"The spring work on this lot was practically identical with Lot 1 and consisted of three hoeings and four cultivations.

"The same application of chemical fertilizers was made as on Lot 1, the potash and phosphoric acid being applied on March 31st and the nitrate of soda on May 13th. Strawing was completed on June 2nd, thirty-six bales being used.

"This lot was producing its second crop and the effects of the drought were not apparent because it received two good irrigations. The application of the water was very evident in the production resulting.

"The following table shows the dates of picking and the quantities of both crate and jam berries harvested:—

Date of Picking.	Variety Magoon.		
	Crates.	Hallocks.	Lb. Jam-berries.
June 1	1	12	.....
" 4	....	7	.....
" 9	34	....	.....
" 10	16	....	.....
" 12	4	....	.....
" 13	77	10	.....
" 19	59	12	.....
" 20	91	....	.....
" 25	72	....	.....
" 26	14	....	.....
" 30	14	....	300
July 1	....	....	436
" 5	....	....	175
" 7	....	....	50
Totals	382	41	961

"At the approximate average price received for crate-berries and for jam-berries, the gross return per acre would be as follows:—

383 17/24 crates at average price of $2.08	$798 11
961 lb. jam-berries at 7 cents	67 27
Total	865 38

"In 1923 the yield on Lot 3 and the average prices received were as follows:—

372 14/24 crates at average price of $1.88	$700 46
1,663 lb. jam-berries at 7 cents	116 41
10 15/24 crates (fall crop) at $3.50	37 19
Total	$854 06

"On a basis of 11,000 plants the average yield per plant in 1923 was 0.69 lb. In 1924 this dropped slightly to 0.65 lb.

"It will be noted that the total yield in 1924 was slightly less than in 1923, but owing to an increased price for crate-berries the gross returns were higher.

"Although this lot only produced its second crop in 1924, it was decided to remove it; consequently the straw was burnt on July 12th, the plants ploughed out on July 30th, harrowed twice on August 6th, and piled and burnt on August 9th. On August 16th ploughing was started, finished on August 18th, and the weeder drove over the same day. On August 19th 130 lb. of fall wheat were sown by hand. The lot was harrowed twice and floated the same day.

"The wheat appeared to be in good condition up to the time of the heavy frost in December.

"*Lot 4.*—In 1919 this lot was planted to strawberries; 1920, first crop; 1921, Sir Walter Raleigh certified seed-potatoes; 1922, oats, seeded to clover, reseeded to clover in fall of 1922; 1923, again reseeded to clover in spring, volunteer crop of oats, some clover and grass; 1924, clover-hay.

"The crop was cut on June 19th, raked up and cocked on June 21st, and hauled in on July 9th. The crop was fair, yielding about 2 tons. This lot was still in clover at the end of the year.

"*Lot 5.*—In 1919 this lot was in fall oats; 1920, spring oats and seeded to clover; 1921, clover; 1922, Sir Walter Raleigh certified seed-potatoes; 1923, planted to strawberries; 1924, first crop.

"Owing to the drainage-work carried out on this lot in the spring of 1923 and the late date of planting, the plants did not make as vigorous growth as they should. This fact and the drought of 1924 materially affected the first crop on this lot.

"Being a new patch this lot required more work to keep it in good condition than did Lots 1 and 3. The spring work consisted of six hoeings and four cultivations.

"The same application of chemical fertilizers was made as on Lots 1 and 3, the potash and phosphoric acid being applied on March 31st and the nitrate of soda on May 9th.

"The runners were cut on June 4th and strawing was completed on June 5th, thirty-four bales being used.

"The following table shows the dates of picking and the quantities of both crate and jam berries harvested:—

Date of Picking.	Variety Magoon.		
	Crates.	Hallocks.	Lb. Jam-berries.
June 1	2	....	.....
„ 4	11	1	.....
„ 9	40	2	.....
„ 13	3	....	.....
„ 14	48	....	.....
„ 19	1	12	.....
„ 20	23	....	.....
„ 21	14	....	.....
„ 26	14	....	.....
„ 30	....	....	175
Totals	156	15	175
Fall Crop.			
Oct. 14	1	6	.....
„ 27	1	11	.....
Totals	2	17	.....

"At the approximate average price received for the Prairie shipments and for jam-berries, the gross return per acre would be as follows:—

156 15/24 crates at average price of $2.08	$325 78
175 lb. jam-berries at 7 cents	12 25
2 17/24 crates (fall crop) at $4.00	10 83
Total	$348 86

"It will be noted that there were a few berries harvested in the fall. There were a great number of berries which set and developed, but the birds destroyed most of them.

"On the basis of 11,000 plants the average yield per plant was only 0.24, the lightest yield experienced on the demonstration plot.

"The plants were cut down on July 7th and all straw and tops burnt off on July 12th. This was the first time that burning had been practised on the demonstration plot.

"Two hoeings and five cultivations were given this lot during the fall months and it went into the winter in good condition.

"*Lot 6.*—In 1919 this lot was in fall oats; 1920, English Wonder peas, ploughed down on June 10th and Sir Walter Raleigh potatoes planted; fall of 1920, planted to fall wheat and in spring of 1921 seeded to clover; 1921, wheat-hay; 1922, clover; 1923, clover; 1924, Sir Walter Raleigh certified seed-potatoes.

"This lot, which was ploughed late in the fall of 1923, was kept well worked in the spring of 1924 in preparation for potatoes. On May 14th and 15th fifty-one rows of Sir Walter Raleigh certified seed-potatoes were ploughed in by a man and single horse, with two men dropping in, a total of 8½ hours. There were 1,262 lb. of seed used.

"The lot was cultivated three times and hoed once during the season.

"Roguing was carried on and the lot passed the two field inspections of the Soil and Crop Branch for certified seed.

"Digging took place between October 25th and 30th and all potatoes were carefully weighed. The total yield was as follows: Selected in the field for certified seed, 5,356 lb.; commercial stock, 10,314 lb.; culls, 588 lb.; or a total of 16,258 lb.

"The six-year lease expires on the demonstration plot in March, 1925, but arrangements have been made to carry on Lots 5 and 6 for a still longer period, and it is the intention to erect one more weevil-barrier—namely, around Lot 6—early in 1925 and make the final planting of strawberries."

Pruning Experiments.—Experimental work to determine the best system of pruning is being carried out on two blocks of apple-trees in the Vernon District. The work has been undertaken yearly for the past five years on trees varying in age from 3 to 13 years. The final work will be concluded in the spring of 1925 and a full report submitted in the 1925 report.

Demonstration Pruning Plots.—For the past two years three plots of 10 acres each have been used in the Oliver District for the purpose of demonstrating the best method of pruning young trees. The three blocks comprise apples, peaches, and apricots. The results obtained have been most satisfactory. The coming season will terminate our work on these plots.

Thinning Demonstrations.—This work was instituted with the idea of showing the growers of tree-fruits the advisability of thinning for the purpose of crop-improvement and has been carried on for the past two years at Salmon Arm, Vernon, Kelowna, Summerland, and Penticton.

With regard to the work which has been done, M. S. Middleton, District Horticulturist for the Okanagan, reports as follows:—

"Results of the thinning tests in the different sections are given in the reports of the various officials who carried on this work. It would appear that growers in whose orchards these thinning plots are located have thinned their trees just as well as the test-trees, so that the results of our test-trees are of little furher value. Another line of comparative experiments might be undertaken with a view to determining labour costs and the effects of thinning on regular bearing of different fruits."

Fertilizer Tests.—This work was undertaken in the Kelowna District. Various fertilizers were used on different blocks of tree-fruits. While the results were not altogether satisfactory, it is anticipated that it will be possible to carry out further work during the coming season and in addition to tree-fruits to include certain vegetables as well. M. S. Middleton, District Horticulturist, reporting on this work, makes the following statement:—

"Fertilizer tests made at Kelowna should be carried on again, with various proportions of nitrate of soda applied to blocks of trees in different orchards, as owing to spring frosts destroying the set of fruit, the dry seasonal conditions, and shortage of irrigation-water the results of these tests this year was influenced materially. Improvement was noted, however, in the manifestly larger and darker green leaves on the fertilized trees.

"Further fertilizer tests were carried on in four different orchards at Kelowna. As in the nitrate tests, results were disappointing owing to prevailing conditions, and arrangements have been made for further trials with these fertilizers next year.

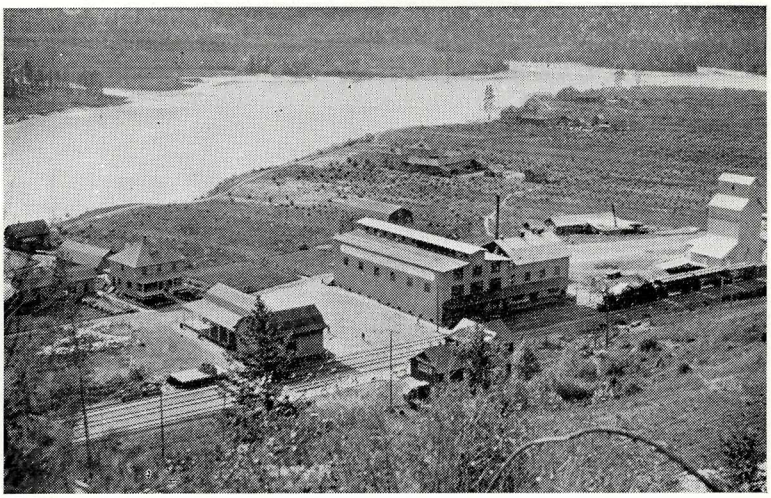
"It is evident that the time has arrived when correct fertilizers, properly applied, would increase materially the yields and quality of the various crops. Tests with various mixtures and commercial brands should be made to determine those best adapted to the different localities on the more important fruit and vegetable crops. Accurate comparative tests would demonstrate the value of fertilizers in crop production to the growers, and would also be the means of saving them untold expense in trying out worthless mixtures."

Strawberry-packing Demonstrations.—These packing demonstrations were held by your district officials in many of the small-fruit sections of the Province, a total of five in all. Due to the fact that the season was somewhat shorter than usual and also that many of the districts had held demonstrations during the past three seasons, the total number was smaller than in previous years. New growers, however, in districts where no demonstration was held were visited and shown the best method of handling their fruit.

Spraying Demonstrations.—Under this heading would be included all spraying-work which has been undertaken by the officials of your Branch other than actual quarantine-work. Information regarding the value of new sprays as well as the value of old sprays in the control of certain fruit insects and diseases is being continuously requested. In order to keep informed and to give the growers the best possible advice, it has been found necessary to try out various sprays before making recommendations. The work which has been carried out and reported upon by the various officials of your Branch is herewith submitted for your consideration.

Blossom-blight Spray.—E. W. White, District Horticulturist for Vancouver Island and the Gulf Islands, reports as follows:—

B.C. Potato and Seed Show, Vancouver, 1924. Section of certified seed-potato exhibit. The prize for the best individual exhibit was won by H. C. Fuller, of Windermere, with a display of Netted Gem variety.



Headquarters of the Doukhobor settlements in the West Kootenay District. Jam-factory, grain-elevator, and administrative buildings.

Considerable work has been done by the Horticultural Branch in the Okanagan Valley which definitely establishes oil sprays as of special value in the control of the fruit-tree leaf-roller. The row on the left is unsprayed and damaged by leaf-roller. The row on the right is protected by an application of oil spray.

"An effort was made this year to secure more definite information in reference to a disease attacking sour cherries, which has spread quite rapidly during the past few years, causing serious loss, and which is commonly designated as 'blossom-blight.'

"In December, 1923, Station Circular 53, entitled 'Brown Rot and Related Diseases of Stone Fruits in Oregon,' by H. P. Barss, was published by the Oregon Agricultural College Experiment Station, Corvallis, Ore. This circular describes and names a new fungus as *Monilia oregonensis*, Barss & Posey, which attacks stone-fruits, causing principally a blossom and spur blight.

"On April 24th typical specimens of the blossom-blight were taken from Olivet-cherry orchards in the Gordon Head District and sent to Professor H. P. Barss for identification. On May 15th word was received from Professor Barss stating that the specimens sent yielded the typical *Monilia oregonensis* in culture.

"Arrangements had previously been made to carry on some spraying-work in an effort to control this trouble. The Olivet-cherry orchards of Councillor G. A. Vantreight and F. E. Aitken in the Gordon Head District were selected. On April 25th both orchards received a 4-4-40 Bordeaux spray just as the blossoms were opening. Certain trees were left unsprayed. On May 15th and 16th, just as the blossoms were falling, about half the trees in each block received a second application of 4-4-40 Bordeaux.

"There was considerable development of the disease in each orchard, both before and after the spraying, but it was the opinion of J. W. Eastham, Provincial Plant Pathologist, after an examination made on May 9th, that the trouble was not as prevalent as in 1923. It is planned to continue the spraying-work in 1925, and it is hoped that the cumulative effect of the spraying will be evident in 1925."

Apple-scab (Ventaria inequalis) Spray.—This work was carried out in the Salmon Arm District along similar lines as reported to you in the 1923 report. Owing, however, to the extremely dry weather no results were obtained, unsprayed check-trees showing as good results as the sprayed trees. During wet seasons this disease is very troublesome and it is proposed to continue the work during the coming year. Work of a similar nature will also be undertaken in the Kootenay District. At the latter point dry lime-sulphur will be used as against the liquid preparation in use at Salmon Arm. It is hoped that this work will show the comparative value of these two sprays both from a cost and a control standpoint.

Blister-mite (Eriphyes pyri) Spray.—Demonstration-work in the control of blister-mite was undertaken in both the Vernon and Kelowna Districts. Both fall and spring applications gave satisfactory control and good results were obtained with dilutions of lime-sulphur as weak as 1 to 20. Your staff, however, is recommending its use at the strength of 1 to 15.

Calcium Arsenate Sprays.—Large quantities of arsenate of lead are used yearly in the fruit-growing districts of the Province. As an insecticide calcium arsenate has the same killing properties as arsenate of lead and is cheaper in price. The tendency to burn the foliage under certain climatic conditions has made your officials hesitate to recommend it. It has, however, been used extensively in the East. This year it was tried out by your Branch at Vernon with no resultant burning. Before recommending it to the growers, however, your officials deem it advisable to make further tests during the coming season.

Oil Sprays for the Control of Leaf-roller (Cacœcia argyrosphila).—The problem of oil sprays for leaf-roller control is one of the most important problems in spraying at the present time. Your Assistant District Horticulturist at Vernon, co-operating with a representative of the Dominion Entomological staff, has devoted considerable time to this work. His report on the work which has been done is very comprehensive and it is hoped that further work may be possible during the coming season. An extract from the report of the District Horticulturist, which is particularly applicable, is herewith given:—

"A series of experiments were also carried out to ascertain the effects and results of certain home-made cold-water emulsions and commercial miscible oils, with a view to discovering an oil which would prove reasonably cheap and be effective against this pest. Four commercial brands of oil and three grades of engine lubricating-oil with home-made cold-water emulsifiers were also tried out. The results, although interesting, would not warrant the general recommendation of cold-water emulsions to growers at the present time. Some of the commercial products proved worthless and others very satisfactory.

"The importance of oil sprays against such insects as the leaf-rollers and scale-insects is a live one, and the extremely complex composition of various oils used makes further experiments with commercial products and with various grades of oils in cold-water emulsions of a more comparative nature imperative. These should also be worked out with lime and sulphur in combination, with a view to controlling the blister-mite, another common serious pest, at the same time."

PEST-CONTROL AND INSPECTION WORK.

Codling-moth (Cydia pomonella).—The codling-moth quarantine-work was carried out by your staff along the same lines as in previous years. The area subject to quarantine is increasing each year. In 1924 the area which was sprayed amounted to 1,244 acres, while an additional 877 acres were under quarantine regulations and subject to band inspection. It is anticipated that the area to be sprayed in 1925 will be approximately 1,652 acres, while the banded area not to be sprayed has not yet been established.

Eradication of this pest from the orchards of British Columbia may be considered an impossibility. The area subject to quarantine is increasing each year, and as your official pointed out to you in his previous report: "The alarming fact, however, is that the outbreaks are scattered and show that the moth was present a year or two previous to the actual finding and quarantine." How much longer the present system of quarantine can continue it is hard to say, but it would seem as if there might be a possibility of the work having to be dropped, particularly if new areas develop as rapidly as has been the case during the past season.

San Jose Scale (Aspidiotus perniciosus).—The presence of this pest in the Province is by no means general. For a number of years it has been present in the vicinity of Spences Bridge, but the methods employed in the control have always proven satisfactory, although never resulting in its eradication. This year it was found at Kaslo. Your District Horticulturist, E. C. Hunt, in his annual report makes the following statement with regard to this outbreak:—

"Specimens were collected on a pear-tree at Kaslo on September 3rd, 1924, and identified on October 3rd by M. H. Ruhmann as being San Jose scale. Your assistant made a thorough inspection of the district when the infestation was reported and at once placed the area under quarantine. As the result of the two-day inspection it was found that the scale had not spread over a very large area. The outbreak is just outside of the city limits at Kaslo in what is known as the Allen Addition and the McDonald Addition. There are sixteen growers affected by the quarantine and the total number of trees is about 600, mostly apple-trees; of this number, about twenty-five trees are badly infected and the rest are slightly infested or adjacent to infested trees. Steps have been taken for spraying this area with an oil spray in the spring of 1925, and it is hoped that within a short time this pest may be eradicated."

Grasshopper-control.—A number of sections had suffered from grasshopper attacks previous to the past season. In 1923 in the Oliver District considerable damage had been done to the growing crops and young trees. In anticipation of a further outbreak in 1924 preparations were made to supply growers with poisoned bait. Outbreaks in other sections of the Okanagan also required prompt control measures which gave most satisfactory results. Your official cannot do better than quote from the report of the District Horticulturist regarding this work:—

"Unusually early hatching of this pest occurred and it was soon learned that the outbreak would be very serious in some sections—namely, at Westbank; Kelowna, on the Belgo and Rutland benches; Oyama and Winfield and at Vernon adjoining the city; Middleton Mountain and Cousins Bay ranges. Immediate action was taken in the Kelowna outbreak. The young hoppers were found hatching in myriads in the onion-fields and doing great damage to the young plants. Early experiments proved effective, so that following a conference of the Executive of the Vegetable-growers' Association; E. R. Buckell, of the Dominion Entomological staff; and officials of the Horticultural Branch, the growers were organized into sections and a thorough application of bait was given to the infested areas with excellent results. It was later considered advisable to establish central mixing-stations at Kelowna and Vernon, where growers, upon request, could be supplied free of charge with the properly mixed bait. This plan proved very satisfactory and was very much appreciated by all concerned.

"It is rather difficult to ascertain definitely at the present time what trouble we might expect next year from this insect. However, in co-operation with the Dominion officials, it is proposed to keep close watch on the hatchings, and as soon as the major hatching-beds can be

located the growers in these sections will be organized to cope with the situation. After this year's experience it seems imperative that the insects be tackled while in the nymph stage, as it is more costly and less effective to check them when they commence to fly."

Fire-blight (Bacillus amylovorus).—This work has been carried out by the officials of your Branch in a similar manner to previous years. A total of 16,521 acres were inspected. Of the total area inspected, 11,122 acres were passed as free from fire-blight and therefore qualifying for a blight-inspection certificate. This is a form of work which necessitates considerable time being expended on inspection, but which results in a material benefit to the fruit-growing districts where blight is prevalent. The work will be continued during the coming season.

Nursery Inspection.—Inspection of all fruit stock in the various nurseries was again undertaken by the officials of your Branch. These inspections were made at digging-time and all stock not considered satisfactory was destroyed. A total of fourteen inspections were made in the eleven principal nurseries of the Province. A total of 169,777 trees were inspected, of which 14,047 trees, or approximately 8.3 per cent., were destroyed.

Export Fruit Inspections.

Many countries are at the present time requiring that all important fruit be covered by an inspection certificate issued by the Agricultural Department of the country where the fruit is grown. Working in co-operation with the Vancouver Inspection Office, your Branch undertook to carry out the inspection-work and issue certificates where required. These were made up as follows:—

District.	New Zealand.		South Africa.	China.
	Apples.	Onions.	Apples.	Apples.
Salmon Arm	.....	.....	2,649	.....
Vernon	3,900	2,200	5,721	.....
Kelowna	25,655	10,970	5,250	1,560
Summerland	1,300	.....	.....	.....
Penticton	3,531	.....	.....	.....
Totals	34,386	13,170	13,620	1,560

Press Articles and Publications.

From time to time articles on seasonal topics have been issued to the press by the various officials of your Horticultural Branch. In this way the growers in the various districts have been advised as to the best horticultural practices at seasonal times. Articles have also been prepared dealing with horticultural conditions for various sections of the Dominion press.

As in the past two years, your Branch again issued a Weekly News Letter. This letter was first sent out on May 17th and continued until August 16th. It is made up of weekly reports submitted by the various district officials on the fruit and vegetable situation in that particular district. Covering as it did all fruit-growing sections of the Province, it was very much in demand not only by the growers, but by the agricultural press, Boards of Trade, and other bodies directly interested in the horticultural conditions in the Province. Its success in the past would warrant its continuance during the coming season.

Fall Fairs.

The demand for judges of horticultural products at the various fall fairs throughout the Province requires a considerable amount of time of your Horticultural staff. Judges are supplied, wherever possible, not only for the fall fairs, but for flower-shows and garden competitions. This is considered a good policy to continue as fully as possible as it creates a uniform standard of judging. Full reports on the judging of all fairs have been forwarded to the Secretary of the Fall Fairs Association.

Changes in Staff.

Your Horticulturist reported the resignation of W. T. Hunter in the fall of 1923. This position remained vacant until April, 1924, when the appointment of M. S. Middleton, B.S.A.,

as District Horticulturist for the Okanagan was made. There have been no other changes in the permanent staff.

ACKNOWLEDGMENT.

Your Horticulturist, in conclusion, wishes to express his sincere appreciation of the hearty co-operation which he has received at all times during the past season from members of his staff. His thanks are due also to the various Dominion and University of British Columbia officials for their assistance in the various lines of horticultural work undertaken.

Respectfully submitted.

W. H. ROBERTSON.

REPORT OF CHIEF INSPECTOR OF IMPORTED FRUIT AND NURSERY STOCK, VANCOUVER.

W. H. LYNE.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I have the honour to report herewith the work of the Inspector of Imported and Exported Horticultural and Field Products and his staff of assistants during the year ended December 31st, 1924.

Plant products such as fruit, vegetables, rice, corn, peas, beans, walnuts, peanuts, etc., imported into the Province were inspected at the several ports of entry where Quarantine Officers under the direction of your Inspector were stationed. Any such products found to be infested or infected with insect pest or disease of sufficient economic importance were condemned and shipped out of the Province or destroyed. Certificates were issued permitting the distribution and sale of that which passed inspection and condemnation certificates were issued for that which was condemned. Inspection fees were collected on the products necessitating rigid and systematic inspection.

TOURIST AND PASSENGER TRAFFIC.

Besides the inspection of fruit and vegetables in commercial quantities, strict attention was paid to tourists and passengers entering by boat, train, or wagon-road who had in their possession small quantities of fruit or vegetables for their immediate use. But in that case no certificates were issued or inspection fees charged.

OBSERVATION LIST.

No certificates were issued or fees collected on certain varieties of fruit and vegetables not generally associated with destructive pests or disease of sufficient importance to warrant a very close inspection. Such products, however, came under the observation of the Inspectors and might at any time be placed on the regular inspection-list did conditions arise to warrant that procedure. The varieties of the products referred to will be found on one of the tabulated sheets attached to this report.

VANCOUVER ISLAND FERRY SERVICE.

The auto-ferry service between the United States and Vancouver Island was considerably increased during the summer. Commencing April 4th, the run between Anacortes and Sidney was continued until the end of December. From the middle of May to the middle of September three vessels were on the run daily, plying from Anacortes and Bellingham to Sidney; one of the boats making two trips daily. From April to the end of November 4,542 autos and 19,448 passengers were landed at Sidney; 3,366 were United States cars. One of the routes was via Orcas and San Juan Islands and several tons of fruit, mostly pears, were shipped from Orcas Island to Sidney, where they were used for canning. A daily ferry was also in operation between Port Angeles and Victoria.

COAST AND OCEAN SERVICE.

The Coast service consists of boats plying from South American ports, also Los Angeles, San Francisco, Portland, and Seattle, to Victoria, Vancouver, Prince Rupert, and other northern ports in British Columbia and Alaska. Fruit and vegetable products were often included in

the freight of such boats, necessitating a careful inspection. Passengers also would often have such products in their baggage or other effects.

There has been a very noticeable increase in the ocean shipping, which now plies from all parts of the world, notably from Great Britain, France, Holland, and Belgium via Panama Canal; also from New Zealand, Australia, China, Japan, India, and various islands in the Pacific Ocean. A close watch is kept on all freight, passengers, and baggage.

Fruit and Vegetables imported.

The miscellaneous varieties of fruit and vegetables imported are recorded on the tabulated sheets and also those condemned. (*See* Appendices Nos. 10 and 11.)

Fruit and Vegetables condemned.

The several pests and diseases for which the imported fruit and vegetables were condemned were as follows:—

From the United States: Apples and pears infested with codling-moth larvæ and San Jose scale; prunes infected with brown-rot; peaches with brown-rot and peach-worm (*Anarsia lineatella*); cherries with brown-rot; oranges infested with *Aspidiotus auranti* and *Mytilaspis* scale-insects; grapefruit with *Mytilaspis* and *Aspidiotus* scale-insects; common potatoes with *Fusarium* and late-blight rot.

From China: Sweet potatoes with weevil (*Cylas formicarius*) and black-rot.

From Mexico: Tomatoes with corn-ear worm (*Heliothus armager*) and anthracnose rot.

Imported Nursery Stock.

All nursery stock, such as trees or shrubs, that entered the Province consigned to points within the Province or to any port of Canada were inspected at the Dominion and Provincial Government Fumigation Station, Vancouver. Stock subject to fumigation as prescribed by the regulations was treated accordingly. Both the Dominion "Destructive Insect and Pest Act" and the Provincial regulations governing the importation of nursery stock were carried out by your Inspector and his staff. (*See* Appendices Nos. 12 and 13.)

Tabulated List of Nursery Stock.

The number and variety of trees, shrubs, plants, dormant roots, and bulbs are included with the other tabulated sheets attached to this report. The number and variety of stock condemned is also recorded.

There is a noticeable falling-off in the number of standard fruit-trees that were imported during 1924 as compared to those imported in 1923. Possibly the poor returns for most varieties of tree-fruits during the two previous seasons may account for the smaller number of trees imported. The British Columbia nurserymen who are endeavouring to propagate more and import less may also have assisted in reducing the importation.

The slight increase in the number of nut-trees, mostly walnut, may indicate a keener interest being taken in their production. Considerable enthusiasm in commercial production of walnuts, cobnuts, and filberts is apparent in the States of Washington and Oregon and may spread to British Columbia.

The importation of cranberry and grape vines was a little ahead of the previous year, also raspberry and loganberry stock. A modest attempt to grow cranberries on a commercial scale is being made in the Queen Charlotte Islands. E. H. Kettridge, who has had experience growing them in the Eastern cranberry districts, is of the opinion they could be a commercial success in British Columbia. Quite a few are now grown in the States of Washington and Oregon, from where the vines were imported.

Panama Route for Nursery Stock.

The importation of ornamental shrubs and trees was about equal to that of the previous year, rose-bushes being slightly in excess. Most of this class of stock came from Holland by way of the Panama Canal, which is becoming quite a popular route owing to the steamship companies having considerably improved their cool-storage accommodation by including better ventilation.

Successful importation by this particular route is quite an improvement on that by way of St. John, N.B., and overland to British Columbia during the winter, as the stock escapes the extreme low temperatures of the Eastern and Prairie Provinces.

NURSERY STOCK CONDEMNED.

The following pests and diseases were responsible for some of the stock being condemned and destroyed or shipped out of the country:—

Scale-insects: *Aspidiotus perniciosus* and *ostræformis* on fruit-trees from United States; *Aspidiotus ostræformis* and *forbesi* on fruit-trees and ornamental shrubs from Europe, Japan, and United States; *Aspidiotus perniciosus* on ornamental shrubs from Japan; *Aspidiotus hedera* on ornamentals from Europe; *Diaspis* and *Chionaspis* on ornamental shrubs from Europe and Japan; *Aspidiotus rapax* and *quercus* on mistletoe from United States; *Aulacaspis rosea* on blackberry, raspberry, and rose bushes from United States; *Lecanium hemisphericum* and *hesperidium* on ornamental shrubs and trees from Europe, United States, and Japan; *Lepidosaphes ulmi* on fruit and ornamental trees from Europe and United States.

Root-borers: *Sanninoidea exitiosa* in peach, apricot, and plum trees from United States and Eastern Canada; *Bembecia marginata* in blackberry and raspberry canes from United States; a species of *Saperda* in ornamental shrubs from Japan; crown-miner (*Aristotella*) in strawberry-plants from United States.

Aphis: *Eriosoma lanigera* on apple-trees from Europe and United States; *Eriosoma pyri* on roots of pear-trees from United States; *Aphis nigre* on roots of peach-trees from United States.

Phylloxera on roots of grape-vines from United States.

Bark-canker, anthracnose, sour-sap, root-gall, and hairy-root affecting fruit-trees and shrubs, ornamental trees and shrubs from Europe and United States.

NURSERY STOCK EXPORTED.

The total amount of nursery stock exported was comparatively small, but indicates the gradual opening-up of trade in that particular commodity between our local nurserymen and patrons abroad.

Countries to which the stock was exported were England, United States, China, Japan, and New Zealand.

A tabulated list of the number and variety and the countries to which they were exported is presented with this report.

The seed recorded as exported to England was all native conifer-seed from the seed-extraction plant of the Dominion Forestry Branch at New Westminster.

Each shipment of nursery stock exported was carefully inspected by your Inspector or a member of his staff, and an export inspection certificate issued complying with regulations of the country to which it was shipped. (*See* Appendix No. 19.)

FRUIT AND VEGETABLES EXPORTED.

Export inspection certificates were issued after careful inspection of fruit and vegetables to the various countries as listed on separate tabulated sheet attached to this report. The list does not contain the quantity of fruit shipped to England or other European ports from the Okanagan and Kootenay Districts owing to the inspection having been carried out by the Provincial and Dominion District Inspectors at point of shipment. (*See* Appendix No. 20.)

TRAVELLING.

During the year your Inspector visited most of the Quarantine Officers stationed at ports of importation. He also attended the annual British Columbia Fruit-growers' Convention at Chilliwack and Conference of Horticulturists, Entomologists, and Plant Pathologists at Penticton.

FOOT-AND-MOUTH DISEASE.

The outbreak of foot-and-mouth disease in California naturally caused considerable anxiety and speculation as to the possible danger of the disease reaching British Columbia through the importation of the numerous fruit and vegetable products from so many parts of that particular State. The necessity for placing an embargo on such products or enforcing strict

quarantine measures regarding them was very seriously considered. The admirable precautionary measures taken by the California State Department of Agriculture and the watchfulness of our own officials, however, considerably modified the necessity for more drastic action. No plant products of any kind were allowed to leave a known infested area and precautionary measures, such as fumigation, were strictly carried out in connection with any products from areas outside the danger-zones.

Your Inspector and his staff have always co-operated with the officials of the Dominion Health of Animals Branch in enforcing the regulations prohibiting hay, straw, fodder, etc., from States, Provinces, or countries where the disease exists. The fumigation station has often been a ready recourse for fumigating a large variety of shipments that might possibly carry the disease.

Such shipments were subjected to a four-hour exposure to formaldehyde and potassium permanganate, and the hay or straw in which they were packed was destroyed by burning.

"Eggs Marks Act."

Your Inspector, with the aid of two assistants, H. Gutteridge and A. Irving, has endeavoured to enforce the new 1923 "Eggs Marks Act" to good effect, so far as importations via Vancouver were concerned. Other Assistant Inspectors have kept watch in various other parts of the Province.

The assistants referred to were all engaged in other branches of work connected with the Department of Agriculture, such as District Agriculturist, Horticulturist, Fruit Quarantine and Poultry officials, so that no additional salaries were involved in the enforcement of the Act.

Results obtained have on the whole been very satisfactory. Only 1,302 cases of United States eggs were imported during the year and a few lots for setting arrived in other parts of the Province; 1,453 cases arrived from China, but were shipped through to points east of British Columbia. Very small quantities of salted eggs and some preserved in clay often arrived from China for the exclusive use of Chinese residents.

Mourn Loss of Colleagues.

Your Inspector and his staff sincerely mourn the loss of R. C. Treherne, D. Gavet, and G. E. Wilkerson. The sudden death of these well-known associates with the Department occurred during the year.

Mr. Treherne, Dominion Assistant Entomologist, and latterly Chief of the Division of Dominion Field Crop and Garden Insects, was for many years closely associated with your Inspector and his work. He rendered most valuable assistance to both the Dominion and Provincial Departments of Agriculture. His death on June 7th after only a few days' illness was a great shock to all his friends.

D. Gavet, senior assistant to your Inspector, had been a faithful servant of your Department since 1907. He died very suddenly on January 28th, apparently from heart-failure.

B. E. Wilkerson, although not a gazetted official, was Fruit Quarantine Officer at the Port of Victoria for over twenty years, serving on the staff of the late Thomas Cunningham and afterwards on that of your Inspector. He was an extremely conscientious and faithful servant. He has been succeeded by his assistant, John Noble, who in turn is now assisted by W. A. Carpenter. Mr. Wilkerson's death occurred on September 6th and was almost as sudden as that of Mr. Gavet.

Mr. Gavet's place was filled by the Vancouver staff being advanced in order of seniority, and Horace Epps advanced from casual assistant to the regular staff after serving eight years in the former capacity.

Office-work.

At your Inspector's headquarters office in the Court-house, Vancouver, all details of work performed in the inspection of imported and exported horticultural and field products were carefully recorded. Information regarding regulations, insect pests, and plant-diseases was dispensed by personal interviews and correspondence. The departmental bulletins and circulars relating to horticultural and agricultural subjects were always on hand, for which there has been a steady demand.

STORED PRODUCTS FUMIGATED.

In the foregoing report your Inspector omitted reference to the various stored products that arrive infested with moth, beetle, or weevil, in which case the consignee has the option of the shipment being refused entry or fumigated. Such products consist of rice, corn, peas, beans, peanuts, etc., including dried fruits and spices. Fumigation is carried out at the Government Fumigation Station, Vancouver, or in the two fumigation chambers provided at Victoria. A list of the quantity and various products fumigated during the year appears on one of the tabulated report sheets attached to this report.

Respectfully submitted.

W. H. LYNE.

REPORT OF PROVINCIAL PLANT PATHOLOGIST, VANCOUVER.

J. W. EASTHAM, B.Sc.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I have the honour to submit herewith my annual report for 1924.

SEASONAL CONDITIONS.

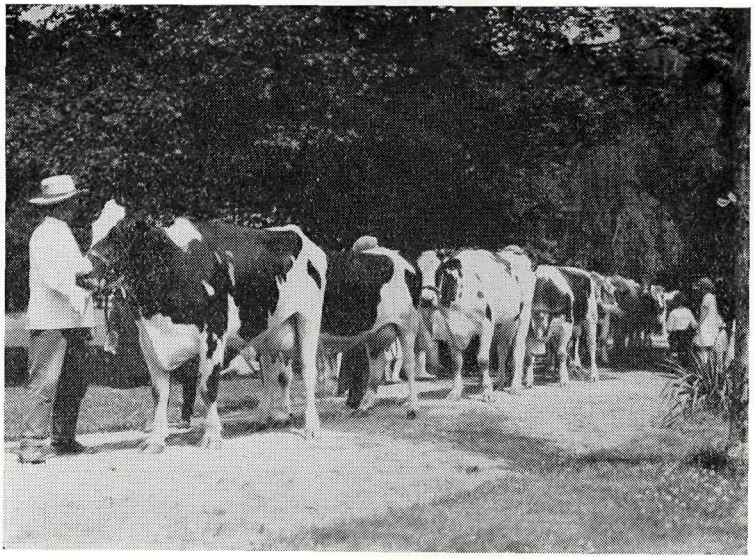
The summer of 1924 was unusually dry. As a consequence certain fungus-diseases which often do serious injury were of little importance. Apple-scab, which is the most serious disease that the apple-grower in the Kootenays has to contend with, did very little injury in that section. There were one or two areas on the Kootenay Lake, however, where a slight outbreak of scab occurred on susceptible varieties late in the season (September) as a consequence of late summer rains. Such late infections are unusual. As a result of experimental work in scab-control in the Kootenays it was considered that a spray later than two to three weeks after the calyx spray would not be worth while oftener than once in five years.

The only fungus-disease which assumed unusual prominence last season was the powdery mildew of clover (*Erysiphe* sp.). Some fields of red clover in the Kootenay District were so completely covered with the fungus that the whole field appeared greyish-white, being conspicuous even at a distance. The perithecial stage was not observed. Notwithstanding the amount of mildew present there did not seem to be any serious injury to the plants. In some instances rust (*Uromyces*) was also present on the same plants.

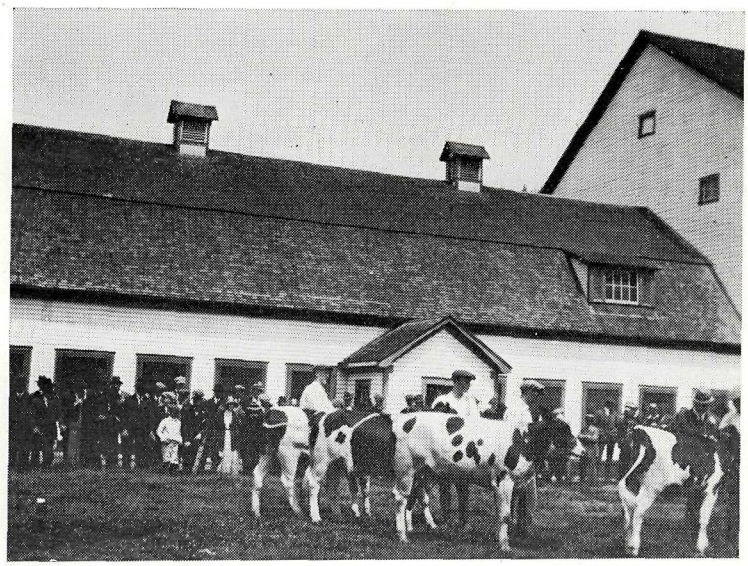
Physiological diseases were prevalent and severe, especially drought-spot and corky core of apples. Certain orchards of McIntosh had the entire crop rendered almost worthless from this trouble, which appears to be associated with drought and certain unfavourable soil or root conditions.

POTATO-DISEASES.

A somewhat perplexing trouble occurred in potatoes grown for certified seed in the Courtenay District. Certain fields of the Burbank variety which were still green when frost came in the last week of September were cut by the frost and the tubers subsequently developed a discoloration in the vascular ring. This discoloration was confined to the vascular ring, not being noticeable in the pith or cortex as in net necrosis or frost necrosis. In many cases it extended completely from end to end of the tuber, and while in the majority of cases faint, in others it was pronounced enough to make a purchaser possibly suspect wilt. No wilt, however, had been found in the field inspections during the growing season, but under the circumstances it was thought best to refuse certification, for fear of possible complications with purchasers, until the matter had been further investigated. A considerable number of cultures were made from discoloured tissue, but no organism was found associated with the discoloration. Samples of the affected potatoes were planted at Courtenay, the University Farm at Point Grey, and the Dominion Experimental Farm at Invermere. The plants raised from this seed were healthy and vigorous showing no evidence of any weakness or disease. Those at Invermere, however, were cut down by frost again and the same trouble reappeared in the tubers. The other plots, however, which matured normally, gave tubers which were free from any discoloration.



Some of the Holstein cows in the stock parade at the picnic of the Fraser Valley Milk-producers' Association held at the Experimental Farm, Agassiz, June 14th, 1924.



Judging demonstration at picnic of Fraser Valley Milk-producers' Association, held at Experimental Farm, Agassiz, June 14th, 1924. The late W. T. McDonald, Live Stock Commissioner, is shown outlining comparative strong and weak points in four young females.

It seems probable that the discoloration is in the nature of a sap-stain from the decomposed products of the frozen leaf-tissue being carried down into the tubers rather than any form of wilt or necrosis. From the work carried out last year it would appear that potatoes so affected are as good as any others for seed purposes, but, at the same time, it may not be desirable to certify them for fear of dissatisfaction on the part of the purchaser.

Burbank potatoes have also suffered severely from a genuine net necrosis in certain places on Lulu Island. This was not correlated with frost nor with leaf-roll, and the cause of it is obscure. It would seem, however, that the Burbank is particularly susceptible to various internal streakings and spottings of the tuber.

During the judging at the Potato Fair at Vancouver an exhibit of Netted Gems was noticed showing a peculiar and unrecognized defect. Patches of the flesh showed a black rubbery consistency resembling "black-heart," but affecting the external layer of the flesh and not the heart. Inquiry showed that these potatoes had been dug wet and then placed near the stove to dry. Conditions, therefore, were probably somewhat similar to those responsible for "black-heart." Another exhibit of undetermined history showed a similar condition.

During the past season, as in the preceding years, occasional plants have been found with very numerous weak shoots. These have been classed as a form of "spindling sprout." Recently, certain investigators in the State of Washington reported that this disease has occurred there to the extent of affecting 50 per cent. of the crop and that it may be of the nature of a "virus" disease. It has been shown to be carried in the tubers. Probably, therefore, this will have to be added to our scheduled diseases in connection with potato-certification.

Colorado Beetle.

At the beginning of June I received a telegram from Ashcroft stating that "potato-bugs" were doing much injury and calling for immediate assistance. As there was a remote possibility that this might be a new outbreak of Colorado beetle I left immediately to investigate. The pest turned out to be the grey blister-beetle (*Epicauta* sp.). It had done considerable damage in certain places, completely stripping the young plants. Even at that date, however, the insects were beginning to leave the potato-fields and go back to the range. Although damage is occasionally done by this insect, the larvæ feed on the eggs of grasshoppers, so that it is probably on the whole a useful insect. Recommendations were made for the use of Paris green or lead arsenate should the attack persist.

On the whole, the result of the Government's efforts to control the Colorado-beetle infestation in the East Kootenay has been satisfactory. The numbers of the pest present south of Elko, and in particular at Wardner, were only a fraction of those to be found in the two preceding years. Unfortunately, however, the bug has made quite a jump in the Cranbrook District, as it was found on a small garden-patch about 4 miles west of Cranbrook and probably the last potato-patch between the Cranbrook District and Lumberton. A careful examination of all potato-fields and patches between this outpost and Cranbrook gave negative results, although a slight infestation was found on a very small portion of the large potato acreage in the hands of Chinese growers just east of Cranbrook. These extensions of infestation are probably the result of the conveyance of adult bugs on cars or other vehicles.

There is no question but that the beetle is permanently established in the territory east of Cranbrook, and even if eradication were possible reinfestation would immediately recur from across the boundary. The Government's action in supplying free poison and spraying and dusting machines has given the farmer valuable assistance in controlling the pest, at a time when any additional expense was a serious matter and whilst many of the growers were unfamiliar with the insect and the best means of control. Moreover, the rapidity, ease, and efficiency of dust applications have been demonstrated. It would seem, therefore, desirable that after the coming year the problem of control be turned over to the growers in the district east of Cranbrook as a matter of ordinary farm procedure, and the Government give assistance only in the case of new infestations or westward extensions of the existing one.

In the Creston area no extension of the infestation was recorded, though the pest reappeared on the original location on the Langston Ranch at Camp Lister. Mr. Hunt found about a dozen adults just emerged on June 19th and about twenty-four egg-masses on volunteer plants. A trap of potatoes was planted near this spot. An inspection on July 3rd showed nothing, but all potato-plants were sprayed on that date and again the last week in July. In

company with Mr. Twigg I made a very careful examination of all plants on August 4th, but no indication of the pest in any stage was discovered. There would seem to be grounds, therefore, for hoping that the pest has been eradicated here.

MISCELLANEOUS DISEASES.

Blossom-blight, especially of Olivet cherries, was again severe in the vicinity of Victoria. This appears to be identical with the form reported from Oregon as due to a new species of fungus (*Monilia oregonensis*) related to the common brown-rot organism. The spraying programme which is recommended for Oregon, however, did not prove very successful under our conditions and it is hoped to carry on some experimental work next spring.

About the middle of June some alarm was expressed by certain growers in the Saanich District concerning the number of developing fruit that were drying up instead of developing on loganberry and raspberry plantations. In conjunction with Mr. White I made a careful inquiry in the district, but did not think that there was any cause for alarm. In no case was more than 20 per cent. of the fruit not developing and in most cases a much smaller percentage. In some cases the trouble had been noticed the preceding season, but the growers had harvested a good crop. In a few cases insect-injuries were found and in a few others a fungus (*Botrytis*), but in most cases the drying appeared to be purely physiological and probably associated with the dry climatic conditions prevailing in this locality.

Snapdragon-rust (*Puccinia antirrhini*) was very noticeable around Victoria and occasioned a serious and, in some cases, destructive disease of this favourite garden flower. It also proved destructive in certain greenhouses. It was also reported as destructive at Courtenay. It was not observed on the Mainland. The disease is native to America, being first reported from California in 1896, and in recent years has spread pretty well over North America. This, however, is the first time it has been reported as a serious garden pest in British Columbia.

Black-knot of Plums and Cherries (Plowrightea morbosa).—Several cases of this were found by G. E. W. Clarke on Lulu Island. Previous findings have been on the Indian reserve at Point Grey and one case at Kerrisdale. The disease did not appear to have spread as much as might have been expected, the specimens being apparently confined to old neglected trees. Infections have been cut out and destroyed.

Mushroom Root-rot (Armillaria mellea).—The severest case of disease that I have noticed as definitely due to this organism was seen in the home orchard of a Shaughnessy Heights residence. Apple, plum, cherry, and pear trees were dead or dying, rhizomorphs being found in abundance over the roots and up the trunks. On the whole, the amount of injury that can be definitely attributed to this fungus in the Coast area of British Columbia is surprisingly small when compared with the reports from the Pacific States, but it is evident that under favourable conditions it can be destructive.

OTHER WORK.

During the past year a revised edition of Circular No. 23, "Fire-blight," was prepared and issued as Circular No. 66, New Horticultural Series. Bulletin No. 68, "Diseases and Pests of Cultivated Plants," which has been out of print for some years, has been rewritten and much enlarged, forming a fairly comprehensible guide to the diseases and pests of the Province. As in previous years, I took part in the short course in horticulture given by the University, collaborated in the plant-disease survey carried on by the Dominion Government, and furnished abstracts of British Columbia agricultural publications for *Botanical Abstracts*.

Respectfully submitted.

J. W. EASTHAM.

REPORT OF ASSISTANT ENTOMOLOGIST, VERNON.

M. H. Ruhmann, B.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

Sir,—The following is a report on the entomological activities of this office during the past year:—

The Entomological staff during the past year consisted of: Max H. Ruhmann, Assistant Entomologist in Charge; Miss C. M. Bigland, Junior Laboratory Assistant.

On May 9th a report was received of an outbreak of grasshoppers which was causing severe injury to an onion-crop near Kelowna. This case was immediately investigated and found to be serious. The various growers of this section were immediately interviewed and arrangements made for combined action in the application of control measures. On May 10th bran, molasses, salt, and fruit extract were procured by the growers, the Department supplying the necessary poison. These materials were conveyed to a central mixing-station and a demonstration of mixing the poison bait was given. This area received constant and thorough treatment throughout the season, the result being that only a slight injury occurred to the crop.

From this time on through the early summer many reports of outbreaks from widely distributed points were received, with the result that several central mixing-stations for the preparation and distribution of poison bait were installed by the Horticultural Branch in an effort to combat the hopper outbreak. Large quantities of poisoned bait were distributed free by the Department and considerable benefit resulted, although lack of local organization among the growers minimized the results that might have been obtained. The greatest losses occurred in the unorganized sections in the Douglas Lake areas, where hay and range grasses were seriously depleted.

E. R. Buckell, Assistant Dominion Entomologist and a specialist in the Orthoptera, took charge of investigations and general supervisory work. The outbreak was, however, so extended that many Department officials had to give considerable of their time to the work.

It is anticipated that, although parasitism and predacious enemies of the hoppers were considerable in some sections, the hoppers will be very much in evidence over a large area during 1925.

The codling-moth (*Cydia pomonella*), although considerably reduced in some areas, new outbreaks have occurred in other important sections, so that, on the whole, ground is gradually being lost in the effort to reduce the total area.

The fruit-crop on the whole was exceptionally free from both insect and fungus injuries. The reduction in insect-injuries was to a large measure due to the thorough general spraying of the trees which has been in progress for the last two years in the more important fruit sections. Many sections, however, lack power-sprayers and every effort should be made to induce growers to invest in this very necessary equipment. Every year is showing an increasing need of power-sprayers. With the almost annual appearance of new pests and the great increase and wider distribution of the old ones, the problem promises to be a serious matter for the fruit-growers in a few years' time unless a more active spirit in the control of our pests is shown.

The Codling-moth Situation in British Columbia.

Work on the codling-moth in British Columbia has been in progress since 1905, at which time there were three small areas in the Province infested. In spite of every effort to eradicate, the moth has gradually spread through the fruit sections of the Province and at the present day every important fruit-growing centre has the moth either present or in its near vicinity. The spread has been gradual and, although eradication has been effected in many centres, new outbreaks and reinfestations have constantly occurred. The cost of this work has been heavy, with an ever-increasing annual expenditure by the Department of Agriculture. This expenditure has been well warranted in so far that general infestation has been prevented for so many years. Now the infestations are so widespread that it is only a matter of a very few years that general infestation will be an accomplished fact. Before this point has been reached it would be advisable for the fruit-grower to take an active interest in the matter and to prepare and equip himself to control the codling-moth in his own orchards.

Protective Spraying Zones.—There have been requests for some years by progressive growers to have protective spraying zones established. The Department has greatly favoured these. So far, however, nothing has materialized to this end, mainly through the inability of a sufficient number of growers in a given zone to support such a movement.

A petition to establish a protective spraying zone requires the signatures of 80 per cent. of the growers in a given zone irrespective of the individual acreage to be protected. It would be desirable if one or two such zones could be established so that effective and practical regulations for the control of such zones could be established.

In the creation of a large number of such zones before some experience in the management of them has been attained would create considerable difficulty and possible hardship on small growers.

The desirability of protective zones is very evident and would increase the output of commercial grades of fruit considerably from our present acreage.

A lecture on pest-control was given at Keremeos early in the year. A great deal of time had to be spent in the field on experiments and investigations. Most of the necessary travelling was done by car, a total distance of approximately 11,000 miles being covered in this manner. Owing to lack of time Kelowna Fair was the only one visited, where an exhibit of fruit pests and diseases was displayed.

The revision of the Entomological section of Department of Agriculture Bulletin No. 68 was completed and published.

Reports on the investigation of the life-history of the codling-moth in relation to temperature, onion-maggot control with the bichloride-of-mercury treatment, the San Jose scale outbreak at Kaslo, and the cherry fruit-fly are attached hereto.

PROJECTS FOR 1925.

Control experiments of the currant and gooseberry fruit-worm. This is a necessary project owing to the impossibility of growing these fruits commercially in the Interior, due to the injuries of this insect.

Continuation of the control experiments of the onion-root maggot with bichloride of mercury.

Investigations regarding the injury by a lepidopterous larvæ to sour cherries at Kelowna.

Investigations regarding the distribution of the cherry fruit-fly.

Observations on the control of San Jose scale with oil sprays.

Experiments on the control of a lepidopterous crown-borer of shade-trees. A large percentage of the shade-trees in the City of Kelowna have been killed and many more are dying from the injuries caused by this pest.

Investigations regarding the elimination of the tree-bands in codling-moth areas. The annual cost for the inspection of bands is very high and it is thought that this cost may be reduced or eliminated.

CODLING-MOTH INVESTIGATIONS.

Life-history in relation to Temperatures.—This investigation was undertaken as the result of similar work reported on favourably from Washington, U.S.A. The object was to ascertain if local evening temperatures has any bearing on the time of general emergence, so that it might be possible for fruit-growers in infested areas to definitely determine the correct time for the application of the first cover spray on their own trees.

In the American investigations it was suggested that when the evening temperature reached 60° F. at 8 p.m. general emergence of the moth might be expected. Owing to the known great variation of the general emergence of the moth in the spring under comparatively slight differences of elevation and location a preliminary investigation was decided upon.

Two infested areas were chosen, approximately 3 miles apart and having a difference of elevation of about 100 feet; the lower elevation was marked "Experiment A," the higher "Experiment B."

On Experiment A it was arranged to have the temperatures read daily at 8 p.m. On Experiment B a thermograph was installed. Owing to uncontrollable circumstances the temperature readings on Experiment A could not be regularly taken at 8 p.m. and a difference of from thirty to sixty minutes later frequently occurred. As the drop in temperature is usually

rapid after 8 p.m. the recorded temperatures for this experiment are, in some instances, lower than they actually were.

One tree on each experimental plot was caged with mosquito-mesh, $^1/_{12}$-inch mesh; this was necessary owing to the fact that infestation in these areas is not general and it was desirable to prevent further distribution from the experimental material. Codling-moth material collected in the fall of 1923 was enclosed in each cage and kept under close observation.

Plot A is an orchard in which the trees average over 20 years old, is low-lying, sheltered, and is practically level land, underdrained, soil a sandy loam.

Plot B consisted of trees averaging about 12 years old, elevation approximately 100 feet higher than Plot A with a slope of about 6 per cent. fairly exposed, soil a light clay loam to clay loam. Owing to the fact that this orchard changed hands in the fall of 1923 the original owners had taken down the cage, which had to be re-erected; consequently this experiment did not get under way until the middle of May.

In each experiment 350 codling-moth larvæ were used. The following are the daily evening temperatures recorded during the experiment and the number of moths which emerged during this period:—

Experiment A.

Date.	8 p.m. Temp.	Adult Emergence.	Date.	8 p.m. Temp.	Adult Emergence.
April 27	*	1	May 26	58	7
May 1	57	....	,, 27	57	16
,, 2	52	....	,, 28	52	11
,, 3	49	....	,, 29	54	8
,, 4	46	....	,, 30	70	23
,, 5	48	....	,, 31	58	17
,, 6	54	2	June 1	60	15
,, 7	50	....	,, 2	62	28
,, 8	†	....	,, 3	58	19
,, 9	59	1	,, 4	64	12
,, 10	74	....	,, 5	53	14
,, 11	76	....	,, 6	56	18
,, 12	68	3	,, 7	62	23
,, 13	68	1	,, 8	62	47
,, 14	66	....	,, 9	56	9
,, 15	72	2	,, 10	58	3
,, 16	68	5	,, 11	64	7
,, 17	66	1	,, 12	60	1
,, 18	70	....	,, 13	58	4
,, 19	62	....	,, 14	68	....
,, 20	57	1	,, 15	64	....
,, 21	60	....	,, 16	66	....
,, 22	56	....	,, 17	59	....
,, 23	57	....	,, 18	58	....
,, 24	62	3	,, 19	62	....
,, 25	56	2	,, 20‡	58	....

* No record. † Not taken. ‡ Experiment discontinued.

Total emergence for April	1
Total emergence for May	103
Total emergence for June	200
Mortality	46
Total material of Plot A	350

Experiment B.

Date.	8 p.m. Temp.	Adult Emergence.	Date.	8 p.m. Temp.	Adult Emergence.
May 19	60	....	June 5	54	17
,, 20	66	1	,, 6	54	22
,, 21	58	....	,, 7	60	7
,, 22	62	....	,, 8	64	31
,, 23	58	....	,, 9	59	27
,, 24	64	....	,, 10	55	18
,, 25	68	....	,, 11	66	16
,, 26	69	....	,, 12	64	35
,, 27	68	2	,, 13	60	29
,, 28	66	....	,, 14	63	25
,, 29	64	....	,, 15	65	17
,, 30	70	1	,, 16	66	9
,, 31	60	1	,, 17	60	4
June 1	64	2	,, 18	62	....
,, 2	63	10	,, 19	63	....
,, 3	61	1	,, 20*	59	....
,, 4	60	28			

* Experiment discontinued.

Total emergence prior to May 19th	4
Total emergence May 19th to 31st	5
Total emergence during June	298
Mortality	43
Total material of Plot B	350

Summary and Conclusions of Investigation.—General emergence commenced nine days earlier on Plot A than on Plot B. The first temperature of 60°, or over, at 8 p.m. on Plot A was recorded on May 10th, sixteen days before general emergence commenced. Twelve days before general emergence commenced, the 8 p.m. temperature on Plot A reached 60° or more. The 8 p.m. temperature on Plot A was below 60°, when general emergence commenced. The first emergence was recorded thirty days before general emergence commenced.

On Plot B from May 10th to the date of general emergence, June 4th, fourteen days occurred on which the 8 p.m. temperature was 60° or over.

It is our opinion that relative humidity has considerable bearing on adult emergence of the codling-moth; this complication would make it impractical for the average grower to definitely determine general emergence from temperature records, as humidity readings would also have to be taken and comparative tables constructed.

It is our opinion that the most satisfactory method for the grower to determine the time of emergence under his local conditions is to collect mature larvæ in the fall, placing them in a breeding-cage in a well-protected part of his orchard, and watch for the general emergence of adults in the spring. It would be necessary to use about 100 larvæ in such a breeding-cage to get satisfactory emergence data. One such cage would be sufficient for a comparatively large area. All pome-fruit trees should be well covered with an arsenical spray immediately general emergence is observed.

EXPERIMENT IN THE CONTROL OF THE IMPORTED ONION-MAGGOT.

Owing to satisfactory control of the onion-maggot with trap-crops being entirely dependent on local climatic conditions, it was decided to test the commercial possibility of using the bichloride-of-mercury solution as used so successfully in the control of the cabbage-root maggot, a very similar insect. In the past it has been thought impractical and too costly to apply to an onion-crop owing to the large number of plants per acre which would require contact treatment and the necessity of repeated applications.

We have been fortunate in having had the use of an excellently located truck-field for a number of years, the property of Captain J. Mutrie, of Vernon, who has always given us every encouragement and assistance in the application of our experiments, often at the risk of consider-

able loss. In the spring of 1924 he again put his onion-crop at our disposal for the purposes of this experiment.

For the purpose of applying the solution a 4-gallon (imperial) tank was constructed with shoulder-straps similar to a knapsack sprayer. Near the bottom of the tank, on the right side, a short brass tube ¼ inch diameter was soldered, on which a length of rubber tubing was fastened; this tubing had a ¼-inch bore and was sufficiently long to easily reach the ground when the knapsack tank was carried on the back. To guide the flow of solution from the tube to the plants a stout wire about 2½ feet long was attached to the lower end of the rubber tube and acted as a handle; a cut-off was attached to the tube to prevent the solution from running away when refilling the tank.

Eighty rows, each 300 feet long, were staked off into four blocks. Block 1 received one application; Block 2 received two applications; Block 3 received three applications. The fourth block received no application and was used as a check.

The first application was given to Blocks 1, 2, and 3 on May 13th; the second application was given Blocks 2 and 3 on May 23rd; and the third applications was given to Block 3 on June 2nd.

The results were: One application gave perceptible control; two applications gave approximately 75 per cent. control; three applications gave approximately 95 per cent. control. The check-plot was practically eliminated by the onion-maggot.

The bichloride-of-mercury solution was applied to the plants by gravity flow from the tank as the operator walked slowly down the rows; it was found that only one row at a time could be treated by one man; an attempt to treat two rows at once with two tubes from the tank could not be satisfactorily accomplished.

Captain Mutrie thought so favourably of the experiment that he decided to have the balance of his onion-crop treated and had a similar tank constructed. Owing to unpreparedness he was unable to get his applications on either fast enough or at the proper intervals, so that although considerable control was obtained it was not satisfactory.

The experiment on the whole was very satisfactory and gave ample proof of efficiency so as to warrant the continuation of the experiment. The points of importance in this treatment are: (1) Proper solution, 1 oz. of bichloride of mercury to 10 gallons of water; (2) treating the entire acreage within three days after oviposition commences; (3) proper spacing of intervals of application; three applications at ten-day intervals.

Cost of Application per Acre for Three Applications.—The cost of application was figured from the time and amount of material used on the larger acreage as being the better guide in commercial applications: 4 lb. bichloride of mercury at $1.24, $4.96; time of preparation and application, $11; total, $15.96.

A method of treatment that will practically guarantee complete control of the onion-maggot would not be excessive at a cost of $25 per acre. The bichloride of mercury promises well, and even if it were necessary to make four applications at seven-day intervals the cost would not be excessive.

The San Jose Scale (Aspidiotus perniciosus) Outbreak in Kaslo.

Kaslo was visited on September 3rd when an outbreak of San Jose scale was discovered on a lot in a residential section approximately 1 mile north of Kaslo. The material was taken to Vernon so that a microscopic determination might be made. The outbreak was then reported to W. H. Robertson, Provincial Horticulturist and Inspector of Fruit Pests, so that the area might be quarantined and measures of eradication proceeded with. This area was again visited at the request of Mr. Robertson on October 21st to ascertain the full extent of the infestation. A thorough examination of the infested area and surrounding district was made. The infestation appears to be quite localized, immediately surrounding the original point of infestation.

The original infestation was recorded in the year 1904 and eradication-work continued from that time until 1912 under the direction of the late Thomas Cunningham. The present infestation is a result of the incomplete eradication of the original infestation and has taken twelve years to reach its present extent.

The eradication of the present infestation will be undertaken by the Horticultural Branch under the direction of W. H. Robertson, Provincial Horticulturist and Inspector of Fruit Pests.

THE CHERRY FRUIT-FLY (RHAGOLETIS FAUSTA?).

A fruit-fly of the cherry has made its appearance in the Interior of British Columbia. One larva was submitted to this office in 1921. This failed to reach the adult stage, so that its identity could not be determined. Six larvæ were secured during the summer of 1924. These have pupated and it is expected that adult flies will be reared from these in the summer of 1925, so that their identity may be determined.

This material was received from an important cherry district and from an isolated point and it is hoped that general infestation may be prevented.

Respectfully submitted.

MAX H. RUHMANN.

REPORT OF MARKETS COMMISSIONER, CALGARY.

J. A. GRANT.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to submit my report for the year 1924.

The activities of 1924 commenced with the annual meeting of the British Columbia Fruit-growers' Association at Chilliwack. Various other meetings were addressed on the Lower Mainland, the Okanagan, and Vancouver Island points.

In reviewing the marketing season of 1924 we should keep in mind that the early frosts and later dry spell reduced the crop available for market to below the normal expectation; therefore the selling end had a very different problem from that of marketing the 1923 crop.

In almost every line prices showed a considerable advance, although the purchasing power of the Prairie people had not improved. The higher prices, in my opinion, were realized by the smaller supply, together with the harmonious understanding that was maintained between opposing shipping interests in British Columbia and the co-operation of the two brokerage concerns on the Prairies.

Some physical conditions existed that prevented a much better showing being made, the principal ones being:—

(1.) Conditions on the Prairies were bad until farmers were assured that the price of grain would more than make up for the shortage in crop.

(2.) Rain at end of raspberry season, shortening the amount that the market would absorb.

(3.) Break-down in Jonathans and almost all other apples.

Had these conditions not been present much better returns would have been secured for the growers.

When it became known that the Associated Growers had lined up to supply the Mutual Brokers, with reservation in favour of other houses being able to buy direct from them, the Growers' Sales Agency found little difficulty in lining up the balance of the shippers. The result was that at nearly every stage of shipping an excellent working arrangement was maintained and the best possible prices were realized.

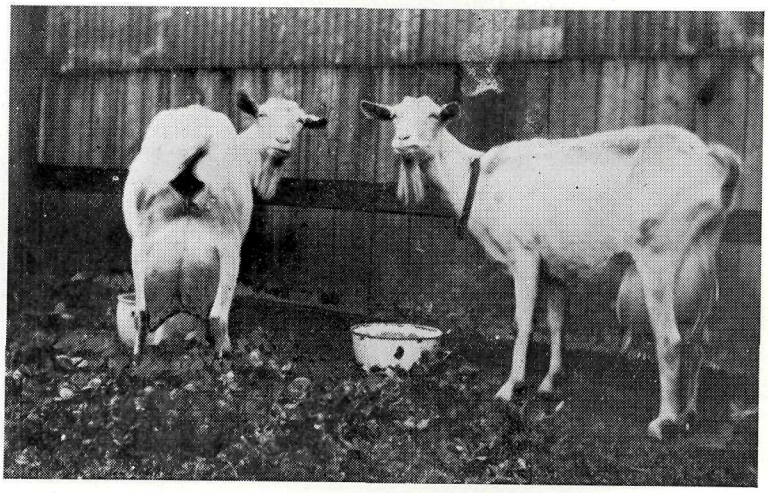
The season of 1924 has been a very busy one for your Markets Commissioner, as right from the start of shipping many unforeseen matters had to be dealt with under emergency.

We called attention in Bulletin No. 1, June 7th, 1924, to the need of a representative on the Prairies to look after the interests of the berry-growers. This advice was not taken and subsequent events has demonstrated that, while the deal is handled by brokers not supervised by the shipping end, it is necessary to have some one appointed by the growers to see that they get a fair deal in adjusting their financial differences.

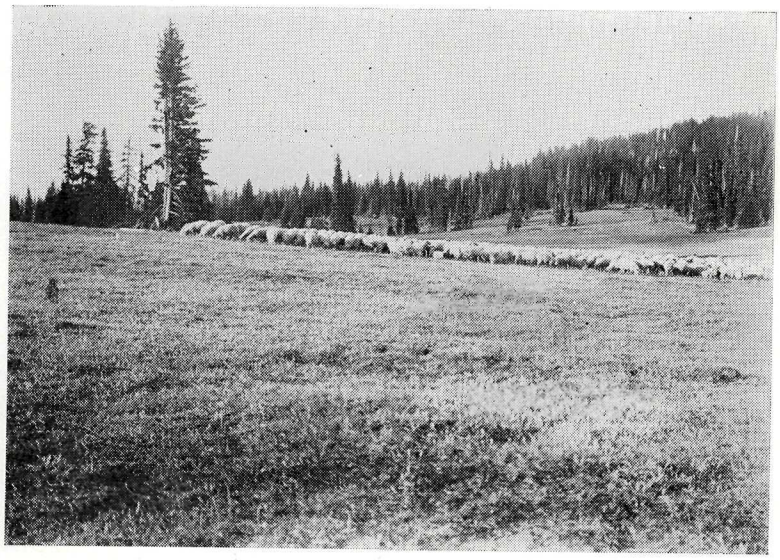
We again strongly recommend that rhubarb and berry shippers follow the example of the Associated Growers, and send a representative to the Prairies to attend to adjustments and other claims made upon them, or, better still, to amalgamate the selling under one head of all British Columbia produce, having separate pools for the various shippers, or locals, as far as dates of shipment go. Examining and adjusting claims during the shipping season is a man's job.

Crop of Green Mountain potatoes grown on a farm at Chilliwack. Certified seed was used for planting, which accounts for the uniformity of the plants and the luxuriance of the growth.

Experimental plot, Sumas Reclamation Area. This field of mangels forms part of what was formerly overflow lands.



There are over 9,000 goats in British Columbia. "Lily" and "Belle," two half-bred Saanen goats. "Lily," recently deceased, had a record of 16.1 lb. milk in a day and "Belle" has a record of 13.6 lb.



Flock of sheep on midsummer range opened up by cutting a trail from the Upper North Thompson River near Vavenby.

The usual annual difficulty was encountered in lining up the rhubarb and berry deals. The Nash interests lined up the major part of the berry deal, while the Dewdney rhubarb shippers lined up with the Growers' Sales Agency, who promised to quote market prices before cars rolled. At the commencement of the British Columbia shipping season the Prairie market was full of Walla Walla rhubarb and it had to be forced out by a low price. The Growers' Sales could not get a satisfactory opening price and cars were rolled to them on consignment; the sales were unsatisfactory and the rhubarb-men switched their account to the Mutual Brokers. The first British Columbia car sold in Winnipeg and Regina netted a low price as it met imported cars there, but from then on the market advanced and prices were firm until the local rhubarb came in. The car-lot movement by freight is a profitable way to ship rhubarb. In this connection I strongly recommend refrigerator-car movement by freight for hothouse tomatoes and cucumbers as well as strawberries and raspberries as far as Regina, excepting when the market is bare and needs a rush supply. Missouri and other American strawberry-growing points ship a longer distance in this way and thereby greatly reduce their transportation charges.

The time has arrived for a reorganization of the system of brokerage. At present they are owned by the jobbers who control them and at the same time they are paid to act as shippers' agents. There is no doubt that brokers owned as described above must serve those who employ them. We cannot see any reason why British Columbia shippers should continue to pay for service that, under the described circumstance, they cannot hope to get, and are of the opinion that brokerages so owned should be declared illegal, as collecting brokerage from the shipper and receiving a salary from the buyer is unlawful.

What is needed is a brokerage owned and controlled by British Columbia shippers of produce, whose duties will be to serve the people who employ them and distribute without fear or favour to all responsible jobbers. Notwithstanding our advance in marketing methods, the control of distribution and feeding the market from storage has yet to be taken over by our shippers; until this occurs there will be dissatisfaction amongst rival jobbing-houses on the Prairies.

Strawberries.

Strawberry shipments fell off considerably in car-lots but increased L.C.L., chiefly because the Upper Country had increased their acreage but were unable to precool and assemble car-lots. This will be corrected to some extent this year. Returns were more satisfactory to the growers than in 1923. Strawberries sold in Ontario as low as 4 cents per quart and quotations were made from Minneapolis at 5 cents per quart f.o.b. shipping-point, but the Western jobbers were satisfied to lay off buying and keep a steady market at a fair price for British Columbia supplies rather than break it to pieces. After British Columbia strawberries were through, two cars of Wisconsin strawberries were imported into Winnipeg and sold at a price under the price that British Columbia secured.

Raspberries.

Raspberries from the Lower Fraser Valley arrived in excellent condition. During the peak of the raspberry-shipping season as many as fourteen cars of raspberries were rolling or on track unsold. A conference was held and two proposals put before your Markets Commissioner. One was to reduce the price to a point that would be below cost of production; the other was to freeze four cars—one in Winnipeg, one in Regina, one in Saskatoon, and one in Calgary. The latter course was decided upon and concurred in by British Columbia managers; just then rain fell at shipping-point long enough to prevent cars being rolled for some days; this allowed the backing-up berries to clean up at a fair price. The average net returns to the growers were better than 1923.

Some independent jobbers were advertising for supplies. Some telling of prices obtainable far beyond the market and soliciting consignment. Many Japanese and some whites fell for the bait, with the result that Alberta markets were flooded by L.C.L. raspberries and prices ranging from 50 cents to $2 per crate replaced the former firm price of $3.25. A few cars rolled to Saskatchewan points and sold at $3.25; at the same time Calgary was paying $2 to $2.25 for the same class of berries arriving L.C.L. Fortunately for the growers, this occurred after the peak of the season.

The raspberry production having grown beyond the jam-factory and fresh-market demand, the Berry Growers' Union took steps to get assurance from canners that they would purchase

at a fair price all the surplus cannery berries. This they failed to do, and the result was that the Union obtained a loan from the Government and purchased the King-Beach Cannery at Mission. By having their own cannery they were able to take care of the surplus the canners could not, or would not, handle. The venture looks like a profit-maker for the growers. In addition to the surplus berries they bought the surplus tree-fruits and could have absorbed more than was offered. For the first time on record raspberries were not imported into the Prairies from the United States points.

CHERRIES.

Kootenay cherries were a good crop in 1924 and sold at top prices for the Bing and Lambert varieties. We consider that the acreage planted to these varieties, in suitable parts of the Kootenay districts, could easily be doubled as far as safety of finding a market is concerned. The possibilities of extending the market for them are good. We think that markets can be developed in the United States as there are no American cherries on the market in the Kootenay cherry season.

We noticed with considerable pleasure the disappearance of the Governor Wood and Early Richmond cherries from the market and hope that our cherry-planting for the future will be confined to the Bing and Lambert varieties, excepting for necessary pollenizing, as the demand is for these two varieties.

Cherry prices were good, especially for late-ripening sorts. We again point out that Okanagan sour cherries of the Olivet variety are not wanted on the Prairie market; they arrive in poor condition and too early, hurting the sale of better varieties from other parts of British Columbia that ripen later.

PEACHES AND APRICOTS.

Peaches and apricots should be grown more extensively south of Penticton, as well as Italian prunes and Winesap apples. The demand on the Prairie market for the above-named fruits is far in excess of the British Columbia supply. The bulk of the wholesale needs in these fruits is imported from Washington right in our season.

CANTALOUPES.

Early cantaloupes should be grown in districts where early ripening can be assured; late cantaloupes are not good sellers as this melon is a hot-season fruit.

We have made a careful estimate of the possibilities of the market for cantaloupes that come on the market from August 23rd to the end of the season. We find that over fifty cars are consumed in British Columbia, Alberta, and Saskatchewan, and of these over twenty cars are used in Vancouver. We find that the total shipped last year from the Osoyoos District was about four cars.

The variety wanted is a pink-flesh sort with a firm rind. The Oliver District is splendidly suited for growing cantaloupes and we would advise them to grow up to thirty cars.

The Associated Growers could afford in handling this amount to bring in an expert to coach the growers in packing and picking methods. Growing this amount of cantaloupes would solve the problem of what to plant until the trees came into bearing. We expect cantaloupe-growing to be fully tested out during the season of 1925.

TOMATOES.

The tomato industry in British Columbia is an important one. Tomatoes are grown at many points for canning purposes and many cars are rolled heavy with tomatoes to Prairie points for culinary use. While it is true that many of the tomatoes shipped are used for catchup by the housewife, at least as great a quantity is used by the restaurant trade and in homes for table use in their raw state.

The package used by British Columbia shippers is largely the four-basket crate. The package used by most shippers from United States in sending tomatoes is the lug. The British Columbia package is expensive, especially as it is used to ship tomatoes, the bulk of which is not fit for table use. We would strongly recommend that tomato-growers use both the four-basket crate and a lug about 30 lb. net, 35 lb. gross, and standardizing them; one to contain choice table-stuff for slicing and the other for culinary purposes. At present prices are set by the low-class tomato found in the four-basket crate, at the expense of districts who ship out tomatoes in the same package that are choice stock.

Sweet Potatoes.

Having in mind the solution of the problem of what to plant while the trees are coming into bearing, to tide the grower over the non-productive period, we investigated the market needs for sweet potatoes. We found that west of Winnipeg the Canadian Prairie cities and Vancouver imported about fourteen cars. We noticed that our varieties were mixed and not popular on the market.

On my December trip to the Eastern States a visit was made to Swedesboro, N.Y., where soil-cultural methods and storage was investigated. We found that the Jersey variety and the Nancy Hall were popular; that no kiln-drying was practised, but a thorough fixing or grading-over was done to storage varieties, and those stored were treated to the same storage as onions are in British Columbia.

We would not recommend any large planting of sweet potatoes as the market is limited, but we were impressed with the similarity of growing conditions found in Swedesboro and the nature of the soil in the Oliver and Osoyoos Districts, and consider that the best results should be got if the sweet potatoes were grown in these districts.

Apples.

The season of 1924 was marked by a severe return of apple break-down. Commencing with the Jonathans, many apples were affected by it. When it became noticeable a rush was made to place them on consumption as quickly as possible, with the result that serious loss in adjustments has been taken, as well as much dissatisfaction created among merchants, both wholesale and retail.

In some districts this trouble appears to affect from 5 to 20 per cent. of the fall and winter apple-crop, and it would seem advisable to store doubtful apples in loose storage, repacking about December, when the break-down ceases, and ship only the fruit that is sound. The Kelowna, Summerland, and Salmon Arm Districts suffered worst.

We examined a shipment of a car of Delicious apples in Sudbury; half of the car was from Vernon, the other half from Kelowna. Rival jobbers split the car between them; the man taking the Vernon apples had nice stuff to sell in March, while the man getting the Kelowna end had to repack in December and take a big loss because they had to be forced on a full market.

Up to the time this break-down was noticed nothing but compliments were heard for British Columbia apples in the East.

The break-down caused apple-buyers serious loss that the rebates did not cover, and in marketing 1925 crop, both on the Prairies and in the East, we predict buying with great caution and in smaller quantities.

Growers must make provision for storing and shipping out goods that will keep to their variety season if they are to retain the confidence of the trade.

We have noticed a great deal of shrinkage and unnecessary adjustments made for storage-scald. Apples wrapped in oil wraps seemed immune from this trouble. The ordinary sulphur wrap was found to be useless in preventing cold-storage scald. Oil wraps should be used in wrapping all winter apples for storage; it prevents scald and maintains the natural green on the apple, making them more attractive on sale. The forcing of so many winter apples on the market earlier than their natural season will create a scarcity in spring, and we predict high prices for those who were able to keep their winter apples until March and April.

Potatoes.

Both this year and last prices at opening of the potato-marketing season were low. Last year, or the beginning of 1924, importations had to be made from Alberta because of the scarcity in Vancouver, and it looks like a greater importation would have to be made this year. Alberta has not enough for her own needs this year, and supplies to meet the demand will have to come from Eastern Canada, where they have a bumper crop, or from Washington State, where little or no surplus is available.

It is apparent that the commercial potato-growers are badly disorganized for marketing. The large production by Orientals makes organization a difficult task. Until organization is brought about no stability can be obtained in marketing the early or new potato crop. When the growers show a desire towards organizing, your Markets Commissioner will do all in his power to bring it about. Selling through the growers' brokerage concern should be the desired end, so that the available crop can be fed to the market as potatoes are required.

CROWSNEST PASS AGREEMENT.

About the middle of September your Markets Commissioner was summoned to Ottawa for the purpose of being examined in connection with an affidavit made showing the effect of the discrimination in freight rates on British Columbia fruit. It may be interesting for the public to know that the records of this office show that 50 per cent. of the total production of fruit in British Columbia is sold on the three Prairie Provinces. That the Province of Ontario and Nova Scotia are active competitors on this market. That from 1915 to 1923 British Columbia shipped 17,612 cars of apples, peaches, plums, pears, and cherries, while in the same period Nova Scotia and Ontario shipped 5,903 cars, or 25 per cent. of the whole. That during the years 1915 to 1920 10,101 cars came from British Columbia and 4,657 came from Nova Scotia and Ontario, being 31 per cent. of the total shipped. That during the years 1921–22–23 7,511 cars were shipped from British Columbia to Prairie points and 1,246 cars were shipped from Nova Scotia and Ontario, or 14 per cent. The decrease of Eastern shipments in that time was due to the removal of discrimination in freight rates brought about by the freight-rate adjustment made during the years 1918 and 1920.

There was more fruit sent from Ontario this year into the Prairie Provinces than in any previous year during the past eight years. The restitution of the Crowsnest Pass Agreement for a time was mainly responsible for this, but as it happened the Ontario season was late this year and British Columbia was cleaned up, or nearly so, on all competitive stuff before the Ontario produce came on the market. Ontario shipped as far as Calgary many mixed car-lots of plums, peaches, and pears. Several car-lots of apples were bought in Alberta of Ontario Russets, Tolman Sweet, and Northern Spy apples; these sold slowly as prices equal to the British Columbia produce were asked. Ontario and Eastern Canada had a good crop of fruit this year, and had the Crowsnest Pass Agreement been operative a serious situation could have easily been created at Prairie points.

Consignment to jobbers was practically confined to the Lower Mainland Japanese and Orientals in the Upper Country. The tomato market was broken by consignment goods from Summerland, but soon recovered. Potatoes from the Coast in the early season suffered from the old trouble of brokers quoting on spuds they did not have, forcing the new potato price lower than the lowest point that mature potatoes were offered for.

PACKAGES.

During 1924 many of the troubles of other years were noticed in packages. The cherry-lug was tried out and but for the construction of the lug we think it would have been a success. The bottom or top of the lug should be placed so as to prevent pressure of the cherries forcing bottom or top layers down or up past the bottom or top; air-space should be provided at sides or by a cleat under the lid or bottom. Much damage was again caused by poorly constructed plum-lugs or suit-cases.

The Associated Growers had all their new stock made of firmer material or similar to the American suit-case. No doubt much of the trouble will disappear during the coming year, as new lugs should be made uniform to conform with the American lug by the box-manufacturers. Double-planed lids should be used on all crates to prevent sawdust getting on the fruit.

The jobbers complain that no standard weight is found in crated apples of the same variety, and as there is no regulation governing sizes of apples in packages, we consider that a minimum weight of 38 lb. be adopted, as well-filled crates even of the large sizes and light-weight apples should exceed this weight. Express and freight charges are based on a gross weight which exceeds the 38 lb. minimum recommended. The same principle would be welcome in all soft fruits shipped, particularly in apricots, peaches, cherries, and plums, as the pack varies to a great extent.

Another vital need is that of a Federal bond in lieu of the present unsatisfactory Provincial bond, which is not giving satisfaction in Alberta. Every jobber or commission merchant that sells goods on consignment should be bonded—a guarantee given to his customers that their money will not be used to pay his debts. In this law a stipulation should be made that such dealers publish their commission charges and any other charges they may make on goods they sell, and provide a maximum time that returns to the consignor should be made. I know of houses doing business that do not put up any bond and shippers to them run the risk of complete loss of all goods consigned to them.

We again draw attention to the unsatisfactory financial standing of some of the wholesale fruit-dealers. We have a number of applications from shippers for help in making collection from firms that have little or no means of paying. Most of these debts are for goods sent on consignment. Some of the firms doing business have not taken out a Government bond for the Province of Alberta, which, by the way, is of little protection to British Columbia shippers. We are pleased to note that the Canadian Horticultural Council is taking steps to have all fruit wholesale houses doing business in Canada bonded by the Dominion Government. We wish it success in its efforts as this is a long-felt want. We believe that the same Council is seeking a readjustment of Customs tariff as applied to fruit and vegetables, with a view to prevent satiating the taste of Canadians with imported fruit and vegetables, similar to commodities grown in Canada, coming on the market just ahead of the Canadian supplies.

In every commodity, from rhubarb to apples, we are compelled to force our way on to the Canadian market by rolling cars to markets already filled by American produce; this causes a sharp drop in prices and leaves the market in a demoralized state at the start of every commodity. The cream of the market is completely lost to Canadian farmers, and before the effect of the first cut in price is over the peak of the season in many commodities is past.

Markets Bulletin.

During the marketing season of 1924 we issued twenty-one numbers of the Markets Bulletin. We were favoured with many complimentary letters and many useful suggestions were made towards improving the market news.

We had only one criticism, claiming prices quoted as being incorrect. Upon investigation we found that the critic was wrong and prices quoted were correct.

We had the best staff of correspondents on record; very few defaulted even for one week. The staff assisting us are chosen for their knowledge of the business, and while we have not found the perfect correspondent, we think that we are fortunate in having the assistance of men of well-known ability and who possess the respect of Prairie wholesalers.

Our circulation will go beyond 4,000 for 1925. The cost per number is a trifle under 5 cents per copy. This includes postage, envelopes, printing, and correspondents' allowances, but does not include office-help.

In conclusion and casting an eye to the immediate future, we can see a nervous condition ahead as far as selling is concerned. There is no certainty as to how the line-up of Independent and Associated shippers will approach the brokerage question; whether the proposed growers' owned brokers will receive the support of the independents, and nothing is known at time of writing whether jobbers' owned brokers will be declared illegal. At present there are two such brokerage houses in existence and there is no room on the Prairies for three big brokerage concerns.

A brokerage concern owned by British Columbia shippers is almost sure to be launched and keen competition may be looked for during 1925. Prospects for a bigger distribution are bright, farmers are more hopeful, and there is unquestionably more money in circulation.

The whole fabric of the fruit industry in British Columbia will suffer if discrimination in freight rates continues, but if corrected (which it is fully anticipated it will be) the outlook for marketing 1925 produce on the Prairies looks encouraging.

Respectfully submitted. J. A. Grant.

REPORT OF ACTING LIVE STOCK COMMISSIONER, VICTORIA.

Dr. A. G. Knight, V.S.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

Sir,—I beg to submit the annual report of the Live Stock Branch for the year ended December 31st, 1924.

The live-stock industry shows a small but steady growth. Prices for beef have shown a slight increase over 1923, with a tendency for a steady rise. I believe our stockmen are taking a more optimistic view of the industry and will continue to do so as marketing conditions improve.

Prices for dairy cattle remain on a par with 1923, with an increased demand and higher prices towards the end of the year, spring calvers bringing $80 to $125 and fall calvers $125 to

$160, with exceptionally heavy producers running above the latter figure; 2-year-olds brought $45 to $75 and yearlings $30 to $45. The high standard of excellence set by our pure-bred breeders of dairy stock is being maintained by careful selection of sires, attention being paid to the production end, together with type and constitution. The production records of our pure-bred and grade herds compare favourably with the average herds found throughout Canada and the United States. The breeders of pure-bred dairy cattle are in a position to meet the Provincial demand for dairy sires, although they may be obliged to go outside the Province occasionally for sires to head their herds.

Owing largely to the depressing market conditions for beef cattle in the past, our pure-bred breeders of beef stock have not given the same consideration to maintaining their herds up to high standards. In a number of cases the pure-bred herds have been dispersed. As a result, breeders of grade-beef herds are obliged to look outside the Province for 50 per cent. of their sires. I believe our local breeders could supply the greater part of this demand by producing sires of the required quality.

A shipment of dairy cattle was selected by representatives of the Live Stock Branch on behalf of the Kelowna Creamery Association. Forty-three head of dairy cows, two Holstein bulls, two boars, and three sows were shipped from this port to Hong Kong during the latter part of the year.

HORSES.

There has been little or no change, generally speaking, in the producing or market end of the horse trade. The market is open to a limited extent for heavy horses over 1,600 lb. weight for city drayage purposes, also there is some demand for heavy horses for logging purposes. Teams for city work carrying the desired weight and well matched command good prices, ranging around $600 to $800 per team. Heavy-weight horses, plainer type, for logging purposes, bringing $400 to $500. A small demand for saddle-horses has been created in some of our larger cities, the greatest call coming from riding-schools. The price for this class of horse scarcely meets the cost of production. We cannot look for much increase in numbers of this type until prices are commensurate with the production costs. The fall fairs at New Westminster and Ladner brought out some very creditable animals in the heavy classes, Provincial-bred animals being worthy of special mention.

SHEEP.

No phase of our live-stock industry has commanded more attention than sheep. This no doubt is due to the satisfactory prices paid for mutton, lamb, and breeding stock; also those interested are awakening to the future possibilities and opportunities offered in this Province for extending and enlarging the industry. Mutton and lamb have probably reached the peak in prices. The market for wool is good, with prices tending to rise. Reports from authentic sources indicate a shortage of wool on the world markets; therefore, if the law of supply and demand holds good, we can expect a stable market for wool for some time to come, with fair returns to the sheepmen.

In 1923 there were 53,336 sheep in the Province. These numbers have been augmented by 20 per cent. of the natural increase of ewe lambs, besides the importation from Alberta of a considerable number of breeding ewes. The great bulk of the sheep brought in from Alberta have been allotted to parties in the Cariboo and Interior range areas.

A number of our breeders of pure-bred flocks have requested to have their lambs graded this fall. The Dominion Department of Live Stock is willing to detail a specialist in this line and the prospects at present are that grading will be carried out before the fall sales.

The menace of the sheep-killing dog is proving a deterrent to many farmers in keeping sheep on their farms. Unless this menace is removed farmers will hesitate in establishing new flocks or adding to their present numbers.

The number of sheep in the Province in 1923 was 53,336; in 1924, 55,151. We can look for considerable increase owing to the number of ewe lambs being kept and the importation of ewe lambs from Alberta.

SWINE.

Although there has been a slight decline in price compared with 1923, still we find an increase in the numbers of hogs in the Province during the year. Breeding sows have been conserved and not slaughtered as is the usual custom when the market is slow and there is a

lowering of price. There still exists among breeders some controversy as to the most suitable type of hog (bacon or thick smooth), with the majority favouring the latter as more suited to British Columbia markets.

The hog population for 1924 is 47,619, as compared with 42,845 for 1923. Prices for the latter part of the year have stiffened and the market price is encouraging for the coming year.

GOATS.

The demand for goat's milk is a factor in maintaining the interest of people engaged in goat-raising. Prices obtained for milk have been considerably higher than those obtained for cow's milk. The adaptability of goats in utilizing rough pasturage and lending themselves to being kept in small areas have made them popular with parties wanting milk for household purposes.

At present there are in the Province about 500 pure-bred goats, made up of Saanens, Toggenburgs, and a few Nubians, and 9,500 grade goats, making a total of about 10,000.

DISTRIBUTION OF PURE-BRED SIRES TO FARMERS' INSTITUTES.

The policy, as in previous years, of supplying sires to members of Farmers' Institutes has been continued. The call for sires has not been heavy. In selecting sires for members of institutes an effort is made to secure animals of good conformation and typical of the breed. In the case of dairy breeds only animals with milk and butter-fat backing are chosen. The choice is in some cases restricted owing to the limitation of price the purchaser wishes to pay. The assistance of the Department is appreciated, as it gives men with limited capital the opportunity to obtain good sires on easy terms of payment. We often receive inquiries for good-grade or pure-bred stock from those who have secured pure-bred sires. A number of rams, boars, and dairy bulls were selected by this Branch for members of institutes in various parts of the Province. Judging by the number of inquiries recently received, there will be a greater demand this coming season for pure-bred sires.

BOYS' AND GIRLS' CLUBS.

A considerable interest was taken in this phase of education among boys and girls in various sections of the Province, more attention being given to Pig Clubs than to any other class of live stock. Probably the reason for this is that results are obtained more quickly in raising pigs and the small space required for housing, etc. Very creditable specimens, both of the bacon type and thick smooth, were produced and great credit is due the boys and girls taking part in these clubs, as shown in the care that was given the animals and the final results obtained. Special mention may be made of the scale required by the boys and girls as shown by judging competitions which took place at our fall fairs, which reflects great credit on your District Agriculturists and Instructors who had charge of these clubs and judging classes.

BRANDS.

There were issued during the year 1924: New cattle-brands, 195; renewed cattle-brands, 480; new horse-brands, 121; renewed horse-brands, 354. A new Brand Book is being prepared and will shortly be available for distribution.

FAIRS.

Although the number of stock at our fall fairs did not exceed previous years, yet it was the general opinion that the average quality was superior, while several strong exhibits of beef cattle, sheep, and pigs were brought in from other Provinces. The dairy stock was practically confined to British Columbia bred animals.

Our breeders in all classes of live stock are to be congratulated on the quality of the animals exhibited. The animals brought out are the result of careful selection of breeding stock. No doubt the educational factor of our fairs is having its effect in the improvement of all live stock bred in the Province.

Respectfully submitted.

A. KNIGHT.

REPORT OF CHIEF VETERINARY INSPECTOR, VICTORIA.

DR. A. G. KNIGHT, V.S.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to submit herewith the annual report of the Veterinary Branch for the year January 1st to December 31st, 1924.

The past year has been singularly free from any serious outbreaks of disease affecting live stock of a contagious or infectious nature. With the exception of a few isolated districts, all settled portions of the Province have been covered by one or more of your Veterinary Inspectors, who have made an examination of the stock and, when so requested, have applied the tuberculin test to cattle. A few reports were received from stockmen in Central British Columbia stating that a good number of cattle had died from unknown causes. An investigation was made and in one or two cases where portions of the intestinal tract were sent in for examination the trouble was found to be due to plant-poisoning. By the description given of the animals so affected and examination of the stomach contents, water-hemlock appeared to be the chief source of trouble. The swampy margin of the numerous small lakes in this portion of British Columbia lends itself to the growth of the above plant. The stockmen have been advised from time to time to keep cattle off swampy ground early in the spring until other feed is available.

A few cases of advanced actinomycosis reported from the Peace River District were dealt with and the animals destroyed under the supervision of the Provincial Police in the district. Treatment was advised for early cases with apparent success.

Two urgent reports were received from the Lillooet District that disease affecting the feet of cattle had occurred. On investigation this was found to be the common ailment of mud-fever, due to the cattle travelling through mud and soft ground on the edges of the lakes, an excess of alkali being in the ground. As foot-and-mouth disease was so prominently before the minds of the people at that time, this no doubt accounted for the urgency of the case.

HÆMATURIA.

A number of letters have been received and cases reported of cattle being affected. These reports usually come in from districts which may be termed red-water areas. As such areas are gradually being brought under cultivation this trouble appears to be gradually disappearing.

STERILITY.

At the request of a number of farmers and Farmers' Institutes a visit was made in June to the district surrounding Grand Forks and the Boundary country to look into the cause of sterility among dairy and beef cattle. Nine herds were examined, including one herd in the Southern Okanagan, and in all cases severe nodular vaginitis was present, a young heifer 3 months of age and mature cows being affected. The same type of disease was prevalent in a number of herds in the Northern Okanagan, one in Kamloops, and one in the Lillooet District. To assist recovery treatment with iodine solution was advised. A second visit was made to Grand Forks on December 29th. The general condition of the cattle had greatly improved although a number were still sterile, but the severity of the disease appeared to be abating. This disease, by preventing conception over a more or less lengthy period, entails serious financial loss to the dairy and stock men.

INSPECTION OF DAIRIES.

Your Inspectors have carried out, simultaneously with their tuberculin testing, the inspection of dairies and stables. A gradual improvement in sanitary arrangements is taking place, though in a number of cases conditions are not as we would wish to see. No doubt as the farmers become better situated financially new buildings will be arranged for. Your Inspectors in such cases insist on cleanliness and the proper keeping of dairy products, giving advice as to methods of cooling milk, etc. Sanitary dairies and stables appear in better condition on Vancouver Island than on the Mainland, which you will note on attached Appendix (No. 21) under grade of premises; 109 were under Grade A, 377 under Grade B, and 2,145 under Grade C; 71 Grade A, 253 Grade B, and 385 Grade C out of this total were found on Vancouver Island and the adjacent Gulf Islands.

TUBERCULOSIS.

The time of your Inspectors has been largely taken up by the application of the tuberculin test at the request of owners of cattle. There has been an increase in the number of herds tested over last year, but a slight reduction in the number of cattle tested. There has also been a slight drop in the percentage of reactors, it being 4.64 per cent. compared with 5 per cent. last year. During the year 2,631 herds have been tested, comprising 21,536 head of cattle, with 1,000 reactors. The general districts where tuberculin testing has been carried out are as follows:—

District.	No. of Herds.	No. tested.	Reactors.	Per Cent.	Grade of Premises.		
					A.	B.	C.
Lower Mainland	1,433	12,456	622	4.99	22	45	1,366
Coast points	27	234	7	2.99	....	1	26
Central B.C., Cariboo and Lillooet	49	431	15	3.48	1	2	46
East Kootenay	93	822	9	1.09	....	4	89
Kootenay and Arrow Lakes	121	872	73	8.37	7	22	92
Okanagan	134	844	8	0.94	5	37	92
Interior points on C.P.R.	65	516	1	0.19	3	14	49
Vancouver Island and Gulf Islands	709	5,361	265	4.94	71	253	385
Totals	2,631	21,536	1,000	.....	109	377	2,145

No. of Clean and Infected Herds.

	Clean Herds.	Infected Herds.
Lower Fraser Valley	1,209	224
East and West Kootenay	199	15
Coast points	23	4
Central B.C. and Cariboo	41	8
Okanagan	128	6
Interior points on Mainland of C.P.R.	64	1
Vancouver Island and Gulf Islands	583	126

Appended you will find list of herds tested by municipalities and districts.

Respectfully submitted.

A. KNIGHT.

R9PORT OF DISTRICT AGRICULTURIST, KAMLOOPS.

GEORGE C. HAY, B.S.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to attach herewith my annual report for the year 1924.

WOOL-MARKETING.

As director of the British Columbia Wool-growers' Association and director of the Canadian Co-operative Wool-growers, Limited, your Agriculturist has always taken an active interest in marketing the Provincial wool-clip. The 1924 returns to the patrons of the organization were generally most satisfactory and decidedly in advance of the past season. The association keeps in touch with the prevailing local markets and usually there is a great range of prices paid. During the season of 1924 dealers' prices ranged from 10 to 20 cents per pound, a fair average being 15 cents per pound. The association's net price f.o.b. growers' shipping-point was 27.07 cents per pound. Therefore a clear margin of 12 cents per pound represents the 1924 actual value of the British Columbia Wool-growers' Association to its patrons in the matter of wool-selling. The quantity of wool handled by the association amounted to, in round numbers, 88,000 lb. Therefore the saving to wool-growers who availed themselves of the opportunity of selling their wool co-operatively amounts to 88,000 lb. at 12 cents, or $10,560.

Provincial statistics for 1923 estimate the sheep population at 53,336. These at a conservative average of 6 lb. of wool per head would produce a wool-clip of 53,336×6=320,016 lb. The difference between the estimated Provincial clip and what the association handled (320,016—88,000=232,016 lb.) represents the amount of wool handled by other trade channels than the Co-operative Wool-growers' Agency. The margin in favour of co-operative selling—namely, 12 cents per pound—also represents the average loss to the grower who sold outside the co-operative. In dollars and cents this loss to growers selling outside the association amounts to 232,016 lb. at 12 cents, or $27,841.92.

The success attained by the Wool-growers' Association last season is not unique in its history, rather there has always been an average margin in favour of co-operative selling since the inception of the organization. In spite of this fact there still remains a large proportion of growers who prefer to bargain with buyers of wool in respect to the sale of their own product. As long as the organization continues its present policy of allowing growers to sell their wool of their own free will without binding contracts we can expect a percentage, large or small, to be joining and breaking away from the association. However, it still remains the consensus of opinion of those in charge of Canadian co-operative wool-marketing that the best policy for that organization is to continue to stake its chances of success on its efficiency, which is judged by the wool-growers themselves. The organization has made continued progress, attaining a strong financial position, and during its development has been always able to pay a higher average price than any other wool-buying concern functioning throughout the Province. This fact is not disputed, but at the same time is to be expected, since the organization is assisted very substantially by both Dominion and Provincial Departments of Agriculture, which realize the advantage to sheep-raisers. Briefly, the wool-growers' organization has advantages which make it the best medium for a grower to get the maximum value for his product. This statement is borne out by continued years of substantial margins in favour of co-operative selling.

Not infrequently attempts are made to beat the association's prices and this the association considers quite legitimate and quite in order. The association's purpose is to sell wool to the grower's best advantage, and, as already stated, the belief exists on the part of those in charge of the affairs of the association that no better medium exists than the British Columbia Wool-growers' Association for the British Columbia wool-grower to market his product. An interesting attempt to sell wool to better advantage than the association was undertaken by a number of growers in the vicinity of Kamloops this season, when a car-load was assembled and sold after careful investigation of the wool market for 20 cents per pound. This shipment included some of the very best wools in the Province. In comparing this price with the association's net price of 29.6 and 30 cents per pound to two neighbouring growers with very similar wool we find a margin of approximately 10 cents in favour of co-operative selling. This also represents a loss to the seller outside the association of $2,400 on a 24,000-lb. car—surely a good profit for the wool-dealer. Mention is made of the occurrence simply to exemplify still further the belief that the Wool-growers' Association is the best marketing agency.

THE SHEEP INDUSTRY.

All assistance possible to the encouragement of establishing more flocks of sheep in the Province has been given from time to time. At the present time one party is negotiating for the bringing-in of from 5,000 to 10,000 head during the coming summer. The removal of the duty for four months last fall on breeding ewes coming in from the States stimulated very materially the exchange of breeding ewes during the fall business.

Prices of lambs and wool have been encouraging and this department of the farm is buoyant. No branch of agriculture can record such a quick come-back and prices for both wool and lambs are relatively higher to-day than for most other farm products. The main trouble with the sheep industry is the lack of consistency of the sheep-raiser. Too many are attracted when prices are high and their enthusiasm keeps rising until they finally make a plunge when the wave is at its height. Then the wave breaks and they are submerged with it. We do not infer that a fall in sheep values is evident. This is contrary to predictions of authorities in close touch, but we would guard our members against that final plunge which always catches a proportion when things are about to change.

Beef Industry.

There is a general feeling that the cattle-raising industry has reached the bottom of the depression which began in 1920 and that the journey on the up-grade to better conditions has commenced. Crops were good in 1924 and prices generally more satisfactory than at any time in the four years preceding. While the handicap of several bad seasons is not overcome by one good one, it is at least some satisfaction to feel that progress is being made. While beef production generally has perhaps been least encouraging, there has been an increase in winter-feeding, so that more finished beef is being produced for spring marketing when prices are highest.

The sixth annual bull-sale was held at Kamloops, April 2nd, 3rd, and 4th, and was quite successful. One hundred and twenty-two registered animals changed hands at satisfactory prices. Jas. Turner's Shorthorn bull secured premier honours and topped the sale at $375. The highest-priced Hereford, sold by T. H. Baird, brought $260, while the top-priced Angus, sold by C. H. Richardson, Bowden, Alberta, brought $180.

A quite satisfactory commencement was made with a fat-stock show as an adjunct to the sale. Murray Davie, of Ladner, captured first honours with "U.B.C. Jock," an animal claimed by authorities who had occasion to visit the various 1924 Western shows to be the best animal of his kind at Canada's Western fairs that season.

Swine Industry.

Hog production has not been very encouraging. Prices for the greater part of the year have been at or below the cost of production. The Boys' and Girls' Clubs have not been void of dissatisfaction in their endeavour to establish bacon-hog production in this Province along the lines of the Dominion bacon-hog policy. This contentious question was discussed by the delegates of the British Columbia Stock-breeders' Association at the Western Canada Live Stock Union with H. S. Arkell, Dominion Live Stock Commissioner. The whole matter is still under consideration and it is hoped that a proper understanding of the British Columbia hog situation will soon be arrived at, when organized effort may be more effective.

A Pig Club competition was successfully conducted in the district during the past year, when upwards of forty boys and girls contested. The club stood third in the Provincial scoring and the prize-money received, together with a fair market price, made the contestants a small margin of profit.

Stock-judging.

Stock-judging demonstrations and competitions were held on different occasions and great interest was shown on the part of the younger people. A district judging team was taken to Vancouver Fair and stood third in the contest. Later two teams were trained for New Westminster Fair and stood first and fourth respectively.

Land Settlement Board.

Throughout the year numerous reports and appraisals on farm loans have been made for the Land Settlement Board. This work has grown considerably and entails much more travelling in connection with same. On account of the series of dry years in the district more calls were made for loans from the Board.

Grasshoppers.

The infestation of grasshoppers throughout the dry-farming and range areas of the Interior has been serious this last season. Assistance in organization and poisoning was given and the results were noticeably effective. A thousand pounds of Paris green were given to the farmers by the Department of Agriculture, for which they were particularly grateful.

Meetings.

Throughout the year various meetings have been arranged and on different occasions addresses were given on agricultural topics. Farmers' Institute meetings, Wool-growers' meetings, Breed Associations' meetings, Boys' and Girls' Club meetings, etc., have been arranged for and assistance given.

FAIRS.

Various fairs throughout the Province were attended and, in the capacity of judge, assistance was granted whenever possible.

During the latter part of April and the month of May your Agriculturist was granted leave of absence to go East and purchase a foundation herd of pure-bred Ayrshires for Captain J. C. Dun-Waters, Fintry, B.C. This was accomplished to the entire satisfaction of the purchaser, but not without considerable thought and carefulness.

In conclusion, it is the writer's opinion that agriculture's greatest need at the present time is efficient and reliable marketing agencies to take care of the different lines of agricultural production. Agencies which, through proper connection with outside markets and together with efficient administration, are able to return to producers the greatest value for their product are to be desired. Such agencies may be in the form of private enterprise, joint-stock company, or along the lines of co-operation. The matter of form from a community or national point of view is not so important as the economic value; and, generally speaking, the economic value is determined by the returns paid to the producers. Briefly, the marketing agency to be desired is the one which is able to pay the producer the greatest value for his product, with a reasonable profit to itself and without becoming a profiteering concern.

With this idea continuously in mind and every effort possible made to meet the district's requirements, the Department's office in Kamloops is gaining a strong hold on the agricultural interests of the district, all of which is reflecting credit on the Department of Agriculture.

Respectfully submitted.

GEO. C. HAY.

REPORT OF DISTRICT AGRICULTURIST, EAST KOOTENAY.

ANGUS L. HAY, B.S.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to submit herewith my annual report for the year 1924.

The season of 1924 has not been favourable in the East Kootenay for agricultural production, the rainfall being almost one-third lower than the average for the last ten years and resulted in crops being a failure in many districts where irrigation was not available, for after the thaw in February there was very little moisture until June.

LAND SETTLEMENT BOARD WORK.

Due to the dry conditions prevailing throughout the district the work in connection with the Land Settlement Board increased considerably, as many farmers filed applications for loans which necessitated appraisal reports being filled out on their farms. This work entails a great deal of travelling.

CO-OPERATIVE WOOL SHIPMENT.

Being a director of the British Columbia Wool-growers' Association, your Agriculturist handled the collecting and shipping of the wool for the East and West Kootenay wool-producers. Practically all the wool in the district was marketed in this way, making up a car-load of approximately 14,000 lb., which was shipped to Weston, Ontario, in July.

AGRICULTURAL MEETINGS.

During the year thirty-five meetings of the Farmers' Institutes and Women's Institutes were attended and at twenty-eight of these addresses were given on agricultural topics. Also numerous meetings of the Cranbrook District Agricultural Association, the Cranbrook Stock-breeders' Association, and the District Central Institute for District I were attended, your Agriculturist acting as Secretary for these three organizations.

FAIR-WORK.

The fairs attended during the year were Invermere, Cranbrook, Armstrong, Creston, the Kamloops Bull-sale and Show, the Fernie Poultry-show, and Nelson Poultry-show. At these your Agriculturist judged live stock at Invermere and Creston Fairs and dairy cattle at the Armstrong Fair.

POTATO-WORK.

The final tuber-inspection work in connection with the certified seed-potato growing in East Kootenay was done in April.

In June the potato-bug again made its appearance and continued its ravages until September. Poison supplied by the Department of Agriculture was given out to growers as required through the Cranbrook office. This was of great assistance to the growers and no doubt helped to prevent the spread of this pest to other districts.

LIVE-STOCK JUDGING WORK.

Throughout the summer months, as often as time permitted, live-stock judging demonstrations were held on different lines of live stock in various parts of the district. These judging days were well attended and created considerable interest throughout the district.

A stock-judging team of three boys was taken to the Vancouver and New Westminster Exhibitions, winning first and fifth places respectively at these fairs. At New Westminster the special for the highest individual score in dairy-cattle judging was won by a Cranbrook boy, where thirty were competing, and the highest individual score in all classes at Vancouver Fair was won by a Cranbrook boy.

BOYS' AND GIRLS' LIVE STOCK CLUBS.

A Boys' and Girls' Swine Club was again formed in the southern part of the East Kootenay District, in which there were about forty members. This club included members from Galloway to Marysville, and the competition was extremely keen throughout the summer months and especially on show-day, which was at the time of the Cranbrook District Fair. In the open competition with other districts of the Province for the best district display the East Kootenay Club was again placed first.

OFFICE-WORK.

There has been a continual demand at the office for general information relating to agricultural work and the requests for bulletins and pamphlets has greatly increased during the past year. Also the correspondence is on the increase. Although the office-work in general is steadily increasing, your Agriculturist endeavours to spend as much time as possible throughout the district, especially during the summer months, meeting the farmers and discussing their local problems on the farms and at their various meetings.

Respectfully submitted.

ANGUS. L. HAY.

REPORT OF DISTRICT AGRICULTURIST, DUNCAN.

W. M. FLEMING, B.S.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to submit for your consideration the following report of my work as District Agricultural Representative at Duncan for the year 1924:—

Live-stock matters received a great deal of attention. The Cowichan Stock-breeders' Association organized in 1920 is steadily growing in importance and usefulness. This association is incorporated under the "Societies Act." Membership is open to all breeders of live stock in the Cowichan District who pay the membership fee of $5 per annum and agree to be governed by the constitution. A board of nine directors (three elected each year for a term of three years) manage the business. The officers are chosen by the Board of Directors.

Listings are made on approved forms of stock offered for sale. Five per cent. commission is charged on all sales made through the association. No commissions are charged for animals listed but not sold through the association. All fees and commissions are devoted to advertising.

As a result of a constructive policy, this association is becoming known all over the Province and buyers seeking stock know that when they come to the district they may find what they want with the minimum loss of time. Many inquiries are received at the office each week, entailing an extensive correspondence.

In addition to the regular sales it was decided to conduct an auction sale, which was held on April 30th. The work of preparing catalogue, extended pedigrees, and other detailed work was performed by this office. Eleven pure-bred Guernseys, twenty-eight pure-bred Jerseys, three grade cows, twenty ewes, fifteen lambs, seven mature pure-bred hogs and two litters were sold. The value of stock sold at this sale amounted to $5,440.08.

A cow-testing centre has been organized. Samples are taken by the farmers and are collected at this office. After tests are made by a competent tester the empty bottles and reports are distributed from this office. Over 900 samples were tested in eleven months in 1924.

On request, live stock has been purchased for buyers in other districts. Shipments were made to various parts of Vancouver Island this way after the districts had been visited and the needs of each district were familiar to your Representative.

Requests were frequently received for assistance in tracing pedigrees and completing registration of pure-breds. The office is now well equipped for compiling extended pedigrees of Jerseys and Guernseys. Assistance at several pure-bred auction sales has been given in preparing pedigrees. A determined effort was made to organize a canning-factory, but sufficient capital was not forthcoming and the attempt was abandoned.

The proposal to establish a milk-condensery was investigated and valuable data are on file if required.

Irrigation is a pressing need in the district, but at present the cost seems to be too great to be undertaken. An irrigation project is quite feasible for the district and as more land comes under cultivation will ultimately be adopted.

Lime for agricultural purposes is also required for the district. There are several lime-deposits in the district that would furnish all the lime required. All known available supplies were investigated. The problem is to grind the rock and put it on the market at a reasonable cost. The limited amount required makes the overhead cost of a crushing plant prohibitive.

The growing of sweet peas for seed is an important industry in Cowichan. Growers were finding difficulty in marketing their seed, due to the fact that some inexperienced growers were not roguing their seed-plots carefully. A careful study of sweet peas was undertaken and much valuable information collected for the assistance of seed-growers. This industry is profitable when properly conducted, but intending growers should master the details in a small way before putting their produce on the market.

As usual, there were many requests for soil and crop inspections, also requests for assistance in selecting fertilizers. Three drainage surveys were made and one field sampled carefully for detailed analysis.

Intending settlers frequently write to this office for detailed information about the district. Many intending purchasers also requested advice from this office before finally locating.

Your Representative assisted in judging at the following centres: Flowers at Vimy Women's Institute; field crops at Victoria, Burquitlam, Agassiz, and Mission Fairs; sheep and swine at Agassiz; and potatoes at the Provincial Potato-show in Vancouver.

Addresses were delivered at numerous meetings throughout the district.

As part of general extension-work, your Representative worked in close co-operation with the Cowichan Agricultural Society, the Duncan Board of Trade, the Horticultural Society, and the Poultry Association.

About 1,200 letters, 1,000 circular letters, and 400 parcels, including bulletins, catalogues, etc., were sent out from this office.

Some 3,412 miles were travelled by motor during the year.

Respectfully submitted.

WM. MELVIN FLEMING.

REPORT OF DISTRICT AGRICULTURIST, PRINCE GEORGE.

R. G. Sutton, B.S.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

Sir,—It is with a certain amount of gratification that we submit this, the fourth annual report, as we are confident these pages will show a marked increase in the volume and the scope of the work over and above that of preceding years.

The greater part of January was spent in Victoria discussing details and mapping out work for the year, both in the Board's office and in the offices of the various heads of branches of the Department.

We also visited the College of Agriculture at the U.B.C. and spent some time with the staff there discussing matters relative to agricultural development in the Province. This trip was considered a necessity, as we felt we were getting sadly out of touch with a great deal of work of the Department, with the experiments that are being conducted and the advancement which has been made in our profession; also that we might work more intelligently with the various branches of the Department. We made the best use possible of this trip and know it was well worth while.

While absent Mr. Heald remained in charge of the office. He attended to all correspondence, rearranged our filing system and our area records, and attended to all the routine work and all the countless little jobs which are always left for the winter months. He also collected and arranged a considerable amount of material relative to freight rates, prices of produce, and the existing or possible markets. This information has proved very useful in shaping our plans and recommendations for new and old settlers.

During the latter part of January one trip was made to Vanderhoof District to attend a meeting of the farmers of the district and discuss with them ways and means of co-operative effort in marketing. It is interesting to note that subsequent to this meeting, and others which followed, a Farmers' Co-operative Association was formed for the purpose of buying and selling. To date it has made good progress but has not yet had time to become firmly established.

While in the district we interviewed a number of the members of the Vanderhoof Cattle Club and reached an arrangement with Mr. Mitchell, a new settler, whereby he took over three head of cows from the F. Park herd. A substantial payment was secured and two notes accepted for the balance. This arrangement had the double effect of assisting a new settler to get a start with some good milk cows on very reasonable terms, and it also meant that Mr. Park was enabled to reduce his indebtedness by $345.

We also assisted to prepare a report of the meeting of the Farmers' Institute Advisory Board, so that this report could be presented to the meeting of District C in Vanderhoof in March. This report was later submitted to the *Agricultural Journal* and appeared in a summer issue.

During February it became necessary to spend a considerable amount of time on the Mud River Cattle Club. Three members of this club had resold their cattle to a professional man of this town who was operating a farm about 50 miles east of here. This man agreed with them that he would meet all payments due on these cows. He not only failed to do this, but he suddenly left the district under very unfortunate circumstances. Previous to his going he made over *all* his cows to his tenant on the farm. When this came to light it became necessary to organize the Cattle Club members interested and take a leading part in an attempt to recover the cattle. This attempt was successful and, moreover, had the effect of two more of the club accounts being cleared up.

During this time Mr. Heald was attending to a considerable amount of correspondence relating to letters of inquiry and also matters of a purely agricultural nature. Later, in compliance with instructions from Victoria, we went over the Board's booklet and made a number of suggested alterations in the text, as it was thought certain sentences were somewhat ambiguous, others conveyed a wrong impression, and others were out of date by reason of the advancement of the district. We also spent a considerable amount of time in the study of maps and reports of the Stuart Lake Reservation in order to be prepared for the coming of the Esthonian settlers.

We also attended a meeting of the Prince George Fall Fair Association and rendered all possible assistance and advice in the preparation of their plans for the year. In the past four

years we have assisted in the starting of three Fall Fair Associations, all of which are making good headway.

On April 3rd the first party of the Esthonian settlers arrived under the leadership of Sir John Pitka. We accompanied them to Vanderhoof, where they detrained, and spent several days with them, assisting them to purchase supplies, tools, clothing, machinery, and live stock. In this connection we worked in co-operation with the Department of Lands, the Public Works Department, and the Dominion Colonization Branch. This matter has been fully reported on under date of April 28th, 1924.

Later on in April we made a number of inspections of clover-growing competitions carried on by the Dominion Experimental Farms system. We watched these experiments and noted results so that we might be in a better position to advise regarding this crop, and also because the information will be useful in the preparation of a publication on clover-growing, which we hope to prepare early in 1925. We also visited a number of farms in the district and tried to get some of the farmers to sign on for growing certified seed-potatoes. While a number appeared interested in the matter, no one took any actual steps as yet. However, since the visit of Mr. Jones, Potato Inspector, during the past summer a number of men have promised to take up the work for the coming year. We also had a call to visit two of the dairy herds supplying milk to the city, in order to ascertain the cause of a bad flavour in the milk. This flavour was found due to a weed in the pasture.

The latter parts of April and May were taken up with various details of the work. Mr. Heald made several trips to Vanderhoof, once to meet Sir John Pitka to assist him in finding some horses and a second-hand portable sawmill, once to attend to some land-seekers and to put through two land sales, and once to run boundary-lines and take levels for drainage for settlers. One trip he made in company with the Board's accountant, who personally interviewed as many of the delinquent clients of the Board's as possible. Here in Prince George we made inspections of some properties where foreclosure proceedings were contemplated or where a client of the Board's had died and the heirs lived at a distance. We also interviewed a number of the Mud River Cattle Club members and collected as much as possible on account of the overdue notes.

We spent several days in the field advising and studying seeding operations. Spent some time also working for the establishment of a Horticultural Society in this town. This has not yet materialized, but we hope to have it started next spring. We were in Vanderhoof and met the excutive of the Farmers' Institute to arrange for an annual picnic. We also talked up certified seed-potatoes in an effort to get some men started in the work.

During the month we published several articles in the local press in the nature of seasonable hints and recommendations. We met the Pine View Farmers' Institute and gave an address on the subject of soil formation.

Early in June Mr. Heald made a trip to the Quesnel and Williams Lake District to make a number of loan appraisals and to attend to various matters connected with the settlement areas in that locality. Here we attended to correspondence, some loan appraisals, taking land-seekers over the land, and the sale of some lands. As soon as Mr. Heald returned we started for Stuart Lake and spent several days with the new Esthonian settlement there. We made a rough inspection of the district in which they are settling, interviewed them, and advised and assisted as much as possible. Returning to Vanderhoof, we met the management of the Vanderhoof Creamery and discussed with them ways and means of getting in a shipment of dairy cows. We went into the matter thoroughly and interviewed as many as possible of the farmers and other parties interested. This has also been reported on at length under date of June 18th, 1924. After making several loan appraisals we returned to Prince George.

Before the end of June instructions came to hand to proceed with a detailed cruise of the Esthonian settlement area at Stuart Lake. We at once proceeded with preparations for this work. Mr. Heald secured the services of one assistant cruiser and later had to secure a second in order to finish the work in time. We secured the services of an assistant for the office while we should be absent in Stuart Lake and Quesnel Districts.

Mr. Heald's party arrived at Stuart Lake about July 3rd and started work at once. We spent a few days with them going over the ground and then returned to Vanderhoof. We made several loan appraisals in that and the Fort Fraser District and attended a meeting of

the cream-shippers, addressing them on the subject of working together and supporting their own organizations.

During July we were busy attending to land-seekers, making out agreements of sale, loan appraisals in the Willow River and Dunster Districts. We made an examination of the damage being done to forest trees and found it to be the common tent-caterpillar. We attended a field demonstration on the Pine View Illustration Station and gave an address on cultural methods and crop-rotation. The following day we attended the same demonstration held at Salmon River and gave the same address.

Towards the end of the month we commenced a survey of conditions relating to the hog industry here. This was largely done through circular letters and very satisfactory results were obtained. This was started at the request of the Live Stock Commissioner and all information collected has been forwarded to his office.

We attended a meeting of the District C Farmers' Institute in Prince George called to discuss the proposition of a creamery for this town. The project was not endorsed by the meeting.

The first of August we went to Quesnel and Williams Lake and made a penalty-tax inspection of Areas Nos. 7, 8, 9, and 14. We attended to other work in connection with the Quesnel Cattle Club and to possible land-sales in the district. On return to Prince George we went to Stuart Lake again and spent several days with Mr. Heald and his party as they were finishing their work of cruising. After interviewing the new settlers and noting their progress we all returned to this point. About the last of the month we attended a Farmers' Institute meeting at Hixon Creek and gave an address on the subject of co-operation and also on the exhibiting of fruits and vegetables. Mr. Heald's two assistant cruisers and our office assistant were let go by the end of the month.

With the first of September came the season of fall fairs. We were asked to judge at Woodpecker, Prince George, McBride, and later at Quesnel and Forest Grove. Details of these fairs have been submitted to the Secretary's office some time ago. We also assisted in the preparation of an exhibit sent to the Prince Rupert Fair. It is interesting to note that this Prince George district exhibit again took first place at this fair. It was in competition with exhibits from Terrace, Hazleton, and the Bulkley Valley.

It was necessary for Mr. Heald to spend practically all of September and a part of October in writing out the descriptions of the quarter-sections cruised by the party during the summer. In addition, he sketched in on each description sheet a small map of the quarter-section. He also prepared a large-scale map of the district cruised and a general report of the work. This material has all gone forward some time ago. Correspondence and some loan appraisals brought us to the last week of September. At this time we both set out for Quesnel, Mr. Heald to clean up several loan appraisals in the district and we were to have judged at the Quesnel and Forest Grove Fairs. Bad weather and poor roads led to complications which ended in a break-down and caused us to be two days late arriving in Quesnel. We were too late for both fairs. It was necessary to return to Prince George by boat.

Arriving here the first of October, Mr. Heald finished his work on the Stuart Lake report and then left for Vanderhoof to attend to penalty-tax inspection in Areas Nos. 2, 4, and 12. Here at the office we had a number of land-seekers to attend to. This resulted in a number of sales, and the correspondence and the clerical work attendant thereto, together with the inspection of Areas Nos. 5 and 13, carried us over into November. We interviewed several potato-growers in the district in an effort to have a number of exhibits sent to the Potato Fair. The season had, however, been unfavourable and we were only able to get one exhibit.

Notes on General Conditions.

Seeding in this district commenced about April 15th and was all finished by May 10th. The seed went into the ground in good shape; it germinated well, but was retarded by a June drought.

Hay was a good crop, but short in the stem because of this same drought. It came on well, however, in the last two weeks, thus making a little better showing than was expected. Estimated average for the district, 1½ tons per acre.

Grain and silage crops came on well. Harvesting commenced about September 1st, but was badly delayed by almost continuous rains during that month. Threshing returns show

the average per acre to be about the same as last year, but the acreage was a little smaller owing to the larger acreage in hay.

Potatoes and roots were under the average in yield and quality as a result of the early drought and the latter rains.

Spring seeding came on well in the summer and went into the first cold snap under a foot of snow. This blanket has been maintained, and while the weather in December has been unusually cold, yet no frost damage is anticipated.

Live stock went into the winter in good condition. Practically no new stock were brought into the district.

Unusual activity in the lumbering industry last winter meant a big increase in the capacity of the local market and provided winter work for all who wished it. This winter the activities are somewhat reduced to that of last winter, but still they are consuming large quantities of local produce and employing a fair number of men.

LETTERS OF INQUIRY.

During the year we have received well over one hundred definite inquiries from interested correspondents. These letters have all been answered in detail and the writers supplied with maps and whatever information we think will be of use to them. It is interesting to note where these letters come from; fully 50 per cent. of them are from the United States—chiefly from the Dakotas, Montana, Idaho, and the Coast States, with a sprinkling from the other States. Another 45 per cent. come from the Canadian Prairie Provinces and the remaining 5 per cent. from Europe.

FARMERS' INSTITUTE MEETINGS ATTENDED.

Date.	Place.	Time of Meeting.	Attendance.	Subject of Address.
Jan. 27	Vanderhoof	Afternoon	50	Co-operative effort.
June 16	Vanderhoof	Afternoon	10	Purchase of cattle through Cattle Club.
July 12	Vanderhoof	Afternoon	50	Co-operation in supporting the creamery.
June 21	Pine View	Afternoon	40	Soil formation.
July 18	Pine View	Afternoon	60	Better cultural methods.
July 19	Salmon River	Morning	20	Better cultural methods.
Aug. 1	Prince George	Afternoon	25	Effect of too many creameries.
Aug. 16	Hixon Creek	Afternoon	25	Exhibiting fruits and vegetables.
Sept. 1	Woodpecker	Afternoon	75	Judging demonstration.
Oct. 17	Prince George	Evening	30	Need for united effort.
Oct. 18	Woodpecker	Afternoon	25	Need for united effort.

We try to keep in touch with the majority of the Farmers' Institute meetings held in the district. The above table sums up fairly well our activities in this line.

PUBLICATIONS.

We have been repeatedly asked both by the Secretary of the Department and by farmers of the district to bring out some bulletins or circulars which will be written expressly for this Central Interior. The Department has bulletins on a very wide range of subjects, but with one or two exceptions they have all been written for farmers of the Lower Fraser Valley and Coast District, and written by men whose experience, ripe as it may be, is limited in regard to this Central Interior. With this in mind we have been preparing notes for some time and had hoped to spend part of this winter in the preparation of the bulletins—one on clover-growing and the other on cultural methods for the typical soil.

CLOVER-SEED.

Four years ago, when we first came into the district, clover growing, either wild or under cultivation, was a very rare sight. Many a new-comer that first season, looking for clover and missing it, went away shaking his head and saying that the country can't be much good if it won't grow clover. This last June and July there were over 500 acres of clover growing within thirty minutes' drive of the town. The air was heavy with the perfume of it and vibrant with the hum of bees—wild bees. We have watched this crop for every season and know that in the average year common red, alsike, and white sweet all set seed, plenty of seed, and if

allowed to come to maturity will furnish a bright, clean, plump grade of seed which should take a leading place on the market because it is grown on the 54th parallel of latitude. In this opinion we are backed by that of such men as E. S. Archibald, B.A., B.S.A., Director Dominion Experimental Farms, and Dr. G. McRostie, Dominion Agrostologist. Because of this condition as outlined above we are anxious to get a clover-hulling machine into the district as there is none here now. If some department could be induced to take the initial step of putting such a machine here for a year there would be a considerable acreage of saved seed, and we believe once this was threshed and put on the market nothing more would be needed to build up a very profitable side-line in seed production. It may be remembered that as yet we have no field weeds here.

Still another seed project is claiming our attention. During this last summer W. Hunter, B.S.A., of Summerland, visited the district. While here he mentioned that certain parties would be glad to give contracts to the farmers here for the growing of seed-peas where such seed could be grown free from weeds and weavils. We are now in correspondence with these parties and trust that some trial contracts will be placed here next year.

Bee-keeping and Honey Prospects.

We mentioned on a previous page that the bees, wild bees, were working on the clover-field in June. There is one man here and one in the Vanderhoof District keeping bees. They both started with one hive a few years ago and have made very good progress building up their colonies. They are producing a very good quality of honey. Every year there are thousands of acres of scrub willow and fireweed blooming at different periods and massed banks of wild raspberry and hundreds of acres of clover. Because of this and because every year there are hundreds of pounds of honey shipped in from the East and from California, it will be our aim during the coming season to draw as much attention as possible to bee-keeping and hold one or two demonstrations in different parts of the district. In this we have been promised the co-operation of the Dominion Experimental Farm system.

General.

We hope also to hold several live-stock judging demonstrations during the early summer. There has been nothing of this nature held here since the U.B.C. Extension Course held one in Vanderhoof three years ago. The increased number of farmers and the increased number of tillable acres on farms makes it imperative that more attention be given to live stock. More and better stock will be the objective.

Among other objectives we have in mind the formation of a Horticultural Society in this city. At present no seed of flower, no blade of grass nor tree is planted nor tended by public or co-operative effort. This in a city of over 3,000. A few enterprising citizens, by a little expenditure and a little thought, have shown what can easily be done in the way of velvet green lawns, of banks of perennials and annuals, and flowering shrubs and shade-trees. A little encouragement and a little advice might help transform bare unsightly streets and squares into avenues of shade and beauty. It is some one's place to foster such a movement; then why not the Department of Agriculture.

Pacific Great Eastern Railway Developments.

We are watching carefully for indications of any activities in connection with the Pacific Great Eastern Railway. Should any construction start on this line between Quesnel and Prince George, it would at once create an increased interest in lands adjacent thereto. This would mean a number of land-seekers and a number of land-sales. Should activities on this line finally materialize to such an extent that there would be any kind of regular train service, then there would be two or three communities along this line that would at once request assistance in the matter of Cattle Clubs, so that they might ship cream to the Quesnel Creamery. There would be an increased demand for loans to develop farms along the line and it might even mean requests for new settlement areas.

One of the most promising communities which will be tributary to the proposed extension of the Pacific Great Eastern Railway is Woodpecker. It lies 40 miles south from Prince George and is largely made up of English, Americans, Scandinavians, Russians, and Germans. In spite of the handicap of transportation they have been working steadily and have made splendid

progress. Such progress is indicated by the fact that last fall they held their own first fall fair, and held a good one without any assistance from the Department or from outside sources. Indicated also by the fact that this fall a threshing-machine went into the district and threshed grain for the first time. Once given transportation their progress will be remarkable.

During the past year we have noticed a marked interest being taken in this, the Vanderhoof and the Quesnel Districts. We have every reason to believe this will be sustained during the coming year. One man, a sheep-rancher from New Zealand, has moved on to Board land in the Quesnel District; others may follow. The publicity given to the Prince George District by the Pacific Great Eastern Railway has resulted in attracting attention as nothing else would. This is shown in the increase in sales in this area over last year. We expect more interest next year. In the Vanderhoof District the reputation of the Nechako Valley and the publicity given by the coming of the Esthonians have had a good effect. There is no reason to suppose this will decrease next year.

THE ESTHONIAN SETTLEMENT.

Before concluding we would like to draw your attention to the Esthonian settlement at Stuart Lake. There are now six families there, as well as a number of single men whose families are still in the Old Country. Three more families have come out since the first party came. There are six new houses either built or in the process of building. Sir John Pitka has a fine log house now and in it he and his family are sheltering the families of new arrivals until their own houses are ready. Sir John's plan is to have a few new families come each year at intervals, so that those already settled can accommodate the new-comers until they can build for themselves.

These people are unfamiliar with our laws and customs, with the various departments in charge of works in the district, and they quickly look to some one on whom they can depend and through him they learn the ways of the land. We have tried to give them to understand that this office was always ready and willing to do all possible to help them, whether it be in getting a new road or a school, a cow or the name or the best variety of grain for their district. We are in continual correspondence with them and believe we have established a good understanding between them and this office.

Respectfully submitted.

R. G. SUTTON.

REPORT OF DAIRY COMMISSIONER, VICTORIA.

H. RIVE, B.S.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to submit herewith my report as Dairy Commissioner for the year 1924.

The dairy industry shows a good increase for the past season in spite of its being a most unfavourable one. The drought affected very seriously all dairy districts, with a resulting shortage in green fodders and root-crops.

Prices for dairy produce have been somewhat lower than for several years. Prices of dairy feeds have risen steadily during the year and no prospect is shown of any decline for many months at least.

CREAMERIES.

The creameries of the Province have received the fullest attention possible, but not yet as much as is desirable in view of the forthcoming inception of systems of cream and butter grading. More time should be devoted to instructional inspection of factories and farm dairies. A better understanding of good sanitary practice exists than heretofore around the factories and few glaring offences in this respect occur. Great improvement can still be effected in general practice, nevertheless, by both producer and manufacturer.

The Provincial Dairy Instructors and Inspectors, F. Overland and F. C. Wasson, have carried out throughout the year work of this nature, the former being occupied principally on the Lower Mainland and the latter in other parts of the Province. Extracts from their respective reports are here appended:—

"Regular calls were made throughout the year on all factories and creameries on the Lower Mainland. New machinery has been installed in several creameries and better methods applied than formerly in the handling of the product. Most of them are keenly interested in the improvement of butter-manufacture and are putting cream-grading into practice. Considerable work has been done during the past year in grading cream on arrival at the creameries, and every possible effort made to impress the importance of this upon butter-makers and their assistants. Calls were also made on the milk-vendors and many farm dairies were visited and given instruction in the handling of and caring for milk and cream. Several warnings were given to careless producers. Examinations for testers' licences were given to thirteen applicants during the year. Grading of butter was done for Vancouver producemen."—F. OVERLAND.

"The summer season was given entirely to visiting creameries and dairy-farms in the Okanagan, Cariboo, and Kootenay Districts. About eighty calls were made on creameries and about 160 days were spent receiving and grading cream at these places. One hundred and ten days were spent on the road visiting dairy-farms, of which 300 were called on. Information was given as to care of milk and cream. Help was also given in the installing of new machinery at several points. Many creameries in British Columbia are buying cream to-day according to grade, but in several the grades used are not as high as those approved of by the Dominion Dairy Conference. Where the higher ones are employed, those creameries as a result are receiving a premium on butter produced and are able to pay their patrons a higher price for cream. The balance of the year was employed in giving examinations, making analyses, assisting at short course, attending meetings, preparing production and price charts, and office-work." —F. C. WASSON.

ICE-CREAM.

The manufacture of ice-cream is developing rapidly, the output doubling in quantity during the past five years. Close to 500,000 gallons were made during 1924. The business is worthy of all encouragement, as it provides a most healthy food and a good outlet at profitable prices for large quantities of cream that would otherwise have to be disposed of through channels offering lower returns.

CHEESE-MAKING.

More interest is being shown in this branch than formerly. For the manufacture of Cheddar there is one factory and one for two Italian varieties, both situated in the Chilliwack District. Experimental work with Edam has been undertaken by several firms, and undoubtedly a market exists in this Province for considerable cheese of this kind, but not to any extent comparable with that afforded the Cheddar types.

The building-up in British Columbia of a demand for home-made cheese is well worth while. Certain varieties appear suitable to our purposes and would prove remunerative once popularized. The Dairy Department of the University of British Columbia has done considerable experimental work with likely kinds and is in a position to give advice and tuition in the manufacture. The Dominion Experimental Farm at Agassiz has also made several kinds of cheese for a number of years and can offer assistance in regard to this question.

CONDENSERIES.

The condenseries at Ladner and Abbotsford (formerly owned by the Pacific Milk Company, Limited, and now the property of the F.V.M.P.A.) with that of the Borden Milk Company at South Sumas are the only ones to be found in the Province. The product is largely disposed of locally, though some is exported. The amount manufactured fluctuates considerably from year to year with the state of the market for milk and butter.

DAIRY LEGISLATION.

The "Creameries and Dairies Regulation Act" has been amended and now provides for the grading of cream immediately after its arrival at the creamery or dairy. The grading is to be done by a licensed cream-grader who shall have given proof of competency. The regulation comes into operation on January 1st, 1926.

TESTERS' LICENCES.

Twenty-five applicants were examined by the Dairy Branch and ninety-three licences were issued. (For the list of testers holding licences during 1924 *see* Appendix No. 22.)

DAIRY AND CREAMERY LICENCES.

To forty-seven persons, firms, or companies buying milk or cream on the butter-fat content basis licences for business were issued. (For the list of creameries and dairies so licensed *see* Appendix No. 23.)

COW-TESTING—MILK RECORDS.

Seven Cow-testing Associations are now in operation in this Province. (For list of associations and officers *see* Appendix No. 24.) Extract from the report of G. H. Thornbery, Assistant in Charge of Cow-testing:—

"The chief dairy districts in the Lower Mainland are now all within areas covered by one or another of the Cow-testing Associations with the exception of a section located between Haney and Coquitlam. Calls have been made on all associations twice during the past year and, where necessary, more frequently.

"The number of lactation records received by this Branch is decidedly on the increase. The average production recorded in this way for 1924 is 7,537 lb. milk and 311.7 lb. fat. During the year 369 certificates of production were issued and to date 1,064. A full report will appear in Dairy Circular No. 10.

"*Testing Centres.*—In districts so desirous, where dairy herds are not large enough for a regular association to operate successfully, testing centres are formed. Farmers take the samples of milk, delivering them to a central point where they are tested by a qualified man. Testing centres are operating at Cowichan, Mount Lehman, Bradner, and Princeton."

FALL FAIRS.

Assistance was given as usual in connection with the judging of dairy exhibits at fairs.

THE BRITISH COLUMBIA DAIRYMEN'S ASSOCIATION.

The annual meeting of this association is being merged for 1925 in the Western Canada Dairy Convention, which will be held at Vancouver, February 10th to 13th. This convention, which will be participated in by the dairymen from the four Western Provinces and will also attract visitors from Eastern Canada, is being held for the first time in British Columbia and should do much to bring the stability of the dairy industry to the notice of our own citizens. Considerable time has been devoted by the Secretary-Treasurer as well as by all members of this Branch to preparations for this event.

The usual prizes for cow-testing and R.O.P. records have been continued. No summer meeting was held in 1924.

An amendment to the constitution to be presented to the annual meeting provides for the inclusion by the association of all branches of the dairy industry in the Province.

SHORT COURSE.

The second short course for those employed in dairy factories in British Columbia took place at the premises of the Fraser Valley Milk-producers' Association, Eighth Avenue and Yukon, Vancouver, February 18th to 29th. Ten students registered. On occasion for special lectures many more attended.

The subjects dealt with were cream-grading, butter-scoring, testing, pasteurization, neutralizers, moisture and salt determinations, etc. The staff of the Dairy Department of the University joined with our own in conducting several phases of the work. H. J. Crowe, of the Saskatchewan Dairy Department, was present for three days and gave valuable instruction in grading and scoring.

During one afternoon ice-cream topics were dealt with. W. V. S. Robb, of Seattle, delivered an address.

For the use of the association's premises and the uniformly obliging and courteous treatment accorded us by its staff, acknowledgment is gratefully made.

PUBLICATIONS.

Dairy Circulars No. 8, being a list giving particulars of certificates issued in respect to cows completing their lactation periods in 1923, and No. 9, "Sterilizing Equipment for the Dairy Farm," represent the publications of this Branch for 1924.

Cream and Butter Grading.

The recent amendment to the "Creameries and Dairies Regulation Act" will make necessary in 1926 more frequent and thorough supervision of creamery operations than is possible with the present staff. There will also be required arrangements with some operating creamery (for use of premises and opportunity for receiving cream in regular practice) for the instruction and examination of applicants for a cream-grader's licence. Some equipment may also be required.

The decision to institute in Vancouver a butter-grading service is most timely. In no way now can greater good be done our butter-manufacturers than by furnishing what will be a complete check on factory methods and on the system of cream-grading about to be made general. The education value should be great and the move will meet with approval from all producemen and dealers in the Province.

Attention is directed to the fact that one addition only has been made to the staff of this Branch since 1914. During that time the progress of the dairy industry has been greater and more constant than that of any other phase of agricultural work in British Columbia, the value of its products increasing from $3,000,000 to nearly $11,000,000 in 1924.

Office-work.

This work has greatly increased so that clerical assistance other than that afforded by one stenographer is required.

Conclusion.

The services of the two dairy instructors and inspectors, of the assistant in charge of cow-testing (milk record) work, and of the clerk-stenographer of this Branch are deserving of commendation.

Respectfully submitted.

Henry Rive.

REPORT OF CHIEF POULTRY INSTRUCTOR, VICTORIA.

J. R. Terry.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

Sir,—I have the honour to submit herewith the report for the year 1924.

General Conditions.

Possibly due to the policy of retrenchment on the part of the majority of commercial breeders, at the beginning of the year prices for eggs and stock were above those of 1923. However, notwithstanding the slightly enhanced price of eggs, many breeders commenced shipping their breeding stock by the first week in May. This action tended to strengthen the price of eggs but slightly depreciated the value of poultry-meats.

The day-old chick business was quiet on the whole, several of the larger hatcheries being forced to rear their chicks instead of selling them. The prices for day-old chicks were about on a par with those of the previous year. There was a fair market for 8- to 12-weeks-old pullets at reasonable prices. Prices for pedigree progeny were 25 per cent. higher than in 1923. The average market price received for eggs during the year was 32 cents, being 4 cents higher than in 1923. But this higher price was offset by the high price of feedstuffs during the last three months of the year.

Price of Eggs.

The following is a comparison of prices (wholesale) from 1905–1924, inclusive. Figures were supplied by ranchers from 1905 to 1911. From 1912 onwards the prices are those received for Victoria Egg-laying Contest eggs.

	Cents.		Cents.
1905	24½	1915	32½
1906	29½	1916	34
1907	31	1917	41
1908	31½	1918	50
1909	33¾	1919	60¼
1910	34¼	1920	57½
1911	34¾	1921	39½
1912	41	1922	32½
1913	35	1923	28
1914	35	1924	32

It is to be regretted that during the year the British Columbia Poultrymen's Exchange was forced to close down. After disposing of a large number of cold-storage eggs at remunerative prices the Exchange was able to pay a little over 70 cents on the dollar to its members. It is doubtful if such an organization would be successful during the present quiet times.

During the year the co-operative egg circles reported satisfactory progress; the largest of these organizations are the Cowichan Creamery and the Comox Creamery Egg-collecting Stations. The Cowichan Association has been in existence since 1909 and is still doing good work for its members.

EGG MARKETING LEGISLATION.

The Federal Government Inspectors have been doing consistent work during the year in enforcing the Dominion regulations. The Provincial "Eggs Marks Act" has been certainly a step in the right direction. The fact that all foreign eggs have to be stamped before entering the Province is causing the wholesalers in Washington State to add 1 cent per dozen extra for stamping the eggs when quoting to possible buyers in this Province. This, together with the reasonable price asked for eggs, has been the means of cutting down imports.

IMPORTATIONS.

During 1923 the importations of dressed poultry from foreign points into the Province were valued at $3,443. Egg importations from the same source were valued at $10,839.

In 1924 importations of poultry and game dropped to $2,839. From Canadian Provinces the dressed poultry imports for 1923 totalled $227,315. During 1924 this dropped to $177,442. The total foreign imports into the Province, including dressed poultry, day-old chicks, breeding stock, and eggs, are valued at $55,626. Day-old chicks to the number of 17,454 were imported at an average price of not quite 20 cents each; 1,728 matured breeding stock were brought in at an average price of $4.50 per bird.

EXPORTS.

The total value of exports was $329,792. Live poultry to the number of 1,842 were shipped out at a value of just over $7,000; dressed poultry was valued at $16,064; the rest of the shipments consisted of nearly 1,000,000 dozen eggs valued at just over $300,000.

WEATHER CONDITIONS.

The season was again dry and if it were not for the heavy rainfall during the last month of the year the average would have been even below that of the previous year. The hatching and rearing season was very mild and favourable and accounts for the excellent laying records put up during the late winter.

BREEDING OPERATIONS.

A further increase is to be recorded in the number of trap-nesters. The Department distributed a very large number of trap-nest record forms and present indications point to an increase. The R.O.P. Breeders' Association has again further enlarged its membership and by means of a directory and systematic advertising outside the Province has greatly increased its sales of breeding stock and eggs.

As an item of interest it may be pointed out that several breeders in the Province have imported a new breed of utility fowl called "Barnevelders." This bird has similar colouring and marking to the Golden Laced Wyandotte, but the colour is not so uniform and the bird is midway in size between a Leghorn and a Wyandotte. The breed has become very popular in

England because of its utility qualities. It is reported that their eggs are large and of a good colour.

Departmental Work.

During the year the District Inspectors located at Nelson, Westminster, and Salmon Arm have been very active in visiting all parts of their districts. They report an increased interest in poultry, particularly by ranchers engaged in mixed-farming operations. With the more optimistic tone of mining matters there has been a brighter demand for all farming products, particularly eggs. Throughout the Province the members of this Branch have lectured and demonstrated at meetings of Farmers' and Women's Institutes, United Farmers' Clubs, and Boys' and Girls' Clubs. Members of the Branch again officiated at many of the fall fairs as well as the poultry-shows. Many interviews were given to interested persons by members of the Branch while in attendance at the larger exhibitions and during the convention.

Provincial Poultry Association.

Vernon was the venue this year of the Annual Provincial Poultry-show and Convention. This is the first time for nine years that this annual event has been held in the Interior. Whilst the show was not as large as the Vancouver meetings, yet the quality of birds showed no diminution. Nearly all of the thirty-odd local associations sent delegates to the annual meeting, and many matters of importance to the industry were brought up and decisions made which should be of great benefit to the poultry industry of the future. The whole of the Branch staff attended the show and convention at Vernon and conferences were held and work for the ensuing year was outlined.

The association again published a Breeders' Directory and also gave out many valuable premiums to its members, not the least of which was a sample trap-nest front.

At the Vernon meeting the association decided to present a grand silver challenge cup to the High School Class in Agriculture judging at the New Westminster Fair. Bronze medals are also being offered for judging competitions to be held for children at the fall fairs.

Diplomas and bronze medals were awarded monthly to the winners in the different classes of the Egg-laying Contest.

Nine of the district groups affiliated with the Provincial Association held shows during the fall and winter, all of which were assisted by the usual departmental grant. In practically all instances the shows were able to come out on the right side of the ledger despite the hard times.

Boys' and Girls' Poultry Clubs.

With the aid of the District Poultry Instructors the Branch is pleased to report that the number of Boys' and Girls' Poultry Clubs last year was more than three times the number of the previous year. Possibly the simplification of the rules and regulations assisted in increasing the number, but most of the credit is due to the District Poultry Instructors and, in several instances, to the local Poultry Associations.

As showing the possibility of arousing interest in the minds of the young towards the poultry industry, it should be specially mentioned that the Rev. C. McDiarmid, President of the British Columbia Poultry Association, organized ten clubs, totalling over eighty members, in the Mission District. In addition to the Department's competition the children were asked to exhibit their birds at the fall fair. On the day of the show the superintendent of the poultry exhibit was simply swamped with the children's exhibits, whose birds alone totalled over 400. This, it may be added, is a larger number of birds than appears even at straight poultry-shows in some sections of the Province. Several of the Mission children sent their birds to the Provincial Show at Vernon and won nearly $50 in prize-money. According to inquiries the coming season bids fair to beat all records.

Rabbit-breeding.

As in the past, the Branch has handled inquiries and given information regarding rabbit-breeding. The District Instructors at New Westminster and Salmon Arm, having had long experience in rabbit-rearing, have been of much assistance in taking care of this growing industry. During the past three years the breeding of rabbits for fur purposes has overshadowed the breeding of rabbits for meat purposes. The Hudson's Bay Company, in many instances, are taking the complete output of pelts from breeders in the Province. The principal

rabbits used for this purpose are Angoras, Beverens, Flemish, French, English, Dutch, Siberian, Indian, New Zealand, and Polish, and include all the fashionable colours in these breeds. At the present time there are two Rabbit Associations in the Province. The title of Provincial Association has been taken by both, the Victoria Association being known as Local No. 1 and the Vancouver as Local No. 2.

Just at present a good deal of interest is being taken in Chinchillas; this breed has been very strongly boomed in England, and the boom has reached the United States and in a small way has created interest in this Province. As with booms in poultry and other forms of live stock, extravagant statements as to the capabilities of this breed are being made, and the writer cannot but form the opinion that there will be large sums of money made by those selling breeding stock at high prices and later on equally large sums of money lost by those unfortunate enough to take up this breed at the waning of the boom.

A new bulletin profusely illustrated with all the leading fur breeds and entitled "Management of Fur and Table Rabbits" is in course of publication.

PUBLICATIONS.

The usual demand for the Department's bulletins was in evidence throughout the year; advantage was taken of a new issue of the trap-nest record forms to change the size of the sheet, making the records wider though shorter, thus making accommodation for fifty birds per sheet, while taking up less room.

Information dealing with poultry and allied subjects was prepared by members of the Branch and handed out to the rural newspapers and agricultural periodicals.

The usual reports on the Egg-laying Contest were sent regularly to all parts of the world and in addition single-leaf circulars were issued occasionally. Three of the bulletins issued by the Department were revised and new editions printed.

DISEASES.

About the usual number of dead fowls were sent in to the head and branch offices for post-mortem examination. It is satisfactory to note that each year shows a decrease in the cases of tuberculosis. No doubt the excellent work in connection with the slaughter of tuberculous cattle has assisted in this pleasing state of affairs. In the old days fowls were extremely liable to infection whilst exercising and scratching amongst manure-heaps from tuberculous cattle.

EGG-LAYING CONTEST.

The Thirteenth and concluding Egg-laying Contest ended on September 22nd, 1924, after running for a period of eleven months. The twin-bird system was used again, the contest being divided into two classes, one being known as the heavy-weight or general-purpose birds; the other as light-weights or birds kept primarily for egg production. Two birds were sent by each competitor and one of them was placed in a pen belonging to another contestant. The birds were so housed that in each pen there was one bird from Class 1 and one from Class 2. As the birds in each pen lay one white and one brown egg respectively, there is no necessity for the use of trap-nests. The plan is an adaptation of the single-bird contests held for years in Australia. In addition to the birds competing, each contestant sent a spare bird, which was housed according to its class and a trap-nest record kept of each bird.

A total of 13,995 marketable eggs was laid during the eleven months, the heavy-weights laying 6,445 and the light-weights 7,550; there were forty birds in each class.

The heaviest layer in either class was a White Wyandotte hen in Class 2, which laid 258 eggs in eleven months. The heaviest layer in Class 1 was a White Leghorn, which laid 241 eggs.

The light-weight classes had fifteen birds which laid over 200 eggs apiece, the poorest layer laying 84 eggs.

In Class 2 seven birds laid 200 eggs; the poorest layer laid 9 eggs and one bird failed to lay.

The Provincial Poultry Association presented monthly diplomas for the highest pens and bronze medals monthly to the highest layers in each class, in addition to the usual prizes at the conclusion of the contest.

During the year one pen was disqualified for laying eggs under 24 oz. to the dozen, average weight.

Owing to the fact that the Federal Government now operates two contests in the Province and there is a possibility of a third starting, and the termination of the Martin Burrell "Agricultural Instruction Act," whereby the contest had been assisted financially during the ten years' duration of the Act, it was decided to terminate the contest. It should be remembered that the contest was the first official one started on the American Continent and has been the means of weeding out unprofitable breeds, and also during the past thirteen years has brought large sums of money into the Province for breeding stock as a result of the many free advertisements given the reports of the contests.

Respectfully submitted.

J. R. Terry.

REPORT OF CHIEF AGRONOMIST, VICTORIA.

C. Tice, B.S.A.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

Sir,—I beg to submit herewith the annual report of the Soil and Crop Branch.

General Conditions.

The season of 1924 was not a favourable one for field crops on account of the extremely long period of dry weather. The year opened with mild weather followed by abundant rains. During the month of May, however, the soils in many sections started to dry out, with the result that the crops began to suffer from the drought. This condition gradually became worse during the succeeding months. Fall-sown crops came through the winter of 1923–24 well, with little damage by frost, and so got off to a good start, and as a result yielded much better than spring-sown crops. The hay-crop was light in most places, particularly on the high gravelly soils. Grain-crops headed out early and were short in the straw. The weather for haying and harvesting was generally good and the crops were harvested in good condition. Pastures dried up early in most sections. Mangels and swede turnips also suffered considerably on account of the dry weather, although the latter were severely attacked in many districts by insects. Grasshoppers also were very prevalent and assisted in reducing the quality and quantity of the crops in some sections. The acreage planted to potatoes was a slight increase over that of 1923, but the dry period from May to October was also very detrimental to this crop. Consequently the yield was estimated at about 75 per cent. of that of the 1923 crop.

Soil Investigations.

This work was continued throughout 1924 along lines similar to those followed in previous years. A careful study was made of the physical characteristics and chemical composition of the soils in many districts and as a result recommendations were made as to the best cropping methods to practise. In addition to this, samples of soils have been analysed for individual farmers who requested this service and advice given as to the best methods of handling such soils. (*See* Appendix No. 27.)

The analytical soil-work has been done, as in past years, by officials of the Mines Branch. Recently, however, the practice of accepting soil samples from individuals has been curtailed on account of the fact that this system has not proven altogether satisfactory. There are four main reasons for this: (1.) The individual has not had a clear idea of the reason for submitting his soil for analysis. Many farmers have the idea that a soil-analysis can be made in a few minutes and that it will solve all their problems. This, however, is not the case. (2.) The samples are often secured at random by inexperienced persons who neglect a furnish any data, which is very essential if conclusions of value are to be reached. (3.) Chemical analysis shows only the percentage of plant-food present without giving an accurate estimate of the amount available to the crop owing to the numerous factors involved in plant-nutrition. (4.) There are many other factors other than chemical composition that largely influence the productivity of any soil. These are depth of soil, nature of subsoil, drainage facilities, humus content, moisture-holding capacity, climatic conditions, type of farming practised, etc.

It will be readily observed, therefore, under such circumstances, it is difficult to impart information to the farmer which will be helpful in deciding the best cropping or fertilizer method to practise. As an alternative, farmers whose soils are unproductive, due apparently to a deficiency of some plant-food material, are being advised that it would be decidedly to their advantage to establish some plots on their farms and try out several types of fertilizer, for it is only in this way they can expect to obtain accurate information. In this connection it is desired to point out that this Branch is always ready to give information and assistance in conducting such tests.

FERTILIZER AND GYPSUM EXPERIMENTS.

In 1924 a few experiments with commercial fertilizers and gypsum were undertaken under the supervision of this Branch. Positive results have not been secured, partly due to the extremely dry weather prevailing throughout the growing season and also because the materials were applied too late in the spring. Careful observations have led to the conclusion that throughout the Province an increase in the humus content is essential to improve the texture and water-retaining capacity of the soil and to add to the supply of available nitrogen. On the red loam soils of Vancouver Island good results have been obtained where kelp and other potassic fertilizers have been used.

Many applications for information regarding the use of gypsum were received throughout the year. Practical tests have shown that in some sections of the Fraser Valley where gypsum has been applied good results have been secured. Only negative results have followed its use when directly applied to soils under observation on Vancouver Island. Extremely dry weather may be partly to blame for this, but owing to the chemical analyses of the soils showing acidity and deficiency of potash the practical value of gypsum is questionable.

LIME SURVEY.

The accessible lime-deposits of British Columbia have been investigated and their locations marked. Large quantities of high-grade limestone, as well as beds of marl, have been found and the material analysed. In some instances the marl and the natural deposits of finely powdered lime material are in such a condition that farmers can secure what they require direct from the source ready for applying to the land without the necessity of further pulverizing. Tests for lime in the soil have been made in several sections of the Province by means of the Litmus, Truog, and the Soiltex methods of determination. Most of the soils of the arid sections of the Province have sufficient lime for legume production and are either neutral or alkaline in nature.

The lime survey indicates that British Columbia has abundant lime material available and easily accessible for all agricultural districts. With improved methods of distribution and collective buying through farmers' organizations, satisfactory purchases can be arranged.

UNDERDRAINAGE.

Assistance has been given in handling drainage problems as far as time has permitted. Surveys of main drains have been made for farmers who have requested this service. The practical results of underdrainage as shown by increased crop yields and improved field conditions at seeding and harvest time have aroused the interest of the farmers, especially in the Island districts.

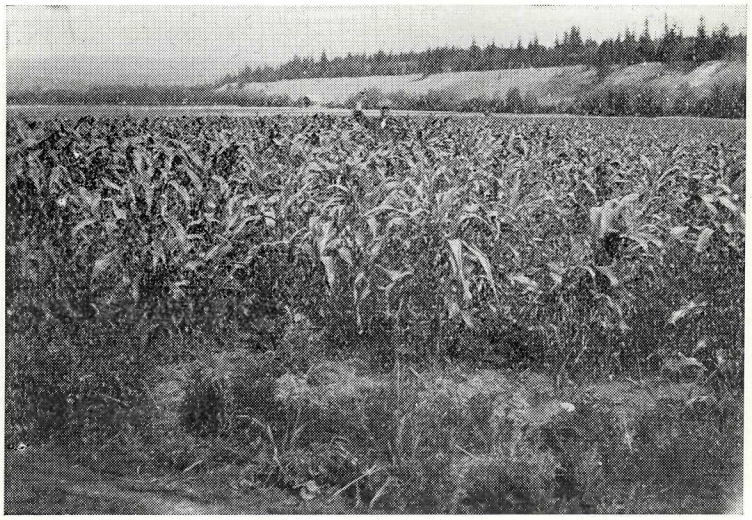
FORAGE-CROPS.

The usual forage-crop work embracing silage, roots, hay, pasture, etc., has been continued and several native plants which give promise of economic value have been studied. Among these are three native legumes—namely, *Hosackia denticulata*, or bird's-foot clover; *Trifolium fimbriatum*, or perennial clover; and *Trifolium tridentatum*, or lance clover.

The bird's-foot clover was found in the vicinity of Princeton along the Similkameen River, and also at an elevation of about 3,000 feet near Jura, where it had almost completely choked out a newly seeded field of alfalfa. It is a thrifty and succulent plant in moist soils and is much relished by stock, but, being an annual, its economic importance as a forage-plant is doubtful.

The perennial clover found on the Saanich Peninsula has a fleshy underground root-stalk and appears to do well in swampy wet soils of the Coast districts. Seeds of this clover have been secured and distributed among officials in several districts, where they are being tested for germination, hardiness, and yield.

B.C. Potato and Seed Show, Vancouver, 1924. Section of commercial potato exhibit at Potato and Seed Show.



Field of corn growing on the farm of Yorston Bros., south of Quesnel. Photo taken July 16th, 1924.

The lance clover from the Comox Valley has not yet been tested out, but a few of the seeds have been collected and will be sown in the spring of 1925. This clover appears to be much relished by cattle and thrives on the loams near Sandwick, especially where plenty of moisture is obtainable in summer.

All three of the native legumes being studded are profusely supplied with nodules on the roots, and no doubt are capable of increasing the available nitrogen-supply in the soils where they abound.

Seed of the Australian saltbush (*Atriplex semibacata*) was this year secured from California and sown in experimental rows on irrigated and non-irrigated land at Tranquille. None of the seed germinated. A further trial is planned.

Seed and Potato Show.

The third annual potato-show and educational seed exhibit was held in Vancouver from November 27th to 29th under the direction of this Branch working in co-operation with the Vancouver Board of Trade and the British Columbia Certified Seed-potato Growers' Association. Classes were provided for certified seed, commercial potatoes, fancy pack, gardeners' exhibits, district exhibits, Women's Institute exhibits, boys' and girls' exhibits, and prepared dishes of potatoes. The event was a success in every way and from the standpoint of interest and number of entries surpassed the two previous potato-shows. There were 552 entries (representative of all parts of the Province) in the competitive classes. The Women's Institutes were again represented by numerous exhibits, there being a total of 117 lots of potatoes grown by members of that organization.

The educational exhibit of seeds staged in conjunction with the potato-show was greatly enlarged over the previous year and included field, vegetable, and flower seeds of many kinds from the numerous sections of the Lower Mainland and Island. During the week of the show the annual meeting of the British Columbia Certified Seed-potato Growers' Association took place and many excellent addresses by leading authorities were given.

Special mention should be made of the fact that the staging of an exhibition such as this requires several weeks of preparation in order to make it a success. Considerable advertising and correspondence has to be done in order to make the event known over the entire Province and to secure exhibitors.

Potato-improvement Work.

The seed-potato inspection and certification work started in 1921 has continued to form an important part of the work of this Branch during the past year. As a result of our efforts along these lines there has been a marked improvement in the kind and quality of seed-potatoes which have been offered on the market.

On account of the interest which has been shown by the farmers it has been possible to form a British Columbia Certified Seed-potato Growers' organization with local associations distributed throughout the Province. Your official was appointed Secretary-Treasurer of this organization.

Extent and Progress.—Three hundred and thirty-nine fields covering twenty-two districts were inspected for certification purposes during the year. The total number of acres inspected was 296.47; 240.12 acres passed the first field inspection and 200.87 passed the second field inspection. As a result of the first tuber inspection made last fall, it is estimated that approximately 450 tons of certified seed will be offered for sale by the growers in the spring of 1925. A number of tables have been prepared giving the figures in detail covering the inspection-work for 1924. (*See* Appendices Nos. 28–33.)

Co-operative Agreement.—The increase in acreage inspected and the number of districts to which inspection was granted is due to the valuable assistance rendered by the Division of Botany of the Central Experimental Farm, Ottawa. This Department provided for the first time two Inspectors for a period of six months to work in co-operation with our staff and under our supervision. This arrangement we found entirely satisfactory and the assistance so ably rendered is much appreciated.

Study of Certification Methods in States.—It was the privilege of your Chief Agronomist to visit several of the leading potato-growing States during the month of May and to come in contact with those who have charge of the certification-work. Although it was too early in the year to examine any of the growing fields, much valuable information was gained with

respect to the methods adopted in certifying seed-potatoes in Montana, Wisconsin, North Dakota, Michigan, and Minnesota.

Outside Officials' Visits.—During the month of August visits were received from Dr. Schultz, of Maine, and Dr. McMillan, of Colorado. Both these gentlemen are Plant Pathologists connected with the United States Department of Agriculture and were visiting the Province in connection with their studies of potato mosaic.

Test-work.—This Branch arranged for a number of samples of certified seed-potatoes to be sent to points in Eastern Canada and the United States for test purposes. It is felt that this Province, being admirably suited for seed-potato production, should be shipping seed-potatoes in large quantities to outside markets.

CANADIAN SEED-GROWERS' ASSOCIATION.

The annual meeting of the Canadian Seed-growers' Association held in Guelph, Ontario, in June was attended by your official. A brief address on the seed situation in British Columbia was presented. Much of the time was spent in discussing matters of national importance to the seed industry and in laying plans for future activities.

PROVINCIAL SEED BOARD.

During the month of February a Provincial Seed Board was appointed. This Board, which meets from time to time, deals with matters of local importance to the seed industry.

LECTURES AND FALL FAIRS.

Officials of this Branch have addressed a large number of meetings during the year as well as assisting with the judging at local fairs and exhibitions.

ARTICLES AND PUBLICATIONS.

Many timely articles dealing with soil and crop problems have been written during the year. In addition to this, a circular on "Kale and Related Plants" was published and Bulletin No. 86, "The British Columbia Potato," was revised.

EXECUTIVE POSITIONS.

In addition to attending to the ordinary work coming under his Branch, your chief official has held a number of executive positions during the year which bring about added responsibilities and take up a great deal of time. These positions are: Member of the executive council and director of the Canadian Seed-growers' Association; vice-president of the Pacific North-west Potato-growers' Association; chairman of the Provincial Seed Board; secretary of the British Columbia Certified Seed-potato Growers' Association; and recently appointed vice-president of the Potato Association of America.

ACKNOWLEDGMENTS.

In carrying on the work of this Branch during the past year your chief official wishes to express his appreciation of the valuable assistance rendered by the various officials and stenographer-clerk attached to the Branch; also the co-operation received from Provincial, Dominion, and University officials interested in field-crop problems.

Respectfully submitted.

C. TICE.

REPORT OF STATISTICIAN, VICTORIA.

G. H. STEWART.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to submit herewith the annual report of the Statistics Branch for the year ended December 31st, 1924.

Due to unfavourable weather conditions the volume of agricultural production only slightly exceeded that of the previous year. The spring of 1924 was later than the average; sharp frosts occurred during the month of April, which resulted in considerable damage being

done to small fruits and tree-fruits. During the months of May, June, July, August, and September the weather was very warm and the precipitation much below normal, which greatly reduced the yield of all field crops. Despite these adverse conditions several branches of the industry show gratifying progress.

Agricultural production for the past year is shown in value as $60,029,224, against $59,159,798 for the year 1923, representing an increase of $869,426, or 1.47 per cent. The outstanding increases occurred in meats, poultry products, dairy products, and honey. A substantial decrease is noticed in the value of agricultural products imported during the same period. The total value of imports is placed at $16,399,502, a decrease of $2,618,629, or 13.76 per cent. Imports from other Provinces are valued at $13,617,709, against $15,622,678 in 1923, while imports from foreign points decreased from $3,395,453 to $2,781,793 in 1924.

The value of exports for the year is estimated at $6,022,019. This total represents an increased value of $135,647, or 2.30 per cent.

FRUITS.

All tree-fruits with the exception of pears showed a decreased production, which is largely accounted for owing to late frosts during the blossoming season. The net returns to the producer, however, were more satisfactory than during the two previous years, which can be attributed largely to the efforts of the new co-operative organization, the Associated Growers of British Columbia, which marketed some 85 per cent. of the crop.

The total production of all fruits amounted to 138,636,000 lb., valued at $5,419,238, as compared with 176,887,879 lb., valued at $6,034,976, in 1923, indicating a decrease of 21.62 per cent. in quantity and 10.20 per cent. in value.

The small-fruit production amounted to 11,866,000 lb., an increase of 124,191 lb. over the previous year. Strawberries came through the winter of 1923 in poor condition and as a result of late frosts in the spring the crop was greatly reduced. Raspberries, blackberries, and loganberries all showed an increased production.

VEGETABLES.

The area of potatoes in 1924 was 247 acres more than the previous year. The yield, however, was 5,908 tons less, caused chiefly by drought during the summer months. Potatoes averaged $9.40 a ton more than in 1923. An increase of 16.85 per cent. is shown in the quantity production of rhubarb. The 1924 crop amounted to 714 tons, valued at $41,312. A marked increase in the yield of outdoor tomatoes occurred, especially in the Okanagan Valley, where the average price was from $17 to $19 per ton for cannery purposes. The crop amounted to 11,886 tons, against 9,815 tons produced in 1923. There was an increase of 26.65 per cent. in the quantity of greenhouse tomatoes produced; the 1924 crop amounted to 784 tons, valued at $282,624.

The total vegetable-crop amounted to 219,933 tons, or 11,950 tons less than in 1923.

GRAINS.

The total area sown to grains was 127,196 acres, a decrease of 3,622 acres from the year 1923. Owing to unfavourable weather during the summer a larger percentage than usual was cut green or turned into hay, thus reducing the quantity of grain for threshing considerably.

The production of all grains amounted to 4,501,590 bushels, valued at $4,253,512, representing a decrease in quantity production of 423,437 bushels, or 8.59 per cent., but an increase in value of $286,675, or 7.22 per cent.

The price of wheat increased from $1.19 a bushel in 1923 to $1.44 a bushel in 1924; oats from 62 cents a bushel to 68 cents. Similar increases are noted in the prices of all grains.

FODDERS.

The area sown to fodders amounted to 287,021 acres, which was 14,731 acres, or 5.41 per cent., greater than the previous year.

Fodder-crops aggregating a total of 582,935 tons, valued at $10,671,692, were produced, as compared with 671,556 tons, valued at $12,312,725, in 1923. The area of grain-hay increased considerably over 1923; this was due largely to so much grain being cut green or turned into

hay to relieve the shortage resulting from the failure of the clover and timothy crops. Clover and timothy averaged 1.83 tons to the acre, as against 2.30 tons in 1923.

Fodder corn, while still comprising a small percentage of the total acreage of fodders, is rapidly increasing, there being recorded 4,944 acres in 1924.

DAIRY PRODUCTS.

The dairy production was the largest on record and increases are shown in all branches of the industry. The value of all dairy products was $9,769,549, being an increase of $534,973 over the year 1923. The quantity of creamery butter produced amounted to 3,670,670 lb., which was 709,500 lb., or 23.96 per cent., above the year 1923. Dairy butter increased 309,860 lb., or 24.57 per cent., during the year.

It is interesting to note that in the Okanagan Valley, heretofore considered purely a fruit and vegetable section, the output of creamery butter was 255,886 lb., or 31.69 per cent. greater than in the previous year.

The quantity of cheese manufactured during the year amounted to 317,839 lb., an increase of 27,753 lb. over 1923. The quantity of fresh milk consumed was 13,900,000 gallons, being 1,599,930 gallons more than the previous year.

Ice-cream and evaporated milk both showed small increases in quantity production.

The average price of creamery butter in 1924 was 37.4 cents per pound, while the price in 1923 was 42.2 cents per pound.

LIVE STOCK.

The value of all domestic animals is placed at $16,790,007, representing an increased value of $869,979 over the year 1923.

There was a small increase in the number of horses in the Province over the previous year. Dairy and beef cattle both showed an increase in numbers. Sheep increased in number to the extent of 1,815, there now being 55,151 in the Province. Swine increased in numbers 11.14 per cent. during the year. Poultry shows an increase during the year of 215,765 lb. Egg production increased by 339,487 dozen, there being produced during the year 7,351,672 dozen.

MISCELLANEOUS.

The quantity of all meats marketed during the year increased 7.69 per cent., while the total value was 10.31 per cent. greater. Prices strengthened slightly during the year.

The honey production for the year was 679,289 lb., valued at $149,444, as compared with 432,518 lb., valued at $95,154, in 1923.

There was a slight increase in the quantity of wool marketed and prices were very satisfactory.

GENERAL.

During the summer months, with the assistance of H. Stickland and officials of the Horticultural Branch, a small-fruit survey of the entire Province was made, the results of which have been submitted to you.

The total number of letters received by this Branch during the year was 2,107, while the total number dispatched was 1,221. During the year seven circular letters, comprising 1,520 letters in all, were sent out to Farmers' Institutes, wholesale establishments, etc. In addition to these, over 1,400 crop-report forms were mailed to crop correspondents. Some 1,200 copies of the Agricultural Statistics Bulletin for the year 1923 were issued and these have all been distributed to interested parties.

Considerable assistance was given to farmers in order to help them in keeping records of the business transactions of the farm, and it is noted with a great deal of satisfaction that the farmers are becoming keenly interested in this work.

With the compilation of the June census returns, the monthly reports of crop correspondents, together with the attention given to correspondence, preparing reports, and other routine matters, the entire time of your Statistician was taken up.

All of which is respectfully submitted.

GEORGE H. STEWART.

Between the rows at Rosebay Apiary in June, 1924. Hives set on railway-ties in pairs. Lawn-mower cuts grass between the rows, thus affording an unobstructed flight for the bees.

Provincial Government Demonstration Apiary for the Chilliwack District.

REPORT OF PROVINCIAL APIARIST, NELSON.

W. J. SHEPPARD.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I beg to submit my report as Provincial Apiarist, together with the estimated honey-crop report, the demonstration apiaries reports, and the reports of A. W. Finlay and J. F. Roberts, Apiary Inspectors, for the past season.

THE HONEY-CROP.

The season of 1924 has been a great improvement on that of 1923 for honey production. The total estimated crop of 339 tons very nearly approaches that of the yield of 355 tons for the year 1922, when the weather conditions were very favourable for nectar-secretion. British Columbia may be considered very fortunate in doing as well as this as there has been a short crop in the other Provinces.

The average production per hive for 1924 is estimated at 46 lb., as against 32 lb. last year and 61 lb. in 1922. (*See* Appendix No. 34.)

There has apparently been a decrease in the number of bee-keepers, 2,408 as compared with 2,439 last year, but an increase in the number of hives. This may be accounted for by the fact that there is an increased number of large producers and some of the smaller bee-keepers having dropped out.

EXCEPTIONAL YIELD OF HONEY IN EAST KOOTENAY.

There has been an exceptionally good yield of honey this year in the Fernie District in East Kootenay, where no bees had been previously kept. A. H. Smith, who lives at Natal, on the C.P.R. Crowsnest line, reports that from sixteen 3-lb. packages of bees he imported in the spring he has taken 3,800 lb. of honey, an average of 238 lb. per hive. This honey was practically all gathered from one of the snowberries (*Symphoricarpos*). This variety is probably the one known as the wolfberry (*Symphoricarpos occidentalis*), which apparently only grows in East Kootenay, and large quantities of which are to be found in this section of the Province. The variety, commonly referred to as snowberry (*Symphoricarpos racemosus*), to be found in West Kootenay, is very abundant in some places and has long been recognized as a good honey-plant. The former variety has much larger flowers than the latter, the leaves are also larger, and it is more compact and shorter in growth. Both varieties belong to the honeysuckle family. The honey is light in colour, grades in the white class, and is of good consistency and flavour. Mr. Smith exhibited some of this honey at Vancouver and New Westminster Exhibitions. At Vancouver he was awarded the gold medal for the best honey in the 50-lb. class, and at New Westminster he obtained fourth prize in the 50-lb. class and second prize in the 20-lb. class in very keen competition. As both the snowberry and the wolfberry bushes remain in flower for several weeks they may be considered of great value as honey-producers where they are to be found in sufficient quantity.

POOR HONEY-CROP IN THE BULKLEY VALLEY.

A report from Telkwa, in the Bulkley Valley, states the honey-crop there has been practically a failure this year, fireweed having yielded little or no nectar.

All of which is respectfully submitted.

W. J. SHEPPARD.

REPORT OF APIARY INSPECTOR, LOWER MAINLAND AND VANCOUVER ISLAND DISTRICTS.

A. W. FINLAY.

W. J. Sheppard, Esq.,
Provincial Apiarist, Nelson, B.C.

SIR,—I beg to submit my annual report herewith for the season of 1924.

GENERAL CONDITIONS.

The season of 1924 was not entirely favourable for honey production on the Lower Mainland, the crop at the end of the season being below normal. This was largely due to a backward spring, as little nectar came into the hives until about the first week in June. The usual spring flow from maples and dandelions was very light, so that brood-rearing was curtailed to some extent, except where the bee-keeper resorted to syrup-feeding. A fairly good honey-crop was secured during June from white clover, raspberries, locust-trees, etc., in localities where these were plentiful. July was the only month when conditions were generally favourable and a fair honey-crop was secured from alsike clover, etc. August was disappointing, especially in those districts where the bee-keepers depend mainly on securing a crop from fireweed, as this plant failed to secrete nectar much beyond the bees' requirements for their maintenance. Considerable honey-dew was reported towards the end of the season in many localities. A considerable improvement in bee-keeping methods and apiary management has been noticed over those of previous years, and also a considerable increase in commercial apiaries, which have been developed from smaller ones. It is satisfactory to note that British Columbia markets are being investigated for honey in quantity, both for home consumption and export, and bee-keepers have experienced little difficulty in disposing of their crops this season at fair prices.

DEMONSTRATION APIARIES.

The Provincial demonstration apiaries in the Fraser Valley have again proved successful by securing a honey-crop of 151 lb. per hive, this being more than three times the average per hive for the Province. It is to be regretted that very little time could be devoted to these apiaries this season by your assistant owing to the increased number of special calls for inspection and the extra work of cleaning up diseased areas by a system of district inspection mentioned later. A demonstration apiary has been established in the Lulu Island District on request of the bee-keepers in this locality, at which demonstrations have been given in transferring bees and preparing them for winter, and which were well attended.

BEE-DISEASES.

A serious outbreak of American foul-brood was reported early in the spring in the Boundary Bay District of the Delta Municipality. Investigation by your assistant, in which he was assisted by bee-keepers in the district, resulted in the discovery of a considerable number of diseased brood-combs scattered amongst the driftwood at tide-water, which had evidently been thrown out by some careless bee-keeper. The action of the tides had spread the diseased combs along a considerable distance of the beach and all apiaries within radius of bee-flight were found to have been infected. Prompt measures were at once taken to clean up the diseased area. Two additional Inspectors appointed by the Department of Agriculture, Alex. Keir and F. E. White, assisted in the work, and afterwards a complete inspection of every known colony of bees in the Delta District was made. So successful was this system of district inspection that your assistant thinks it would be advisable to carry it through in other districts from time to time as far as possible. Lulu Island was the next district to be dealt with in the same manner, every known colony of bees being inspected and, where disease was found, treatment and instruction given. Special calls from other parts of the Lower Mainland limited the amount of inspection by districts to the two areas mentioned. Your assistant visited 384 apiaries and inspected 3,136 colonies of bees; 325 colonies were found affected with American foul-brood and 267 with European. A greater number of cases of American foul-brood were treated this season than in any of the past few years. This was partly due to the wholesale infection caused by the gross negligence of one bee-keeper in a certain district, and partly by the sweeping district inspection, with the assistance of the additional Inspectors, of areas known

to be the most infected, and does not in any way indicate that disease generally is increasing. Twenty-four samples of diseased brood-combs were microscopically examined, fourteen of which were received through the mail. Six of the latter were found to be affected with American foul-brood, six European foul-brood, and two free from disease. The installation of a Spencer microscope and equipment at the New Westminster office this season obviates the necessity of sending away samples of comb for examination for disease as formerly, thus saving much valuable time.

EXHIBITION-WORK.

The New Westminster Exhibition was attended daily and many bee-keepers were met there and given information. Models of apiary equipment and working appliances were shown and demonstrated at the Provincial Government honey display staged in the Industrial Building.

The honey display staged in the Horticultural Building under the management of the British Columbia Honey-producers' Association exceeded even the splendid exhibits of former years and was upndoubtedly the premier attraction of the building. Competitive entries almost doubled those of last year and it is hoped that a large space will be provided for next year's expected requirements. Practically all of the 5½ tons of honey exhibited was sold before the close of the exhibition and orders taken for other large quantities from wholesale buyers.

All of which is respectfully submitted.

A. W. FINLAY.

REPORT OF APIARY INSPECTOR, OKANAGAN, SHUSWAP, AND THOMPSON VALLEY DISTRICTS.

J. F. ROBERTS.

W. J. Sheppard, Esq.,
Provincial Apiarist, Nelson, B.C.

SIR,—I beg to submit my annual report herewith for the season of 1924.

GENERAL CONDITIONS.

The past season has been an unusual one owing to the differences in the yields of honey in similar districts, which was most noticeable in the Okanagan Valley. The southern portion from Oliver to Summerland, and notably Penticton, has yielded large crops, the average per colony being about 75 lb., while to the north, as far as Armstrong, the crop has been poor, although a slight improvement on last year. It is hard to explain the reason for this difference as the climatic conditions have been the same right through, very hot and dry, with scarcely any rain at all.

The Shuswap Valley bee-keepers have had an excellent honey-crop, more especially in the Salmon Arm District, where the honey-flow this year seemed to last a good deal longer than usual. It is, however, a noticeable fact that the biggest crops in this district have been obtained by the skilled bee-keepers who had their colonies in the right condition at the commencement of the honey-flow.

The Thompson Valley District has also had a good honey-crop this season. It is very unusual not to obtain a good honey-crop in this district and it is to be regretted that there are not more bees kept to gather the nectar. Although the best locations are perhaps a trifle isolated, there is room for hundreds of colonies where at present there is not a bee for miles.

BEE-DISEASES.

American foul-brood has unfortunately been found in a good many places and has been promptly dealt with. There is likely to be a recurrence of this disease in the spring owing to the deadly habit of loaning and borrowing honey-extractors, there being no more certain medium for spreading disease than this. In one particular instance this year an extractor was borrowed and the honey from an apiary rotten with disease extracted with it. It was then returned to the owner as it was. He in turn allowed his bees to clean it out, with the result that can better be imagined than described.

All of which is respectfully submitted.

J. F. ROBERTS.

REPORT OF SECRETARY OF WOMEN'S INSTITUTES, VICTORIA.

MRS. V. S. MACLACHLAN.

Dr. D. Warnock, O.B.E.,
Deputy Minister, Department of Agriculture, Victoria, B.C.

SIR,—I have the honour to submit herewith the annual report of the Women's Institutes of British Columbia for the year ended December 31st, 1924.

GENERAL.

The year 1924 has been somewhat unusual in several respects. First, the idea of a central institute, which was discussed by the first Advisory Board in 1911, actually materialized in April of this year. Second, the Women's Institute exhibit at the Canadian National Exhibition in Toronto, at which many of the Provinces were represented, and through the kindness of Sir Henry Thornton in granting free transportation for the Women's Institute exhibits. Third, and perhaps the most important of all, the wonderful progress we have made in our treatment for the crippled children of British Columbia. These will all be dealt with under the representative committee heads.

The idea of Women's Institute schools, known as lessons in civics and citizenship, were carried on in three points last year—Lake Hill, South Saanich, and Langford. This branch of work marks an era in the Women's Institute organization.

Six new institutes were formed in British Columbia last year; they are Patricia and Squamish, in the Lower Mainland, on January 23rd and June 6th respectively; Luxton and Happy Valley, Cedar, and Shirley on January 25th, February 12th, and September 4th; and Wistaria, in Central British Columbia.

The ten committees are functioning not only successfully, but are beginning to make their power felt. The work under each is extending, and particularly in the Immigration Committee it is being realized the use that our institutes can be in settling and Canadianizing desirable citizens.

PROVINCIAL CONVENTION.

The first annual convention of Women's Institutes of British Columbia was held in Vancouver, April 21st, 22nd, and 23rd, with representation from the vast majority of institutes throughout the Province. There were no reports from the individual institute, programme being composed largely of the reports of our ten committees and with discussion and information on the functions and relations of each to the various Government departments and other organizations.

Among the different visitors were Miss Beardmore, National Convener of the Standing Committee on Agriculture of the Federated Women's Institutes of Canada, and Miss Yates, the only woman President which the Ontario Horticultural Society, with a membership of 50,000, has had.

The Mayor and City Council entertained the delegates at luncheon in the Pavilion at Stanley Park. The British Columbia Products Bureau were hosts at a luncheon at the Hotel Vancouver. The Hon. E. D. Barrow and Mr. Justice M. A. Macdonald were speakers. A joint banquet and conference with parent-teachers was one of the features. At the final session a resolution providing for Provincial federation was passed.

DISTRICT CONFERENCE.

There were three district conferences held during the year; the Okanagan District considered it was unnecessary to hold a conference. The Lower Mainland, Kootenay, and Vancouver Island, however, held district conferences and the institutes financed the expenses of the delegates.

HOME ECONOMICS.

I still have to report that in the Committee of Home Economics we are not making the progress of the other committees. The classes in cookery, however, and canning are gaining in popularity and a number of institutes have held classes in dressmaking and millinery very successfully. I am very pleased to report the book, "Science of Eating," by Alfred McCann, offered as a prize to the various flower-shows, is proving very popular. I have heard many

members reporting interest in and information received from the same. Another book, the "American Home Diet," compiled by Dr. E. V. McCollum, would be of equal interest.

I have to report a class in canning, which was carried on in Coghlan by Mrs. J. D. Gordon, and advice from the institute indicates that it was very successful, the members not only of the class but of the neighbourhood even calling after hours for information and instruction.

The night-school classes are capable of great extension and development if they can be properly organized. Our women are taking a great interest in the different subjects which can be taught under these classes, yet are not fully aware of the conditions under which they can be organized. The relation of the Education Department to the Board of School Trustees needs to be emphasized; the fact that the Board of School Trustees is the only body to which the Department of Education can legally pay money is not sufficiently understood. All classes must be held *under* the auspices of the School Board and all instructors must be engaged *by* the School Board, the Department of Education paying four-fifths of the salary of the instructor, the class or the institute making up the remaining one-fifth, together with any expenses of heating, light, or transportation of the instructor.

We have great need of help in the farm homes for the mother of children, and more especially for the expectant mother, but unfortunately there are few, if any, reporting financial ability to hire such. Here is a great opening for organization-work such as is carried on in Saskatchewan, known as the nursing housekeepers. We can do no better than follow the plan of Saskatchewan, although this in one sense comes under the heading of public health and child-welfare.

There have been some inquiries received regarding charts and exhibits of food and demonstration tables for the fall fairs. It would seem as though a good movement had been started in this direction.

I again urge the reading and discussion, under home economics, of the report on domestic science found in the Fifty-third Annual Report of the Public Schools of British Columbia for the year ended June 30th, 1924, pages 74, 75, inclusive; particularly the concluding paragraphs would make material for discussion and resolution.

"The time seems to be opportune for making the study of home economics compulsory in cities of the first and second class. The subject would then be placed upon an equality with others which have no greater claim to importance.

"There is much important work to be done in the Province in regard to fostering and stimulating interest in the teaching of home economics and child-welfare. A special Provincial supervisor would find a great duty awaiting her to broadcast the correct interpretation of the educational aims which stand behind the subject of home economics."

Public Health and Child-welfare.

The progress of this committee is again the most marked of any committee reporting. The compulsory medical examination of all school-children, which became active in 1911, is being carried on throughout British Columbia. The medical inspection in seventeen rural districts is assisted by a school nurse whose duty it is to follow up the reports of any defects and confer with the parents on methods of treating these defective children.

The medical inspection is a waste of money unless the parents realize the importance and act upon the doctor's and nurse's suggestions. The medical inspection of the rural schools cost the ratepayers of the Province of British Columbia $12,687.25 during the year ended June 30th, 1924. In the unorganized districts and the municipalities, not including the cities, 39,362 pupils were examined:—

1,743 country school-children were found to be suffering from malnutrition.
351 to be mentally deficient.
2,331 to have defective vision.
318 to have defective hearing.
1,738 to have defective nasal breathing.
3,677 to have goitre.
10,093 to have decayed teeth.
2,495 to have adenoids.
7,569 to have enlarged tonsils.
2,424 to have enlarged glands.

The Provincial Department of Health will assist financially in any district where a Public Health Nurse is required. To show what this means to physically defective children I will quote from the schools report in Vernon, where the Women's Institute was responsible for establishing and maintaining such a nurse:—

52 children had defective eyesight.
45 children had enlarged tonsils.
160 children had defective teeth.
25 children had defective eyesight *corrected* by glasses.
18 children had enlarged tonsils *corrected* by treatment.
150 children had teeth *corrected*.

Agassiz Women's Institute reports a dental clinic; the institutes in the Cowichan Electoral District are supporting a dental clinic in that locality; Sayward Women's Institute on Vancouver Island and Fruitvale Women's Institute in the Kootenay have organized dental clinics. In all these districts the Provincial Department of Health has rendered assistance and advice, and I am pleased to be able to report that other districts are making the preliminary surveys and lining up for this work.

I again urge the reading of the report of the Provincial Medical Officer of Health as an address for a programme on public health and child-welfare. We have compiled material on the health of the Province which may be used as roll-call and a question-box on different branches of the health-work carried on through the Department of Health. All these may be had upon request. Some institutes have been supplied with this and report an interest in and support of the general movement toward the improved health of the individual citizen.

The outstanding accomplishment of the institutes in child-welfare work in 1924 is the progress of our Crippled Children's Fund. The moneys received from the institutes for the year 1924 are $2,002, and assisted with a gift of $432.59 from their gracious Majesties, also Her Excellency Lady Byng and Mrs. Nichol. Accompanying the gift from their Majesties was the suggestion that a nucleus of a fund for an orthopædic hospital be set aside for this purpose. I am pleased to be able to report that this fund is steadily growing as the information is being disseminated. We have treated in all forty-one cases; the great majority of these have been greatly improved. Some children from being helpless cripples have been restored to normal health and will look forward to a future of activity and self-support. As the interest has increased there has been a corresponding increase in the membership until at the end of 1924 application is being made for incorporation, giving due credit to the Women's Institutes, who had the honour of initiating this movement, and which will result in world-wide fame for the institutes of British Columbia.

Literature on health subjects was sent to various country fairs in the Province for distribution, meeting with marked success, the demand far exceeding the supply.

EDUCATION AND BETTER SCHOOLS.

I have to report in this committee an ever-increasing interest. Twenty-five institutes have held exhibitions of school-children's work jointly either with the fairs or flower-shows. Vernon again featured the bird-house exhibit, while Salmon Arm and Vernon each held a May-day celebration, making it thoroughly a children's day.

Attention has been called to the discrepancy between the appearance of school buildings which are erected by the Department of Education and the appearance of school-grounds for which the district authorities are responsible. We are gradually arousing an interest in and a responsibility for the school-grounds, while scarcely a day goes by that I do not receive a report from some institute reporting on the sanitary conditions of their local school or efforts toward improving the grounds.

To secure the full benefit of the night-school provisions there must be confidence and co-operation between the School Boards and the institutes, because, as stated before, the School Board is the body with which the Department of Education deals. I regret to have to report that there has been no effort reported to establish household science and manual training in any of the institute localities. Frequently members of institutes will express a strong desire for the inclusion of these subjects in the school curriculum and yet no effort to stimulate organized action or impress public opinion has been made. We have permissive legislation on

our statute-books providing for the teaching of these subjects when the majority of ratepayers desire it.

Hot lunch or milk for country school-children is being provided in a great number of the country schools. I again emphasize the benefit of reading the annual report of the Department of Education, especially for a programme on education and better schools. The Superintendent's report, the Inspector's report on the local district, the report on the technical education, that of the Director of Elementary Agricultural Education, are all articles of absorbing interest if we could but rivet the attention of our members to these subjects.

I can do no better than to repeat my recommendations from last year's report, that the members of the institutes meet and confer with the Provincial Inspector when he visits the local school; that the members communicate with J. W. Gibson, Department of Education, for advice on improving and beautifying school-grounds; that they communicate with Mr. Kyle, Department of Education, for advice on choosing and arranging pictures for the school-rooms and for books for the school library. H. Killam, Travelling Library, Parliament Buildings, will be pleased to give advice on the selection of books for a community library.

LEGISLATION.

The interest in the Committee on Legislation has increased surprisingly. This branch is constantly receiving requests for information on the different Acts relating to women and children.

Unfortunately there is still a great lack of knowledge on existing conditions, as evidenced by the wording of resolutions coming before the conferences. For instance, a resolution submitted by Cranbrook Women's Institute to the Kootenay Conference was entirely erroneous in its premises, yet these premises were accepted and the resolution endorsed by both the Kootenay and the Lower Mainland Conferences without apparently one question being put as to the accuracy of these premises. I would again urge all institutes to post motions for a month before endorsing them; discuss every premise clause by clause; ascertain the authority of the statements. It is very humiliating to present these resolutions to the Government departments knowing that such lack of knowledge will seriously affect the attitude of these departments towards our institutes.

An outstanding report of a district convener's on legislation for the Lower Mainland was presented to the conference by Mrs. Cooper, South Vancouver, and the recommendations made by the local institutes as submitted by this convener are so excellent that they are herewith submitted as a good example of a practical working policy *as evolved by the institutes.*

"(1.) That we encourage more women to offer themselves as school trustees.

"(2.) That whenever possible the Women's Institutes call meetings to hear and question those persons, both men and women, who aspire to hold municipal office and endorse and support only those who will work for good morals and health of their community.

"(3.) That we strengthen our representations to Ottawa *re* Oriental exclusion.

"(4.) That we ask for strict medical inspection of all persons handling foodstuffs in restaurants, boarding-houses, hotels, and other public places.

"(5.) That all Women's Institute members ask for copies of 'Notes of Procedure' from their district M.L.A. It will keep us more in touch with the laws that are being enacted in British Columbia.

"(6.) That members secure copies of municipal code in rural communities from their local Council and study the laws under which they live.

"(7.) Make a particular study of the laws of British Columbia as they apply to women and children, marriage and property laws, and the franchise.

"(8.) That papers on our Provincial Government be prepared, read, and discussed at meetings.

"(9.) How the Women's Institutes may help in securing better legislation and needed reform in our law.

"(10.) That when institutes send resolutions that affect legislation it is suggested they send sufficient information to allow other institutes to vote intelligently.

"*And last but not least:* The committee suggests that in future all reports be in the hands of conveners at least two weeks before a report is called for."

IMMIGRATION AND SETTLEMENT.

We started out in this committee at the end of the year with questionnaire to the institutes for information on the possibilities of each district. We inquired as to the prospect of employment for British labour. In carrying on this work our Provincial convener, Mrs. J. H. Porter, was very careful to first submit her plan to Miss A. C. Franklin, Secretary of the Society for the Overseas Settlement of British Women, and during the entire year Mrs. Porter has been in constant communication with this society.

The questionnaire and accompanying letter was also submitted to the Premier for his information and approval. I am pleased to be able to report that he expressed the opinion, "With time and patience you will have some very valuable data," and it is surely reasonable to suppose that the institutes will play no small part in helping to settle the communities with British citizens.

Attention is again called to the report of our penitentiary and the mental hospital as regards the proportion of foreign-born.

PUBLICITY AND NATIONAL EVENTS.

The work in this committee is becoming very much more interesting as it develops; probably the outstanding item for the year was the exhibit of the Women's Institutes of British Columbia sent by the Department, through the courtesy of Sir Henry Thornton, to the Canadian National Exhibition. The Department, with the assistance of the British Columbia Products Bureau, was very fortunate in being able to send Mrs. W. D. Todd in charge of the exhibit. This exhibit consisted of features peculiar to British Columbia—British Columbia evergreens, a model of the Saanich War Memorial Health Centre, pottery from Summerland, preserved loganberries, home-canned salmon, and an exhibit of British Columbia wool in all its stages up to knitted lace and sturdy tweeds.

While in Toronto Mrs. Todd collected material for an all-Canadian programme for an evening entertainment. This she attempted to put on at various points in the Province on her return trip; unfortunately her health broke down at Procter and the concert tour had to be dropped.

INDUSTRIES.

In this committee I have to report the completion of Mrs. Todd's tour. At the end of 1923 eighty institutes had received a visit from Mrs. W. D. Todd in the interests of the British Columbia products campaign. By June, 1924, Mrs. Todd had completed the list of institutes in the Province. Following this and carrying out her suggestion, a plan to "save the labels" was started in the Kootenay District; the children particularly in Kaslo School showed great enthusiasm and interest and some good photographs of the collection were made. I understand a general campaign will be put on throughout the Province during the year 1925.

There is still much to be done to consolidate the buy-at-home campaign, and again I urge the institutes in affiliation with and through the Local Council of Women to keep up the campaign for the support of the city housewives in the purchase of British Columbia products of the fields. There is not nearly enough attention nor effort made to unite the women of the country and the women of the city in the common cause of home markets. This is a great patriotic duty: "We desire trade to flourish, not for the enrichment of the manufacturers and business-men, but because a flourishing trade is necessary for the revenue of the State and the personal welfare of the population, and we seek revenue for the State and the personal welfare of the population because these things are necessary to the evolution of man's moral and spiritual nature."

AGRICULTURE.

The activities of the Women's Institutes at the Potato Fair has been the outstanding feature of this committee-work. Point Grey took the first prize in the competition of potato-dishes at this fair held in Vancouver in November. Vancouver Island District won the cup which Mrs. Murray, of *Country Life*, gave for yearly competition among the district institutes for exhibits of potatoes. South Saanich won the special prize of $15 as well as a prize offered by its own district. Lazo Institute came second and Cedar third. Mrs. Saltmarsh, of Metchosin, won first prize of $5 for the best 5 lb. of potatoes grown by a member of an institute. Mrs. W. D. Mitchel, of South Saanich, was second, securing the prize of $3.

Efforts have been made by the Provincial convener, Mrs. Mabel L. Tomer, to work up an interest in the Curb Market in Vancouver. Over 500 pamphlets advertising the advantages and the possibilities of the Vancouver Curb Market were personally distributed.

In several instances markets have been found for the farmers who had produce to sell. Managers of canning-factories have been appealed to in disposing of products. Undoubtedly the great problem confronting the agricultural industry to-day is that of marketing.

The institutes are exhibiting either at their own local flower-shows or jointly with the fall fairs. There has been a substantial increase in the number of these events.

Community Betterment.

The principal work of the institutes is in this committee. The great bulk of the money raised by the institutes is spent for community betterment. Halls, parks, roadsides, cemeteries, and other community projects of immediate and vital interest to the neighbourhood all receive the support of the Women's Institutes. I have neither time nor space to report all the activities. Some of the outstanding activities are the caterpillar contests and the queen-wasp contests organized among the school-children.

The institutes reporting successful efforts in these lines are Boswell-Sanca, Hazelmere, and Royal Oak, and others I know are waging war on these agricultural pests.

Women's Institute Work and Method.

We start the year with 109 institutes; 105 institutes received from various sources, including the balance on hand at the end of the year 1923 of $7,104.31, the sum of $50,717.25. They spent $43,000.65, leaving a balance on hand of $8,706.60. Twelve institutes raised over $1,000, as follows: Kelowna, $2,140.95; Salmon Arm, $1,814.27; Nelson and District, $1,476.15; West Saanich, $1,446.11; Victoria, $1,399.18; North Saanich, $1,327.44; Esquimalt, $1,269.22; Vernon, $1,257.37; Langley Fort, $1,205.44; Strawberry Vale, $1,157.49; Cedar, $1,115.10; Cobble Hill, $1,056.38.

The total receipts include the grant made by the Department to each individual institute, which amounted to $2,193.75; flower-show grant, $546; total, $2,739.75.

In addition to this, the Department paid towards the expenses of one delegate from each institute to the Provincial Conference in Vancouver according to the following rule: transportation, sleeper-berth, and $3 per diem allowance, amounting to $3,396.85.

The institutes contributed $2,002.36 to the Crippled Children's Fund; $157 to the Federated Women's Institutes.

Legislation providing for the Provincial organization was passed at the 1924 session of House.

Duties of Directors of Individual District and Provincial Institutes.

The Board of Directors of the individual institute is elected by the membership to aid them in carrying on the work decided on by the institute. It is the duty of the said Board to carry it out by the methods decided upon by the institute according to the recognized rules for orderly procedure.

A District Board of Directors may be elected by the representatives of the institutes of the district to co-ordinate the work and carry out the will of the majority of institutes in that district according to recognized rules. It is the duty and privilege of said Board to recommend lines of work to institutes and conveners for their consideration, guided in this by the reports of the preceding year and the policy of the Department.

The Provincial Board of Directors shall be elected by representatives of the institutes of the Province to co-ordinate the work and aims of the institutes of the Province and to carry out the will of the majority of institutes in the Province in all work which they may decide to undertake provincially.

The Provincial Board is the body to deal with other Provincial bodies and with the Federation of Women's Institutes of Canada. It is the duty and privilege of this Board to recommend lines of work to the District Boards, to the Provincial conveners, and to the institutes, guided in this by reports of the preceding year and by the policy of the Department.

Conveners.

It is the duty of the local convener of any committee to inform herself on the scope and relation of this committee, its bearing on community, Provincial, and national welfare. To

report any items of interest to the regular meetings and to fill in questionnaire and forward same to district convener.

It is the duty of the district convener to summarize the information forwarded by the local conveners and submit this to the district conference and to the Provincial convener. It is largely these reports which are the guides to the District Board in making recommendations to the institute.

It is the duty of the Provincial convener to summarize the information forwarded by the district conveners and submit this to the Provincial conference. It is largely these reports which are consulted when the Provincial Board informs and advises the Minister on all matters within the scope of Women's Institutes under the "Agricultural Act."

I had the very great privilege of laying my annual report of the year's work before the Select Standing Committee of Agriculture, which in submitting its report to the Legislature was pleased to speak of our organization in the following terms:—

"The Secretary of Women's Institutes appeared before the Committee and submitted a full report dealing with the activities of that organization during the year.

"It was shown that this organization had been very active and had accomplished a large amount of very valuable executive work, particularly along the lines of home economics, public health, child-welfare, community betterment, education, and school environment.

"Your Committee desires to express its unqualified approval of the activities of the Women's Institutes, and notes with particular satisfaction the ability and success of this organization in so satisfactorily meeting its financial requirements."

All of which is respectfully submitted.

(MRS.) V. S. MACLACHLAN.

APPENDICES.

APPENDIX No. 1.

Correspondence received and dispatched by the Department of Agriculture (at Victoria) for the Years ended December 31st, 1923 and 1924.

	Received.		Dispatched.	
	1924.	1923.	1924.	1923.
Office of the Deputy Minister—				
General and Secretary's office	4,887	5,973	3,388	3,157
Farmers' Institutes	2,533	3,180	736	892
Women's Institutes	912	905	560	505
Agricultural Associations	455	495	559	543
Secretary, Women's Institutes	1,924	1,520	1,569	1,178
Dairy Branch	1,725	1,421	2,052	1,541
Horticultural Branch	2,114	2,259	2,087	1,816
Live Stock Branch—				
General	3,707	4,213	3,433	3,979
Brands	1,292	1,515	1,331	1,672
Poultry Branch	1,629	1,923	1,886	2,407
Soil and Crop Branch	1,929	1,721	3,033	2,170
Statistics Branch	2,107	1,986	1,221	1,097
Totals	25,214	27,111	21,855	20,957

APPENDIX No. 2.

Women's Institute Flower-shows, etc., 1924.

Date.	Name.	Occasion.
	Vancouver Island, etc.	
April 11	Metchosin	Flower-show and sale of home cooking.
June 20	Valdes Island	Flower-show; exhibition of women's work and school-children's work.
,, 26	Vimy	Flower-show.
July 16	Lazo	Flower-show.
,, 23	Colwood	Flower-show; exhibition of women's work and sale of work.
,, —	Luxton and Happy Valley	Flower-show; exhibition of women's work.
,, —	Shawnigan Lake	"Better babies" clinic.
Aug. 5	Sooke and Otter	Exhibition of women's work and flower display.
,, 6	Esquimalt	Flower-show; exhibition of women's work and sale of work.
,, 13	West Saanich	Flower-show; exhibition of women's work.
,, 16	North Saanich	Flower-show; exhibition of women's work and school-children's work.
,, 16	Whaletown	Flower-show; exhibition of women's work and school-children's work.
,, 27	Lake Hill	Flower-show; exhibition of women's work.
,, 27	Garden City	Flower-show; exhibition of women's work and school-children's work.
,, 27	Langford	Flower-show; exhibition of women's work and school-children's work.
,, 29	South Saltspring	Fall fair.
Sept. —	South Saanich	Flower-show; exhibition of women's work.
,, 5	Valdes Island	"Better babies" clinic.
,, 9	Sayward	Exhibit at fall fair.
,, 10	Shawnigan Lake	Exhibit at fall fair.
,, 10	Cobble Hill	Flower-show; exhibition of women's work and sale of work.
,, 13	Royal Oak	Flower-show; exhibition of women's work and school-children's work.
,, 24	Cedar	Exhibition of women's work.
,, 26	Denman Island	Flower-show at fall fair.
,, —	Gordon Head	Wool bee.
,, —	Victoria	Exhibition of women's work.
Nov. 5	Granby	Bazaar; exhibition of women's work and school-children's work.

APPENDIX No. 2—*Continued.*

WOMEN'S INSTITUTE FLOWER-SHOWS, ETC., 1924—*Continued.*

Date.	Name.	Occasion.
	Lower Mainland.	
April 16	Hatzic	Bulb-show.
June —	Hatzic	Flower-show.
,, 7	Coghlan and District	"Better babies" clinic.
,, 11	Matsqui	"Better babies" clinic.
,, 26	Upper Sumas	Flower-show.
,, 27	Barnston Island	Flower-show.
July 3	Burquitlam	Exhibition of women's work.
,, 11	Agassiz	Flower-show; exhibition of women's work and school-children's work.
,, 27	Surrey	Flower-show.
,, 29	Cannor	Flower-show.
Aug. 6	Langley Fort	Flower-show.
,, 13	Strawberry Hill	Flower-show; exhibition of women's work and sale of work.
,, 14	Mission City	Flower-show.
,, 20	Tynehead	Flower-show; manual-training exhibit.
,, 20	Patricia	Exhibition of women's work and school-children's work.
,, 23	Port Kells	Flower-show.
,, —	Coghlan and District	Flower-show; exhibition of women's work and school-children's work.
Sept. —	Hazelmere	Flower-show; exhibition of women's work.
,, 17	Aldergrove	Exhibition of women's work.
,, 17	Central Park	Exhibition of women's work.
,, 17–18	Haney	Sweet-pea show.
,, —	Point Grey	"Better babies" clinic.
Oct. 1	Fern Ridge	Flower-show; exhibition of women's work and school-children's work.
,, —	Atchelitz	Exhibition of school-children's work.
Nov. —	Pitt Meadows	Exhibit at Potato Fair.
	Okanagan and North Thompson.	
April 12	Vernon and District	Bird-house competition.
May 29	Poplar Grove	"Better babies" clinic.
June 5	Woods Lake	"Better babies" clinic.
July 3	Rutland	"Better babies" clinic and health exhibit.
,, 24	Tappen	Flower-show; exhibition of women's work and school-children's work.
,, 24	Lumby	Flower-show; exhibition of women's work and school-children's work.
,, 26	Salmon Arm	Flower-show.
,, 31	Okanagan Centre	Flower-show; exhibition of women's work and school-children's work.
Aug. 12	Valley	"Better babies" clinic.
Aug. 28	Peachland	Flower-show; exhibition of women's work.
Sept. 12	Similkameen	Flower-show; exhibition of women's work and school-children's work.
,, 16–18	Armstrong	Exhibit of women's work at fair.
,, 18	Cawston	Flower-show; exhibition of women's work.
,, —	Vernon and District	"Better babies" clinic.
,, —	Oliver	"Better babies" clinic; health exhibit.
Sept. 30–Oct. 2	Kelowna	Health exhibit at fall fair.
Oct. 31	Woods Lake	Flower-show; exhibition of school-children's work.
Nov. 21	Naramata	Flower-show; exhibition of women's work and school-children's work.
Dec. 10	Kalamalka	Exhibition of women's work and school-children's work.
	Kootenay.	
June 27	Kootenay Valley	Exhibition of women's work.
,, —	Creston and District	Flower-show.
July 25	Kaslo and District	Flower-show; exhibition of women's work, school-children's work, and cherry-show.
Aug. 7	Nakusp	Flower-show; exhibition of school-children's work.
,, 15	Harrop	Flower-show; exhibition of women's work and school-children's work.
,, 20	Willow Point	Flower-show; exhibition of women's work.
,, 21	Burton City	Flower-show; exhibition of women's work and school-children's work.

APPENDIX No. 2—*Continued.*

WOMEN'S INSTITUTE FLOWER-SHOWS, ETC., 1924—*Continued.*

Date.	Name.	Occasion.
	Kootenay—Continued.	
Sept. 1	Cranbrook	Flower-show; exhibition of women's work and school-children's work.
„ 3	Arrow Park	Flower-show; exhibition of women's work and sale of work.
„ 6	Crawford Bay	Flower-show; exhibition of women's work and school-children's work.
„ 10	New Denver	Flower-show.
„ 11	Boswell-Sanca	Flower-show; exhibition of women's work and school-children's work.
„ 13	Fruitvale	Flower-show; exhibition of women's work and school-children's work.
„ 16–18	Bonnington and South Slocan	Exhibition of women's work at Nelson Fair.
„ 16–18	Slocan Valley	Exhibition of women's work at Nelson Fair.
„ 16–18	Nelson	Exhibition of women's work at Nelson Fair.

APPENDIX No. 3.

SCORE-CARD FOR JUDGES AT BRITISH COLUMBIA FAIRS, 1924.

The judges will please fill up this score-card immediately after each fair and return same, without delay, to the Secretary of the Department of Agriculture at Victoria, duly signed and dated.

Fair held at..... Date.....

	Maximum.	Points recommended by Judge.
As regards number of entries and quality of fruits and vegetables	10	.....
As regards number of entries and quality of grains, field crops, potatoes, etc.	10	.....
As regards number and quality of horses, cattle, sheep, and swine	10	.....
As regards number and quality of poultry exhibits	10	.....
As regards number and quality of dairy products, honey, etc.	5	.....
Domestic science and ladies' work	10	.....
Support of fair by local exhibitors	10	.....
Grounds and equipment	10	.....
Interest of public in exhibits and judging	10	.....
Management of fair	15	.....
Total	100	.....

REMARKS: Give report in detail respecting the following:—

Weather .....

Attendance (estimate of number present) .....

Did harvesting interfere with fair? .....

Was there keen competition generally? .....

Were side-shows or non-agricultural exhibits a prominent feature? .....

Which breed of horses, cattle, sheep, and swine predominate? .....

.....

What improvements would you recommend? .....

.....

.....

What line did you judge? .....

Signature .....

NOTE.—Further remarks may be written overleaf.

APPENDIX No. 4.

JUDGES' SCORE-CARD REPORTS, 1924 FAIRS.

Place.	Per Cent. of Possible Score obtained.	Fruit and Vegetables, Max. Score 10.	Grains, Field Crops, and Potatoes, Max. 10.	Live Stock, all Classes, Max. 10.	Poultry, Max. 10.	Dairy Products and Honey, Max. 5.	Domestic Science and Ladies' Work, Max. 10.	Support of Fair by Local Exhibitors, Max. 10.	Grounds and Equipment, Max. 10.	Interest of Public in Exhibits and Judging, Max. 10.	Management of Fair, Max. 15.
Circuit I.											
Courtenay	83.0	9.0	8.5	7.7	7.2	4.3	8.0	8.9	8.3	8.8	12.3
Saanichton	81.6	8.2	8.3	4.0	8.0	3.5	9.0	8.9	8.7	9.1	13.9
Denman Island	75.7	8.5	7.2	6.3	4.0	3.0	8.3	9.0	7.7	8.7	13.0
Duncan	74.3	7.6	8.1	8.3	....	2.8	7.3	8.0	9.5	8.5	14.2
Victoria	73.9	7.0	6.0	7.0	8.0	3.0	6.0	7.3	8.6	8.0	13.0
Coombs	73.5	7.7	7.0	6.5	7.5	3.0	7.2	9.0	6.0	9.6	11.0
Sayward	72.0	7.0	6.0	7.0	8.0	3.0	8.0	8.0	4.0	8.0	13.0
Colwood	69.5	8.5	8.0	....	4.0	3.0	7.0	8.0	8.5	9.5	13.0
Ganges	68.5	7.2	5.2	6.5	5.7	3.0	7.0	6.5	7.7	8.0	11.7
Alberni	65.5	7.0	6.1	6.1	3.3	3.0	7.8	6.5	7.2	6.5	12.0
Cobble Hill	59.5	7.0	6.0	....	....	3.0	9.0	9.5	10.0	5.0	10.0
Fulford Harbour	59.0	8.0	6.5	....	2.0	....	7.0	7.5	6.5	9.0	12.5
Lasqueti Island	56.0	7.0	6.0	....	....	2.0	6.0	6.0	7.0	7.0	15.0
Ladysmith	54.4	6.8	5.7	5.0	....	2.5	7.0	4.3	8.7	5.1	9.3
Circuit II.											
Mission	84.7	8.6	8.2	6.2	9.4	3.2	8.2	8.8	9.0	8.7	14.4
New Westminster	84.0	7.0	8.0	8.0	9.5	5.0	7.0	8.0	9.0	8.5	14.0
Maple Ridge	82.8	8.5	8.5	7.0	9.5	3.5	8.2	8.5	8.6	8.2	12.3
Langley	77.0	7.7	7.1	8.2	6.8	3.2	7.1	8.1	7.7	8.1	13.0
Surrey	76.4	7.1	6.6	7.8	8.0	2.6	6.8	7.8	8.6	8.1	13.0
Agassiz	74.5	6.7	6.1	8.8	6.0	3.5	7.5	8.1	8.0	8.6	11.2
Matsqui	72.9	7.0	6.3	4.5	8.8	3.1	7.0	7.8	8.2	8.5	11.7
Vancouver	71.0	5.0	4.0	9.0	9.0	3.0	8.0	2.0	11.0	5.0	15.0
Burquitlam	70.5	7.5	6.3	4.5	8.3	2.5	6.7	7.6	7.6	8.3	11.2
Whonnock	70.0	8.0	6.7	3.2	6.0	3.5	8.0	7.7	5.5	8.5	12.9
North Vancouver	68.5	6.6	3.6	5.0	7.1	2.0	7.5	8.6	8.0	8.0	12.0
Aldergrove	68.2	7.0	7.1	7.0	5.6	1.0	7.5	7.2	6.2	8.2	11.4
Chilliwack	66.3	6.0	4.7	6.7	7.4	3.0	7.2	6.4	7.7	6.8	10.4
Fern Ridge	64.5	5.0	4.0	4.0	4.0	2.0	7.0	8.0	10.0	8.0	12.5
West Vancouver	58.0	7.0	8.0	....	....	....	8.0	8.0	7.0	8.0	12.0
Richmond	55.9	5.0	1.0	4.0	5.3	1.7	6.5	5.0	8.6	8.3	10.5
Gibson's Landing	55.5	6.6	5.0	3.0	2.1	2.0	7.0	5.0	7.0	6.0	11.8
Central Park	53.0	8.0	....	....	....	....	....	10.0	10.0	10.0	15.0
Pemberton Meadows	49.5	6.0	6.0	....	....	3.5	5.0	6.0	5.0	8.0	10.0
South Vancouver	46.0	8.5	....	....	9.0	....	....	8.0	....	6.5	14.0

Circuit III.											
Armstrong	82.9	8.2	7.5	8.5	6.1	4.2	7.9	8.2	9.3	9.0	14.0
Lumby	81.6	8.3	8.0	8.3	6.6	4.0	6.7	10.0	7.0	9.3	13.4
Enderby	77.8	7.6	6.0	7.6	8.0	3.8	7.4	8.2	8.2	9.0	12.0
Kelowna	77.6	7.1	6.5	6.3	7.0	6.0	7.7	7.6	8.8	9.0	11.6
Falkland	74.3	7.3	6.6	6.6	6.0	4.0	8.0	8.6	5.6	9.3	12.3
Birch Island	56.5	7.0	5.0	2.5	1.5	2.0	5.0	8.5	4.5	9.5	11.0
Peachland	46.0	5.0	....	....	....	....	10.0	6.0	5.0	5.0	15.0
Circuit IV.											
Nelson	73.9	8.0	5.0	....	6.3	6.5	9.0	8.0	9.0	8.5	13.6
Cranbrook	71.6	5.3	5.0	8.3	6.8	3.1	8.1	8.5	8.1	7.1	11.3
Crawford Bay	71.3	8.5	7.5	....	6.0	7.0	8.5	8.0	4.0	9.5	12.3
Trail	69.2	9.0	7.0	....	3.0	2.0	7.3	9.3	8.3	9.3	14.0
Creston	67.3	8.2	5.7	4.6	4.6	2.7	8.2	7.2	7.7	7.2	11.2
Kaslo	66.2	8.5	6.0	....	....	3.7	8.0	9.5	8.0	8.5	14.0
Nakusp	65.0	8.3	6.7	3.7	....	3.5	8.2	7.2	5.7	7.5	14.2
Windermere	64.1	7.0	5.0	5.5	6.0	2.0	6.6	7.0	7.0	8.0	10.0
Boswell	64.0	7.0	5.0	....	4.5	6.0	8.0	7.0	6.5	9.0	11.0
Fruitvale	63.6	8.5	6.5	....	5.6	4.5	7.0	8.0	4.0	9.5	10.0
Natal	48.0	7.0	7.5	....	....	1.0	5.0	9.0	3.0	8.5	7.0
Circuit V.											
Smithers	69.5	6.6	7.4	6.0	4.3	2.5	8.0	8.0	6.0	8.2	12.5
Prince Rupert	66.4	7.7	8.0	....	7.7	2.2	7.7	5.7	9.0	8.2	10.2
Vanderhoof	51.0	2.5	5.0	8.2	2.7	....	6.4	6.8	....	8.8	10.6
Prince George	50.4	7.0	6.5	3.5	2.7	2.7	6.0	5.0	1.0	6.0	10.0
Terrace	50.3	7.5	5.5	6.0	2.5	1.5	7.0	5.3	....	6.0	9.0
Houston	32.9	1.8	1.5	5.3	1.1	1.0	3.2	4.2	2.8	6.3	5.7
McBride	27.0	3.0	3.0	....	....	2.0	4.0	3.0	4.0	3.0	5.0
Quesnel	25.0	6.0	4.0	....	1.0	....	2.0	3.0	....	4.0	5.0
Forest Grove (not placed)	.....	....	....	....	....	....	....	....	....	....	....

APPENDIX No. 5.

AGRICULTURAL FAIRS, 1924—GRANTS IN AID OF PRIZE-LISTS.

Place where Fair held.	Grant paid.
Circuit I.—	
Victoria	$2,090 00
Fulford Harbour	20 00
Lasqueti Island	20 00
Sayward	56 00
Cobble Hill	16 00
Ganges Harbour	45 00
Ladysmith	136 00
Alberni	47 00
Coombs	186 00
Colwood	100 00
Duncan	234 00
Courtenay	139 00
Denman Island	40 00
Saanichton	301 00
Circuit II.—	
Ladner	153 00
Vancouver	5,010 00
Burquitlam	100 00
Gibson's Landing	20 00
South Vancouver	92 00
Agassiz	112 00
Chilliwack	748 00
North Vancouver	57 00
Brighouse	113 00
Whonnock	37 00
New Westminster	11,886 00
West Vancouver	28 00
Aldergrove	49 00
Mission	155 00
Central Park	20 00
Haney	105 00
Gifford	119 00
Milner	162 00
Surrey	154 00
Fern Ridge	20 00
Pemberton Meadows	20 00
Circuit III.—	
Knutsford	299 00
Lumby	67 00
Falkland	20 00
Armstrong	649 00
Birch Island	20 00
Kelowna	125 00
Circuit IV.—	
Windermere	295 00
Natal	32 00
Cranbrook	213 00
Crawford Bay	20 00
Boswell	20 00
Fruitvale	24 00
Nelson	167 00

APPENDIX No. 5—*Continued.*

Agricultural Fairs, 1924—Grants in Aid of Prize-lists—*Continued.*

Circuit IV.—*Continued.* Place where Fair held.	Grant paid.
Trail	$ 70 00
Nakusp	61 00
Kaslo	20 00
Creston	60 00
Circuit V.—	
Smithers	240 00
Prince George	213 00
McBride	20 00
Nechako	100 00
Prince Rupert	206 00
Houston	20 00
Terrace	27 00
Forest Grove	20 00
Total	$25,598 00

APPENDIX No. 6.

Pruning-schools, 1924.

District.	Instructor.	Dates.	No. of Pupils.
Islands.			
1. Happy Valley	E. W. White	Jan. 29 to 31	8
2. Ladysmith	"	Feb. 5 to 7	10
3. Alberni	"	Feb. 20 to 22	12
4. Ladysmith	"	Feb. 26 to 28	8
5. Nanaimo	"	Mar. 4 to 6	11
6. Whaletown	"	Mar. 25 to 27	12
7. Sayward	"	Mar. 29 to April 1	10
Lower Mainland.			
1. Richmond	G. E. W. Clarke	Jan. 28 to Feb. 2	9
2. Burnaby	"	Feb. 4 to 6	8
3. Burquitlam	"	Feb. 12 to 14	8
4. Sardis	"	Feb. 20 to 22	8
Kootenays.			
1. Gray Creek	E. C. Hunt	Dec. 4 to 6 (1923)	10
2. Boswell	C. B. Twigg	Feb. 20 to 22	9
Okanagan.			
1. Lytton	C. R. Barlow	Jan. 29 to Feb. 1; Mar. 15 to Mar. 17	6

Total number of schools, 14; total number of pupils, 129.

APPENDIX No. 7.

PRUNING DEMONSTRATIONS, 1924.

District.	Instructor.	Dates.	No. of Pupils.
Islands.			
		Jan. 15	9
		Feb. 18	12
1. Sidney	E. W. White	" 18	20
2. Langford	"		
3. Colwood	"		
4. Metchosin	"	" 18	6
5. Comox	"	" 23	10
6. Cowichan	"	" 29	7
Lower Mainland.			
1. Strawberry Hill	G. E. W. Clarke	Feb. 7	22
2. Ioco	"	" 16	17
3. Langley Fort	"	" 18	30
4. Buena Vista	"	Mar. 3	12
Okanagan.			
1. Oliver	R. P. Murray	Mar. 3–4	9
2. Oliver	"	" 5–6	19

Total number of demonstrations, 12; total number of pupils, 173.

APPENDIX No. 8.

BRITISH COLUMBIA BERRY ACREAGE, 1920, 1922, AND 1924.

	1920.		1922.		1924.	
	Growers.	Acres.	Growers.	Acres.	Growers.	Acres.
White	989	2,359⅔	2,051	4,641⅕	2,162	4,844¾
Orient	234	970⅓	355	1,560⅘	366	1,465¼
Totals	1,203	3,330	2,386	6,202	2,528	6,310

APPENDIX No. 9.

British Columbia Berry Acreage, 1924.

District.	Growers.	Raspberries.			Blackberries.			Logans.			Strawberries.		
		1924.	1923.	Pre.	1924.	1923.	Pre.	1924.	1923.	Pre.	1924.	1923.	Pre.
Fraser Valley	1271	30½	255¼	1,561⅛	2¾	12¾	177 7/12	24⅞	113¾	339	306 1/12	424½	542¾
Kootenay-Boundary..	357	13⅜	18⅜	109½	1/12	...	8¼	...	...	1 9/10	100 1/10	126 1/10	159¾
North Okanagan.....	86	2¾	17½	57¾	1	3½	18⅝	...	...	...	...	8 11/12	27 1/24
Salmon Arm.....	175	7¼	32¼	125	...	...	1¼	...	5½	25	6¼	26¼	36¼
Vancouver Island ...	639	6 2/5	41 1/10	108½	1½	2 4/5	21 5/12	7⅛	37 3/5	209⅝	121⅝	197 3/5	247¾
Totals.....	2528	60	364¾	1,961⅞	5⅓	19	227⅛	32	156¾	575½	534 1/12	783⅓	1,013½
		2,386½			251½			764¼			2,331		

District.	Growers.	Red Currants.			Black Currants.			Gooseberries.			Rhubarb.		
		1924.	1923.	Pre.	1924.	1923.	Pre.	1924.	1923.	Pre.	1924.	1923.	Pre.
Fraser Valley.....	1271	1⅛	3⅝	23¼	13¾	29 11/12	69¾	1⅜	6⅞	33	5	17 5/6	93¾
Kootenay-Boundary..	357	...	...	24 1/10	...	⅞	58 7/12	...	...	30⅓	...	...	30
North Okanagan.....	86	...	...	1/10	⅓	5⅜	15⅞	...	...	4¾	...	...	1¾
Salmon Arm.....	175	...	...	¾	1	1½	4¾	¼	¼	2½	¼	1¼	3
Vancouver Island....	639	...	5/12	4¾	1 9/10	4⅛	31⅝	11/20	1 1/15	14½	1 2/5	2½	25½
Totals.....	2528	1⅛	4	53½	17	42 1/12	180 7/12	2¼	8⅙	85 5/6	6 3/5	21⅔	154
		58⅝			239⅔			96¼			182⅓		

Total acreage, 6,310 acres.

APPENDIX No. 10.

Memorandum of Imported Fruit, Potatoes, Corn, etc., inspected at all Ports of Entry in British Columbia (including those condemned).

	1924.	1923.
Apples (boxes)	43,266	20,457
Apples (½ boxes)	17	300
Apples (barrels)	.....	4
Crab-apples (boxes)	3	7
Pears (boxes)	35,167	40,992
Pears (½ boxes)	2	76
Plums (boxes)	14,033	14,575
Prunes (boxes)	15,999	9,922
Peaches (boxes)	115,402	116,459
Apricots (boxes)	18,720	34,366
Cherries (boxes)	11,129	10,284
Yakamines (boxes)	201	133
Quince (boxes)	10	21
Tangerines (boxes)	50	93
California oranges (boxes)	207,024	192,298
Japanese oranges (boxes)	166,343	206,991
Japanese oranges (boxes) (to points east of B.C.)	267,000	348,090
Marmalade oranges (boxes)	4,809	1,803
Chinese oranges (boxes)	668	565
Lemons (boxes)	33,287	31,854
Limes (boxes)	3	50
Grapefruit (boxes)	24,016	21,250
Pomeloes (boxes)	762	789
Pineapples (boxes)	611	439
Tomatoes (boxes)	20,748	20,987
Peppers (boxes)	1,307	1,132

APPENDIX No. 10—*Continued.*

MEMORANDUM OF IMPORTED FRUIT, POTATOES, CORN, ETC., INSPECTED AT ALL PORTS OF ENTRY IN BRITISH COLUMBIA—*Continued.*

	1924.	1923.
Eggplants (boxes)	457	85
Persimmons (boxes)	400	334
Pomegranates (boxes)	1,023	613
Potatoes (tons)	3,558	662
Sweet potatoes (tons)	299	366
Yams (tons)	53	59
Taro (tons)	132	112
Rice (tons)	17,488	18,799
Corn (tons)	17,140	15,979
Popcorn (tons)	12	.....
Peas (tons)	601	665
Beans (tons)	2,273	1,925
Peanuts (tons)	3,619	2,874
Walnuts (tons)	1,129	772
Strawberries (crates)	16	153
Oats (lb.)	5,400	.....
Vetch (tons)	.....	4
Hops (tons)	.....	5

APPENDIX No. 11.

MEMORANDUM OF IMPORTED FRUIT, POTATOES, ETC., CONDEMNED AT ALL PORTS OF ENTRY IN BRITISH COLUMBIA.

	1924.	1923.
Apples (boxes)	1,019⅔	1,049
Apples (½ boxes)	.....	17
Pears (boxes)	2,562⅝	2,656
Pears (½ boxes)	.....	61
Plums (boxes)	⅓	497
Prunes (boxes)	1,322	321
Peaches (boxes)	190½	1,183½
Cherries (boxes)	39	130
Quince (boxes)	.....	10
California oranges (boxes)	28	80
Chinese oranges (boxes)	.....	8
Australian oranges (boxes)	.....	360
Lemons (boxes)	⅓	69
Grapefruit (boxes)	179	185
Tomatoes (lb.)	5½	16
Tomatoes (boxes)	.....	97½
Peppers (boxes)	.....	1
Pineapples (boxes)	.....	1
Potatoes (tons)	.....	17
Potatoes (lb.)	5,520	.....
Sweet potatoes (crates)	.....	204
Sweet potatoes (lb.)	3,200	.....
Cabbage (tons)	.....	1
Asparagus (boxes)	.....	60
Taro (lb.)	.....	2,000

APPENDIX No. 12.

Memorandum of Imported Nursery Stock inspected at Vancouver (including those condemned).

	1924.	1923.
Standard fruit-trees—		
Apple	6,484	13,006
Crab-apple	162	541
Pear	2,562	4,537
Cherry	6,663	9,880
Plum	1,469	4,743
Prune	1,263	2,930
Peach	4,224	10,445
Yakamine	41	11
Quince	97	88
Nectarine	67	77
Apricot	3,087	9,522
Fig	6	7
Persimmon	2	18
Nut-trees—		
Walnut	655	228
Hazelnut	154	.....
Butternut	34	4
Pecan	12	.....
Filbert	.....	245
Chestnut	18	4
Almond	13	10
Seedlings, grafts, and scions—		
Fruit seedlings	156,349	404,280
Ornamental seedlings	36,556	68,724
Grafts	3,300	3,201
Scions	17,279	32
Small-fruit bushes and plants—		
Cranberry-vines	1,501	2
Grape-vines	2,817	1,291
Currant-bushes	65	498
Blueberry-bushes	440	22
Gooseberry-bushes	39	175
Raspberry-canes	5,858	4,330
Loganberry-canes	1,205	665
Blackberry-canes	1,418	2,350
Strawberry-plants	61,033	122,528
Miscellaneous—		
Ornamental trees, etc.	43,620	58,006
Ornamental cuttings	16,950	.....
Rose-bushes	75,162	65,649
Plants (herbaceous)	28,188	28,224
Roots and bulbs*	2,705,317	2,202,051
Totals	3,184,110	3,018,324

Inspected at Victoria, 1924: Cuttings, 1,192; roots, 1,593; bulbs, 129,079; rose-bushes, 8; plants, 575. 1923: Bulbs, 243,606.

* Roots, 48,470; bulbs, 2,656,847; total, 2,705,317.

APPENDIX No. 13.

MEMORANDUM OF IMPORTED NURSERY STOCK CONDEMNED AT VANCOUVER.

	1924.	1923.
Standard fruit-trees—		
Apple	282	210
Crab-apple	9	4
Pear	278	83
Quince	1	.....
Cherry	25	132
Plum	14	109
Prune	20	7
Peach	149	231
Apricot	77	257
Nut-trees—		
Hazelnut	20	.....
Chestnut	2	.....
Seedlings, grafts, and scions—		
Fruit seedlings	13,029	17,970
Grafts	2	.....
Scions	.....	28
Small-fruit bushes and plants—		
Grape-vines	18	55
Currant-bushes	65	302
Gooseberry-bushes	39	175
Raspberry-canes	25	83
Blackberry-canes	20	48
Loganberry-canes	10	.....
Strawberry-plants	.....	9
Miscellaneous—		
Ornamental trees, etc.	112	298
Ornamental cuttings	9	.....
Rose-bushes	86	114
Plants	72	.....
Bulbs	6,843	.....
Roots and bulbs	.....	96
Totals	21,207	20,211

APPENDIX No. 14.

MEMORANDUM OF IMPORTED FRUIT, VEGETABLES, ETC., INSPECTED AT VANCOUVER (INCLUDING THOSE CONDEMNED).

	1924.	1923.
Apples (boxes)	33,316	13,309
Apples (½ boxes)	3	218
Apples (barrels)	.....	1
Crab-apples (boxes)	1	7
Pears (boxes)	30,261	36,783
Pears (½ boxes)	.....	61
Plums (boxes)	11,466	10,866
Prunes (boxes)	10,807	8,876
Peaches (boxes)	96,271	90,129

APPENDIX No. 14—*Continued.*

Memorandum of Imported Fruit, Vegetables, etc., inspected at Vancouver—*Continued.*

	1924.	1923.
Cherries (boxes)	6,304	7,605
Apricots (boxes)	12,121	27,800
Quince (boxes)	.....	5
Yakamines (boxes)	191	123
Tangerines (boxes)	50	83
California oranges (boxes)	159,017	146,863
Japanese oranges (boxes)	141,603	166,524
Japanese oranges (boxes) (to points east of B.C.)	184,000	307,290
Marmalade oranges (boxes)	4,759	1,803
Chinese oranges (boxes)	379	324
Lemons (boxes)	25,800	24,598
Grapefruit (boxes)	20,169	18,178
Pomeloes (boxes)	508	472
Limes (boxes)	3	50
Pineapples (Boxes)	556	392
Persimmons (boxes)	393	328
Pomegranates (boxes)	856	551
Tomatoes (boxes)	19,175	18,422
Peppers (boxes)	802	619
Eggplants (boxes)	432	38
Potatoes (tons)	3,046	521
Sweet potatoes (crates)	5,349	6,107
Yams (crates)	736	749
Taro (crates)	2,292	1,895

APPENDIX No. 15.

Memorandum of Imported Fruit, Vegetables, etc., condemned at Vancouver.

	1924.	1923.
Apples (boxes)	490	967
Apples (½ boxes)	.....	17
Pears (boxes)	2,425	2,572
Pears (½ boxes)	.....	61
Plums (boxes)	.....	490
Prunes (boxes)	1,322	120
Peaches (boxes)	189	844
Cherries (boxes)	38	115
Quince (boxes)	.....	5
California oranges (boxes)	28	80
Chinese oranges (boxes)	.....	8
Australian oranges (boxes)	.....	360
Lemons (boxes)	.....	69
Grapefruit (boxes)	176	180
Pineapples (boxes)	.....	1
Tomatoes (boxes)	.....	80
Peppers (boxes)	.....	1
Sweet potatoes (crates)	31	204
Taro (crates)	.....	20
Potatoes (tons)	3	17

APPENDIX No. 16.

MEMORANDUM OF IMPORTED RICE, BEANS, PEAS, CORN, ETC., INSPECTED AT VANCOUVER.

	1924. Tons.	1923. Tons.
70,000 50-lb. sacks rice 1,560 53-lb. „ 580 54-lb. „ 2,795 55-lb. „ 138,178 100-lb. „ 2,443 110-lb. „ 892 112-lb. „ 5,189 192-lb. „ 9,417 200-lb. „ 2,000 224-lb. „ 86,414 44-lb. mats 149,470 50-lb. „	16,289	17,384
3,598 50-lb. sacks beans 100 75-lb. „ 270 80-lb. „ 280 87-lb. „ 42,523 100-lb. „ 2 150-lb. „ 12 160-lb. „ 1 200-lb. „ 2 250-lb. „	2,244	1,904
5,916 100-lb. sacks peas 20 105-lb. „ 21 150-lb. „ 1,365 167 lb. „ 1,364 169-lb. „ 338 200-lb. „	561	562
17 125-lb. sacks popcorn 35 140-lb. „ 105 150-lb. „ 6,500 200-lb. sacks corn 26,136,862 lb. bulk corn	13,730	12,682
7,230,457 lb. peanuts	3,615	2,871
2,254,117 lb. walnuts	1,127	768
The following were fumigated:—		
2,998 44-lb. mats rice	66	121
51 50-lb. sacks beans 100 75-lb. „ 270 80-lb. „ 280 87-lb. „ 1,237 100-lb. „	90	34
1,365 167-lb. sacks peas 1,364 169-lb. „ 280 200-lb. „	257	300
81,177 lb. peanuts	41	56
123,630 lb. walnuts	62	2

16 tons almonds (19 tons in 1923).
2 tons pea-seed.
2 tons coriander-seed (525 lb. in 1923).
990 lb. sweet potatoes.
255 cases pineapples (128 cases in 1923).
400 lb. prunes (864 boxes in 1923).
975 lb. raisins (939 cases in 1923).

APPENDIX No. 16—*Continued.*

Memorandum of Imported Rice, Beans, Peas, etc., inspected at Vancouver—*Continued.*

5 tons figs (574 cases in 1923).
500 lb. barley.
1 ton nutmeg (35 boxes in 1923).
27,295 empty mats.
148 cases Crosse & Blackwell vinegar.
56 cases Vichi Water in bottles.
5 crates straw covering for bottles.
15 cases beer in straw coverings.
225 cases window-glass packed in straw.

The following were fumigated in 1923:—

8 tons filberts.
500 cases currants.
100 boxes dried peaches.
2,464 boxes evaporated apples.
234 lb. mixed spices.
1 sack (200 lb.) whole ginger.
360 empty sacks.

APPENDIX No. 17.

Memorandum of Imported Rice, Beans, Peas, etc., inspected at Victoria.

	1924.	1923.
Rice (tons)	1,192	1,383
Corn (tons)	2,497	2,145
Corn (lb.)	.....	1,900
Popcorn (lb.)	900	.....
Peas (lb.)	920	.....
Peas (tons)	.....	55
Beans (tons)	29	20
Beans (lb.	.....	750
Peanuts (tons)	2	.....
Walnuts (tons)	1	3
Walnuts (lb.)	.....	700
The following were fumigated:—		
Rice (tons)	30½	.....
Rice (tons) (Rithet's Warehouse, Victoria, B.C.)	.....	25
Peas (tons)	400	.....
Almonds (lb.)	1,400	.....

APPENDIX No. 18.

MEMORANDUM OF VEGETABLES, FRUIT, NUTS, ETC., FOR WHICH NO CERTIFICATES WERE ISSUED.

	1924. Crates.	1923. Crates.
Asparagus	4,288	4,059
Artichokes	149	136
Almonds	313,732	64,375
Avocado pears	15	.....
Beets	225	4
Bananas	58,296	58,495
Brazil nuts	92,086	624
Brussels sprouts	285	878
Bak Choy	42	122
Beans (green)	74	34
Black walnuts	.....	200
Butternuts	.....	53
Broom-corn	376	81
Blackberries	.....	940
Corn-husks	.....	700
Cabbage	6,221	7,092
Cabbage (tons)	95	.....
Cauliflower	5,149	6,569
Casabas	3,965	10,246
Chestnuts	17,512	46,058
Caladium	26,850	48,560
Carrots	986	262
Cloves	800	35,000
Cucumbers	217	158
Celery	4,731	2,219
Cocoanuts	270	418
Cocoa-beans	612	1,048
Cantaloupes	19,478	12,704
Carambolas	50	25
Chicory	9	.....
Chard	3	.....
Coffee	131,650	.....
Cactus pears	85	.....
Carobs	200	.....
Cranberries	2,263	995
Dill-flowers	100	.....
Foo Gwah	27	19
Filberts	66,400	700
Figs	1,575	.....
Endives	5	.....
Gye Choy	53	671
Grapes	39,536	37,395
Ginger-root	58,177	51,610
Garlic	7,042	2,500
Geet Gwah	34	19
Horse-radish	1,000	.....
Huckleberries	.....	357
Hickory nuts	.....	200
Hazel nuts		100
Lettuce	21,663	22,049
Lychee	200	525
Lentils	23,700	100

APPENDIX No. 18—*Continued.*

Memorandum of Vegetables, Fruit, Nuts, etc., for which no Certificates were issued—*Continued.*

	1924. Crates.	1923. Crates.
Leeks	2	.....
Loquats	300	.....
Lily bulbs (edible)	2,000	.....
Melons	1,246	5,379
Melons (by count)	2,207	.....
Mint	5	½
Maize	1	1
Mangoes	550	.....
Nutmegs	4,700	1,750
Onions	23,700	17,582
Olives	275	10
Okra	25	.....
Parsley	184	80
Peas (split)	22,500	.....
Peas (green)	2,440	302
Passion fruit	20	.....
Pine nuts	100	.....
Pecan nuts	610	3,835
Peppercorns	53,300	.....
Potatoes (Canadian)	1,419,460	.....
Quassia logs	1,340	.....
Radishes	135	136
Rhubarb	4,807	4,357
Raspberries	4,419	3
Rutabagas	.....	770
Spinach	6,944	7,795
Squash	32	55
Seeds (miscellaneous)	835,255	155,313
Sue Choy	46	125
Sugar-cane	37,500	83,000
Sing Gwah	16	10
Strawberries	12,750	18,463
Turnips	75	2,050
Water-chestnuts	43,900	44,500
Water-lily rhizomes	79,950	186,205
White nuts	10,050	4,420
Water-caltrops	2,200	1,300
Watermelons	37,948	32,704

APPENDIX No. 19.

NURSERY STOCK EXPORTED, 1924, FOR WHICH INSPECTION CERTIFICATES WERE ISSUED.

To.	Fruit and Nut.		Small Fruit.		Strawberry-plants.	Ornamentals.				Rose-bushes.	Bulbs.	Seeds.
	Trees.	Scions.	Bushes and Vines.	Scions.		Trees.	Shrubs.	Plants.	Palms.			
England	....	20	.....	....	48	....	.....	....	.....	.....	.....	2,610†
New Zealand	....	....	.....	....	....	....	.....	....	.....	.....	66	.....
United States	25	....	.....	85	150	....	582	64	250	1,560	450	.....
China	49	....	304	....	....	40	47	98	.....	610	.....	.....
Japan	26	....	26	....	....	....	80	41	.....	39	264	54*
Totals	100	20	330	85	198	40	709	203	250	2,209	780	2,664†

* Packets. † Pounds.

APPENDIX No. 20.

FRUIT AND VEGETABLES EXPORTED, 1924, FOR WHICH INSPECTION CERTIFICATES WERE ISSUED.

To.	Apples.	Pears.	Potatoes.		Onions.		Celery.	Tomatoes.	Turnips.	Cabbage.	Lettuce.
	Boxes.	Boxes.	Tons	Lb.	Tons	Lb.	Crates.	Crates.	Sacks.	Crates.	Crates.
United States	5	....	0	200	.....		....	....	....	....	....
New Zealand	39,235	....	.....		538	800	....	....	....	....	....
South Africa	5,850	....	.....		.....		....	....	....	....	....
Singapore	200	....	12	1,000	.....		....	....	....	....	....
Ceylon	150	....	.....		.....		....	....	....	....	....
Suva, Fiji Islands	281	....	2	1,000	42	0	....	....	....	....	....
Honolulu	.....	....	25	0	.....		....	....	....	....	....
Apia, Samoa	.....	....	1	0	.....		....	....	....	....	....
China	1,682	33	166	300	.....		24	5	2	4	5
Totals	47,403	33	207	500	580	800	24	5	2	4	5

APPENDIX No. 21.

List of Herds tested by Municipalities and Districts.

District.	No. of Herds.	No. tested.	Reactors.	Grade of Premises.		
				A.	B.	C.
Lower Fraser and Adjoining Districts.						
Agassiz	13	211	.....	....	....	13
Abbotsford	1	1	.....	....	....	1
Barnston Island	13	201	1	....	....	13
Burnaby	54	270	17	....	....	54
Coquitlam	37	248	4	....	....	37
Chilliwack	269	2,887	68	2	7	260
Delta	91	1,129	73	....	11	80
Dewdney	18	241	10	....	....	18
Langley	198	1,519	47	3	2	193
Lulu Island	175	1,663	156	2	6	167
Matsqui	58	692	16	1	10	47
Maple Ridge	20	198	8	....	....	20
Mission	27	95	1	....	....	27
Pitt Meadows	24	433	43	....	....	24
Sea Island	20	282	32	2	3	15
Sumas	16	216	25	....	1	15
Surrey	194	1,285	75	4	1	189
Squamish	17	110	.....	....	....	17
Vancouver	124	489	33	4	1	119
South Vancouver	21	55	4	....	1	20
North Vancouver	2	6	.....	....	....	2
Point Grey	28	115	8	3	2	23
New Westminster	1	3	.....	....	....	1
Yale	11	39	.....	....	....	11
Twigg Island	1	68	1	1	....	.....
Totals	1,433	12,456	622	22	45	1,366
Coast Points.						
Powell River	15	90	1	....	....	15
Bowen Island	2	23	.....	....	1	1
Pender Harbour	3	15	.....	....	....	3
Kingcome Inlet	3	60	.....	....	....	3
Roberts Creek	1	1	.....	....	....	1
Ocean Falls	1	20	1	....	....	1
Anyox	1	8	4	....	....	1
Prince Rupert	1	17	1	....	....	1
Totals	27	234	7	....	1	26
Central B.C., Cariboo, Lillooet.						
Bulkley Valley	13	169	5	....	....	13
Prince George	22	101	3	....	....	22
Cariboo	9	117	7	1	2	6
Lillooet	1	20	.....	....	....	1
Pemberton Meadows	4	24	.....	....	....	4
Totals	49	431	15	1	2	46
East Kootenay.						
Elk Valley	32	179	.....	....	1	31
Cranbrook	13	397	8	....	1	12
Fernie	44	232	1	....	2	42
Golden	3	11	.....	....	....	3
Invermere	1	3	.....	....	....	1
Totals	93	822	9	....	4	89

APPENDIX No. 21—*Continued.*

LIST OF HERDS TESTED BY MUNICIPALITIES AND DISTRICTS—*Continued.*

District.	No. of Herds.	No. tested.	Reactors.	Grade of Premises.		
				A.	B.	C.
Okanagan.						
Armstrong	43	376	1	3	15	25
Enderby	4	21	1	....	1	3
Falkland	1	5	.....	....	....	1
Fintry	1	6	.....	....	1	.....
Glenemma	1	10	.....	....	....	1
Grindrod	1	11	1	....	....	1
Kelowna	21	159	.....	1	9	11
Lavington	2	32	.....	....	....	2
Mara	2	14	.....	....	....	2
Okanagan Mission	1	8	1	....	....	1
Okanagan Landing	1	18	.....	....	....	1
Oliver	10	23	.....	....	1	9
Peachland	1	11	.....	....	....	1
Penticton	3	7	.....	....	....	3
Rutland	2	18	.....	....	....	2
Spillamacheen	3	7	.....	....	....	3
Summerland	20	64	1	....	5	15
Vernon	12	41	3	1	3	8
West Bank	5	13	.....	....	2	3
Totals	134	844	8	5	37	92
Kootenay.						
Anglemont	6	11	.....	....	....	6
Appledale	14	38	1	....	....	14
Banhart Vale	1	4	.....	....	....	1
Bonnington	13	24	.....	....	3	10
Bestwick	1	11	.....	....	....	1
Bluett	6	52	.....	....	2	4
Carlin	1	4	.....	....	....	1
Creston	4	8	.....	....	2	2
Crescent Valley	3	84	1	....	....	3
Edgewood	3	33	.....	....	....	3
Graham's Landing	2	9	.....	....	....	2
Nelson	26	243	35	2	8	16
Perry Siding	1	29	.....	....	....	1
Procter	3	7	.....	....	1	2
Rossland	13	82	1	3	2	8
Shulus	1	11	.....	....	....	1
Sorrento	1	2	.....	....	....	1
Slocan City	1	10	.....	....	....	1
South Slocan	1	2	.....	....	....	1
Trail	8	139	31	2	3	3
Tarry's	5	36	4	....	1	4
Thrums	1	4	.....	....	....	1
Winfield	5	25	.....	....	....	5
Wyndell	1	4	.....	....	....	1
Totals	121	872	73	7	22	92
Interior Points.						
Ashcroft	1	1	.....	....	....	1
Kamloops	8	188	.....	2	....	6
Knutsford	1	1	.....	....	....	1
Magna Bay	1	2	.....	....	....	1
Malakwa	1	7	.....	....	....	1
Revelstoke	3	74	.....	....	1	2
Salmon Arm	18	66	.....	....	3	15
Tappen	6	75	.....	....	....	6
Grand Forks	26	102	1	1	9	16
Totals	65	516	1	3	13	49

APPENDIX No. 21—*Continued.*

LIST OF HERDS TESTED BY MUNICIPALITIES AND DISTRICTS—*Continued.*

District.	No. of Herds.	No. tested.	Reactors.	Grade of Premises.		
				A.	B.	C.
Vancouver Island.						
Victoria	143	644	32	3	40	100
Saanich	207	1,817	160	10	89	108
Sooke and Metchosin	48	274	5	3	20	25
Cowichan	63	523	17	27	23	13
Cobble Hill	11	200	4	5	3	3
Crofton	4	5	.....	....	....	4
Chemainus	4	70	.....	1	3	....
Ladysmith	4	42	1	....	2	2
Nanaimo	97	947	29 2S.	19	29	49
Parksville	9	55	.....	1	2	6
Comox	57	469	17	1	26	30
Merville	3	16	.....	....	1	2
Campbell River	2	7	.....	....	....	2
Sayward	10	32	.....	....	1	9
Totals	662	5,101	265	70	239	353
Gulf Islands.						
Saltspring	1	15	.....	....	1	.....
Mayne Island	3	3	.....	....	....	3
Saturna Island	10	29	.....	....	3	7
Denman Island	5	60	.....	1	2	2
Hornby Island	23	112	1	....	4	19
Valdes Island	17	48	.....	....	3	14
Totals	59	267	1	1	13	45

APPENDIX No. 22.

TESTERS' LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," 1924.

Name.	Address.
Asserlind, H. H. E.	2136 Union Street, Vancouver.
Bell, S. A.	Northwestern Creamery.
Boulter, Wm.	Ladner.
Boyne, Wm.	Kamloops.
Brooks, F.	1723 Fourth Avenue West, Vancouver.
Calder, Jas.	882 Hamilton Street, Vancouver.
Caldwell, John	1855 Georgia Street East, Vancouver.
Cameron, W. C.	1411 Broadway West, Vancouver.
Carman, J. E.	Revelstoke.
Carradice, F. W.	1270 Hornby Street, Vancouver.
Carroll, W. J.	Courtenay.
Carter, Jas. N.	137 Seventeenth Avenue West, Vancouver.
Chevalley, F.	Abbotsford.
Chevalley, P.	Abbotsford.
Cook, E. W.	405 Eighth Avenue West, Vancouver.
Cranswick, P.	Royal Dairy, Vancouver.
Crawford, Thos.	7828 Prince Albert Street, Vancouver.
Crawford, Wm.	7828 Prince Albert Street, Vancouver.
Dalzell, Ed.	Salmon Arm.
Dempster, A. M.	Kamloops.
Drake, A. W.	Ganges.
Dudman, A.	333A Thirteenth Avenue East, Vancouver.
Dunn, J. S.	553 Fifth Street, Nanaimo.
Egerton, W.	R.M.D. 4, Victoria.
Enman, V.	2056 Forty-ninth Avenue East, Vancouver.
Farmer, R. W.	Golden.
File, G. A.	Salmon Arm.
Fowler, R. S.	Box 214, Kamloops.
Godwin, F.	Vernon.
Grimes, G. G.	Langley Prairie.
Hall, F. D. B.	Box 172, Chilliwack.
Hansen, H. M.	Jackman Road, Aldergrove.
Harkness, Wm.	Nelson.
Henderson, C. A.	Kamloops.
Holmes, J.	Penticton.
Hurley, M. H.	1111 Fort Street, Victoria.
James, D. A.	1114 Broadway West, Vancouver.
Jenne, H. H.	Nelson.
Johnson, Alfred	Quesnel.
Karnagel, R.	Salmon Arm.
Kell, George	516 St. George Street, New Westminster.
Livingstone, J. M.	15 Alexander Street, Vancouver.
Lord, T.	Vernon.
Magar, J. A.	Sardis.
Main, T.	3917 Albert Street, Vancouver.
Matheson, T. W.	Port Haney.
McAllister, C. W.	707 View Street, Victoria.
McKay, L. W.	2346 Fifth Avenue West, Vancouver.
McKerricher, W. R.	1924 Fortieth Avenue East, South Vancouver.
McLean, H.	Invermere.
Menzies, T. A.	Abbotsford.
Metcalfe, J. F.	3436 Oak Street, Vancouver.
Moor, J. S.	Penticton.
Morse, A. O.	1750 Eighth Avenue West, Vancouver.

APPENDIX No. 22—*Continued.*

Testers' Licences issued under "Creameries and Dairies Regulation Act," 1924—*Continued.*

Name.	Address.
Nelson, C. E.	J. M. Steves' Dairy, Vancouver.
Newland, C. G.	Colony Farm, Essondale.
Norton, F. H. A.	1311 Broad Street, Victoria.
Outram, G. H.	Vanderhoof.
Overland, F.	2571 Thirty-sixth Avenue West, Vancouver.
Parkinson, R. F.	Kelowna.
Patten, W.	Armstrong.
Patterson, W. L.	536 Twenty-first Avenue West, Vancouver.
Price, T. W.	905 Twenty-fourth Avenue East, Vancouver.
Quaedvlieg, E.	Keremeos.
Richards, T. E.	1001 Pender Street West, Vancouver.
Rive, Elias	c/o Pacific Milk Co., Abbotsford.
Rose, Wm.	Courtenay.
Russell, Geo. F.	220 Maple Avenue, Powell River.
Scouten, W.	Box 387, Chilliwack.
Sejrup, V. M.	Box 491, Duncan.
Sellers, J. H.	1257 Eighteenth Avenue East, Vancouver.
Sherwood, E. G.	1032 Hornby Street, Vancouver.
Silver, Mark R.	2215 Dundas Street, Vancouver.
Smith, R.	Penticton.
Taylor, Arthur	Pouce Coupe.
Thomas, S. J.	Kelowna.
Thomson, J. S.	Armstrong.
Thornbery, G. H.	Department tof Agriculture, Victoria.
Turnbull, Miss M.	Kelowna.
Valentin, M.	Prince Rupert.
Van der Wall, W.	General Delivery, Vancouver.
Wagg, G. H.	Ganges.
Washington, F. J.	1170 Hornby Street, Vancouver.
Wasson, F. C.	Department of Agriculture, Victoria.
Watson, J. B.	R.R. 1, Sardis.
Weighill, F.	1716 Duchess Street, Victoria.
Wells, B.	Ladner.
Wells, J. R.	Penticton.
West, C. H.	280 Sixth Avenue East, Vancouver.
Westlund, Mrs. A.	c/o P. Burns & Co., Woodland Drive, Vancouver.
Wood, R. K.	930 North Park Street, Victoria.
Woods, R. H.	Grand Forks.
Yeates, W.	2190 Princess Street, South Vancouver.

APPENDIX No. 23.

Creamery or Dairy Licences issued under "Creameries and Dairies Regulation Act," 1924.

Name.	Address.
Beaconsfield Dairy Co.	905 Twenty-fourth Avenue East, Vancouver.
Borden Co., Ltd.	Sardis.
Burns, P., & Co.	Woodland Drive, Vancouver.
Caldwell's Dairy	1847 Georgia Street East, Vancouver.
Cariboo Farmers' Co-operative Creamery Assn.	Quesnel.
Carman, J. E.	Revelstoke.
City Dairy & Produce Co., Ltd.	414 Pender Street East, Vancouver.
Columbia Valley Co-operative Creamery Association	Golden.
Comox Creamery Association	Courtenay.
Cowichan Creamery Association	Duncan.

APPENDIX No. 23—*Continued.*

CREAMERY OR DAIRY LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," 1924—*Continued.*

Name.	Address.
Crescent Ice Cream, Ltd.	Burrard and Hastings Streets, Vancouver.
Curlew Creamery Co., Ltd.	Nelson.
East End Dairy	2469 Oxford Street, Vancouver.
Ferrara Cheese Manufacturing Co.	Chilliwack.
Fraser Valley Milk Producers' Association	405 Eighth Avenue West, Vancouver.
Fraser Valley Milk Producers' Association	1170 Hornby Street, Vancouver.
Fraser Valley Milk Producers' Association	Chilliwack.
Fraser Valley Milk Producers' Association	Sardis.
Jersey Creamery Co.	1317 Commercial Drive, Vancouver.
Kelowna Creamery Co., Ltd.	Kelowna.
Kettle Valley Creamery Co.	Grand Forks.
Lake Windermere Creamery, Ltd.	Invermere.
Nanaimo Creamery Association	625 Pine Street, Nanaimo.
Nechaco Valley Co-operative Creamery Assn.	Vanderhoof.
Northern Okanagan Creamery Association	Armstrong.
Northwestern Creamery, Ltd.	1311 Broad Street, Victoria.
Pacific Milk Co., Ltd. (Abbotsford)	1328 Drake Street, Vancouver.
Pacific Milk Co., Ltd. (Ladner)	1328 Drake Street, Vancouver.
Penticton Ice & Cold Storage Co.	Penticton.
Pouce Coupe District Co-operative Creamery Assn.	Kilkerran.
Purity Dairy, Ltd.	280 Sixth Avenue East, Vancouver.
Quaedvlieg, Victor	Keremeos.
Royal City Dairy	309 Sixth Street, New Westminster.
Royal Dairy	1001 Pender Street West, Vancouver.
Royal Dairy	707 View Street, Victoria.
Salmon Arm Creamery Association	Salmon Arm.
Saltspring Island Creamery Association	Ganges.
Spencer, David, Ltd., Creamery	Kamloops.
Spencer, David, Ltd., Creamery	Cordova Street West, Vancouver.
Steves, J. M., Dairy	2024 Twelfth Avenue West, Vancouver.
Valley Dairy, Ltd.	1569 Sixth Avenue West, Vancouver.
Vancouver Creamery Co., Ltd.	23 Alexander Street, Vancouver.
Vancouver Ice & Cold Storage Co., Ltd.	11 Gore Avenue, Vancouver.
Vancouver Island Milk Producers' Association	930 North Park Street, Victoria.
Vernon Creamery	Vernon.
Victoria City Dairy Co., Ltd.	1111 Fort Street, Victoria.
White Lunch, Ltd.	124 Hastings Street West, Vancouver.

APPENDIX No. 24.

COW-TESTING ASSOCIATIONS IN BRITISH COLUMBIA.

Name.	Instituted.	Secretary.	Tester.	Departmental Grant.
Chilliwack	March 17, 1913	J. B. Watson, Sardis	W. Scouten	$600
Comox Valley	April 23, 1914	R. M. Halliday, Sandwick	Wm. Rose	600
Langley	June 8, 1914	Alec. Hope, Langley Fort	G. G. Grimes	600
Okanagan	April, 1920	T. J. M. Clarke, Vernon	H. Turnbull	600
Richmond-Ladner	March, 1919	G. M. Alexander, Steveston	G. H. Medd	600
Surrey	November, 1924	E. T. Bailey, Cloverdale	D. Banks	100
Upper Sumas	November, 1923	P. W. Starr, Abbotsford	T. A. Menzies	600

APPENDIX No. 25.

THIRTEENTH INTERNATIONAL EGG-LAYING CONTEST—FINAL REPORT.

The Thirteenth International Egg-laying Contest was held under the auspices of the Poultry Branch, Department of Agriculture, at the Exhibition Grounds, Victoria, B.C., from October 23rd, 1923, to September 22nd, 1924 (eleven months). The total number of eggs laid is as follows:—

Pen No.	Name and Address.	Breed.	Total Eggs.
	Class 1.—Light-weight Varieties.		
19, 20	E. J. White, 2785 Twenty-ninth Avenue West, Vancouver (First prize, $15, and best laying bird, $7.50)	White Leghorns	474
39, 40	Gray & Son, Duncan (Second prize, $10)	,,	447
9, 10	W. Bradley, Langford (Third prize, $5)	,,	443
13, 14	St. J. P. Considine, Maple Bay (Fourth prize, *Canadian Poultry Review* bronze medal)	,,	426
35, 36	Mrs. McDowell, Dow Place, West Burnaby	,,	414
5, 6	A Peters, Kamloops	,,	400
3, 4	F. A. Considine, R.M.D., Duncan	,,	396
23, 24	J. Gartside, Cranbrook	,,	396
25, 26	J. W. Bancroft, Third Avenue, Steveston	,,	383
37, 38	J. J. Dougan, Cobble Hill	,,	389
29, 30	Bolivar Leghorn Farm, Cloverdale (Second best laying pullet, $5)	,,	391
27, 28	P. Darbey & Son, Port Hammond	,,	377
21, 22	H. S. Cadwell, Keremeos	Blue Andalusians	368
11, 12	Mrs. Hodgson, Alberni	White Leghorns	368
15, 16	A. V. Lang, Sevenoaks	,,	342
17, 18	Barlow & Sturgeon, Forty-second Avenue West, Vancouver	Red Caps	339
1, 2	A. Adams, 3290 Dublin Street, Victoria	White Leghorns	338
33, 34	J. T. Webster, Robson	,,	324
7, 8	H. A. Wells, Port Haney	Blue Andalusians	296
31, 32	J. Dickson, Agassiz	Anconas	229
	Total		7,550
	Class 2.—Heavy-weight Varieties.		
17, 18	Mrs. C. R. Welch, Port Kells (First prize, $15, and best laying pullet, $7.50)	White Wyandottes	441
3, 4	Spencer Percival, Port Washington (Second prize, $10)	,,	390
11, 12	F. Matthews, Abbotsford (Third prize, $5)	Barred Rocks	388
21, 22	J. A. Corlett, 3334 Whittier Avenue, Victoria (Fourth prize, *Canadian Poultry Review* bronze medal)	White Wyandottes	387
15, 16	J. Bann, Kamloops (Second best laying pullet, $5)	,,	384
23, 24	J. Lambie, Earl's Road and Forty-fifth Avenue, South Vancouver	Barred Rocks	382
13, 14	A. Cant, Appledale	White Wyandottes	381
27, 28	W. Robbins, Runnymede Avenue, Victoria	,,	378
31, 32	A. W. Abbs, Thirteenth Avenue West, Vancouver	Single Comb Reds	345
25, 26	C. P. Worts, 2134 Twelfth Avenue West, Vancouver	,,	340
*5, 6	A. M. Dykes, 331 Twentieth Street North, Lethbridge	Barred Rocks	338
37, 38	Dean Bros., Keating	White Wyandottes	328
7, 8	R. V. Robinson, Lavington	,,	307
1, 2	J. Lambie, County Line	Barred Rocks	298
19, 20	R. T. Vyvyan, Saanichton	White Wyandottes	287
39, 40	D. R. Manson, 3028 Kitchener Street, Vancouver	,,	283
33, 34	H. Jowett, R.R. 1, Port Haney	Buff Orpingtons	254
35, 36	R. N. Clerke, Vernon	Rose Comb Reds	199
9, 10	W. Bradley, Langford	White Wyandottes	167
29, 30	G. Hetley, R.R. 1, Agassiz	,,	163
	Total		6,445

* Eggs underweight.

B.C.P.A. diploma winners: Class 1—First, Gray & Son; second, W. Bradley; third, St. J. P. Considine. Class 2—First, A. Cant; second, J. Lambie, Vancouver; third, Dean Bros.

B.C.P.A. bronze medal: Class 1, W. Bradley; Class 2, Dean Bros.

APPENDIX 26.

THIRTEENTH INTERNATIONAL EGG-LAYING CONTEST—INDIVIDUAL EGG RECORDS.

Pen No.	Name and Address.	Breed.	Band 1.	Band 2.	Spare.
	Class 1.—Light-weight Varieties.				
1, 2	A. Adams, 3290 Dublin Street, Victoria	White Leghorns	199	139	146
3, 4	F. A. Considine, R.M.D., Duncan	,,	204	192	160
5, 6	A. Peters, Kamloops	,,	210	190	182
7, 8	H. A. Wells, Port Haney	Blue Andalusians	180	86	146
9, 10	W. Bradley, Langford	White Leghorns	212	232	221
11, 12	Mrs. Hodgson, Alberni	,,	199	169	199
13, 14	St. J. P. Considine, Maple Bay	,,	219	207	184
15, 16	A. V. Lang, Sevenoaks	,,	185	157	109
17, 18	Barlow & Sturgeon, Forty-second Avenue West, Vancouver	Red Caps	151	188	142
19, 20	E. J. White, 2785 Twenty-ninth Avenue West, South Vancouver	White Leghorns	233	241	221
21, 22	H. S. Cadwell, Keremeos	Blue Andalusians	170	166	146
23, 24	J. Gartside, Cranbrook	White Leghorns	207	189	158
25, 26	J. W. Bancroft, Third Avenue, Steveston	,,	194	199	156
27, 28	P. Darby & Son, Port Hammond	,,	148	229	178
29, 30	Bolivar Leghorn Farm, Cloverdale	,,	235	156	147
31, 32	J. Dickson, Agassiz	Anconas	84	145	117
33, 34	J. T. Webster, Robson	White Leghorns	199	125	135
35, 36	Mrs. McDowell, Dow Place, Burnaby	,,	222	192	179
37, 38	J. J. Dougan, Cobble Hill	,,	182	207	104
39, 40	Gray & Son, Duncan	,,	213	234	42
	Class 2.—Heavy-weight Varieties.				
1, 2	J. Lambie, County Line	Barred Rocks	162	136	108
3, 4	Spencer Percivale, Port Washington	White Wyandottes	203	187	75
5, 6	A. M. Dykes, 331 Twentieth Street North, Lethbridge	Barred Rocks	211	127	182
7, 8	R. V. Robinson, Lavington	White Wyandottes	165	142	98
9, 10	W. Bradley, Langford	,,	0	167	196
11, 12	F. Matthews, Abbotsford	Barred Rocks	186	202	235
13, 14	A. Cant, Appledale	White Wyandottes	187	194	198
15, 16	J. Bann, Kamloops	,,	159	225	167
17, 18	Mrs. C. R. Welch, Port Kells	,,	258	183	114
19, 20	R. T. Vyvyan, Saanichton	,,	122	165	196
21, 22	J. A. Corlett, 3334 Whittier Avenue, Victoria	,,	172	215	73
23, 24	J. Lambie, Earl's Road and Forty-fifth Avenue, South Vancouver	Barred Rocks	195	187	13
25, 26	C. P. Worts, 2134 Twelfth Avenue West, Vancouver	Single Comb Reds	151	189	150
27, 28	W. Robbins, Runnymede Avenue, Victoria	White Wyandottes	170	208	48
29, 30	C. Hetley, R.R. 1, Agassiz	,,	154	9	118
31, 32	A. W. Abbs, Thirteenth Avenue West, Vancouver	Single Comb Reds	179	166	162
33, 34	H. Jowett, R.R. 1, Port Haney	Buff Orpingtons	118	136	144
35, 36	R. N. Clerke, Vernon	Rose Comb Reds	117	82	211
37, 38	Dean Bros., Keating	White Wyandottes	160	168	146
39, 40	D. R. Manson, 3025 Kitchener Avenue, Vancouver	,,	123	160	136

APPENDIX No. 27.

Analytical Data.

District and Nature of Soil.	Nitrogen.	Potash.	Phosp. Acid.	Lime Carb.	Iron and Alumina.
Vancouver Island—					
Neutral	0.08	*	0.14	1.6	10.7
Neutral	0.04	*	*	0.8	9.2
Acid	0.05	*	*	1.0	10.9
Acid	0.04	*	*	1.5	10.2
Acid	0.03	*	0.15	1.8	13.8
Acid	0.10	*	0.01	0.5	10.1
Acid	0.12	*	0.01	0.5	10.3
Acid	0.18	0.07	0.02	0.4	8.8
Acid	0.03	*	*	0.6	8.0
Neutral	0.19	*	0.10	1.0	12.5
Acid	0.35	0.02	0.15	1.0	15.0
Acid	0.25	0.12	0.09	88.0	17.5
Acid	0.53	0.03	0.12	0.6	17.0
Acid	2.05	†	*	1.0	2.0
Acid	0.07	*	0.05	1.4	8.3
Acid	0.75	*	†	0.3	1.6
Saltspring Island—					
Acid	1.66	0.02	0.06	2.9	5.0
Texada Island—					
Acid	0.86	*	0.1	4.5	1.8
Sumas Area—					
Neutral	0.04	0.19	0.25	0.9	11.7
Neutral	0.06	0.15	0.25	1.3	11.6
Neutral	0.04	0.15	0.24	1.0	10.3
Neutral	0.07	0.12	0.23	1.1	10.5
Neutral	0.04	0.15	0.24	1.0	10.2
Alkaline	0.04	0.06	0.19	1.1	10.7
Alkaline	0.03	0.11	0.15	1.2	7.0
Mission—					
Neutral	0.08	0.85	0.05	1.1	11.8
Neutral	0.12	0.15	0.25	1.3	12.3
Neutral	0.14	0.15	0.32	1.2	12.6
Aldergrove—					
Acid	0.11	0.06	0.08	0.5	11.8
Kamloops—					
Alkaline	0.18	0.42	0.18	1.0	9.4
Alkaline	0.19	0.34	0.12	0.7	9.2
Alkaline	0.12	0.43	0.13	0.7	9.8
Alkaline	0.11	0.43	0.24	1.1	10.9
Alkaline	0.10	0.60	0.10	0.9	6.2
Alkaline	0.15	0.62	0.18	0.8	7.0
Alkaline	0.13	0.32	0.15	2.4	11.6
Alkaline	0.16	0.51	0.16	0.9	13.5
Alkaline	0.15	0.62	0.25	1.1	11.0
Alkaline	0.08	0.89	0.19	1.2	11.0
Alkaline	0.16	0.08	0.10	3.8	7.6
Alkaline	0.04	0.34	0.25	3.0	11.3
Alkaline	0.29	0.27	0.03	1.1	8.7
Alkaline	0.12	0.10	0.25	2.4	10.5
Alkaline	0.06	0.10	0.19	1.5	9.2
Alkaline	0.19	0.20	0.20	1.7	12.7
Alkaline	0.04	0.06	0.10	2.9	10.7

* Trace. † Nil.

APPENDIX No. 27—*Continued.*

ANALYTICAL DATA—*Continued.*

District and Nature of Soil.	Nitrogen.	Potash.	Phosp. Acid.	Lime Carb.	Iron and Alumina.
Shuswap Lake—					
Neutral	0.04	*	0.35	0.55	8.4
Neutral	0.10	*	0.35	0.5	8.8
Alkaline	0.10	*	0.35	1.3	8.8
Neutral	0.05	0.20	0.16	0.4	5.2
Neutral	0.04	0.10	0.22	0.4	6.2
Alkaline	0.05	0.20	0.21	0.6	7.4
Alkaline	0.02	0.26	0.25	1.0	9.0
Neutral	0.08	0.28	0.42	0.6	9.0
Neutral	0.03	0.30	0.30	0.7	6.8
Acid	0.01	0.20	0.25	0.4	6.5
Acid	0.03	0.38	0.16	0.7	12.3
Nakusp—					
Acid	0.06	0.12	0.19	*	4.7
Acid	0.05	0.08	0.19	*	8.2
Acid	0.08	0.07	0.38	*	3.5
Princeton—					
Acid	0.09	0.17	0.09	0.09	7.3
Neutral	0.10	0.17	0.25	1.2	9.8
Grand Forks—					
Neutral	0.08	*	0.12	0.6	5.5
Acid	0.08	*	0.12	0.6	4.5
Acid	0.05	0.07	0.28	0.9	6.1
Revelstoke—					
Acid	0.08	0.26	*	0.7	12.2
Alkaline	0.03	0.35	*	0.8	8.0
Alkaline	0.03	0.33	*	0.9	8.1
Alkaline	0.02	0.32	0.12	1.2	11.8

* Trace.

APPENDIX No. 28.

Synopsis of Certified Seed-potato Work in British Columbia, 1924.

District.	Growers.	Fields.	Acreage.	Fields pass First Inspection.	Acreage pass First Inspection.	Fields pass Second Inspection.	Acreage pass Second Inspection.	Fields pass First Tuber Inspection.	Acreage pass First Tuber Inspection.	Estimated Total Yield in Tons.	Estimated No. of Sacks of Certified Seed.
Alberni	6	10	3.90	8	3.80	3	2.00	2	1.50	8.50	60
Comox	17	31	21.80	25	18.10	17	9.75	17	9.70	76.73	752
Cowichan	15	32	22.55	27	21.35	24	20.60	18	18.70	129.55	461
Errington	4	10	3.85	10	3.85	7	3.00	5	2.50	15.70	145
Keating	12	32	40.20	19	26.90	18	26.40	16	22.40	110.50	1,000
Gordon Head	11	20	21.90	8	11.35	2	3.00	2	3.00	25.00	250
Metchosin	8	19	10.80	11	5.45	6	4.50	6	4.50	21.50	200
Central B.C.	8	17	16.75	15	15.25	6	7.25	6	7.25	26.50	265
Chilliwack	17	49	48.92	46	43.17	38	39.67	26	22.72	198.00	1,745
Surrey	6	20	10.95	17	8.20	16	7.95	13	6.20	42.60	536
Mount Lehman / Bradner	16	18	15.15	18	15.15	18	15.15	14	11.80	142.50	705
Pitt Meadows / Burnaby	1	3	1.00	3	1.00	3	1.00	3	1.50	7.75	100
Lulu Island / Ladner	11	20	23.25	20	23.25	15	19.40	10	17.10	153.80	1,869
Windermere	12	23	13.75	22	13.25	22	13.25	21	13.00	113.60	538
Malakwa	3	3	6.00	3	6.00	3	6.00	3	6.00	59.00	101
Armstrong	4	8	8.20	5	5.45	4	4.20	4	4.00	41.30	250
Vernon / Kelowna	5	11	18.05	9	11.05	9	11.05	8	10.05	68.35	192
Kamloops	3	7	4.70	5	3.05	4	2.70	2	1.80	9.80	56
Grand Forks	1	2	1.25	2	1.25	2	1.25	1	0.25	1.50	.....
Summerland	2	4	1.25	3	3.25	2	2.75	1	2.25	20.00	200
Totals	163	339	296.47	276	240.12	219	200.87	178	165.72	1,272.18	9,425

APPENDIX No. 29.

Summary of British Columbia Certified Seed-potato Fields, 1924.

No. of fields inspected	339
No. of acres inspected	296.47
No. of fields passed	219
No. of acres passed	200.87
Per cent. fields passed	64.60
Per cent. acres passed	67.70
Average per cent. disease in total fields inspected—	
Black-leg	0.07
Leaf-roll	0.55
Mosaic	1.47
Wilts	1.04
Impurities	0.59
Lack of vigour	1.15
Average per cent. disease in total fields passed—	
Black-leg	0.04
Leaf-roll	0.41
Mosaic	0.73
Wilts	0.33
Impurities	0.06
Lack of vigour	0.59

APPENDIX No. 29—*Continued.*

SUMMARY OF BRITISH COLUMBIA CERTIFIED SEED-POTATO FIELDS, 1924—*Continued.*

Average per cent. disease in total fields rejected—

Black-leg	0.18
Leaf-roll	0.53
Mosaic	3.04
Wilts	1.89
Impurities	0.72
Lack of vigour	2.31

Of the 339 fields inspected—

1 containing 0.50 acre was rejected owing to black-leg.
4 containing 3.15 acres were rejected owing to leaf-roll.
66 containing 54.45 acres were rejected owing to mosaic.
16 containing 8.95 acres were rejected owing to wilts.
4 containing 4.00 acres were rejected owing to impurities.
29 containing 24.55 acres were rejected owing to lack of vigour.

APPENDIX No. 30.

REPORT ON FIELD INSPECTIONS MADE IN CERTIFIED SEED-POTATO DISTRICTS, 1924.

District.	Average Percentage of				
	Leaf-roll.	Mosaic.	Black-leg.	Wilt.	Impurities.
Alberni	.....	1.11	.....	9.37	0.25
Armstrong	1.06	2.13	.....	0.03	0.20
Cowichan	0.04	1.65	0.008	0.31	0.07
Comox	.....	2.56	0.035	1.61	.....
Chilliwack	0.05	0.75	0.01	0.15	0.17
Central	0.33	0.46	0.23	0.28	0.94
Errington	0.08	0.81	.....	1.27	.....
Grand Forks	2.00	.....	.....	0.56	.....
Keating	0.08	1.77	0.055	0.29	0.81
Kamloops	1.79	1.13	0.43	.....	0.78
Ladner and Lulu Island	0.06	0.78	.....	0.43	0.23
Mount Lehman and Bradner	0.04	0.03	.....	0.02	0.12
Metchosin and Sooke	0.09	3.90	0.11	1.10	0.05
Malakwa	1.33	1.04	.....	0.50	0.16
Pitt Meadows	0.33	.....	.....	1.66	.....
Surrey	0.03	0.65	0.08	0.10	0.13
Vernon-Kelowna	1.75	0.25	0.32	0.11	.....
Victoria and Gordon Head	0.11	6.91	0.07	2.95	0.01
West Summerland	0.47	2.50	.....	.....	.....
Windermere	.....	0.24	.....	0.02	.....
Average per cent. all districts	0.48	1.43	0.07	1.04	0.19

APPENDIX No. 31.

Synopsis of Diseases in all Varieties inspected for Province of British Columbia, 1924.

Variety.	Total Fields.	Total Acres.	Black-leg.	Leaf-roll.	Mosaic.	Wilts.	Impurities.	Lacking Vigour.	Passed.	Rejected Acres.						
										Black-leg.	Leaf-roll.	Mosaic.	Wilts.	Impurities.	Lacking Vigour.	Fields rejected.
			%	%	%	%	%	%	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Green Mountain	40	30.62	.....	0.10	3.68	0.76	0.02	0.27	15.97	.....	.....	13.85	0.25	.....	0.50	18
Burbank	26	22.25	0.003	0.30	0.60	1.58	0.01	2.19	11.90	.....	.....	6.00	2.85	.....	1.50	11
Netted Gem	87	111.56	.....	0.36	0.42	0.36	0.15	1.16	96.11	.....	1.35	1.70	2.15	1.50	8.75	14
Early Rose	28	17.37	0.01	0.11	4.24	0.19	0.04	0.07	10.72	.....	.....	6.35	0.05	.....	0.25	12
Early Surprise	16	13.80	.....	0.35	1.87	0.02	0.13	0.50	6.75	.....	.....	6.85	.....	.....	0.25	7
Early Ohio	10	5.78	0.02	0.01	0.58	.....	.....	.....	5.28	.....	.....	0.25	.....	.....	0.25	3
Gold Coin	18	10.95	0.06	0.11	2.72	0.08	1.70	0.59	6.60	0.50	.....	1.10	.....	2.75	.....	9
Wee McGregor	6	5.62	.....	0.06	0.15	.....	.....	0.11	5.62	.....	.....	.....	.....	.....	.....	....
Jersey Royal	7	5.20	.....	0.04	0.81	7.00	0.68	2.96	0.95	.....	.....	.....	2.00	.....	2.25	4
Sir Walter Raleigh	39	38.90	0.15	0.03	1.27	0.49	0.07	1.06	20.65	.....	.....	13.75	.....	.....	4.50	18
Eureka	1	0.25	.....	0.75	.....	1.75	.....	.....	0.25	.....	.....	.....	.....	.....	.....	....
Jones White	1	0.20	.....	.....	3.00	.....	0.50	.....	0.20	.....	.....	.....	.....	.....	.....	....
Sutton's Reliance	3	2.25	0.12	.....	3.68	0.37	2.07	4.12	0.25	.....	.....	2.00	.....	.....	.....	2
Early St. George	33	18.62	0.09	0.30	3.00	0.93	0.43	0.43	12.97	.....	.....	3.30	0.35	.....	2.00	10
Irish Cobbler	15	5.50	0.27	1.29	1.89	0.16	0.32	0.23	2.35	.....	2.05	0.30	.....	.....	0.80	10
Up-to-date	9	7.60	.....	0.11	0.34	1.85	.....	2.50	4.30	.....	.....	0.05	0.75	.....	2.50	4

APPENDIX No. 32.

REPORT ON TUBER INSPECTIONS MADE BEFORE GRADING IN CERTIFIED SEED-POTATO DISTRICTS, 1924.

Average Percentage per Field.

District.	No. of Fields in-spected.	Acres.	Stem-end Rot or Wilt.	L.B. and Rot.	Scab.	Net Necrosis.	Rhizoc-tonia.
Bradner	9	9.00	0.51	.....	0.07	0.07	6.89
Chilliwack	30	38.22	0.36	0.03	1.31	2.06	10.15
Comox	17	9.75	0.33	.....	0.88	.....	1.89
Cowichan	18	16.20	0.16	.....	0.33	0.06	6.55
Central British Columbia	6	7.25	.....	.....	0.22	0.71	0.25
Errington (Parksville)	7	3.00	5.34	.....	.....	.....	8.54
Gordon Head	1	2.00	.....	.....	.....	.....	0.50
Grand Forks	1	1.25	.....	.....	2.00	.....	5.00
Kelowna	3	6.10	0.66	.....	12.00	.....	25.33
Kamloops	2	1.80	3.00	.....	.....	.....	3.00
Ladner	3	6.10	0.88	.....	.....	0.30	1.41
Lulu Island	10	9.80	4.82	.....	.....	7.10	2.61
Malakwa	3	6.00	.....	.....	8.33	.....	2.00
Mount Lehman	9	7.05	0.14	0.11	.....	0.44	5.40
Summerland	1	2.25	1.00	.....	.....	.....	12.00
Surrey	17	7.95	2.35	0.59	1.29	0.29	13.79
Sooke	1	0.50	.....	.....	.....	.....	5.00
Vernon	1	0.50	1.00	.....	3.00	.....	10.00
Windermere	22	13.25	0.08	.....	3.43	.....	3.45
Keating	12	16.40	2.48	.....	0.06	0.42	5.20
Metchosin	5	4.50	0.80	.....	12.00	.....	4.80
Alberni	3	2.00	8.00	.....	.....	.....	10.00
Pitt Meadows	3	1.00	2.77	.....	.....	.....	5.11
Armstrong	4	4.20	1.22	.....	6.50	.....	4.00
Totals	188	176.07	35.90	0.73	51.42	11.45	152.87
Av. percentage of diseases for all districts	.....	.....	1.49	0.03	2.14	0.47	6.37

APPENDIX No. 33.

REPORT ON FIELD INSPECTIONS MADE IN DISTRICTS WHERE CROPS HAD NOT BEEN ENTERED FOR CERTIFICATION PURPOSES, 1924.

District.	No. of Fields in-spected.	Acres.	AVERAGE PERCENTAGE OF				
			Leaf-roll.	Mosaic.	Black-leg.	Wilt.	Impurities.
Central British Columbia:							
Lakes District	57	32.05	0.51	1.58	0.71	0.38	24.12
Bulkley Valley	51	69.03	0.21	1.55	0.71	.....	11.50
Terrace	16	14.55	0.30	2.50	2.31	.....	2.42
Prince George	24	21.85	0.10	0.97	0.04	1.48	2.09
Vancouver Island	7	7.25	1.50	6.40	0.28	2.36	2.14
Fraser Island	36	45.22	0.19	8.43	1.53	3.34	3.76
Revelstoke and Malakwa	10	16.00	0.10	6.83	0.20	0.98	7.35
Princeton and Jura	2	1.35	.....	3.75	.....	.....	.....
Kelowna and Westbank	3	17.00	0.58	22.75	.....	.....	.....
Nakusp	12	16.00	.....	6.91	.....	3.04	0.79
Nelson-Grand Forks	5	18.25	.....	24.15	.....	3.95	.....
Ashcroft	13	246.00	3.08	14.42	0.71	1.92	2.78
Lytton	6	32.50	4.87	6.33	2.58	.....	1.21
Kamloops	4	55.00	.....	21.62	.....	6.00	.....
Chase-Notch Hill	5	206.00	4.55	16.60	6.00	0.95	0.50
Salmon Arm	7	85.75	.....	15.50	.....	6.17	.....
Windermere	3	0.60	0.50	0.50	.....	.....	.....
Armstrong	12	44.00	.....	15.72	.....	3.00	.....
Vernon-Lumby	11	21.70	2.25	5.75	.....	0.50	0.50
Keremeos-Cawston	22	21.60	.....	12.10	.....	1.60	1.80
Totals	306	965.75	0.94*	9.72*	0.75*	1.78*	3.05*

* Average percentage of diseases for all districts.

APPENDIX No. 34.

Estimated Honey-crop, 1924.

District.	Apiaries.	Hives.	Crop.	Average per Hive.
Vancouver Island and Gulf Islands.			Lb.	Lb.
Comox	58	400	26,000	65
Duncan	85	402	12,060	30
Gulf Islands	60	240	12,000	50
Howe Sound	38	90	3,150	35
Nanaimo	100	400	6,000	15
Victoria	185	550	5,500	10
Totals	526	2,082	64,710	31
Greater Vancouver.				
Burnaby	86	620	21,700	35
Coquitlam	30	150	4,500	30
Kerrisdale	25	110	3,520	32
South Vancouver	54	250	5,000	20
Marpole	28	90	2,250	25
North Vancouver	48	210	4,200	20
Point Grey	25	85	2,955	35
New Westminster	48	200	6,000	30
Vancouver	50	148	1,776	12
Totals	394	1,863	51,901	28
Lower Fraser Valley.				
Delta	95	708	46,020	65
Surrey	135	1,394	58,548	42
Langley	150	900	49,500	55
Matsqui	135	1,160	58,000	50
Maple Ridge	70	420	12,600	30
Richmond	55	410	20,500	50
Totals	640	4,992	245,168	49
Upper Fraser Valley and Chilliwack.				
Chilliwack	80	405	18,225	45
Kent	30	140	8,960	64
Dewdney	28	230	13,800	60
Mission	72	350	26,250	75
Sumas	70	520	28,600	55
Totals	280	1,645	95,835	58
Okanagan, Shuswap, and Thompson Valleys.				
Okanagan	270	2,000	80,000	40
Shuswap	50	250	112,250	45
Thompson	55	385	22,100	60
Totals	375	2,635	113,350	43
Kootenays.				
Slocan Valley	29	250	21,500	86
Kootenay Lake and West Arm	30	115	6,900	60
Nelson	40	160	13,600	85
Arrow Lakes	23	230	18,400	80
Castlegar	11	115	7,475	65
East Kootenay	9	62	6,200	100
Boundary	23	350	22,750	65
Creston Valley	28	105	10,500	100
Totals	193	1,387	107,325	77

APPENDIX No. 34—*Continued.*

ESTIMATED HONEY-CROP, 1924—*Continued.*

District.	Apiaries.	Hives.	Crop.	Average per Hive.
Summary.			Lb.	Lb.
Vancouver Island and Gulf Islands	526	2,082	64,710	31
Greater Vancouver	394	1,863	51,901	28
Lower Fraser Valley	640	4,992	245,168	49
Upper Fraser Valley and Chilliwack	280	1,645	95,835	58
Okanagan, Shuswap, and Thompson Valleys	375	2,635	114,350	43
Kootenays	193	1,387	107,325	77
Totals	2,408	14,604	679,289	46

Value of honey-crop at average price of 22 cents per pound, $149,443; value of beeswax produced in 1924, estimated at 10,000 lb., at 50 cents per pound, $5,000; capital value of bees, hives, supers, and other apiary equipment, reckoning 14,604 hives at, say, $25 each, $365,100.

APPENDIX No. 35.

PROVINCIAL DEMONSTRATION APIARIES—REPORTS FOR SEASON 1924.

(a.) Kootenays.

Situation of Apiary.	Name of Owner.	Hives under Supervision.	Date Queen introduced.	Surplus Honey taken.		Average per Hive.	Increase made.
				Lb.	Lb.	Lb.	
Castlegar	A. E. Pittaway	4	(1) July, 1923	40		.....	1
			(2) July, 1923	78		.....	....
			(3) July, 1923	32		.....	....
			(4) July, 1922	54		.....	....
				—	204	51	
Appledale	B. Munch	2	(1) June, 1924	98		.....	....
			(2) June, 1924	94		.....	....
				—	192	96	
Grand Forks	John A. Hutton	2	(1) June, 1923	110		.....	....
			(2) June, 1923	98		.....	1
				—	208	104	
Boswell	James Coupland	3	(1) 1923	58		.....	....
			(2) 1923	120		.....	1
			(3) 1923	63		.....	....
				—	241	70	
Balfour	Charles Holt	3	(1) April, 1924	168		.....	....
			(2) April, 1924	147		.....	....
			(3) April, 1923	146		.....	....
				—	461	154	
Slocan City	V. K. Soharev	1	 1923	120		.....	....
				—	120	120	
Creston	John Blinco	2	(1) 1922	320		.....	....
			(2) 1923	316		.....	1
				—	636	318	
Crawford Bay	W. J. Kidman	3	*(1) April, 1924	17		.....	-1
			*(2) April, 1924	26		.....	2
			*(3) April, 1924	16		.....	1
				—	59	19	
Totals		20			2,121	106	8

* One-pound package.

APPENDIX No. 35—*Continued.*

PROVINCIAL DEMONSTRATION APIARIES—REPORTS FOR SEASON 1924—*Continued.*

(b.) Fraser Valley.

Situation of Apiary.	Name of Owner.	Hives under Supervision.	Date Queen introduced.	Surplus Honey taken.		Average per Hive.	Increase made.
				Lb.	Lb.	Lb.	
Sullivan	W. H. Turnbull	4	(1) May, 1924	150		.....	1
			(2) May, 1924	180		.....	1
			(3) May, 1924	126		.....	....
			(4) May, 1924	150		.....	1
				—	606	151	
Port Kells	Phibbs & Lawson	3	(1) 1923	106		.....	1
			(2) 1923	108		.....	1
			(3) 1923	106		.....	....
				—	320	106	
Langley Prairie	Mrs. J. W. Berry	3	(1) May, 1924	93		.....	....
			(2) June, 1924	160		.....	....
			(3) May, 1924	116		.....	....
				—	369	123	
Bradner	T. L. Baker	4	(1) May, 1924	160		.....	1
			(2) June, 1924	160		.....	....
			(3) 1923	140		.....	....
			(4) 1923	120		.....	....
				—	580	145	
Huntingdon	J. W. Winson	3	(1) 1923	80		.....	....
			(2) 1923	90		.....	....
			(3) 1923	82		.....	....
				—	252	84	
Agassiz	Dominion Exp. Sta.	2	(1) July, 1923	200		.....	1
			(2) Mar., 1924	131		.....	....
				—	331	165	
Mission	Charles Moore	4	(1) May, 1924	238		.....	1
			(2) May, 1924	197		.....	1
			(3) May, 1924	233		.....	1
			(4) May, 1924	242		.....	1
				—	910	227	
Ladner	Mrs. M. B. McCallan	3	(1) 1922	90		.....	....
			(2) 1922	100		.....	....
			(3) 1922	60		.....	....
				—	250	83	
Matsqui	A. W. Finlay	4	(1) Aug., 1923	165		.....	....
			(2) May, 1924	250		.....	1
			(3) May, 1924	225		.....	1
			(4) July, 1924	180		.....	....
				—	820	205	
Murrayville	E. Chipperfield	4	(1) May, 1924	175		.....	1
			(2) May, 1924	200		.....	1
			(3) May, 1924	125		.....	1
			(4) May, 1924	160		.....	1
				—	660	165	
Chilliwack	H. Langton Johnson	4	(1) Aug., 1923	139		.....	....
			(2) June, 1923	161		.....	....
			(3) Aug., 1923	160		.....	....
			(4) Aug., 1923	148		.....	....
				—	608	152	
McKay, Burnaby	George Coe	2	(1) 1923	175		.....	....
			(2) 1923	161		.....	....
				—	336	118	
Totals		40			6,042	151	17

APPENDIX No. 35—*Continued.*

PROVINCIAL DEMONSTRATION APIARIES—REPORTS FOR SEASON 1924—*Continued.*

(c.) Vancouver Island.

Situation of Apiary.	Name of Owner.	Hives under Supervision.	Date Queen introduced.	Surplus Honey taken.		Average per Hive.	Increase made.
				Lb.	Lb.	Lb.	
Courtenay	Fred Swan	2	(1) May, 1924	182		.....	....
			(2) May, 1924	94		.....	....
				—	276	138	

(d.) Okanagan, Shuswap, and Thompson Valleys.

Penticton	John Price	4	(1) 1923	200		.....	....
			(2) 1923	193		.....	....
			(3) 1923	190		.....	....
			(4) 1923	175		.....	....
				—	758	189	
Rutland	J. F. Roberts	2	(1) 1923	95		.....	1
			(2) 1923	80		.....	1
				—	175	88	
Armstrong	H. D. Child	2	(1) 1923	43		.....	1
			(2) 1923	56		.....	1
				—	99	49	
Summerland	Dominion Exp. Sta.	2	(1) 1922	152		.....	1
			(2) 1922	189		.....	1
				—	341	170	
Kelowna	R. H. Brown	4	(1) April, 1923	75		.....	....
			(2) April, 1923	60		.....	....
			(3) April, 1923	55		.....	....
			(4) April, 1923	50		.....	....
				—	240	60	
Totals		14			1,613	115	6

(e.) Summary.

Territory.	Hives under Supervision.	Surplus Honey taken during Season.	Average per Hive.	Increase made.
		Lb.	Lb.	
Fraser Valley	40	6,042	151	17
Kootenays	20	2,121	106	8
Okangan, Shuswap, and Thompson Valleys	14	1,613	115	6
Vancouver Island	2	276	138	....
Totals	76	10,052	132	31

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