PROVINCE OF BRITISH COLUMBIA

TWENTY-FIRST ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR THE YEAR 1926

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1927.

To His Honour ROBERT RANDOLPH BRUCE,

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 1926.

E. DODSLEY BARROW,

Minister of Agriculture.

Department of Agriculture,

Victoria, B.C., October 6th, 1927.

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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 1926.

CLIMATIC CONDITIONS.

The year 1926, viewed broadly, was one of temperatures above the average and of precipitation below the average, the warm dry summer being conducive to numerous forest fires which were especially severe in the Kootenay districts. The year opened with ideal weather in January and February throughout the Province, a great deal of outside work being accomplished; in Central British Columbia there were exceptionally mild conditions with every indication of early spring. March weather continued favourable for spring work, which was well advanced, but by April further rain was beginning to be needed. Heavy rains fell in May, especially in the Lower Mainland and Vancouver Island districts, in some cases proving harmful to spring grains and to the strawberry-crop. June was a good month for farmers, the small-fruit men doing well as a whole and hay being an early and heavy crop. July was very dry again, with high temperatures; pastures failed to quite an extent and range lands suffered also. In August there were showers which improved corn and roots, but did not help pastures to any extent; range feed also was short. Threshing was, however, generally completed by the close of the month. September was marked by heavy precipitation commencing about the second week, with frosts at night in Interior points. Many of the fall fairs suffered financially on account of the unseasonable weather this month. In October the weather cleared up again and the harvest was completed satisfactorily. Heavy rains were experienced in November and December, with frosts and some snow by the close of the month.

As evidence of the unusual dry weather during 1926, especially in the Coast districts, the following figures are illustrative:—

	Total Precipitation, 1926. Inches.	Ave. Total Precipitation, 10-year Period. Inches.
Victoria	21.11	27.65
Vancouver	53.21	58.76

AGRICULTURAL PRODUCTION.

The year 1926 is notable for the highest record made so far in agricultural production, the total value for the year being estimated at $71,362,209, as against $65,153,513 in 1925, or an increase of 9.53 per cent. Increases were recorded in live stock, meats, poultry and eggs, dairy products, fruit, grain, honey, wool, hops, and seeds, the most outstanding gain being in fruit and dairy products. Taking these items in more detail, it is noted with regard to live stock that every class of farm animal showed a substantial increase, beef and dairy cattle being in the lead, the increase in sheep also being most encouraging. There are now 102,853 sheep, as against 62,247 last year, while the total value of live stock increased from $18,256,229 to $20,752,433. All meat products showed advances, especially beef and veal. Dairy products advanced from a total of $10,629,350 to $11,627,300; creamery and dairy butter both contributing substantially, although the largest single increase was in fresh milk, with a total of 15,775,000 gallons produced.

The tree-fruit crop was the largest on record, but there was a slight decrease in prices. The total value of fruits produced was $7,585,520, as against $5,413,894. Small fruits were ascertained by a survey to have decreased considerably in acreage, although both production and value showed an increase on 1925. Cantaloupes in the Oliver District totalled forty car-loads shipped, as against twenty-six in 1925.

Grains yielded 5,018,412 bushels, an increase of over 7 per cent.; the crop area now having increased to 135,490 acres.

Hay and fodders were good, clover and timothy averaging 2 tons to the acre, with a total of 321,481 acres.

CONTROL OF BOVINE TUBERCULOSIS.

Following negotiations with the Dominion Government and in conformity with petitions received from a preponderance of dairymen in the Lower Fraser Valley, the Dominion Health of Animals Branch declared the Lower Fraser Valley to be a restricted area for the eradication of bovine tuberculosis. The area covered roughly 5,600 square miles, including nineteen municipalities and the Cities of Vancouver and New Westminster, as well as much unorganized territory extending up the Fraser Valley to some 5 miles north of North Bend. The first general test commenced on February 22nd, giving 3,643 reactors out of 46,174 cattle tested, a percentage of 7.9 per cent., with a 60-day retest giving 769 reactors, or 3.3 per cent. of tubercular animals.

Provincial tests in other parts of the Province on 9,688 head showed 454 reactors, or 4.73 per cent., which compared with the figures for 1925 and 1924, which were respectively 4.18 per cent. and 4.64 per cent.

INSECT AND OTHER PESTS.

Codling-moth Control.—An Order in Council was approved on February 4th reducing the proportion of growers in favour to 60 per cent. where a compulsory spraying zone was desired, the Horticultural Regulations being amended as follows:—

"Protection Spraying Zones.

"Upon receipt in writing by the Board of a request signed by 60 per cent. of the growers in any district, the Board may constitute a Protection Zone with the object of undertaking the control or prevention of any fruit pest. Upon such zone being established, all directions given or issued by the Inspector having charge within such zone shall be carried out by the growers operating within the zone, and any grower failing to carry out the directions of the Inspector shall be liable to the penalties provided for by the Act."

In pursuance of this policy the whole of the Okanagan Valley was declared a codling-moth control area by Order in Council on October 8th, with the Kamloops District following suit on November 24th.

GRASSHOPPER-CONTROL.

During the past year active measures for the control of grasshoppers were continued in co-operation with the officers of the Dominion Entomological Branch.

At the opening of the season the following sections were afforded further aid in poison and bait ingredients: Riske Creek and Gang Ranch ranges in the Chilcotin; the North Thompson Valley; the South Thompson Valley from Ducks to Shuswap; the North Okanagan Valley, including Larkin and Armstrong; the Rock Creek and Midway sections; the Nicola country and the Peace River Block.

The intensive work done in the Nicola for several years has borne good results, fair co-operation being obtained from the ranchers and stockmen and the general situation on these ranges during 1926 has much improved. The Okanagan Valley was again threatened with a serious grasshopper and cricket pest, the latter insects being very numerous on the ranges near Vernon. Poison-bait mixing plants at Armstrong and Vernon were established and the situation kept well under control.

The Peace River conditions were more difficult to contend with owing to the distance from headquarters, the difficulties of transportation, and high cost of freight. Mixing-stations were, however, established at Fort St. John, Rolla, Dawson Creek, and Pouce Coupé, and with the energetic co-operation of the farmers, who appreciated the work being done by the Department to save their bountiful crops, the situation was kept well in hand; the cost of poison bait, freight, etc., for this work in the Peace River District alone was $12,000; whilst during the past three seasons $68,000 has been expended on control measures throughout the Province. At the close of the season the only district where control measures had not been either entirely or in the greater part successful was in the Chilcotin country, where no doubt a special campaign will be necessary in 1927.

Tobacco in Kelowna District. (Kennedy Plantation on Belgo lands.)

SEED PRODUCTION.

It is encouraging to report the progress made in seed production during the past year in various parts of the Province, and to feel that departmental work along this line is proving effective. In Central British Columbia chiefly in the Bulkley Valley, 350 tons of timothy-seed was grown and sold at the excellent price of 8 cents per pound f.o.b. point of loading. Power seed-cleaning plants have been established by the Department at Smithers, Burns Lake, and Barrett, to the great advantage of the growers.

The opening of the grain-elevator at Prince Rupert also gave a stimulus to wheat-growing, especially in the Vanderhoof District, between 500 and 600 acres being seeded to Marquis wheat, the average yield being estimated at 25 bushels to the acre and a considerable quantity being held for seed for 1927.

Alsike and clover seed is also being experimented with on a moderate scale, and officers of the Dominion Seed Branch consider there are good possibilities for the production of these seeds as well as orchard-grass and meadow-fescue in Central British Columbia.

The Department was much gratified by the successes of timothy-seed growers in Central British Columbia at the International Grain and Hay Show at the Live Stock Exposition held at Chicago, November 27th to December 4th. The timothy-seed class comprised fifteen exhibitors, the first, sixth, and eighth prizes being captured by growers from Southbank and Telkwa. The competition was keen, experienced growers from Montana, Wisconsin, Iowa, and Alberta and Saskatchewan being competitors.

The production of red-clover seed in the Lower Fraser Valley is also becoming of importance, some 500 acres being harvested for seed this fall, with the prospect of a very large increase in 1927.

Seed-potato inspection and certification was carried on by the Field Crop Branch in thirty districts in the Province, 511 acres being inspected; 392 acres finally passed both field inspections and the first tuber inspection, with an estimated production of 18,080 sacks of certified seed.

During the year the seed-cleaning plant at Penticton (the United Seed Growers), which had been subsidized jointly by the Provincial and Dominion Governments for several years, was closed down and the shareholders paid off.

TOBACCO-GROWING.

Tobacco has been grown in the vicinity of Kelowna, in the Okanagan Valley, for more than thirty years, the types principally produced being used for cigar binders and fillers. In the decade between 1900 and 1910 the increase in the acreage planted to tobacco was very slow, and by 1910 a maximum of only 100 acres was under cultivation. During the war production declined, and in the slump in the post-war period, in which industrial troubles were experienced, interest in tobacco-cultivation steadily declined and there was no commercial crop between the years 1921 and 1924.

In 1925, at the instance of both the Federal and Provincial Departments of Agriculture, the Tobacco Division initiated experimental work in the Okanagan Valley, at several points in the vicinity of Kelowna, and at the Summerland Experimental Station. Briefly, the work of the season demonstrated conclusively that tobacco may be cultivated on a large area in the Okanagan Valley, and that many of the commercial varieties grown in Eastern Canada succeed admirably in that territory.

The greatest disadvantage with which tobacco-culture in the Okanagan Valley has had to contend in producing for domestic manufacture has been the lack of suitable markets, the tobacco-manufacturing industry of the Dominion being centred largely in Ontario and Quebec, and the British Columbia product being at a distinct disadvantage. A further disadvantage has been the lack of handling facilities for the types of tobacco which are used in plug, smoking, and cigarette mixtures.

In 1926 the acreage in the Okanagan under tobacco did not exceed 50 acres; a Vancouver manufacturer contracting for the purchase of the crop. Field experiments at Kelowna and on the Dominion Experimental Stations at Summerland and Agassiz were continued during the year as to varieties and cost of production, the outlook for this revived industry being encouraging.

FUR-FARMING.

Although not strictly under the purview of the Department, the intimate connection of the fur-farmer with the agricultural life of the Province makes a few remarks on this industry not entirely out of place.

No branch of animal production has attracted wider attention or developed more rapidly in the past eight years than fur-farming. There is ample basis for a sound industry in British Columbia in propagating fur-bearing animals, provided certain essentials are provided, such as selection of stock, correct breeding and feeding, a knowledge of the characteristics and behaviour of the animals in captivity, and good organization on the ranch. Fox-farms at the Coast appear to be as successful as those in the Interior, where severer winter conditions are experienced.

At the close of 1925 (the latest figures available) there were 120 fur-farms in operation in this Province, the value of fur-bearing animals on same being $442,370, the value of animals sold during the year $107,730, and the value of pelts sold $13,973.

The International Fox and Fur Show held at Hastings Park, Vancouver, from December 8th to 11th, under the auspices of the British Columbia Silver Fox Breeders' Association, was most successful, the Department making a grant to the association of $500 in aid of expenses.

IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS.

The value of agricultural imports again showed a gross increase over the previous year, the total being $21,059,361. Allowing for the value of exports from the Province, this sum represents 25 per cent. of the value of agricultural products consumed within the Province. In other words, in spite of the commendable progress made in agricultural production within recent years, for every $100 worth consumed by our population $25 worth is brought in either from other Provinces or from foreign points. The rate for 1925 was $25.10 and for 1916 it was $37.70.

The chief imports in 1926 from other Provinces were: Live stock, $6,269,336; grains, $6,094,466; dairy products, $3,346,884; and meats, $1,140,234. From foreign points the outstanding figures were: Dairy products, $1,058,506; vegetables (including canned), $675,765; fruits (including canned), $552,623; grains, $700,167; and meats, $456,410.

Exports of agricultural products from British Columbia are steadily growing, as the following table shows:—

1923	$5,886,372	1925	$6,731,709
1924	6,022,019	1926	8,408,638

As might be expected, fruit and vegetable exports account for the major portion, the figure for these in 1926 being $6,294,788; meats, poultry, and dairy products are also increasing slowly.

AWARDS WON BY BRITISH COLUMBIA.

In addition to the honours won at the Chicago International for timothy-seed, previously referred to, the past year proved outstanding for our agriculturists in many other lines of activity.

British Columbia apples won outstanding recognition at the Imperial Fruit-show, held in London, England, and also at the Royal Agricultural Winter Fair at Toronto in the fall.

At London, England, the first, second, and third prizes in the British Empire Section, Dessert Class (open), were won by British Columbia apples, with McIntosh Red and Jonathan varieties. In the Cooking Class (open) the first and second prizes were won with Rome Beauty and North-west Greening. In the Overseas Section British Columbia captured first, second, and third prizes in the McIntosh Red, first in Jonathan, first in Cox's Orange, first in Spitzenburg, and first in Newtown.

At Toronto in November the British Columbia exhibit of apples was the outstanding feature.

The championship sweepstakes were captured with the Delicious variety, and eight first awards were won with Delicious, Greening, Jonathan, King, Newtown, Spitzenburg, Northern Spy, and Wagener apples, besides many other awards.

In live-stock, British Columbia stock-breeders captured a full share of the honours for Jerseys at the Pacific International Exposition at Portland, seven "first," five "second," and numerous other awards being won by the Spencer herd; whilst Leicester, Dorset, and Cheviot

sheep from Chilliwack and Sardis flocks were equally successful. Saanich rabbit-breeders won many awards at the Convention of National Rabbit and Cavie Breeders at Anaheim, California, and potato-growers from Vancouver Island and the Grand Forks District did well at the Pacific North-west Potato-show at Spokane.

Jersey records were also made during the year as follows:—

"Farleigh St. Mawes Retta," one of the Summerland Experimental Farm herd of Jerseys, achieved 11,606 lb. of milk and 636 lb. of fat as a senior 2-year-old on official test in the 305-day class. This is a world record, subject to the confirmation of the production figures by the Ottawa authorities.

"Patricia Oxford Janet," owned by Lester Whitaker, Armstrong, B.C., as a 4-year-old Jersey gave 14,935 lb. milk and 872 lb. butter-fat in 305 days. This cow was reared on the Calf Club plan for boys and girls under the auspices of this Department.

Respectfully submitted.

D. WARNOCK,
Deputy Minister.

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, 1926.

STAFF.

The changes in the staff during the year followed the usual average, the appointments and resignations being as follows:—

PERMANENT APPOINTMENTS.

1926.
April 1. S. S. Phillips, Assistant Agronomist, Field Crop Branch.
April 1. J. Noble, Inspector, Fruit Inspection Branch.
May 29. G. L. Landon, District Poultry Instructor, Poultry Branch.
Dec. 1. T. B. Mathieson, Inspector, Fruit Inspection Branch.
Dec. 1. Miss C. Stephenson, Stenographer, Land Settlement Board.
Dec. 1. Miss L. F. Koyl, Stenographer, General.
Dec. 1. Miss N. Larkcom, Stenographer, Live Stock Branch.

REMOVALS.

1926.
Jan. 23. Dr. B. R. Ilsley, Veterinary Inspector, Veterinary Branch (died).
Jan. 31. C. Good, District Poultry Instructor, Poultry Branch (resigned).
May 31. Mrs. L. J. Wasson, Stenographer, Minister (resigned).
July 31. Miss W. R. Parsell, Stenographer, General (resigned).
July 31. H. W. Epps, Inspector, Fruit Inspection Branch (resigned).

Temporary Appointments.—An average number of seasonal appointments were made, mostly in connection with seed-potato certification-work.

Buoy Russell Ilsley, V.S.—The older members of the staff were shocked to hear of the unexpected death, following an operation, of Dr. B. R. Ilsley, of Armstrong, who had been in charge of T.B. test-work in the Okanagan and Kootenay Districts for many years. Dr. Ilsley was appointed Veterinary Inspector in succession to Dr. H. H. S. George as far back as February, 1911.

CORRESPONDENCE.

The correspondence of the Department showed a strong upward movement throughout the year; letters received totalled 30,648, an increase of 23 per cent. over the previous year; whilst letters dispatched totalled 28,388, an increase of almost 4,000 letters, or 16 per cent., over the year 1925. The heaviest increases have occurred in this office, that of the Chief Clerk and Accountant, the Live Stock Branch, the Poultry Branch, and the Women's Institute Branch.

The full details are set out in Appendix No. 1, while the general increase in letters mailed out is shown in the following figures: Year 1923, 20,957; 1924, 21,855; 1925, 24,498; 1926, 28,388.

Circular Letters.—The number of circular letters sent out was 27,485, being a decrease on the previous year. The character of these letters is shown by the following grouping:—

Agricultural Associations	1,020
Dairy Branch	4,920
Farmers' Institutes	1,207
Field Crop Branch	5,908
Goat-breeders' Association	1,972
Horticultural Branch	1,475
Miscellaneous	3,745
Poultry Branch	3,050
Statistics Branch	1,840
Women's Institutes	2,348
Total	27,485

POUND DISTRICTS.

During the past year there were less applications than usual for the establishment of pound districts. Three districts were organized, as follows: April 21st, Oliver; July 21st, Okanagan Mission; August 28th, North Kamloops.

The West Nicomen application that had been carried over from 1925 was disallowed by the Hon. Minister after thorough investigation and report.

At the close of the year an application from Westview (Powell River) was under consideration.

During the year the Department was notified that the Municipality of Trail had taken over the administration of practically the whole area included in the Trail East Pound District, and that owing to Creston being incorporated as a village municipality the greater portion of the Creston Pound District was now covered by local by-law.

There were fifty pound districts in force at the close of the year, of which Golden, Hedley, Kaslo, North Saanich, Quesnel, and Willow Point had no pound-keepers appointed.

The following table is a summary of reports received from the various pound districts. No convictions were recorded in 1926.

Operation of Pound Districts, Year 1926.

Pound District.	Estrays captured.		No. of Sales of Estrays.	Amount realized from Sales.	Fees charged for Sustenance.	Fees paid to Pound-keeper.
	Horses.	Cattle.				
Balfour	4	8	1	$15.00	.....	$18.00
B.X.	19	1	9	36.25	$149.00	169.35
Brilliant	5	19	....	.....	.....	5.60
Burton (Carroll's Landing)	12	13	....	.....	.....	7.95
Cowichan	9	54	2	20.00	27.50	59.20
Dewdney	1	11	1	.50	.60	4.00
Harrop	2	....	....	.....	2.00	.....
Ladysmith	1	1	....	.....	.....	3.00
North Bend	....	2	....	.....	.....	5.00
North Kamloops	21	40	....	.....	36.60	16.05
Okanagan Centre	12	....	2	2.00	23.10	29.10
Okanagan Mission	28	11	9	25.50	40.45	33.55
Oyama	14	....	4	13.50	50.28	72.28
Passmore	9	1	....	.....	2.00	1.50
Perry Siding and Appledale	7	19	....	.....	1.30	6.50
Totals	144	180	28	$112.75	$332.83	$431.08

Fourth Annual Ploughing-match at Chilliwack, November 3rd, 1926. View on Yale Road.

ORDERS IN COUNCIL.

Protection Spraying Zones.—On February 4th an Order in Council was approved reducing from 80 to 60 per cent. the number of growers required to petition the Board of Horticulture to constitute a protection spraying zone.

"*Codling-moth Control Act.*"—On April 21st the area within the Kamloops municipal limits was constituted a codling-moth control area and on October 8th the whole of the Okanagan Valley was constituted a codling-moth control area; whilst an additional area adjacent to the City of Kamloops was included on November 24th.

Regulations of the Board of Horticulture.—A revised issue of these regulations was approved on May 14th.

Regulations for Women's Institutes.—A revised issue was approved on November 24th.

LICENCES.

Agricultural poison licences to a total of twenty-one were issued to firms dealing in spray materials, weed-killers, and sheep-dips, where the same contained ingredients as specified in regulations under the "Pharmacy Act."

Horticultural licences were issued to forty-three nursery firms and ten agents, being an increase of nine licences on the previous year.

PROVINCIAL SEED BOARD.

Two meetings of the Board were held during the year—i.e., on March 2nd and May 21st—both in Victoria. Resolutions passed at the first meeting dealt, amongst others, with the difficulty found in producing vegetable and garden seed in competition with imports of same on which little or no duty was collectable; registration of certain seeds proved suitable for British Columbia; necessary changes in the "Seeds Act" *re* percentage of germination for field-root and garden-vegetable seeds, etc.

At the May session the most important resolution passed was one following a report by a committee of the Board *re* duties on vegetable and garden seeds. This was transmitted for action to the Canadian Seed-growers' Association and the Canadian Horticultural Council. Valuable discussions on the production of registered seed in Central British Columbia also took place, showing the necessity of educational work in the various districts interested.

CRUSHED LIME ROCK FOR FERTILIZING.

Four certificates were issued by this office for the special rate on lime to Island points, a total of 90 tons being distributed. This figure, however, does not show the total movement, as lime produced by the Western Canada Lime Company at Popkum and shipped by the Canadian National system does not require a departmental certificate to obtain the benefit of the special rate.

In December the Comox Limestone and Fertilizer Company was incorporated at Courtenay, the object being to sell crushed limestone to farmers at as low a rate as possible, the raw material being obtained from Texada Island. Crushing and pulverizing machinery has been purchased and the company will be in a position to start crushing right after the new year. Application has been made through this office to the Esquimalt & Nanaimo Railway Company for special rates to all points.

FARMERS' INSTITUTES.

Started in the year 1897 with two institutes, this movement has progressed steadily until at the close of the year 1926 there were 147 institutes in good standing, with a membership of 5,930. Whilst a larger membership was actually recorded for one year in 1915, the whole movement is now on a much more solid foundation and institutes are to be found in every part of the Province. The progress in Central British Columbia has been especially notable in the last two or three years.

There are many phases of work undertaken by these bodies. Whilst in the heavily timbered Coast districts the supply of cheap stumping-powder through the arrangements made by the Department has been one of the more important features, in isolated sections in the Interior other features have been quite prominent. Feed, flour, fertilizer, groceries, binder-twine, apple-boxes, seed, pure-bred stock, and numerous other commodities have been purchased at consider-

able advantage to members of these bodies. In the Kootenay sections, where such rodents as gophers and Columbian ground-squirrels are a serious pest, competitions have been organized by institutes amongst the young people, resulting in an abatement of these pests; while in Central British Columbia a good deal of attention has been given by institute members to the production of timothy-seed.

Substantial progress was evident throughout the year with regard to these important rural organizations. Eleven certificates of incorporation were issued by the Registrar, as follows: January 8th, Fort Fraser; April 7th, Topley; April 8th, Sidmouth; May 19th, Fadear Creek; May 25th, Quatsino; June 4th, Palling; June 23rd, Nicola; June 26th, Colleymount; July 13th, Interior; November 10th, Midway; December 29th, Port Kells.

The total number of institutes in good standing at the close of the year was 147, as against 140 in 1925, whilst the membership was 5,930, an increase of 345 members. The twelve institutes with the largest membership were:—

North Vancouver	254	Metchosin	114
Delta	243	Nechako	112
Surrey	190	Coquitlam	109
Islands	148	Kootenay Lake	107
Cowichan	135	Chilliwack	104
Grand Forks	114	Otter District	87

Meetings.

Special requests for Department speakers were received during the early part of the year from the following institutes: Barriere, Bear Creek, Comox, Howe Sound, Metchosin, Pemberton Meadows, Qualicum, Salmon Arm, Sooke, and Whonnock; whilst Tappen was visited by several officials on the occasion of a district meeting *re* the incorporation of a new institute. At several points our officials were accompanied by Mr. A. Morton, Dominion Sheep and Swine Promoter, and Mr. W. Hagar, Egg Inspector for Vancouver Island.

No meeting of the Advisory Board of Farmers' Institutes was held during 1926 owing to the legislative session being postponed to early 1927.

District Institute meetings were as follows: February 3rd, District C, at Prince George; February 12th, District D, at Kamloops; February 12th, District E, at New Westminster; February 25th, Districts F and H, at Nelson; March 4th, District A, at Victoria; September 23rd, District B, at Terrace; October 13th, District I, at Cranbrook; October 27th, District G, at Kelowna.

A special half-yearly meeting was also held at Nelson on September 24th.

A report dealing with the legislative activities of the Board in 1925 was issued by the Secretary, a second edition of 500 copies being required in September.

Fairs held by Farmers' Institutes.

Ten fairs were held during the year by Farmers' Institutes, the majority of which have become well-established events, and as experience has been gained these community efforts in outlying districts have proved themselves fully equal to the fairs put on by the regular Agricultural Associations with their years of procedure behind them. Institute fairs were grouped as follows:—

Circuit I.—Luxton, September 1st.

Circuit II.—Gibson's Landing, August 28th; North-east Burnaby, September 4th; Pemberton Meadows, September 8th; Whonnock, September 14th; Central Park, September 15th; Fern Ridge, October 6th.

Circuit IV.—Fernie, September 7th and 8th; Crawford Bay, September 11th; Boswell, September 14th and 15th.

Co-operative Activities of Farmers' Institutes.

Twenty-nine institutes reported receipts of over $1,000 during the year; the total volume of business for members being slightly less than in 1925. Crawford Bay and Kootenay Lake Institutes showed further increases, the former having a total revenue of $20,462.89. (Appendix No. 2 gives full details.)

FARMERS' INSTITUTES WHOSE RECEIPTS WERE OVER $1,000 IN THE YEARS 1924–26.

Year.	No. of F.I.	Receipts.	Expenditures.	Powder, Fuse, and Caps bought for Members.	Feed, Flour, Hay, Fertilizer, and Seed bought.	Miscellaneous Purchases.
1924	28	$101,866.64	$93,424.92	$32,527.92	$36,198.01	$10,236.76
1925	28	107,753.15	100,551.18	35,412.88	54,563.15	6,449.31
1926	29	103,846.34	95,562.80	31,303.72	48,388.27	7,215.67

STUMPING-POWDER.

The total number of cases of powder supplied to members of Farmers' Institutes and similar bodies in connection with clearing land for agricultural purposes was 11,749 cases, of a value of $76,213.93.

GOPHER-CONTROL.

Work similar to that of the previous year was carried on in 1926. All Farmers' Institutes and farmers' organizations in districts where gophers and Columbian ground-squirrels are a pest were circularized as to the conditions of the departmental grant. The following organizations took active part either in competitions or by other methods for destroying gophers, etc.: Appledale Progressive Association; Balfour Farmers' Institute; Blackpool United Farmers; Burton Potato-growers' Association; Elk Valley Farmers' Institute; Kootenay River Farmers' Institute; Mount Cartier Farmers' Institute; Northern Okanagan Farmers' Institute; Okanagan Centre Farmers' Institute; Rossland Farmers' Institute; Spallumcheen Farmers' Institute; Winfield Farmers' Institute; Winlaw Farmers' Institute.

The best records reported were from Elk Valley, which held two competitions, 1,462 tails, and Appledale, 968 tails. "Cyanogas" a preparation of calcium cyanide, was tried out in several districts with very favourable results. A Department official at Salmon Arm reported as follows:—

"I am pleased to report that we have had wonderful success with 'Cyanogas.' I took the trouble to visit a ground-hog bank that has been infested with ground-hogs for the last ten years and which has been continuously poisoned, trapped, and shot over. Every hole was filled with weeds and covered lightly with earth after the cyanide was placed in the hole, and after three days not one was uncovered. One hole in a stone pile had a rock placed in front and the ground-hog in this hole was lying dead near the entrance.

"I took some cyanide at noon and placed it in about a dozen gopher-holes and returned in a few minutes, passing the first holes poisoned; these holes were not closed up. I found three dead gohpers lying at the entrance of their holes; this was in a very few minutes."

WOMEN'S INSTITUTES.

The year closed with a total of 111 institutes in operation, being a net increase of one over the year 1925. Five Women's Institutes were incorporated during the period, as follows: January 23rd, Howe Sound; April 7th, Tarrys-Thrums; May 17th, Midway; June 14th, Canoe; September 23rd, Edgewood and Fire Valley.

The total membership was 3,127, as against 3,186 last year. This decrease was reflected in some of the larger institutes, which showed a lessened membership as compared with the previous year. The following table shows the figures for the leading institutes:—

	MEMBERSHIP.	
	Year 1926.	Year 1925.
Cranbrook	67	57
Kelowna	61	65
Nelson	60	59
Creston	58	44
Hatzic	56	60
Parksville	55	59
Qualicum	53	80
Kaslo	50	38
Peachland	49	55
Penticton	49	37

Financial.

The total revenue of all institutes for the year was $51,030.34 and the expenditure $41,347.70.

The institutes with revenues over $1,000 were as follows (Kelowna and Victoria again leading as in 1925) :—

Kelowna	$2,271.82;	amount raised	*per capita*,	$37.24
Victoria	2,017.19;	„	„	44.82
West Saanich	1,601.46;	„	„	80.07
Salmon Arm	1,560.60;	„	„	55.73
Vernon	1,427.22;	„	„	31.71
South Saltspring Island	1,329.25;	„	„	34.14
Okanagan Falls	1,269.78;	„	„	52.90
Pitt Meadows	1,034.84;	„	„	54.46
Tappen	1,032.99;	„	„	46.95
Strawberry Vale	1,009.41;	„	„	59.37

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

Sixty-five of these events were held during the year, as against seventy in 1925. The following grouping shows rough details, whilst a full list is contained in Appendix No. 3 :—

(*a.*) *Vancouver Island and Gulf Islands.*—Twenty events, including one fall fair, two bulb-shows, fifteen flower-shows, three health exhibits, etc.

(*b.*) *Lower Mainland.*—Twenty events, including sixteen flower-shows, etc.

(*c.*) *Okanagan and Dry Belt.*—Fifteen events, including one fall fair, fourteen flower-shows, one better-baby clinic, etc.

(*d.*) *Kootenay.*—Fifteen events, including eleven flower-shows, two fall fair exhibits, etc.

PUBLICATIONS.

The total number of bulletins and circulars distributed to the public by mail, etc., was 52,453, this being a reduction on the previous year, due in large part to a more careful issue of departmental literature at the Coast exhibitions, where in past years a somewhat lavish distribution had occurred. The details were as follows:—

Live-stock and mixed farming	12,676
Poultry bulletins and circulars	9,812
Horticultural circulars	13,460
Agricultural Department circulars	5,568
Dairy circulars	2,934
Research bulletins	450
Field-crop circulars	739
Miscellaneous bulletins	3,142
Annual reports	679
Miscellaneous	2,993
Total	52,453

The issue of new bulletins and circulars, as well as reprints, amounted to a total of 53,150. A valuable new publication was Bulletin No. 98, "Roots and Root-growing," by Professor Paul Boving, of the University of British Columbia, which filled a blank long felt in the official literature of the Department.

The following statement shows the details of the various editions:—

Date.	Name.	Description.	No.
1926.			
Jan. 15	Agricultural Legislative Report (Advisory Board of F.I.)		750
,, 27	Spray Calendar, 1926		2,000
Feb. 22	Natural and Artificial Incubation and Brooding (3rd Ed.)	Bulletin 39	2,500
Mar. 2	Cabbage-root Maggot (Revised Ed.)	Hort. Circ. No. 32	1,000
,, 2	Care and Feeding of Dairy Cattle (2nd Ed.)	Bulletin No. 67	2,500
,, 8	Goat-raising in B.C. (4th Ed.)	Bulletin No. 64	5,000
,, 13	Varieties of Fruit recommended for Planting in B.C. (Revised Ed.)	Hort. Circ. No. 64	1,000
,, 22	Vancouver Island and Gulf Islands (4th Ed.)	Agr. Dept. Circ. No. 33	2,500
April 8	Hints on Egg-hatching	Poultry Circ. No. 25	2,500
,, 8	Locust-control	Hort. Circ. No. 63	1,500
,, 19	Grasshopper-control	Leaflet	1,000
,, 20	Climate of B.C. (11th Ed.)	Bulletin No. 27	1,500
,, 27	Agriculture in the Similkameen, etc. (2nd Ed.)	Agr. Dept. Circ. No. 43	1,000
,, 30	Certified Milk and Butter-fat Records	Dairy Circ. No. 11	1,000
May 14	Grasshopper-control (2nd Ed.)	Leaflet	1,000
,, 20	Board of Horticulture Regulations	Leaflet	750
June 1	Bee-keepers' Calendars		500
,, 17	Roots and Root-growing	Bulletin No. 98	2,500
,, 22	List of Publications	Leaflet	1,000
,, 23	Agricultural Statistics, 1925	Bulletin No. 97	1,500
July 28	Rules governing Cow-testing Associations	Dairy Circ. No. 12	1,500
,, 30	List of Publications	Leaflet	1,000
Aug. 9	Report of Department of Agriculture for Year 1925	20th Annual	900
,, 27	Ropy Milk in B.C.	Research Bulletin No. 1	1,000
Aug. 31	Tell the Truth about Cows	Leaflet	3,000
Sept. 14	Apple Scab (Revised Ed.)	Hort. Circ. No. 44	1,000
,, 18	Agricultural Legislative Report (Advisory Board of F.I. (2nd Ed.)		500
,, 22	Peat and Muck Soils (2nd Ed.)	Field Crop Circ. No. 5	1,000
,, 25	Rhubarb Culture	Hort. Circ. No. 67	1,000
Oct. 4	B.C. Fairs Association	10th Annual Report	250
,, 28	Some Facts about B.C. (3rd Ed.)	Agr. Dept. Circ. No. 44	1,000
Nov. 11	A Farm Dairy Sterilizer	Dairy Circ. No. 13	5,000
Dec. 8	Women's Institute Regulations	Booklet	2,000
,, 23	Queensland Scheme of Orderly Marketing	Leaflet	1,000
		Total	53,150

All of which is respectfully submitted.

WM. J. BONAVIA,
Secretary.

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 submit herewith the report on fall fairs held in the Province during the year 1926.

The total number of incorporated Agricultural Associations is now fifty-eight, two bodies having had their charters cancelled during the year by the Registrar of Companies; i.e., the Abbotsford-Sumas Agricultural Association and the Penticton Agricultural and Horticultural Society; no fair had been held at these places for a number of years and the "Societies Act" had not been complied with in the matter of filing returns.

A certificate of incorporation was issued by the Registrar of Companies to the Woodpecker District Fair Association on October 11th; this is a newly developed district in a Land Settlement Board area between Prince George and Quesnel, and two small fairs had been held before incorporation was applied for.

FAIRS HELD.

The total number of exhibitions and fairs held was actually sixty-three, although sixty-seven associations and miscellaneous bodies had reserved dates earlier in the season. This figure is a decrease on the year 1925, when sixty-nine events were held. The following table shows the fairs grouped in the five circuits into which the Province is divided:—

EXHIBITIONS AND FAIRS HELD IN BRITISH COLUMBIA, YEAR 1926.

Exhibitions and Fairs.	Circuit I.	Circuit II.	Circuit III.	Circuit IV.	Circuit V.
Exhibitions	1	3	....	....	....
Fairs held by Agricultural Associations	8	12	4	10	5
Fairs held by Farmers' and Women's Institutes	2	6	1	3	....
Fairs held by miscellaneous bodies	2	....	3	....	3
Totals	13	21	8	13	8

Grand total for Province, 63.

The Knutsford Stock-show, held for so many years on Dominion Day, was omitted.

An outstanding feature of the year was the second annual Winter Stock-show held under the auspices of the Vancouver Exhibition Association. The Apple-show that was staged at the same time was the most notable event in Provincial horticulture since the National Apple-show held in 1910.

JUDGES.

A grand total of ninety-one judges was supplied by the Department, including thirty-nine Department officials and fifty-two from outside sources, as follows:—

	Staff Judges.	Outside Judges.
Fruit and vegetables	13	5
Flowers	1	2
Field crops	7	2
Live stock	7	14
Poultry	4	16
Dairy	3	....
Women's work	2	12
Honey	2	1
Totals	39	52

REPORTS ON FAIRS BY JUDGES.

In spite of the dry and early season, judges' reports were encouraging and indicate that not only were exhibits at most fairs of higher standard, but that the management and general arrangements showed improvement; this is clearly borne out in the table of score-card placings, many fairs having improved their position over the previous year.

The type, colour, and quality of the fruit displayed at the majority of fairs showed that considerable time and thought, with an ideal in view, had been exercise in the selection of exhibits. The recommended standards being printed in the prize-lists have done a great deal toward improving the class of exhibits.

Vegetable exhibits and displays also showed improvement, but there is still considerable educational work to be done as regards varieties, commercial requirements, and importance in the districts.

Floral exhibits are becoming quite an important factor in all fairs, and from now on, with the formation of local horticultural societies, this division will increase in importance.

Most fair committees are adopting more uniform prize-lists, while classes of commercial value and importance for the district are being emphasized and brought to the fore.

Live-stock exhibits were also of high standard, a noticeable feature being the better competition at the smaller fairs in these classes; some local fairs also that had not hitherto provided for live-stock entries now do so, making them thus more truly representative of their communities.

SCORE-CARD RECORD.

The score-card which has now been used by Department judges for three seasons was slightly altered this year after consultation with judges and officials, as follows:—

(*a.*) *Poultry*, maximum *decreased* from 10 to 5 points.

(*b.*) *Support of fair by local exhibitors*, maximum *decreased* from 10 to 5 points.

(*c.*) *Interest of public in exhibits and judging*, maximum *increased* from 10 to 15 points.

(*d.*) *Management of fair*, maximum *increased* from 15 to 20 points.

There was considerable change of positions amongst the fairs in all five circuits, full details being advised to all associations at the close of the season.

EXHIBITIONS.

The three Coast exhibitions maintained the same relative position; all were, however, scored higher than in 1925. New Westminster attained the high score of 93 per cent. Victoria scored 83.5 per cent., a gain practically of 10 points, and Vancouver 84 per cent., with the management rated at the maximum attainable.

Circuit I., Vancouver Island and Gulf Islands (13 Fairs).—The Saanichton Fair headed the list, with the highest score (83.9) hitherto made in this circuit. Ladysmith made the biggest gain, qualifying for third position with an excellent score, although no poultry was shown.

In this circuit six fairs improved their score and three went back. Of the smaller events, Metchosin and Sayward are particularly deserving of mention.

Circuit II., Lower Mainland (21 Fairs).—Matsqui headed the list, also with a record score of 86.4 per cent. for this circuit. This was a not unexpected result as plans had been well laid early in the season. Chilliwack pulled up to second place, with North Vancouver a good third; Surrey, Langley, and Agassiz following, with a practically identical score. Agassiz advanced from thirteenth place in 1925 to sixth this year.

In this circuit nine fairs improved their position and nine fell back, Mission, that headed the list last year, only achieving eighth place.

Circuit III., Okanagan and Dry Belt (8 Fairs).—Salmon Arm led in this circuit with a score of 82.3 per cent., with Armstrong a good second. Ashcroft jumped to third position from the eighth last year and shows evidence of becoming a good district show. Five fairs improved their position in this circuit.

Circuit IV., East and West Kootenay (13 Fairs).—Cranbrook led in this circuit with the highest score hitherto made (79.8), being an increase of 13 points over last year. Fernie, holding their first fair, took the very creditable position of second place with a 75-per-cent. score.

No less than nine fairs improved their position in points in this circuit, the greatest gains being made by Cranbrook and Creston. Trail management was awarded 19 points out of a possible 20, and this fair would be a strong competitor for premier position in the Kootenay Circuit if only live-stock exhibits were included.

Circuit V., Central British Columbia (8 Fairs).—There were two fairs less in this circuit than in 1925, Prince George being cancelled at rather short notice. Smithers again took first place, but with a reduced score (71.9 per cent). Terrace made the best increase in points, being ranked second. Prince Rupert fell back slightly.

GRANTS.

The Agricultural Fairs vote for the fiscal year 1926–27 was $38,000 and exceeded the vote of the previous year by $3,000. A grant of $2,000 was made to the Armstrong and Spallumcheen Agricultural Association at Armstrong to replace certain buildings that had been destroyed by fire, and a payment of an extra $1,000 to the winter poultry-shows, which had been cut this amount since 1924, and an additional sum of $5,000 was provided by special warrant as a grant to the winter stock-show at Vancouver.

The vote allowed a grant of 21 per cent. to be paid to fairs based on the previous year's cash prize-money, as compared with 20 per cent. in 1925.

THE BRITISH COLUMBIA FAIRS ASSOCIATION.

This association attained its highest membership during the past year, fifty-eight Fair Associations and other bodies holding fairs paying their fees to same. A well-attended annual meeting was held at New Westminster on April 6th, at which resolutions were passed dealing with

the giving of instructional talks by judges, the classification of fairs, and the provision of a separate vote for the three Coast exhibitions.

JUDGES' RECOMMENDATIONS.

Considerable useful criticism is included in the judges' reports forwarded to the Department at the close of the fair season and extracts from same are prepared and sent out before the next season's work commences. The following suggestion appeared to be of particular interest: "At many fairs classes of important crops of recognized varieties suitable for the district might be entered in the prize-list, such crops to be judged during the growing season and scored accordingly. This would have an educational value and tend to establish authentic information for new settlers and others. These classes would tend also to impress on growers the value of good seed of good varieties, and demonstrate the value of the more economic methods of handling. The harvested crops could then be exhibited with such information as was necessary, together with score-cards and remarks on the crop."

All of which is respectfully submitted.

WM. J. BONAVIA,
Secretary.

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 my annual report for the year 1926.

SEASONAL CONDITIONS.

The past year has been on the whole extremely mild in practically all sections of the Province. At most points in the Okanagan and the Kootenay the temperature never dropped to zero, and where it did it was only for a very short period. As the trees had gone into the winter in a thoroughly matured condition they started growth in the spring without any winter-injury. This, coupled with the fact that the severe winter-injury of the preceding year had materially shortened the crop, resulted in a very heavy crop of both tree and small fruits. The tree-fruit crop was in fact one of the largest on record in the Interior sections. Mild weather also prevailed in the Coast sections, with the result that the small-fruit crop was larger in many sections than in 1925. Over-wintering vegetables came through the winter in excellent condition.

A serious drawback to the mild winter, however, was the light fall of snow. This, coupled with the fact that most of the melting snow soaked into the ground, made but very little run-off, which is so essential to the filling of irrigation reservoirs. As a result the irrigaion-supply was limited and required careful rationing of the water in practically all districts during the growing period. The fall season was marked by a frost of from 12° to 14° about the middle of September. There was some damage to the tree-fruit crop, although not serious. On the other hand, the onion-crop suffered severely and a loss of approximately 25 per cent. was reported. The tomato season also as a result of this frost was materially shortened, causing a loss to the growers and decrease in the quantity packed.

MARKET CONDITIONS.

It is not the intention of your official to discuss fully the markets and marketing of horticultural products. This has been done by the Markets Commissioner. It is thought advisable, however, that the following points should be recorded in this report:—

The returns on tree-fruits have not yet been compiled, but indications are that they will be lower than for 1925. Small fruits shipped to the fresh-fruit trade were also lower in price than in 1925. The jam and canning trade, however, paid a better price than in the previous year. Hothouse products, such as tomatoes and cucumbers, show an increase in quantity. New markets had to be secured for this crop. The result was that, including spring and fall shipments, ten cars of tomatoes were shipped to Toronto and Montreal and gave most satisfactory returns.

The acreage in cantaloupes showed an increase over the past year. In 1925 approximately twenty-six car-loads were shipped from the Oliver District. In 1926 over forty car-loads were shipped. The prices received were not quite as good as for the previous year, due to the poor returns on the last few cars, which reached the market when climatic conditions were unsatisfactory on the Prairie.

ORCHARD SURVEY.

The last orchard survey made by your Horticultural Branch was undertaken in 1920. This covered the principal tree-fruit areas of the Interior—namely, the territory included in the Okanagan and Kootenay Horticultural Districts. As five years had elapsed since that survey it was thought advisable to undertake another survey. Field-work was finished in the fall of 1925 and the figures compiled during the early winter of 1926. The details of this survey, showing acreage in different tree-fruits in the various districts, has been issued in printed form for distribution. A brief summary giving a comparison of acreage in the two horticultural districts for 1920 and 1925 is appended. (*See* Appendix No. 4.)

SMALL-FRUIT SURVEY.

A survey of the small-fruit acreage has been made by your Horticultural Branch every two years. This was again undertaken during the past season in co-operation with the Statistics Branch. The last survey shows a decrease of approximately 1,000 acres in comparison with the 1924 figures. (For tabulated figures showing acreage devoted to the various small fruits in the different districts *see* Appendix No. 5.)

CROP ESTIMATES AND REPORTS.

In addition to the obtaining of final figures on fruit and vegetable production which it is necessary to secure each year for the Statistics Branch, your Horticultural Branch issues from time to time during the growing season fruit- and vegetable-crop estimates. These are issued through the medium of the News Letter. In addition, reports are issued on crop conditions at various times to newspapers and banks. In order that there may be a uniformity of figures published your Branch co-operates with the Dominion Fruit Branch in the securing and tabulating of these figures.

NEW CROPS.

Under this heading should be mentioned such crops as tobacco, seed-growing, production of bulbs, etc.

During the past year there were between 50 and 60 acres devoted to the growing of tobacco in the Okanagan Valley, principally in the Kelowna District. It is anticipated that 1927 will see a considerable increase in the acreage devoted to this crop, not only in the Okanagan, but in other districts as well.

Seed-growing, while hardly a new industry, is one that is gaining in importance each year. Flower-seed forms the major portion of the seed produced, with perhaps the exception of certain vegetable-seed, such as peas. As stated in previous reports, the growth of the industry will depend upon the development of markets. The security of stock seeds of pure strain for foundation stock is an important phase of this work. This is being undertaken by the Dominion Experimental Farms and Faculties of Agriculture of the various Provincial universities.

Another horticultural crop which is creating increased interest in bulb production. In 1925 British Columbia imported 2,924,585 bulbs. The major portion of these come from Holland. More of the Provincial as well as the Dominion requirements could be produced in British Columbia. At the present time there is between 20 and 25 acres devoted to bulbs in the Province. A large percentage of this acreage is devoted to producing cut flowers. Those, however, who have bulbs for sale find a ready market.

HORTICULTURAL SOCIETIES.

As pointed out in a previous report, a number of Horticultural Societies have been formed, principally at Interior points, for the promotion of interest in amateur horticulture. The number of these societies has been increased during the past year. One of the results has been the holding of some very successful local flower-shows. These have been assisted by officials

of your Branch in various ways, such as in organizing, secretarial work, and in the capacity of flower-judges. An attempt was made to bring these various units together under one head, to be known as the "British Columbia Horticultural Council." Up to the present this has not been successful.

LAND SETTLEMENT BOARD.

Another phase of agricultural work which the officials and particularly the fieldmen of your Branch are asked to undertake is a certain type of field-work for the Land Settlement Board. This comprises appraisal-work for loans and the issuing of information to possible purchasers regarding Land Settlement land which may be for sale.

PRUNING AND PACKING SCHOOLS.

There is always a demand during the winter period for instruction in pruning. Your Branch attempts to meet this demand not only by personal instruction upon individual ranches, but also by the holding of three-day pruning-schools and one-day demonstrations. In the case of pruning-schools a charge of $1 per pupil is made for the three-day course. No charge is made for the demonstrations. During the past year eleven pruning-schools were held, with an attendance of 102. One-day demonstrations, numbering twenty-six, were held, with an attendance of 310. (For detailed information *see* Appendices Nos. 6 and 7.)

There is not the demand for packing-schools that there was a number of years ago. This is due to the fact that there is more centralized packing than formerly. The present demands are principally from outlying districts. This last season only two schools were held, with an attendance of twenty-six pupils. (For detailed information *see* Appendix No. 8.)

BULLETINS AND PRESS ARTICLES.

From time to time bulletins have been issued to meet the demand for information on horticultural subjects. At the present time there is a large number covering a variety of subjects. They require constant revision and it is also necessary to issue bulletins dealing with subjects not already covered. During the past season a bulletin on rhubarb-growing was issued, as well as assistance given in compiling a bulletin on irrigation and issued by the Water Rights Branch of the Department of Lands. It is hoped during the coming year to issue bulletins dealing with cover-crops, cantaloupes, and oil-sprays.

As in past years, the News Letter was prepared and issued by your Branch to all growers and interested parties. This was done only during the spring and summer. The time of issuing changed from weekly to fortnightly.

Press articles dealing with topical subjects have been sent out from time to time and serve to keep the public informed as to what work your Branch is undertaking, as well as giving the widest publicity to certain recommended lines of work which should be carried out by the growers.

INSPECTION-WORK.

Nursery Inspection.—As in the past, your Inspectors have inspected all the principal nurseries in the Province. This work ensures the shipment of tree-fruits to purchasers that are free from disease and insect pests. During the past year there was a total of 93,800 trees inspected; 6,160 or 6.5 per cent. of these were condemned and destroyed.

Car Inspection.—While the old policy of spraying for codling-moth control was dropped at the end of 1925, it was thought advisable to continue the inspection and treatment of all fruit-cars entering the Okanagan and Kootenay fruit-districts during the months of August and September.

Inspection of Imported and Exported Plant Products.—This work officially comes under the supervision of the Inspector of Imported and Exported Horticultural and Field Products. It has been necessary, however, for the officials of your Horticultural Branch to undertake inspection of certain shipments arriving at outside points. The same also applies to inspection of plant products originating at outside points for export and which may require an export certificate. Fruit and vegetable export shipments from the Okanagan require these export certificates. Details as to number of export certificates issued will be found in the report of your Inspector of Imported and Exported Horticultural and Field Products.

COMPULSORY SPRAYING.

It was decided by the Government that the old system of quarantine areas and the spraying of same for the control of codling-moth would be discontinued at the end of 1925. Districts were, however, given the opportunity of forming compulsory spraying zones. An Order in Council was passed which made this possible upon receipt of a petition from any district signed by 60 per cent. of the growers. Your Branch also thought it advisable that there should be certain regulations as to the number of spray-machines. This requirement was finally placed at one 4-horse-power machine for every 50 acres. Regulations were also drafted based upon the "Agricultural Act," Part II., R.S.B.C. 1924, which outlined the actual spraying requirements and penalties for non-compliance. Because of certain deficiencies in the Act under which this work would have to be carried out no spraying zones were formed. It is expected, however, that with the amendment to the Act which it is proposed to make at the next meeting of the Legislature there will be a number of zones established during the coming year.

DEMONSTRATION-WORK IN THE CONTROL OF DISEASES AND INSECTS AFFECTING TREE AND SMALL FRUITS.

In order that recommendations made by the officials of your Branch should be more effective it is essential that demonstration-work of various kinds be carried out. With this in mind a number of demonstrations in the control of diseases and insects affecting both tree and small fruits have been carried out in the past and will be continued and extended in the future. The following will give some idea of the work undertaken in 1926 and to be undertaken in 1927:—

Apple-scab (Venturia inequalis) Sprays.—Control-work for apple-scab was carried out at Salmon Arm and Willow Point. As to the Salmon Arm work, C. R. Barlow, District Field Inspector, makes the following statement at the conclusion of his report on this work:—

"The conclusion to be drawn from the results appear to be: (1.) That in a season when precipitation is moderate or light even the weakest solutions of lime-sulphur used will control apple-scab effectively in the Salmon Arm District. (2.) That in such a season the use of spreaders with the lime-sulphur is of little or no benefit."

While one phase of the above work was to ascertain the value of spreaders in scab-control, the work as undertaken at Willow Point by E. C. Hunt, District Horticulturist, and J. W. Eastham, Provincial Plant Pathologist, was to ascertain the value of liquid lime-sulphur as against dry lime-sulphur, both from the standpoint of effectiveness of control and relative cost of spray materials. This is a repetition of the work as carried out in 1925. It is not necessary to include the whole report of the work done in this report. A couple of statements taken from Mr. Hunt's report sums up concretely the results of this work: "(1.) The results this year are also more in favour of the liquid lime-sulphur. (2.) On the basis of this season's work, as well as that of last year, the dry lime-sulphur brands will have to be put on the market at prices much lower than the lowest quoted to have much chance of displacing the liquid form in commercial orchard work."

Cherry Blossom-blight (Monilia oregonensis) Spray.—This work, carried out in 1925 by E. W. White, District Horticulturist, was continued in 1926 along similar lines. The following is an extract from his report: "The severity of the infection in 1926 was materially less than in previous years, but whether this was due to the spraying or general climatic conditions is hard to determine. It is proposed to continue this work in 1927."

Rose-scale (Aulacaspis rosæ) Spray.—Work carried out during the past season in the Mission District by G. E. W. Clarke, District Horticulturist, is a continuation of work started by W. Downes, Assistant Entomologist, during the previous year. Mr. Clarke reports on this work as follows:—

"A spring spray control for the rose-scale was applied this year with very favourable and decided results in favour of the whale-oil soap application which proved very satisfactory for the fall spraying the previous year.

"On March 26th the weather was warm and the scale had the general appearance of loosening from the canes. Sprays were applied at this time and on April 2nd specimens were taken and forwarded to Mr. W. Downes at Victoria."

The following is a copy of the report received on the sprays used:—

"The canes were beginning to wither when I received them, and on this account the mortality shown as the result of lime-sulphur and oil sprays may not have been as high in reality,

as many of the insects may simply have been dead or dying from lack of nourishment, most of them being still plump. On the other hand, there was no doubt whatever as to the effectiveness of the soap sprays, the dead insects being shrunken and evidently dead for several days, and the eggs also showing the characteristic effect of soap sprays.

"Whale-oil soap, 1 lb. to 1 gallon, cold, 100 per cent. dead. Eggs killed.
Whale-oil soap, ½ lb. to 1 gallon, hot, 99 per cent. dead. Eggs killed.
Liquid lime-sulphur, 1–16, 69 per cent. eggs unaffected.
Allover oil, 1–12, 71 per cent. eggs unaffected.
Dormoil, 1–12, 47 per cent. eggs unaffected.
'Para' spray, 1–48, hot, 41 per cent. eggs unaffected.

"From this it would seem that soap sprays can be applied in the spring with success. The results with the other materials are only approximate, the amount of scale material being insufficient to obtain an accurate idea of the effect, but they indicate that such materials are of very little value for rose-scale control unless used very much stronger."

Cherry Fruit-fly (Rhagoletis cingulata) Spray.—This insect has made its appearance in certain of the Kootenay cherry sections. With regard to this insect, E. C. Hunt, District Horticulturist, reports as follows: "This much-dreaded pest has made its appearance in a few of the cherry-orchards in the Boswell District. The flies were first reported in 1924, and were quite bad in 1925 in a few trees. In 1926 some spraying was done for the control of this pest, the work being carried on by Mr. Ginol at Ginol's Landing, near Boswell, B.C. The following remedy was used: ½ lb. of arsenate of lead, 2 quarts of syrup or molasses, and 10 gallons of water. One pint of this solution is enough to effectively spray a full-size cherry-tree. Three such sprays are required during the season for the control of the flies. This spray is applied as coarse drops on the foliage of the trees, special attention being paid to the sunny side of the trees, where most of the flies are found and will feed on the sweetened poison bait. The first application should be promptly made on the appearance of the first flies, which is usually in this section about June 10th. The second application is put on in two weeks' time and the third two weeks after the second. Mr. Ginol followed the above instructions this past season, and he states: 'The spray was most satisfactory, and I have not seen a maggot in a cherry this year.' Last year and this year where spraying was not carried out the cherry-maggot was present on a number of varieties of cherry-trees. The May Duke and Olivet seemed to be worst, although some of the Royal Anns and other sweets were infected."

Strawberry Leaf-roller (Ancylis comptana).—E. C. Hunt, District Horticulturist, reports that this pest is found in almost all the strawberry-fields in the Slocan Valley and South-west Kootenay. Growers in those sections are experiencing heavy losses and in some cases over half the crop has been destroyed. Control measures are being planned for the season of 1927.

Strawberry Root-weevil (Otiorhynchus ovatus).—This is one of the most important pests attacking strawberries. It is found not only in the Coast sections, but in the Kootenay sections as well. There have been a number of controls recommended and your staff has worked with the Dominion Entomological staff in attempting to arrive at some satisfactory control that might be considered as commercially feasible. During the past year a poisonous bait has been used with most satisfactory results and this work will be continued during the coming year. The weevil-bait, however, is at the present time being recommended to the growers, and as it will be manufactured in British Columbia during the coming year there will likely be large quantities used.

Previous to trials with bait the weevil-barrier was recommended and had been used commercially. In order to demonstrate the efficacy of the barrier system your Horticultural Branch in 1919 established a plot of 5 acres at Gordon Head on the ranch of Councillor G. A. Vantreight. In addition to control methods worked out on this plot, production figures were also kept and a regular rotation followed. As the results of this plot have been recorded in each annual report it is thought advisable that they again be presented. The following is an extract from the report of E. W. White, District Horticulturist:—

"*Demonstration Strawberry-plot, Gordon Head.*—Control of Lot 5 in this plot was relinquished when the plants were removed in the fall of 1925, after the harvesting of the second crop. However, control has been retained over Lot 6, which bore its first crop of strawberries in 1926.

Oats and barley, Prince George.

Settler's home and garden near Telkwa, owned by J. G. Donaldson.

"Opportunity is taken at this time to express appreciation for the earnest way in which Councillor G. A. Vantreight carried out the work on the plot during the year. Councillor Vantreight has kept accurate records on Lots 1, 2, 3, 4, and 5 and this information is available to the Department.

"The work in connection with the weevil-barrier was very carefully and efficiently carried on by Wm. Downes, Assistant Entomologict, Dominion Entomological Branch.

"The following is a summary of the work carried out on the various lots during 1926 and a summary of crops grown since the inception of the plot in 1919:—

"*Lot 1.*—1919, clover; 1920, Sir Walter Raleigh potatoes; 1921, planted to strawberries; 1922, first crop; 1923, second crop; 1924, third crop, seeded to fall wheat; 1925, seeded to clover and rye-grass, wheat cut for hay; 1926, clover. The crop was cut on June 5th, raked on June 9th, cocked on June 10th, and hauled in on June 30th. The crop was a most excellent one, yielding approximately 4 tons of hay.

"*Lot 2.*—1919, Sir Walter Raleigh potatoes; 1920, planted to strawberries; 1921, first crop; 1922, second crop, seeded to fall wheat and clover; 1923, reseeded to clover, wheat cut for hay; 1924, clover; 1925, clover; 1926, clover. The crop was cut on June 4th, raked on June 9th, cocked on June 10th, and hauled in on June 30th. The crop was light, yielding approximately 2 tons of hay. This lot was ploughed on August 5th and harrowed twice on September 27th.

"*Lot 3.*—1919, fall wheat; 1920, oats and vetch; 1921, Sir Walter Raleigh certified seed-potatoes; 1922, planted to strawberries; 1923, first crop; 1924, second crop, seeded to fall wheat; 1925, east and west sides killed out, these portions seeded to oats, whole lot seeded to clover and rye-grass, wheat and oats cut for hay; 1926, on the east and west sides there was no catch of clover and rye-grass, so these portions were ploughed on February 10th, seeded with 65 lb. of oats on March 3rd, and harrowed in the same day. On June 4th the clover-hay on centre half of the lot was cut; it was raked on June 9th and cocked on June 10th. The oat-hay on the east and west sides was cut on June 24th, raked on June 26th, and cocked on June 27th. On June 30th the clover-hay was hauled in and was an excellent crop of about 2 tons. On July 1st the oat-hay, which was a light crop of about 1 ton, was hauled in.

"On August 6th the portions of this lot which were in oat-hay were ploughed and they were harrowed twice on September 27th. On December 6th the remainder of this lot, which was in a one-year clover-sod, was ploughed also.

"*Lot 4.*—1919, planted to strawberries; 1920, first crop; 1921, Sir Walter Raleigh certified seed-potatoes; 1922, oats seeded to clover, reseeded to clover in fall; 1923, again reseeded to clover in the spring, volunteer crop of oats, some clover and grass; 1924, clover; 1925, clover; 1926, clover. The crop was cut on June 5th, raked on June 9th, cocked on June 10th, and hauled in on June 30th. It was a fair crop estimated at about 2 tons.

"On August 5th and 6th this lot was ploughed and on September 27th it was harrowed twice.

"*Lot 5.*—1919, fall oats; 1920, spring oats seeded to clover; 1921, clover; 1922, Sir Walter Raleigh certified seed-potatoes; 1923, planted to straw-berries; 1924, first crop; 1925, second crop, seeded to fall wheat; 1926, wheat-hay. The crop was cut on June 9th, raked and cocked on June 12th, and hauled in on July 1st. The crop was very fair and estimated at about 2 tons.

"On December 3rd and 4th this lot was ploughed.

"*Lot 6.*—1919, fall oats; 1920, English Wonder peas, ploughed down June 10th and Sir Walter Raleigh potatoes planted, seeded to fall wheat; 1921, seeded to clover, wheat cut for hay; 1922, clover; 1923, clover; 1924, Sir Walter Raleigh certified seed-potatoes; 1925, planted to strawberries; 1926, first crop.

"The spring crop on this lot consisted of five cultivations and four hoeings. It was necessary to cut the runners on May 21st and the straw was laid and set on May 22nd and 23rd.

"The first picking of the spring crop was made on May 25th and the last on July 2nd. On the next day the plants were cut down and the straw and leaves burnt on July 7th. On July 9th the patch was hoed and on July 12th it was cultivated and irrigated.

"The fall work consisted of five cultivations and three hoeings. It was also necessary to cut the runners on August 20th.

"The spring crop was one of the largest harvested on the demonstration plot and the fall crop was almost equal to a spring crop in a poor season.

"The following table shows the dates of picking and the quantities of both crate and jam berries harvested for the spring and fall crop in 1926:—

Date of Picking.	Variety Magoon.		
	Crates.	Hallocks.	Lb. Jam-berries.
May 25	3	.....	.....
,, 30	17	8	.....
June 2	32	8	.....
,, 5	69	6	.....
,, 9	89	.....	.....
,, 10	19	12	.....
,, 13	72	.....	.....
,, 14	5	.....	.....
,, 18	61	.....	.....
,, 19	15	.....	.....
,, 20	15	12	.....
,, 23	12	.....	.....
,, 23	.....	.....	210
,, 23	.....	.....	10
,, 24	.....	.....	252
,, 25	.....	.....	153
,, 30	.....	.....	153
July 2	.....	.....	31
Totals	409	46*	809

* Or $1^{22}/_{24}$ crates.

Fall Crop.

Sept. 3	1	18	.....
,, 10	1	14	.....
,, 14	3	.....	.....
,, 17	4	.....	.....
,, 18	5	.....	.....
,, 21	1	6	.....
,, 22	7	.....	.....
,, 24	8	.....	.....
,, 25	4	.....	.....
,, 28	3	.....	.....
,, 30	8	.....	.....
Oct. 2	8	.....	.....
,, 5	6	.....	.....
,, 9	6	19	.....
,, 12	2	.....	.....
,, 13	4	5	.....
,, 15	6	.....	.....
,, 16	8	.....	.....
,, 19	6	12	.....
,, 20	2	12	.....
,, 21	4	.....	.....
,, 23	1	2	.....
,, 26	3	.....	.....
,, 30	2	.....	.....
Nov. 3	1	.....	.....
,, 5	6	.....	.....
,, 6	1	.....	.....
,, 12	4	.....	.....
,, 13	4	5	.....
,, 18	1	.....	.....
,, 20	2	.....	.....
,, 26	1	.....	.....
Totals	123	93*	.....

* Or $3^{21}/_{24}$ crates.

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

$410\,^{22}/_{24}$ crates at average price of $2.50	$1,027.29
809 lb. jam-berries at 11 cents	88.99
$126\,^{21}/_{24}$ crates at average price of $2.74	347.64
Total gross receipts	$1,473.92

"*Irrigation of Lot 6.*—The Gordon Head District having a domestic supply of water, furnished from the Victoria waterworks system, which can also be used for irrigation purposes, Mr. Vantreight decided to irrigate Lot 6 at his own expense."

EFFECTIVENESS OF SPRAY MATERIALS.

Trials with various spray materials were carried out during the past year. This was undertaken to demonstrate the effectiveness of certain new materials in comparison with materials already in common use. In other cases it was undertaken to determine time and, if possible, secure cost data in the use of certain sprays.

Oil Sprays.—Reporting on this work which was carried out in 1924 and 1925, H. H. Evans, Assistant District Horticulturist, makes the following statement: "The only work with oil sprays in the past year was on the original plot, which is still being sprayed to note any effects of cumulative oil injury."

Arsenical Sprays.—The fruit-growers of the Province have in the past and even at the present time used exclusively arsenate of lead as an insecticide in combating leaf-eating insects. In some of the fruit-growing centres of the East calcium arsenate has been used. For the past three seasons your Branch has tried out these materials in order to observe and record whether or not there was any burning action on fruit and foliage, the comparative value of these materials from an insecticidal standpoint, and their action in combination with other sprays. It is impossible to report in detail on this work, but the following summary by H. H. Evans, Assistant District Horticulturist, explains briefly the finding up to the present:—

"Applications of calcium arsenate over three seasons under variable climatic conditions has resulted in no burning or russeting of foliage or fruit.

"Arsenate of lead has shown consistently slightly better control of leaf-roller than that obtained from calcium arsenate.

"The addition of calcium-caseinate spreader to both arsenicals has given slightly the best results.

"Calcium arsenate in combination with lime-sulphur shows no apparent chemical reaction, as there is evident no deposit of sludge.

"Arsenate of lead in combination with lime-sulphur causes a decided reaction and the deposit of a black sludge in the spray-tank.

"Several authorities seem agreed that this combination creates an excess of free soluble arsenic. To the writer's knowledge the above combination will cause severe burning under certain atmospheric conditions.

"The addition of 2 to 3 lb. of lime per 100 gallons of spray to the above combination practically eliminates this objectionable reaction. The addition of calcium-caseinate spreader at the rate of 1 lb. to 80 gallons of spray also assists in retarding the chemical reaction. In any case the lime-sulphur should be put in the tank last, and just before the spraying commences.

"From close observation regarding the sticking qualities of calcium arsenate and arsenate of lead the latter has proved superior.

"Calcium arsenate has apparently come to stay as a spray material in the fruit-growers' programme, as the difference in its cost and that of arsenate of lead is an economic consideration."

It is proposed to carry on this work for another year.

Codling-moth Sprays.—Tests were commenced this year to determine the correct number of sprays and the best times of application in the control of codling-moth. This work was undertaken by B. Hoy, Assistant District Horticulturist. This work will be continued in 1927.

Green Aphis Sprays.—To determine the efficiency and comparative cost of materials in the control of green aphis a series of sprays were applied composed of various new materials as

well as those already in use. The results show that our present recommendations for the control of green aphis are quite satisfactory.

VEGETABLE VARIETY AND FERTILIZER WORK.

With a view to ascertaining the possibility of growing certain vegetables from the standpoint of value for canning and shipping purposes as well as for seed-work, this Branch secured a small quantity of seed for trial purposes last spring. A brief summary of the work undertaken follows:—

Corn Varieties.—The following varieties were tried out at Vernon: Golden Bantam, Kendall's Early Giant, Leonard's Narrow Grain, Country Gentleman, and Stowell's Evergreen. These varieties, if they will mature in the ordinary season, could be used for shipping green as well as demonstrating the possibilities of this crop from a canning-factory standpoint. Some of these varieties will be tried out in 1927 with additional varieties.

Asparagus.—A small quantity of Mary Washington seed was secured and placed with growers for trial purposes. This is a new variety and it is hoped that it will prove satisfactory in this Province, when it could be used not only in the vegetable-shipping business, but for cannery purposes as well. The fact also that it is a pure strain would make it possible to put in on the seed market. It will be three years before it comes into commercial production. It is hoped to increase the plantings in 1927.

Lima Beans.—Three varieties of this bean—Fordhook Bush Lima, Burpee's Improved Bush Lima, and Henderson's Bush—were tried in the Oliver section during the past summer. It was felt that, in view of the fact that this bean is imported from the South, it would be advisable to demonstrate whether or not this crop could be grown in British Columbia. The results obtained, while not outstanding, were sufficiently satisfactory to warrant a further trial during the coming season.

Onions and Tomatoes.—Fertilizer-work on these crops was carried out as a continuation of last year's work. Tomatoes showed satisfactory results. Onion records, however, were not kept as the plot on which the work was done was badly infested with wireworm and cutworm. It is hoped that it will be possible to continue this work, and if so a report may be made at the end of 1927.

Celery.—Fertilizer and storage tests were undertaken with this crop. The fertilizer-work was undertaken with a view to ascertaining whether or not it would be possible to improve the quality and increase the yields in celery in districts where it is of commercial importance. The tests were very comprehensve, embracing as they did a number of plots and a number of fertilizers in combination and separately. The results, while too detailed to be given in this report, may be said to have been very satisfactory. Before a report is issued in detail it is advisable that the work be carried on for another year at least.

In conjunction with this work celery-storage tests were undertaken. One crate of celery from each plot was obtained by the Department and placed in cold storage for observation on the keeping qualities of the celery grown with various fertilizer applications. The results were very satisfactory and warrant a continuation of the work.

ORCHARD FERTILIZER TESTS.

In the Okanagan Valley our work with fertilizer in orchard tracts was continued. This has proven very satisfactory and by following out this work for another year it should be possible to make a complete report with recommendations.

Fertilizer-work on fruit-trees was also undertaken on Vancouver Island. Various fertilizers as well as lime were used. Reporting on this work, E. W. White, District Horticulturist, makes the following statement: "Results were not of a very tangible nature this year. The crop was extremely light and scattered and no record was kept of it. The trees had received quite a severe pruning-back in the spring and most of them responded with a fair amount of new growth, while on some the new growth was negligible. It was not possible this year to correlate the new growth with the application of the fertilizers."

It is intended to repeat the experiment in 1927.

PEST-CONTROL WORK.

San Jose Scale (Aspidiotus perniciosus).—As pointed out in the 1926 report, there are only two sections where this scale is found—namely, Kaslo and Spences Bridge. In the Kaslo Dis-

Tobacco at Kelowna. (Kennedy Plantation on Belgo lands.)

trict the area under quarantine was again sprayed with the dormant spray of oil. E. C. Hunt, District Horticulturist, reports as follows on the work which was undertaken: "The quarantine area at Kaslo for the San Jose scale was again sprayed this year by the Department. This year the area was sprayed on March 17th to 20th. Two brands of oil spray were used this year, Ortho Kleenup Oil and Allover Oil. The Allover Oil spray was used for the first time this year. An 8-per-cent. solution was the strength used of both materials, and both gave very satisfactory results in the control of this pest. The Allover Oil, coming from Penticton by local freight, cost 47 cents f.o.b. Kaslo, while the 1925 price of the Ortho Oil was 43 cents f.o.b. Kaslo, this latter material being put out by the California Spray Chemical Company. This area was thoroughly inspected this summer and fall by Dominion and Provincial Entomologists and reported (as far as it was possible to tell) the scale eradicated, and this area has now been lifted from quarantine."

While the quarantine has been lifted, it has been thought advisable to apply another oil spray next spring. This should remove all doubt as to eradication.

As to the Spences Bridge area, it may be stated that no scale is to be found in the orchards, and in the surrounding area the control measures as carried out in the past were repeated in 1926.

Fire-blight (Bacillus amylovorus).—The blight inspection as carried out in the past was again undertaken in 1926. Our reports show that in the Okanagan Valley the fieldmen of your Branch inspected 17,201 acres, of which 12,258 acres passed inspection as free from fire-blight infestation. Work on fire-blight inspection and assistance to growers was also carried out in the Kootenay sections where fire-blight was prevalent.

Codling-moth (Cydia pomonella).—While the quarantine-work as carried out in previous years was discontinued, codling-moth control work was undertaken in certain districts. In some cases assistance was given under the "Codling-moth Control Act"; in other cases the work was undertaken by the Department and paid for by groups of growers. Work of a similar nature will in all probability be undertaken in 1927.

Grasshopper-control.—This work was again undertaken by your staff in 1926 and along similar lines to that which had been carried out in previous seasons. It will likely be necessary to carry out this work again in 1927, although it is anticipated that the requirements will not be so heavy in the horticultural districts as in previous years.

FALL FAIRS.

Your Horticultural staff were kept busy during the late summer and early fall acting as judges at the various fall fairs held throughout the Province. The number of fairs was approximately the same as last year. A full report on each fair was submitted by the individual judge to the Secretary of the Fall Fairs Association. In addition to these fairs, assistance was also given at the time of the Potato, Bulb, and Seed Show in the judging of potatoes, vegetable and flower seeds. In co-operation with the Dominion and University officials, the judging of the entries at the National Apple-show in Vancouver was undertaken.

LECTURE-WORK.

Lectures have been given as requested on various horticultural subjects. This, together with the press-work which your officials are able to do, helps materially in bringing to the attention of the public the best methods to follow in the different horticultural lines.

ACKNOWLEDGMENT.

Your Horticulturist wishes to take this opportunity of expressing his appreciation of the assistance which he has received at all times during the past year from his own staff as well as from Dominion and University officials.

Respectfully submitted.

W. H. Robertson,
Provincial Horticulturist.

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, 1926.

With the object of preventing the importation of any destructive insect pest or plant-disease of economic importance to the industrial interests of the Province, all imported plant products were carefully inspected.

The inspection of plant products exported from this Province to other Provinces and countries was carried out to the extent deemed necessary and within the appropriation allotted to this Branch of your Department. The reason for so doing was that of protecting the reputation of our products in foreign markets and compliance with the plant-quarantine laws of other countries.

INSPECTION OF IMPORTED FRUIT AND VEGETABLES.

The inspection of imported fruit and vegetables, including rice, corn, peas, and beans, was carried out at points of entry into the Province where Provincial Quarantine Officers were stationed.

Quarantine Officers stationed at points other than Vancouver and Victoria were paid for actual time incurred owing to the work not being sufficient to occupy the whole of their time. The six officers, two clerk-stenographers, and your Inspector stationed at Vancouver received an annual salary in monthly payments. At Victoria one officer only received a regular salary, his one assistant being paid for actual time incurred.

CERTIFICATES AND FEES.

Inspection certificates were issued and fees collected on fruit and vegetables that passed inspection, bar certain varieties not so liable to carry injurious pests or disease. All condemned products were shipped out of the Province by the most direct route or destroyed at the expense of the shipper or consignee.

UNITED STATES BOUNDARY INSPECTION.

Besides commercial shipments of fruit and vegetables imported through ports along the United States boundary, small quantities sometimes involving pests or disease are brought in by tourists or other travellers. Such material, though insignificant in value, is capable of establishing serious pest or disease in the Province and necessitates inspection or rejection.

Owing to the limited population at certain points of entry men were not always available to act as Inspectors. Under those circumstances, by permission of the Customs Department at Ottawa, Customs officers stationed at points mentioned were trained to act as Provincial Inspectors of imported fruit and vegetable products. They were paid by the Provincial Government for actual time incurred in such inspection, which usually amounted to only a few hours each month.

CUSTOMS OFFICERS ORDERED TO CEASE ACTING AS PROVINCIAL INSPECTORS.

On September 1st, without previous warning, your Inspector received notice that orders had been issued from the Customs Department at Ottawa that Customs officers must cease acting as Provincial Inspectors of imported fruit at once. In reply to written consultation with the Hon. the Minister of Customs, your Inspector was advised that imported fruit and vegetables subject to Provincial inspection would be allowed to enter only such ports where Provincial inspection was provided. He was also advised that it was not desirable to provide Provincial Inspectors at all the small ports of entry into the Province.

Owing to some of the important points of importation being provided with Provincial Inspectors who were not Customs officers, your Inspector was able to make arrangements preventing as much confusion as possible for the time being.

NOTICES POSTED AT BOUNDARY.

Complying with the resolution passed at the annual convention of the British Columbia Fruit-growers' Association at Vernon, January, 1926, a conspicuous notice was displayed at each of the boundary ports. The notice called the attention of tourists and travellers to the Provincial regulations prohibiting the entrance into the Province of any fruit or vegetables infested with insect pests or infected with disease.

NEW APPOINTMENTS AT BOUNDARY POINTS.

The following Quarantine Officers were appointed, taking the place of Customs officers who had been ordered to cease acting as Provincial Inspectors of imported fruit and vegetables: Geo. M. Thrift, at White Rock, B.C.; R. P. Johnson, at Kingsgate, B.C.; R. Williams, at Newgate, B.C.; W. H. Dawes, at Sidney, V.I., B.C.

Other new officers will be appointed to fill vacancies along the boundary as required, but some of the less important ports may remain closed to the entrance of fruit and vegetables.

FRUIT, ETC., FROM OTHER COUNTRIES.

Although by far the largest quantity of fruit and vegetable products are imported from the United States, a considerable percentage arrives from many other parts of the world, and consist of the following: Oranges and rice from Japan; oranges, grapefruit, peanuts, yams, taro, and rice from China; walnuts and corn from Manchuria; rice from Singapore; bananas, pineapples, cocoanuts, and yams from Fiji Islands; oranges, lemons, grapes, and onions from Australia; bananas and pineapples from Hawaiian Islands; bananas, pineapples, limes, nuts, and corn from South America; lemons and nuts from Italy; grapes and nuts from Spain; figs and dates from Turkey.

PESTS AND DISEASES FOR WHICH PRODUCTS WERE CONDEMNED.

Apples and pears from the United States infested with codling-moth larvæ; sweet cherries from United States infected with brown-rot; oranges from California, U.S., infested with scale-insects (*Aspidiotus auranti* and *Mytilaspis*); grapefruit from Florida, U.S., infected with stem-end rot; lemons from Italy infested with *Aspidiotus auranti;* tomatoes from Mexico infested with tomato-worm (*Heliothus armager*); potatoes from United States infected with *Fusarium* rot; sweet potatoes from United States infected with black-rot; sweet potatoes from China infested with weevil (*Cylas formicarius*).

PESTS AND DISEASES FROM OVERSEAS.

Owing to the British Columbia seaports being the first line of defence against the numerous plant pests and diseases prevalent in various parts of the world, a sharp lookout is maintained. All manifests of ships arriving from foreign countries are carefully checked by your Inspector's staff of Quarantine Officers. Any products liable to carry serious insect pest, fungus or bacterial disease are held for inspection. A Quarantine Officer is within convenient call during the inspection of passengers' baggage by the Customs officers, who are instructed to report to him any plant products they find.

OTHER PRODUCTS FUMIGATED.

In the event of rice, corn, peas, beans, peanuts, etc., arriving badly infested with moth, beetle, or weevil, the consignee is given the option to fumigate or ship out of the country.

PEA AND BEAN WEEVIL.

Of the pests infesting imported storage products, the two species of *Bruchus* weevil attacking peas and beans are most important. These particular insects will remain in the product during the storage period and the next season's crop is infested by the pest being carried to the field at the time the seed is planted. For that reason hundreds of tons of peas and beans from United States, Eastern Canada, and Japan have been fumigated at Vancouver.

A tabulated list of fruit, vegetables, etc., imported and inspected during 1926 accompanies this report. It also includes similar importations during 1925 by way of comparison. The amounts of that which was condemned and that which was fumigated are also given.

IMPORTED NURSERY STOCK.

Trees, shrubs, plants, and bulbs are all included in the term "nursery stock" and must come to Vancouver for inspection, and certain trees and shrubs for fumigation, unless a permit has been obtained by the consignee to have a particular shipment inspected at some other point in the Province. So far the permit referred to is confined to greenhouse and herbaceous plants, including bulbs, from other parts of Canada, and to outdoor trees and shrubs from Alberta, Saskatchewan, or Manitoba. That referring to trees and shrubs is limited to residents in the East Kootenay District, in which case arrangements were made in 1925 to have the stock inspected at Cranbrook.

Permission to inspect greenhouse plants and bulbs at points other than Vancouver was granted several years ago, but it has not always been convenient to carry it out. During the latter part of 1926 it was decided to arrange for systematic inspection at certain points in the Province where it would be most convenient for the District Horticulturist or Field Inspector to do the work.

REASON FOR PERMIT.

The permit is necessary in connection with imported nursery stock to which a concession has been granted for two very particular reasons: First, to ensure its inspection in connection with the special arrangement under which it is imported; secondly, to avoid confusing the transportation companies regarding the proper place to deliver the shipment.

CONSIGNEE MUST APPLY FOR PERMIT.

Application for permits must be made by the consignee to the Chief Inspector of Imported Plant Products, Court-house, Vancouver. The application should contain the name and address of both consignee and shipper, also the kind and quantity of stock required and whether to be shipped by freight, express, or mail.

If the permit is granted, the consignee is provided with an official address-tag authorizing the transportation company to deliver the shipment to a certain place for inspection. The tag is forwarded to the shipper by the consignee at the time the stock is ordered, so it can be attached to the shipment.

DOMINION PERMITS.

The regulations under the Dominion "Destructive Insect and Pest Act" provide that every person who imports nursery stock into the Dominion of Canada must first apply to the Secretary of the Destructive Insect and Pest Act Advisory Board, Department of Agriculture, Ottawa, for a permit to import. This permit must not be confused with the British Columbia Provincial permit already referred to, as it applies exclusively to nursery stock from foreign countries. All such importations entering by way of British Columbia must be inspected at Vancouver, and the same Dominion ruling applies to foreign importations entering by way of any other port if the shipment is intended for British Columbia. For that reason the inspection-work at Vancouver was carried out by your Inspector and his staff as usual in compliance with the agreement in 1912 between the Dominion and our Provincial Department of Agriculture.

LIST OF NURSERY STOCK IMPORTATIONS.

A tabulated list of the nursery stock imported and also that condemned is included with this report. The insect pests and diseases responsible for part of the stock being condemned were as follows:—

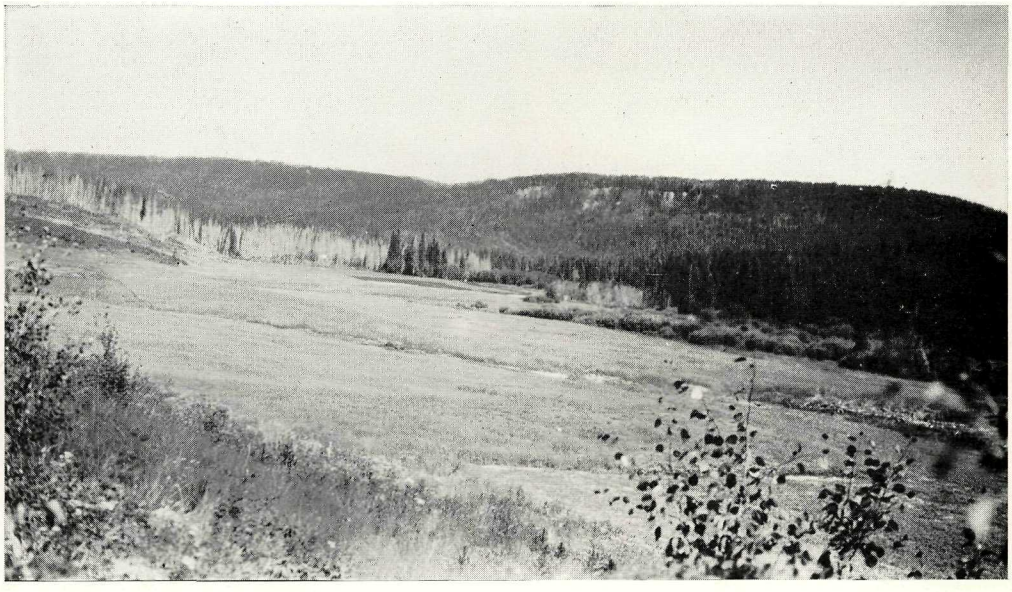
Scale-insects: *Aspidiotus perniciosus* and *ostræformis* on fruit-trees from the United States; *Aspidiotus forbesi*, *hedera*, and *rapax* on fruit and ornamental trees from the United States, Europe, and Japan; *Chionaspis* on ornamental shrubs from Japan; *Aulacaspis* on raspberry-canes from the United States; *Lecanium caprœ* or *coryli* on ornamental trees from Europe; *Lecanium olea* and *hemisphericum* on ornamental shrubs from the United States.

Aphis: *Erisoma lanigera* on apples-trees and seedlings from the United States.

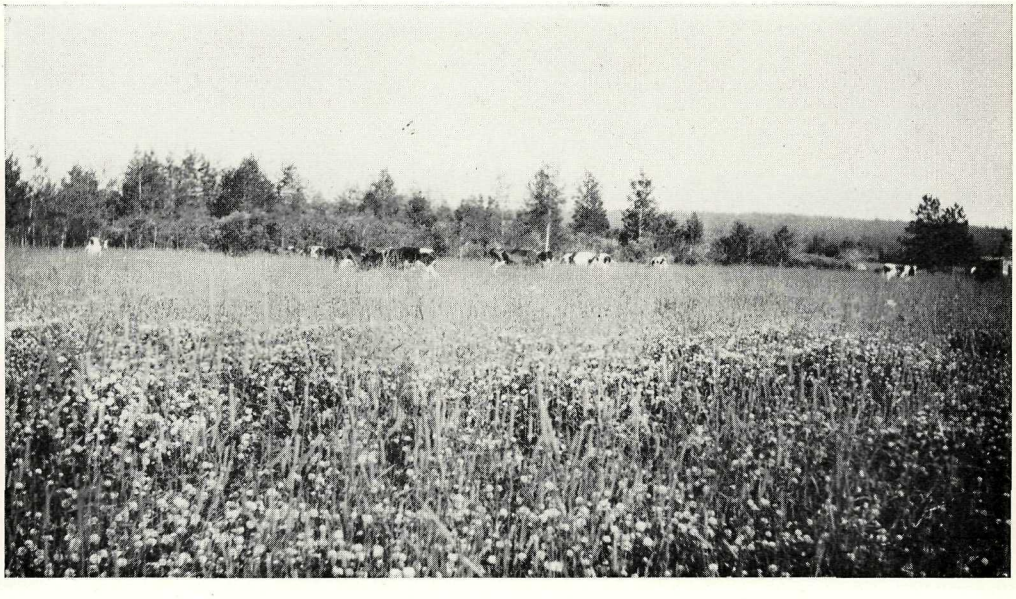
Phylloxera on roots of grape-vines from the United States.

Flathead borer in apple-trees from the United States.

Root-borers: *Sanninoidea exitiosa* in peach-trees from the United States; narcissus-fly larvæ in narcissus bulbs from Holland and United States; *Nematode* and bulb-mite in bulbs from Holland.



One hundred and twenty-five acres of heavy land cleared on the farm of Kherkoff Bros. at Woodpecker, 32 miles south from Prince George.



Real pasture for the dairy cow. A part of Blackburn Bros.' herd, Prince George.

Crown-gall, sour-sap, anthracnose infecting fruit-trees and seedlings from the United States. Hyacinth yellows and *Fusarium* rot infecting bulbs from Holland.

NURSERY STOCK VIA PANAMA.

Most of the large shipments of ornamental nursery stock from Holland and Belgium, including some from England and France, arrived at Vancouver via Panama Canal. That is fast becoming the popular route since most of the direct boats have improved their storage accommodation, by which the stock arrives in good condition.

Some small shipments by rail from Atlantic ports arrived at Vancouver frozen and badly damaged.

Our nurserymen are impressed with the importance of utilizing the resources of this Province for propagating their stock, though most of them continue to import a large proportion of what they sell. Some of the most enterprising are endeavouring to make headway with their own propagation, especially in the line of ornamental trees, shrubs, and rose stock, and every possible encouragement should be given them. Ornamental stock seems to offer the best prospect, and that is what they are importing most heavily, nearly all of it coming from Holland.

NURSERY STOCK EXPORTED.

Although the export of nursery stock from the Province is not very large, each year shows some progress both in the amount and number of countries to which it is exported, as may be seen by the tabulated list attached to this report. It consists of all kinds of stock, fruit and ornamental trees and shrubs, plants, bulbs, and seed.

NURSERY STOCK EXPORT CERTIFICATES.

Practically all nursery stock exported from the Province is carefully inspected by this Branch of your Department, assisted by the staff of your Provincial Horticulturist. Provided it passes inspection as being apparently free from pest or disease and in good, sound, merchantable condition, a certificate is issued to that effect. One of the principles on which that procedure is based is that we do not allow pest-infested stock to be imported and will not allow any to go out. Also that many of the countries to which the stock is exported demand Government certificates of inspection.

FRUIT AND VEGETABLES EXPORTED.

A tabulated list of fruit and vegetables exported and for which export inspection certificates were issued is provided with this report, including the names of the countries to which the products were exported.

EXPORT CERTIFICATES.

Export inspection certificates were issued after careful inspection on shipments of fruit and vegetables to countries demanding Government inspection; also on shipments to other countries if requested by shipper, consignee, or transportation company. Each certificate stated the name and address of shipper and consignee; also name of inspector, transportation company, and where grown. The marks, quantity, containers, and variety were itemized, followed by the declaration that the products were apparently free from insect pest or disease and in clean, sound, merchantable condition.

In the inspection of shipments from the interior of the Province your Inspector was ably assisted by the staff of the Provincial Horticulturist stationed in the various districts, and on some occasions by the Dominion Grade Marks Inspectors.

CO-OPERATION WITH FEDERAL DEPARTMENT.

The 1912 agreement between the British Columbia and Dominion Departments of Agriculture, so far as your Inspector and his staff are concerned, calls for the following procedure:—

Inspection of imported nursery stock at the Vancouver Inspection and Fumigation Station, jointly built and owned by the two Departments of Agriculture.

Inspection of all imported plant products other than nursery stock shipped to points in British Columbia and as far east as Winnipeg. Also reporting to the Division of Foreign Pests Suppression, Department of Agriculture, Ottawa, foreign plant products other than nursery stock arriving on the Pacific Coast for points beyond Winnipeg.

The inspection of the nursery stock involves the checking of all Dominion permits issued at Ottawa in connection with each shipment that is imported. Copies of each permit are mailed from Ottawa and filed at your Inspector's office under card-index. Your Inspector is permitted to issue an emergency permit to a consignee receiving his first shipment and having failed to apply to Ottawa for permit owing to his not being conversant with the regulations; or in the event of a consignee receiving a shipment regarding which he had no previous knowledge.

DOMINION OFFICER APPOINTED.

In order to assist your Inspector in rendering to Ottawa regular weekly reports regarding imported plant products, A. G. Fuller was appointed for that purpose on November 10th, 1926. The appointment was made by the Entomological Branch, Dominion Department of Agriculture, from which source Mr. Fuller is paid for his services.

WESTERN PLANT QUARANTINE BOARD.

In the early part of June, L. S. McLaine, Chief of the Division of Foreign Pests Suppression, Department of Agriculture, Ottawa, paid an official visit to your Inspector in order to check up the co-operative work of the two branches concerned in foreign-pest control. Mr. McLaine also accompanied your Inspector to Olympia, Wash., U.S., to attend the Eighth Annual Conference of the Western Plant Quarantine Board, June 8th to 11th. Delegates were present from the several Western States, Northern Mexico, and Hawaiian Islands. There were also present representatives from the U.S. Federal Horticultural Board, Washington, D.C., the U.S. Postal Department, Pacific Coast Nurserymen's Association, railway and express companies. Plant quarantine regulations affecting the Pacific Coast area were earnestly discussed with a view to uniform and consistent administration. Papers of considerable interest in connection with the work were also read and important resolutions passed.

NURSERYMEN'S CONVENTION.

Your Inspector was invited to address the delegates of the Pacific Coast Nurserymen's Association at their annual convention in Victoria, July 22nd and 23rd. The subject requested was "Fumigation and Plant Quarantine Regulations." A suggestion to the nurserymen to propagate their stock at home in place of importing was well received. It was generally agreed that British Columbia was an ideal place for the propagation of ornamental conifers and several other varieties of trees.

NEW APPOINTMENT TO PERMANENT STAFF.

Captain Thomas B. Mathieson was appointed to the permanent staff of your Inspector, August 15th, taking the place of H. W. Epps, who resigned to attend to business affairs of his own.

"EGGS MARKS ACT."

The British Columbia "Eggs Marks Act" of 1923 apparently continued to hold its moral effect, considering the small number of eggs imported, which were as follows:—

United States Eggs.—Eighty cases to Vancouver, all of which were broken from the shell before being distributed to the trade, mostly to bakeries. A few odd cases were imported by private parties for setting, and an occasional case for private use in a logging camp. Twenty-five cases arrived at Prince Rupert, but were refused by the consignee and returned to Seattle. Four hundred and thirty-five cases arrived at Vancouver, but were used as ships' stores on ocean passenger-boats and were not taken out of bond.

Chinese Eggs.—Of 3,000 cases of Chinese frozen canned eggs that arrived at Vancouver, 1,100 went to Toronto and the balance were placed in the Vancouver Ice and Cold Storage Warehouse, where they still remain. They arrived last July 12th.

There also arrived in the Province during the year 1,986 cases of Chinese duck-eggs, 120 eggs to the case, each egg encased in mud for preservation. They are used exclusively by the Chinese. The thought of them would hardly increase one's appetite for chop suey.

OFFICE ROUTINE.

During the year the office of your Inspector, situated in the Court-house at Vancouver, was visited by a large number of people in quest of information. The numerous bulletins referring

to horticultural subjects, insect pests, and plant-diseases were always in demand. J. W. Eastham, Provincial Plant Pathologist, and Ernest Clarke, District Horticulturist, who also share the offices, very ably assisted in dispensing information when they were on hand.

Daily reports were received from transportation companies *re* arrival of boats or cars containing various imported plant products subject to inspection.

A careful record was made of all work carried out by the officers on your Inspector's staff. The reports of those stationed at ports other than Vancouver were received each month, carefully checked, recorded, and acknowledged. Any correction, advice, or information necessary was promptly attended to.

Applications for inspection reports were occasionally received from consignee, shipper, or transportation company, in order to adjust claims arising from various causes regarding which the evidence of an Inspector was considered important.

All general correspondence received prompt and careful attention. During the year 1,781 letters were received and 2,018 sent out.

Respectfully submitted.

W. H. Lyne,
Inspector of Imported and Exported Horticultural and Field Products.

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 1926.

SPRAYING EXPERIMENTS.

The experiment carried on in conjunction with E. S. Hunt for testing the efficiency of dry lime-sulphur in comparison with the liquid form was continued in 1926. The work was carried out as before in the orchard of J. D. McDonnell, Willow Point, near Nelson, the same plots being used and the same strength of spray. The McIntosh trees alone were used in the test, the plots being as follows:—

Plot 1.—Sherwin-Williams D.L.S., 4–40 pink, 3–40 calyx, 3–40 later.

Plot 2.—Sherwin-Williams D.L.S., 5–40 pink, 3¾–40 calyx, 3¾–40 later.

Plot 3.—Liquid L.S., Commercial 32½° Beaume, 1–35 pink, 1–40 calyx, 1–40 later.

Plot 4.—Hemingway's D.L.S., 4–40 pink, 3–40 calyx, 3–40 later.

Plot 5.—Hemingway's D.L.S., 5–40 pink, 3¾–40 calyx, 3¾–40 later.

Plot 6 (Check).—The end tree of Plot 3, a McIntosh, was left unsprayed as a check.

Dates of Spraying.—The pink spray was put on April 24th; the calyx, May 11th; and the third spray, May 31st. During the following three weeks the weather was moist and favourable to scab, so that to prevent loss to the owner it was thought necessary to give a fourth spray. As sufficient of the materials under test were not on hand, a spray of liquid lime-sulphur at a dilution of 1–45 was given to all plots, except the check, on June 23rd. All sprays were applied with a gun. The make of sprayer was a "Pontiac Special" and the pressure was maintained around 200 lb.

The apples were picked September 9th to 14th, with the following result:—

Plot.	Tree.	No. of Apples.	Clean.	Scabby.	Per Cent. Scabby.
1	2	3,343	3,145	198	5.9
2	3	2,081	1,989	92	4.4
3	2	2,948	2,874	74	2.5
4	2	1,746	1,645	101	5.8
5	2	1,601	1,478	123	7.7
6	1	1,208	211	997	82.5

It was intended to take the tree in the same position right across the plots to make the counts, but as one or two had a light crop this was not rigidly adhered to, the adjoining tree being taken. The count of the liquid lime-sulphur was made on tree No. 2 in the row—i.e., next the unsprayed end tree (Plot 6)—so that it would, if anything, be exposed to more infection than any other tree.

Scab was worse in 1926 than in 1925, as shown by the percentage of scabby fruit on the unsprayed tree being 82.5 as compared with 65. The generally lower percentage of scab on the sprayed plots is no doubt due to the fact that four sprays were given instead of three. The results this year are also more in favour of the liquid lime-sulphur. However, it should be remembered that every spot that could be definitely identified as scab was counted, though it might not be sufficient to lower the grade of the fruit. From a commercial standpoint, therefore, the difference between Plots 1, 2, 3, and 4 would be very slight. Any of them could be regarded as commercially clean.

Costs.—The dry material cost about 23 cents per pound at Nelson (f.o.b. price plus freight). Taking the pink spray as a basis of comparison, 1 gallon of the mixed spray of a strength of 4 lb. in 40 gallons would cost 2.3 cents, and of the stronger mixture (5–40) 2.9 cents. Liquid lime-sulphur at 45 cents a gallon and at a dilution of 1.35 would cost 1.3 cents per gallon, or rather less than half the stronger D.L.S. For the later sprays the figures would be 1.7 and 2.2 cents respectively, against 1.1 for liquid lime-sulphur. If home-made lime-sulphur were used the cost would be considerably less.

The manager of the Burton Co-operative Growers' Exchange informs me he was able to buy Sherwin-Williams dry lime-sulphur in Spokane in 200-lb. drums, and after paying duty and freight distribute it to the members at 13 cents per pound. On this basis the cost per gallon of the mixed spray would be 1.3 cents for the 4–40 and 1.6 for the 5–40, against 1.3 cents for 1–35 liquid lime-sulphur. For the later and weaker sprays the figures would be 1 cent and 1.1 cents for the 3–40 and 3¾–40 dry lime-sulphur, against 1.1 for a 1–40 liquid lime-sulphur.

In barrel lots liquid lime-sulphur would cost about 40 cents per gallon instead of 45, or about 0.1 cent less per gallon of mixed spray than the figures given above.

Summarizing the results of two years' work, it may be said that dry lime-sulphur has proved satisfactory in control of scab, although not quite as effective as the liquid. The relative cost depends largely on quantity purchased and shipping distance and may not exceed that of the liquid. In such a case there would be little to choose between the two materials.

The dry form is less bulky to handle and store and probably less liable to deteriorate in storage. On the other hand, it is less convenient to weigh and handle the fine powder in the orchard during actual spraying operations than it is to measure out the liquid.

POTATO-WORK.

Through the courtesy of the Dominion Experimental Farm at Agassiz, which placed at our disposal about ¾ acre of land, it was possible to make a beginning in experimental work under field conditions. The land in question was in a high state of cultivation and had not had a crop of potatoes on it within the memory of the farm staff. Planting, readings, and part of the work of harvesting was done by officials of the Provincial Department of Agriculture, while the preparation of the land, cultivation, and help in harvesting was given by the farm. Unfortunately the very dry season was not favourable to heavy yields, a factor to be taken into account in considering the figures which follow:—

Thermogen Test.

Three rows of Netted Gem 120 feet long were planted—namely, Rows 37, 36, and 35 of one of the experimental plots at the Dominion Experimental Farm at Agassiz. Row 37 was the end row of this plot. The distance between rows was 36 inches and between sets 14 inches. The seed was cut and planted on May 13th. Thirty-one pounds of seed were used for the three rows.

The Thermogen paper was laid down as soon as the plants showed above ground. It was so placed that the space between the above-mentioned rows was completely covered up to the stems of the plants. In other words, the centre row was covered on both sides and the two outer rows on one side only. The Thermogen was applied for a little over half of the rows, the remaining halves being used as checks. The paper was held in place by pieces of 2 by 4 every 10 feet.

At digging-time it was found that weeds had made great growth in the narrow slit along the row where the soil could not be readily covered by the paper, although this was more than

a couple of inches across. It was practically impossible to weed this even by hand as the paper would tear in trampling on it. Barnyard grass and other weeds 4 feet high and often forming dense clumps occurred all the way along and very much increased the labour of digging. On the other hand, couch-grass had not been suppressed even underneath the paper, since in many cases it had burst through it and formed green spears on the upper side. The yields are as follows:—

Thermogen.

	Hills.	Weight of Tubers, 4 oz. and up.	Weight of Small Tubers.	Total.	Weight per Hill.
					Lb.
Row 37, half-covered	53	50	17	67	1.27
Row 36, covered	57	36	25	61	1.07
Row 35, half-covered	56	31½	13½	45	0.80

Check.

Row 37	48	47	24	71	1.50
Row 36	50	43½	19½	63	1.26
Row 35	50	36½	15½	52	1.04

The hill on the boundary-line of the Thermogen paper in each row was discarded and the weight not taken. It will be seen that in each case that portion of the row which had no Thermogen had a heavier yield of potatoes per hill than the part where the Thermogen was applied. The soil was as uniform as could be obtained, but owing to the exceptionally dry season it is possible that there might be some difference in moisture conditions, although this was not obvious during the growing season. This is, I think, the only criticism that could be made against these results.

It would have probably been better if the paper had been so placed that the edges of the strips overlapped and holes cut in just sufficiently large to allow the potato-shoots to come through. The labour so entailed, however, seemed prohibitive for a potato-crop under field conditions.

Experiments with Seed Disinfectants.

Three organic mercury compounds—namely, Semesan Bel, D.D.D. 12 Bel, and D.D.D. 37 Bel—were tested out in comparison with the standard 1–1,000 cold corrosive sublimate treatment.

The plots consisted of single rows running not quite east and west and each about 220 feet long. The rows were 3 feet apart and the sets 14 inches apart in the row. This would give theoretically 103 sets to the row, but the sets were dropped by hand without measurement or spacing, so that the number of sets planted might vary slightly. It was not possible at the date when this experiment was planned to secure enough seed of the right kind to carry out the experiment in triplicate.

In order to secure a little better check on the results, two samples of seed were used. The first was Netted Gem which had been culled out of certified-seed stock for scab and rhizoctonia, the former being present only in slight amount. Had this been available in sufficient quantity it would have been very good material for the purpose, since it was of good vigour but heavily infested with rhizoctonia. There occurred, however, a considerable proportion of sclerotia, probably too large for successful treatment by the ordinary means. The other seed used, Gold Coin, was purchased on the New Westminster market and was of a type unfortunately still used by some growers for seed purposes. The tubers were small, many of them being only an ounce in weight, and where cut sets had to be used the tubers were simply cut in half. They were heavily covered with rhizoctonia, but the sclerotia were of a softer texture, and in some cases, when examined under the microscope, seemed to show a considerable admixture of peaty matter. These potatoes were from peaty soil.

A certain amount of soft-rot had developed in one of the sacks of Gold Coin and an attempt was made to have a check on this and the effect of treatment by planting a row of cut seed from this sack. Such seed would be more or less smeared with the rot organisms.

On the inspection made on July 16th the plants treated with the Dupont preparations were perceptibly more green and vigorous than the others. This apparently applied to all so treated and was confirmed independently by two other observers. By August 30th, however, this difference was no longer perceptible.

The dates of planting were: Plots 1–4, May 18th; Plots 7–13, 15–17, 20, and 21, May 19th; Plots 5, 6, 14, 18, and 19, May 20th.

In harvesting, owing to weather and labour conditions, it was not possible to weigh the hills separately, but they were dug separately to ensure correctness in the number of hills.

The results are applicable only to rhizoctonia, since there was not enough scab on any of the plots to give material to work with. The affected tubers were put into three classess according to the amount of rhizoctonia on them, any tuber having a sclerotium over an eighth of an inch in diameter being considered heavily infested even though the number of sclerotia might be small.

A summary of the results is attached herewith, only the total weight of tubers showing rhizoctonia being given.

So far as these results go, and it should be remembered that they are for one season only and not fully duplicated, D.D.D. 37 Bel would appear to be the only one of the three organic mercury compounds tried which compares favourably with the standard corrosive sublimate treatment for rhizoctonia-control. It is hoped to repeat the tests with this material in the coming year.

Plot 21 furnishes an instructive illustration of the loss which may result from untreated cut seed containing rot organisms. A stand of less than 44 per cent. resulted. Had the ground been wet and cold it is probable the loss would have been still greater.

This row also showed blackleg, and it is interesting to note that in nearly all the succeeding plots, 26–37, a certain proportion of blackleg ranging from 2 to 9 per cent. developed, although none was found elsewhere in the field. These latter plots were part of the variety tests and the seed untreated, but the same planting-pails used for Plot 21 were used for these without disinfection, and it is a fair conclusion that these had been contaminated by the infected seed.

In addition to the above work, a series of about fifty plots was run to test the seed certified the previous season. This was intended in part as a check on the inspection-work of the previous season and an indication of what might be expected where this seed was planted for certification elsewhere in the Province. Owing to the lateness of the season before final arrangements for the work were made, it was not possible to secure samples of all seed certified the preceding season, so that the results are not given here.

A considerable amount of disease material was selected from these plots for experimental work next year.

Respectfully submitted.

J. W. Eastham,
Provincial Plant Pathologist.

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 of the entomological activities of this office during the past year:—

The Provincial Entomological staff consists of: Max H. Ruhmann, Assistant Entomologist in Charge; Miss C. M. Bigland, Junior Laboratory Assistant.

The office of the Provincial and Dominion Entomological Branches being grouped in the same building at Vernon facilitates the close co-operation of the Provincial and Dominion officers, permitting of a greater range of investigation and individual specialization and eliminates the possibility of duplication of work.

The winter of 1925–26 was unusually mild, the lowest temperature recorded at the Vernon Laboratory being 14° F. Under these conditions such insects as the black cherry-aphis and the woolly aphis of the apple successfully wintered over on the trees. Insect activities com-

menced earlier in the spring; oviposition by the cabbage-maggot was observed on May 2nd and the onion-maggot on May 12th. The blister-mite of the apple was much in evidence where a controlling spray had been neglected or where such spray had been too long delayed.

During April and May an infestation of a *Pseudococcus sp.* was reported as being severe on plum at Nelson, on apple at Revelstoke, and on apple and black currant at Sorrento.

Bulb-mite injury was unusually severe and appears to be on the increase, and is being widespread by the distribution of such bulbs as gladioli, narcissi, etc., from infested gardens.

A heavy flight of the apple-tree bark-weevil (*Magdalis œnescens*) was reported from a local orchard on June 1st. Upon investigation it was found that a considerable number of old apple-trees had been pulled out of this orchard in the spring; the stumps, trunks, and heavier limbs had been stacked near the house to be used as fuel, and large numbers of these weevils were emerging from this wood-pile, flying through the orchard and ovipositing on the healthy trees. In the immediate vicinity of this wood-pile the weevils were as thick as bees in an apiary. It was a good object-lesson in showing the advisability of burning such material before emergence of the weevil occurs. This weevil was first recorded from the Salmon Arm District in 1914. Since this time it has become thoroughly established in all the older orchards of the Okanagan Valley.

Cutworms were the cause of considerable loss in truck-crops. The flight of cutworm-moths during the late summer was unusually heavy and a severe outbreak of cutworms is anticipated in the spring of 1927. Every endeavour will be made to induce growers to use control measures in the early spring.

For a number of years wireworms have caused loss in field and garden crops, particularly potatoes and onions. During the past year they were unusually abundant and destructive, onions being particularly affected. Fortunately these outbreaks have so far been local, and although individual fields may be heavily infested and the crop severely injured, the percentage of injury in any one district is not high.

Loss through the onion-maggot has been light during the last two years. The field in which control experiments have been conducted for a number of years has been exceptionally free from this pest.

An unusual outbreak of the hemipteron, *Leptoceris trivitattus*, occurred in the Okanagan Valley, which attracted considerable attention in the fall when they congregated in large numbers in and around buildings, seeking quarters in which to hibernate. A similar outbreak occurred at Grand Forks in 1921, where they continued to appear in large numbers until 1924 and are still quite numerous. Many people obtained considerable relief by spraying the insects, where they had congregated on outside walls and verandahs, with coal-oil applied by the use of a small hand-syringe.

The grasshopper situation in the Province is under the direct supervision of E. R. Buckell, of the Dominion Entomological staff, with headquarters in Vernon. He has been very successful in organizing the various districts affected in their control-work, estimating supplies required and instructing the various control organizations in the preparation and application of the poisoned baits. The situation, particularly in the Okanagan Valley, is greatly improved and comparatively slight injury was caused during 1926.

The cricket, *Anabrus longipes*, appeared in epidemic form in early April in restricted areas from South Vernon to Kelowna, causing severe loss in truck lands immediately below the range lands, particularly at Vernon. The migration of the nymphs commenced on April 5th. An effort was immediately made to organize the growers to institute control measures. Trenching below the main irrigation-ditch was at first attempted, but owing to the loose gravelly nature of the soil at this point the effort was not satisfactory. As an area extending for 5 miles along the main irrigation-ditch was affected, flood-water was turned into the ditch for a period of six days to check the advance of the crickets until more satisfactory measures could be applied. The growers were advised to erect a fence of 12-inch boards placed on their sides and flashed with a 3-inch strip of tin on the upper side. The co-operation in the work by the Asiatics, who were mainly interested, was not satisfactory; some immediately erected such fences, some ignored the advice until they realized that their time-honoured method of beating tin cans proved unavailing, and after their crops had suffered severely they went to the other extreme and some constructed a fence of sheet tin, 18 inches high. In one instance, to protect a field of cabbage, a perfect trench was first dug, then the upper wall of the trench was completely lined with sashlights. The protection was perfect, but at a cost probably exceeding the value

of the crop. The loss of crop in this section exceeded 50 per cent.; in some instances the entire crop on some fields was completely destroyed.

The Colorado potato-beetle situation in the East Kootenays is quite serious, extending from the boundary north to Cranbrook, east to Michel, and west to Creston. A. A. Dennys, of the Dominion Entomological staff at Vernon, made a thorough survey of this area. He will organize and supervise thorough control measures, and an effort will be made to thoroughly control this pest and minimize the possibility of further spread.

CODLING-MOTH (Cydia pomonella).

Owing to the great seasonal variation in the emergence of the adult, oviposition, and the hatching period of the eggs of the first brood of the codling-moth, an investigation has been started to ascertain what bearing, if any, local climatic conditions may have on the matter, and the possibility of utilizing meteorological readings to regulate the time of the application of the first cover-sprays. For this purpose meteorological readings are being taken in a number of districts; life-history studies are being conducted under insectary conditions at Vernon.

The first cover-spray is considered to be a very important spray in the control of the first brood of the moth, and its application must be made just previous to, or coincide with, the hatching period of the eggs. To apply the first cover-spray at a fixed period after the calyx-spray is not sufficiently accurate, and although it may occasionally be correct, it might easily be either too late or too early; in such event satisfactory control is not obtained and the spray material and cost of application is a loss. The later sprays can be more satisfactorily timed by definite periods after the application of the first cover-spray. Until some satisfactory means is found by which a grower may definitely determine the proper time for the application of the first cover-spray, each district will be advised through its local press or other satisfactory means as nearly as possible the time to apply the first cover-spray. Growers, however, must be prepared to act immediately such information is given.

SAN JOSE SCALE (Aspidiotus perniciosus).

An outbreak of the San Jose scale was recorded in a small orchard area at Kaslo in the summer of 1924. This area was immediately placed under quarantine by the Horticultural Branch and eradication measures commenced in the spring of 1925. A watch was kept on the infestation and the progress of the eradication measures noted by the Entomological Branch. At the last inspection in the fall of 1926 it was found that the eradication measures had been successful, very careful examination failing to locate any living scale. It is recommended that a final application of spray be made in this area in the spring of 1927, and that the quarantine be then taken off and a close watch be maintained over it to guard against reinfestation.

WOOLLY APHIS (Schizoneura lanigera).

Owing to the difficulty of controlling this pest a number of experiments were conducted during the past summer in an effort to secure more effective control. During 1925, owing to the fact that no area of heavy infestation was available for satisfactory tests under commercial conditions, a number of preliminary tests were made on individual colonies, for which calcium-cyanide (Cyanogas) dust was used. The dust was applied with a hand-blower and both Grade A and Grade B were tested. In all such tests excellent control was obtained, particularly by Grade A dust, with which 100 per cent. control was obtained in each colony treated. The weather conditions when these tests were made were ideal—no wind, humidity 48, and bright sunshine, with temperature of 87° F. There was no injury to foliage through burning. In 1926 some severe infestations were available for commercial treatment. An orchard was selected which is receiving particularly good care; all trees are vigorous and healthy and from 12 to 14 years old, with infestation particularly heavy. Climatic conditions were not favourable for the application of dusts, being showery, humidity over 90, continuous light winds, and temperature of 76° F. to 93° F. An average of 1 lb. of Cyanogas was used per tree. Applications were made over a period of six days, June 17th to 22nd; earliest 4.30 a.m., latest 7 p.m. On no occasion, however, were climatic conditions favourable. No dust was applied while foliage was wet and no burning resulted. Owing to the limited range in height of the hand-dusters, observations were only made on the middle and lower portions of the trees treated; in no case was a higher kill than 40 per cent. obtained. After these tests were completed, infestation being

Asters for seed, Westholme, Vancouver Island.

Tractor-ploughing, Courtenay Ploughing-match, November 17th, 1926.

still severe, the entire orchard was sprayed by the owner with a nicotine spray, using the formula: Black Leaf 40 per cent., ¾ pint; freshly slaked lime, 2 lb.; casein, 10 oz.; water, 100 gallons. This spray was thoroughly applied during June 24th to 26th and resulted in a 98-per-cent. control. Two trees were not treated with this spray and were used to test a 2-per-cent. miscible-oil spray and a Japanese oil-soap emulsion (Togotin) respectively. The oil-soap emulsion was ineffective; the 2-per-cent. miscible-oil spray resulted in 50 per cent. control and gave severe foliage burning. On investigation it was found that sodium arsenite had been used as a preservative in the manufacture of this material; this would aggravate any tendency the oil might have to cause burning.

The control by the nicotine spray was immediate, thorough examination on June 27th showing a 98-per-cent. control. About July 15th woolly aphis had practically disappeared from all infested orchards, many of which had not been sprayed; this was entirely due to natural control. About the middle of August slight reinfestation occurred in many orchards, but failed to develop to any serious extent. During this month a small orchard of apple-trees from 4 to 5 years old, which showed considerable infestation, was thoroughly dusted with a 5-per-cent. nicotine dust prepared locally, which gave excellent control, nearly 100 per cent. in this case; weather conditions were favourable for the application of dust and the trees not large, the material being easily applied with a hand-blower.

SNOWY TREE-CRICKET (ŒCANTHUS NIVEUS).

A severe outbreak of this insect was reported from an orchard in Keremeos, which resulted in practically the complete loss of the peach-crop in the affected orchard. An investigation was made at the earliest opportunity and it was found that the insect was breeding and ovipositing in a large briar-patch in the orchard. It was advised that the briar-patch be uprooted and burned before the spring of 1927; this should result in complete control of the infestation.

The snowy tree-cricket has been recorded in various parts of the Okanagan Valley over a considerable number of years; this, however, is the first occasion that serious loss has been incurred through this insect in British Columbia.

POCKET-GOPHER.

The pocket-gopher has been a serious problem in our orchards for many years. Poisoned baits and traps of various kinds have been used for a considerable time; the success with these means of control can usually be measured by the care and thoroughness of their application. Their application is unfortunately costly in time, patience, and care, and, unless conscientiously given, successful control must not be expected. In an effort to find a less exacting means of control the application of calcium cyanide (Cyanogas), both in the dust and granular forms, was tried during the past summer. On June 28th ten active runs were selected for treatment; five were treated with Cyanogas Grade A dust and five with the granular form. A minimum of 1 oz. of the material was used for each run, all runs being treated in both directions from where an opening was made. Where dust was used it was blown in from the nozzle of a hand-blower. The granules were applied with a long-handled spoon and placed as far back in the runs as possible; all openings were immediately closed after the gas had been applied.

The runs were carefully opened on June 30th, two days after treatment; in each case the odour of the cyanide was very distinct for from 3 to 8 feet in each direction from the opening at which the Cyanogas had been applied. The main runs were opened up as far as they could be traced; the shortest being 47 feet, the longest 63 feet, with a maximum depth of 33 inches. Each main run had many branch runs, most of which were blocked. In four instances the main run was blocked at one end, 3 to 5 feet beyond the point where the Cyanogas had been applied, and two were blocked at both ends. In no case were dead gophers found. There is no time saved in the application of Cyanogas as compared with poisoned baits or traps; the material is costly and has not proved effective.

COLUMBIAN GROUND-SQUIRREL.

Excellent results were obtained with Cyanogas at the rate of 1 to 1½ oz. for each colony. The material was applied with a long-handled spoon and placed well back in the opening; It was rarely found necessary to make a second application.

ANTS.

Ants are occasionally troublesome in the orchard, lawn, or garden. The use of Cyanogas for these insects has given excellent results. Two or three openings are made with a long-pointed stick well down into the nest; about ½ oz. of Cyanogas Grade A dust is poured into each opening; then all openings are closed. It is usually only in the case of very large nests that a second application is necessary.

GREENHOUSE FUMIGATION.

The fumigation of greenhouses for the control of various insects, such as aphids and mealy bugs, was satisfactorily accomplished with the use of calcium cyanide Grade A dust. The exact amount of the dust to use will depend on the tightness of the greenhouse, but a minimum of ⅛ oz. for each 1,000 cubic feet should be used. If the house is not sufficiently tight, this amount must be gradually increased until the minimum effective dose has been ascertained for each house. The tests made have been conducted in greenhouses containing lettuce, tomatoes, carnations, roses, and other fairly hardy plants. A number of plants are very susceptible to the fumes of cyanide, and if any doubt exists as to the ability of certain plants to stand fumigation with cyanide they should be removed from the house during fumigation. Where the old system of fumigation with potassium or sodium cyanide and sulphuric acid has been safely used, the calcium cyanide will be found satisfactory and has the advantage of being less troublesome and less dangerous to use.

The essentials for the use and application of calcium cyanide under greenhouse conditions are:—

(1.) Accuracy in measuring the cubic capacity of the house.

(2.) Be sure that there are no plants in the house which are especially susceptible to injury from cyanide fumes.

(3.) Be accurate in weighing the dose.

(4.) Choose a still night; never fumigate until at least one hour after sunset and never enter the greenhouse during the process of fumigation.

(5.) Do not water the house for at least twenty-four hours before fumigation.

(6.) Minimum temperature should be 55° F., with a tendency to rise; do not fumigate on a falling temperature; this will cause condensation of moisture on the plants, which will make them susceptible to injury by the fumes.

Application.—When the dose has been weighed out place it in an air-tight container; when the house is quite ready lightly scatter the dose along the walks of the house, distributing it as evenly as possible; then close the house and *leave closed* overnight.

N.B.—Cyanide fumes are very poisonous; therefore the material must be handled with great care. After the fumes have been fully generated from the calcium cyanide it is no longer dangerous and no special precautions are necessary to eliminate the residue from the house.

Where sodium or potassium cyanide and sulphur acid are used the remaining sludge is very poisonous and must be handled accordingly, preferably by burying deeply in the ground.

Respectfully submitted.

MAX H. RUHMANN,
Assistant Entomologist in Charge.

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 1926.

The mild winter of 1925–26 carried through the Vancouver Island broccoli-crop intact, and as this is not a usual occurrence a large surplus over home needs was experimented with by marketing it by car-lots on the Prairies and Eastern points. The experiment was successful as far as distribution went, but not as profitable to the growers as might have been, due to heavy transportation charges.

HOTHOUSE PRODUCTS INCREASE IN VOLUME.

This new semi-winter crop started Prairie marketing for 1926, and it was followed by hothouse tomatoes and cucumbers, which also took a distribution as far as Ontario and Quebec. A very favourable impression was created and some surprise expressed by Eastern merchants that Vancouver Island had such possibilities. The quality of the broccoli was equal to anything imported, and the hothouse product was admitted by all to be superior to anything offered in competition.

The volume of hothouse product marketed in 1926 was the greatest on record and this industry has prospects of an annual increase in volume for some years to come.

BRITISH COLUMBIA STRAWBERRIES EARLY ON MARKET.

Strawberries were also increased in production over the past two years, but the crop and volume moved was considerably below the record one. The early season of ripening caused the car shipments to overlap with the Missouri crop at the start. Application of the "dumping" clause, and the peak of the southern berry season being past, restored the prospect for fair prices and satisfactory prices were made during the remainder of the shipping season. L.C.L. on consignment was a disturbing factor in Alberta and Saskatchewan and resulted in lowering prices below what supply and demand warranted.

RASPBERRIES.

Raspberries were a fair crop and fine quality. Prices were forced down at start of season below what was profitable to growers. Winnipeg jobbers imported Puyallup berries which were rolling unsold and diverted to Winnipeg. They paid over $4 per crate for them delivered when British Columbia shippers had more than ample for their needs, but refused to roll them at $3 offered, their price being $3.50 delivered for equal stuff.

British Columbia raspberries were sold to canners at the time berries were firmest for shipping, and when the cannery demand slackened and berries were ripe the jobber's price of $3.25 was accepted and berries rolled in freely. Considerable loss was taken at that time through mould and overripe berries. The raspberry marketing was not as might have been. L.C.L. on consignment also played a disrupting part in the nearer Prairie markets. The real cause of the trouble was the want of earlier organization.

Loganberries sold well, but the volume was small. Loganberries do not ship well when ripe.

Gooseberries were overproduced and were a drug on the market most of the time.

CHERRIES.

Warm weather causes tree-fruits to overlap. Bing and Lambert cherries from British Columbia overlapped the raspberry-crop in an unusual manner and was a factor in bearing the price of the raspberries when they commenced to roll in volume. Cherries were estimated at from sixty to seventy cars, but the volume marketed more than doubled the estimate, to the surprise of shippers and jobbers. This unusual condition, without being prepared for, resulted in poor prices at peak of the season.

The warm weather prevailing in all parts of British Columbia forced the Kootenay cherries, which are usually two weeks later than most Okanagan points, on the market with the peak of the Okanagan stuff and added to the marketing troubles, resulting in a low price all round. An effort was made to ship about twenty-two cars to Eastern markets to ease the situation on the Prairies, but the experiment was not profitable, although it did help in stabilizing conditions at Prairie points.

From the start of the marketing season overlapping seemed to be general, coupled with a supply greater than anticipated. Every commodity suffered by the unusual consumer's choice. Just as soon as British Columbia cherries began to clean up, an unusual volume of cantaloupes, pears, early apples, plums, peaches, and even the last year's Winesaps arrived from California and Washington, closely followed by some fine British Columbia apricots and field tomatoes.

APRICOTS IN VOLUME.

British Columbia apricots of No. 1 size made a fine impression, as this was the first year they came to market in volume. They were superior to Washington Moor Parks that were in competition with them. It is regrettable that so many British Columbia No. 2 apricots were shipped. There is no demand for small apricots and they went begging.

UNUSUAL VARIETY OF COMMODITIES OFFERED.

As early as the middle of July British Columbia shippers were rolling apples, pears, peaches, apricots, yakamines, and field tomatoes, and from this it can be estimated how fast commodities follow on. At the time British Columbia strawberries, raspberries, blackberries, loganberries, and currants were offered on sale, onions, celery, peppers, peas, squash, and other vegetables were on the market from British Columbia.

AVALANCHE OF PRUNES.

The prune-crop of the Pacific Coast was unusually heavy and from the start of their season low prices were quoted. Weeks before British Columbia prunes were ready to roll the price of 30 cents per case was quoted from Walla Walla and offering $60 a car brokerage to induce the brokers to sell. Before a car of British Columbia prunes rolled (the British Columbia crop was heavy) prunes were being imported by regular jobbers and by retail chain stores by car-lots and even on consignment. "Dumping" was ineffective, as when British Columbia prunes did come on, the market was flooded by imported prunes. The Prairies were "full of prunes" and with the British Columbia quota added the slump was complete. American prune-growers lost heavily on their crop and they without intent "made it hot" for British Columbia prune-growers.

BULLETIN COMMENTS ON SITUATION.

The Bulletin published the following comment on August 28th: "A congested market in all lines has led to unstable prices, or, in other words, the supply is greater than the demand. Twelve cars of imported fruit and twenty-five cars of British Columbia fruit and vegetables arrived in Calgary during this week." Harvest commenced about this time.

UNSEASONABLE WEATHER UPSET MARKET ARRANGEMENTS.

Cantaloupes rolled from Oliver and immediately displaced all imported stuff. The demand was good and fair prices were realized. Excessive rainfall with cool temperature put country roads in bad shape and interfered with distribution. From this time on the jobbers' troubles were too many to relate; suffice to say that at the end of the year not more than one jobbing firm in Calgary made money out of 1926 business.

Considering the difficulties and in view of the above conditions, the men in charge of the selling end of the fruit and vegetable business rendered excellent service.

BRITISH COLUMBIA APPLE-CROP A RECORD ONE.

The apple-crop in British Columbia for the year 1926 establishes a new record in volume. The quality was also above the average. Over 5,000 cars of marketable apples were produced in interior British Columbia, chiefly in the Okanagan and Kootenay sections. Price-setting arrangements were exceptionally good, as the Associated Growers and Sales Service, who handled 90 per cent. of the total crop, worked in harmony throughout the selling season, and made a determined effort at a critical time to stabilize the markets, with some success.

The consumption of apples at country points on the Prairies from September to Christmas was greatly reduced, first, because of the uncertainty of work for the harvesters, and, second, by the impassable condition of the roads at many points. In spite of the best efforts of the British Columbia organized shippers the city markets on the Prairies were forced by independents, chiefly by price-cutting, and while this was met by the organized shippers it resulted in a policy on the part of dealers of buying from hand to mouth and defeated the end in view—namely, forcing a large volume on the market.

MARKET NEEDS DISCUSSED.

In view of the heavy crop marketed in 1926, it would be in place to name the commodities that in our opinion are sufficiently planted in British Columbia, and those that are insufficiently grown for the Prairie markets as well as for home markets and canneries.

Rhubarb.—Rhubarb-planting can be increased, provided the growers go in for early vegetables to mix in the cars. Unless the early vegetables are more grown it would be unwise to increase the rhubarb acreage, as the Walla Walla districts, where direct competition comes from, furnishes cars heavy to rhubarb, but containing asparagus, spinach, green onions, and radish, and with this mixture of needed vegetables their cars are in preferred demand. If

British Columbia rhubarb-growers include vegetables and hothouse tomatoes and cucumbers in their rhubarb cars they can almost double the present planting, as this would shut out Southern supply.

Small Fruits.—During the spring of 1926 a very heavy planting of strawberries took place and the bearing acreage is close to, if not in excess of, any previous planting. This commodity should not have any further acreage planted in 1927.

Raspberries are already planted in sufficient acreage for the present markets and the same advice can be applied to them.

Loganberries for wine purposes would seem to be in greated demand, but we are not familiar with the situation and therefore cannot advise upon it.

Gooseberries and blackberries are overplanted and a reduction of the acreage would bring better prices to the producer.

Peaches.—There is a market on the Prairies for three times the amount of peaches as are at present grown in British Columbia. The varieties, after early sorts such as St. John and Triumph are past, should be largely the J. H. Hale and Elberta. The Elberta is a popular large variety and 75 per cent. of all the peaches imported are of that sort. Canneries demand Lemon Cling and other Cling varieties as these hold up better than Freestone peaches. This demand should have studied consideration with a view to meet the cannery demand. As a market variety the Cling has not been tried.

The questions for growers to solve are: Will the Cling peach succeed in British Columbia, and where? What is the approximate demand for cannery purposes?

We understand that Clingstone peaches of the Lemon and other popular varieties are being tested out at Summerland Experimental Farm and also at Vineland, Ontario. It will pay intending planters to ascertain what these tests result in and govern themselves accordingly.

Apricots.—Indications are that sufficient planting of the apricot is now made, at least for a few years to come. The Osoyoos and Oliver Districts are specializing in apricots, and as the trees are young, heavy-bearing time will likely find that they have enough planted for all present market requirements. Trees that produce small size or No. 2 apricots should be done away with, as there is no demand for them.

Cantaloupes.—Cantaloupes from Oliver should not exceed forty-five cars for Prairie distribution. These cantaloupes were favourably received in Toronto and Montreal this year before the home stuff appeared, but after that it is impossible for them to compete on these markets. During the early period, when Ontario and Quebec can take our cantaloupes, the home market will be found more profitable, as the supply at that time is less than the demand.

Cherries.—Bing and Lambert cherries and any late variety of the size and colour of the Bing and Lambert can safely be planted in the cherry-growing parts of the Kootenay district. Sufficient early cherries are now planted in the Okanagan and Oliver Districts of varieties other than the Bing and Lambert. However, in the Oliver, Osoyoos, and Keremeos Districts, where the season is usually two weeks ahead of others, more Bing and Lambert cherries should be planted. No other cherries are in popular demand and should not be planted excepting as fertilizers.

Plums and Prunes.—The plums and prunes of the Interior run rather small. Early varieties from British Columbia come in sharp competition with Oregon and California late sorts. The imported varieties are chiefly Italian, Climax, Wickson, and Tragedy. The varieties from British Columbia are Peach Plum, Bradshaw, Italian, Pond's Seedling, Yellow Egg, Black Diamond, Lombard, Imperial Gage, Columbia, and a few Damsons. From Ontario come the true Greengage and Damson plums and there is considerable demand for them. About the only planting needed of this produce in British Columbia is Italian, Tragedy, Damson, and Greengage.

Pears.—More pears of the Bartlett type can be used. The demand is greater than the supply now that cold storage is available. The DeAnjou variety can also be grown, so can the Bosc and any good late variety, such as Winter Nelis. Last year Canada imported pears to the value of $42,000 from the United States. Pears require both favourable climatic and soil conditions and the Horticultural Branch should be consulted as to districts and location for pears.

Apples wanted.—In Penticton, Kaleden, Oliver, Osoyoos, and districts to the south it would be safe to plant a large amount of Winesaps. At present this variety is imported from Washington. They are in great demand for their colour, late keeping, and good quality. With them can be grown the Yellow Newtown variety. It might be well to plant Astrachan, Yellow Transparent, and extra-early varieties in these early districts, including Keremeos.

Tomatoes.—The pack of field tomatoes has improved, but at start of season the trade complains that in every 4-lb. basket they find tomatoes all the way from green to ripe. Care should be taken to have all tomatoes in a 4-lb. basket uniform as to ripeness. This can only be regulated by packing in the packing-shed. It is impossible to pack uniform ripeness in a field pack. Kelowna growers pack in the packing-house and their tomatoes are easily worth 20 cents a crate more than the average pack from British Columbia that comes on the Prairie market. Unless uniform ripeness and uniform pack is maintained, uniform price would be unfair. In 1926 the average field pack kept prices from advancing when the market was bare.

Onions.—The box pack of onions were highly spoken of by the trade. So were onions packed in Saxoline sacks. "Sample Grade" was used after the frost. This grade does not protect either seller or buyer and onions shipped under "Sample Grade" were sold subject to the report on condition of arrival.

British Columbia onions are the best onions grown, and with more care in packing and practice of storing they should exclude all others from the Prairie markets. Ontario and Quebec merchants speak highly of British Columbia box-pack onions and much export trade can be looked for.

COLD STORAGE.

In Washington we find that cold storage is more used by fruitmen than in British Columbia. American prunes and pears come to Prairie markets before British Columbia stuff is ready, and after British Columbia prunes and pears have cleaned up we find Washington rolling them to Prairie markets from their cold storage.

We have sufficient cold storage in Prairie cities and at the Coast to take care of much more fruit than has ever been offered, also excellent storage at Kelowna and Vernon.

At time of writing, February 18th, 1927, we find that British Columbia has only the following cars of apples in storage: Vancouver, 10; Calgary, 13; Edmonton, 1; Saskatoon, 2; Regina, 6; Toronto, 10; Chicago, 3; New York, 28; Great Britain, 20; with some 48 in the interior of British Columbia. The 28 cars held in New York are McIntosh Red. In addition to the above, about 100 cars of apples are held in common storage.

At same date we find Prairie jobbers ordering Winesaps and other apples from Washington, which are being delivered to fill their needs. This has been going on for years. This year the Prairie markets will absorb about 200 cars more than we have available to meet their normal demand. Prices are good for these C Grade apples, the cost being $2.16 laid down in Calgary, and prices are advancing.

In view of the overlapping of winter and fall apple-sales from October to Christmas, and the selling of apples from early-ripening districts at the same time as late-ripening districts, when apple prices were such as to return the grower little or nothing, it might be the opportune time to suggest that systematic storage should be practised in British Columbia, because, if apples were firm and available now, these Washington Winesaps and other varieties would not be imported in any appreciable quantity.

SUMMARY OF THE SITUATION.

Summarizing the fruit and vegetable marketing season of 1926 into seven features, they would be as follows:—

(1.) The noticeable betterment in the buying-power of Prairie farmers.

(2.) The early season in the West and the late season in the East, which resulted in unusual competition with points not usually competitors. The overlapping of berries with the cherry-crop and the ripening of fruit from early and late districts simultaneously instead of the usual difference of two weeks.

(3.) Excellent crop conditions and fine growing weather on Prairies up to August 10th, and the cool, wet weather from that date on retarded harvesting and threshing, and had also the effect of turning what was at the start an early-marketing season in British Columbia into a very late one.

(4.) A record crop of stone-fruit in the Western States and British Columbia. Also a record crop of apples in British Columbia, which exceeded 5,000 cars for commerce. The quality was of high order in all fruits and the breakdown, so far reported, was almost confined to large-sized apples.

(5.) The large increase in the distribution of hothouse tomatoes and cucumbers. The shipping of Vancouver Island broccoli to Ontario and Quebec and the entering on that market with hothouse tomatoes and cucumbers in car-lots.

(6.) The introduction of blower "line" cars by the two operating express companies was also a feature of 1926, and the results of this innovation were favourably commented on by the trade.

(7.) Although not new, but extremely hazardous in a year of a record crop, was the unstabilizing of the market by price-cutting by unorganized independents and uncontrolled consignment to the trade, both wholesale and retail.

The evolution of orderly marketing has at last reached a definite stage. The unfair relations existing since 1920 between what the farmers have to buy and what they can sell their produce at has reached a point that the farmer hesitates to carry on. The greater the crop he produces the smaller his profits are. A general demand is made by producers for systematized growing and marketing reform.

Legislation has been asked for to establish a control board for the purpose of stabilizing and regulating markets with a view to supplying and feeding them, thereby extending them by time. At time of writing such legislation is being considered, and if passed some far-reaching reforms may be effected during the 1927 season.

Respectfully submitted.

J. A. GRANT,
Markets Commissioner.

REPORT OF 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 herewith the annual report of the Live Stock Branch for the year 1926.

GENERAL CONDITIONS.

Conditions concerning the live-stock industry with regard to breeding, feeding, marketing, and prices received have shown some improvement over 1925. The mild winter of 1925 and the beginning of 1926 was in favour of the live-stock breeder and feeder, the stock coming out of winter quarters in fair condition and leaving the stockmen in many cases with a surplus of hay to carry over for another season or for marketing purposes. As a result of the light snowfall of the winter, water for irrigation purposes was curtailed very seriously in some sections. This, in conjunction with the plague of grasshoppers, caused a very serious shortage of hay, the crops being very light. Therefore the surplus of hay left over will take care of this shortage, and by reports received to date the stockmen will carry through the winter in these particular dry sections without serious loss.

Grain reports indicate average yields. The harvesting weather in general was favourable and the quality of the grain was somewhat above the average. Hay and grain crops in the Lower Fraser Valley were well above the average yield. This is also true of corn and other forage-crops for silage purposes. Root-crops got away with a good start owing to the spring range, but suffered the latter part of the summer from lack of moisture, but on the whole the crops were fair.

Vancouver Island hay-crops were well up to the average yield. The early spring range was favourable for growth, but both hay and corn crops suffered before cutting and finished with only fair yields. If it had not been for the early range the crops would have suffered seriously.

The stockmen I find as a whole are paying more attention to the quality of their breeding stock, particularly to their stock bulls, but, as pointed out in my previous report, the Province is short of pure-bred beef bulls of good quality. The general run of prices paid for bulls is not high enough to induce many breeders to establish expensive high-quality herds for breeding purposes. The small stockman is not in the position to pay the price for animals of good quality. Good prices are paid by our larger men on a few choice individuals, and I find that the use of these bulls is raising the standard in these herds of the type and quality over the general run of cattle. No doubt, if the price of beef cattle was increased to the stockmen, better prices could be paid for good breeding bulls.

HORSES.

The reports for the past year show an increase in the number of horses, the number in 1925 being 57,016, and in 1926, 61,158. This increase is largely accounted for by the more complete returns or figures given by the Indian Department at Ottawa on the number of horses on the Indian reservations within the Province. This class of horses, however, does not represent any increase in value to the Province, as the type found on the reservations are small and have practically no commercial value.

In work-horses the supply has barely kept pace with the demand, but as the older horses are discarded and new settlers take up land the supply of colts will not be sufficient to meet the depreciation and take care of the requirements of the market. Horses weighing from 1,200 to 1,500 lb. meet the requirements of the average farmer, and of this class we are able to meet the demand at prices ranging around $75 to $125; while choice animals, well matched and sound, may bring $200 each.

For drayage purposes in our cities the demand is for heavy horses weighing around 1,600 lb. and up; good prices being realized ranging from $300 and up. While the market is somewhat fastidious as to weight and quality, there is a steady demand for this class of horses at remunerative prices. At the present time we have very few or no stallions of the required weight and type to produce heavy horses. Quite a number of good mares are available, both pure-bred and high grade, that should produce horses to meet the call of the market.

Good heavy draught stallions are required in many districts throughout the Province. The continued reduction in the number of mares bred and foals raised will eventually result in an acute shortage of work animals. Individual farmers should study carefully the type and power best suited to their own farms and determine the individual needs for horse replacement three to ten years from now.

CATTLE.

The census returns for cattle for 1926 show 338,244 head, as compared with 297,946 head for 1925, showing an increase of 40,298. Of the total number, 107,537 head may be classed as dairy cattle, which is composed of cows and stock over one year of age. Prices for beef cattle show an upper tendency, better figures being realized during the past year than 1925. There is a steadily growing demand for light-weight beef cattle, some markets reporting a spread of $1 per hundredweight between light and heavy cattle of choice grades for beef purposes. The trend of the market demand is towards younger and light-weight animals of better quality. This means more rapid turnover, which is in line with the general policy of all business to-day, to meet the new conditions and also the building-up of the quality of our herds, reducing costs, increasing efficiency in production and marketing, and taking steps to meet the demands of the consumer. The prime need of the majority of our stockmen is the more general use of high-class bulls, without which we cannot look for much improvement in the quality of our meat-supply. To cheapen the cost of productive breeding, herds should be carefully culled and cared for and calf-crops increased so that a greater quantity of beef of a higher quality could be obtained from our producing herds. As the Province imports 34,184 head of beef cattle, to meet the consumptive demand increased production should be encouraged consistent with the economical production of our farms and ranches. At the Kamloops Bull-sale 154 head of bulls were sold to Provincial buyers, ranging from bull calves to mature animals, at prices from $50 to $500 per head. An average price of $128.20 per head was realized on the entire lot, the offerings being made up of 27 Aberdeen Angus, 51 Hereford, 76 Shorthorns. A number of pure-bred Shropshire ewes and rams were brought in from Ontario and sold at fair prices, the top ram bringing $60; the bulk of the ewes and rams ranging from $22.50 to $35.

DAIRY CATTLE.

There is in the Province around 170,537 head of dairy cattle; milk cows number 85,572 head; yearlings raised for dairy purposes, 21,965, an increase over the previous year of 3,677 cows and 793 yearlings. The dairy industry has made substantial progress during the past year, prices realized for dairy products remaining approximately on a par with 1925. The Cow-testing Association, under the supervision of the Dairy Division, is rendering valuable assistance to the dairymen. As a result of this work unprofitable cows are weeded out of the herds. The producer is also stimulated to take an increased interest in his work and apply better methods to his business. Taking the Province as a whole, improvement must come

through more careful breeding, and this can be done only as a result of more accurate knowledge of the producing ability of individual cows. There is a steady demand for good dairy cows, prices ranging somewhat higher than the past few years; the general run of prices being from $120 to $150 for choice animals, $65 to $80 for 2-year-olds, and $35 to $45 for yearlings; while inferior dairy stock were on a par with last year, running from $20 to $30 for yearlings and $50 to $80 for mature animals. There has been an ordinary demand for pure-bred cows and heifers. The tendency among our better class of dairymen is to acquire a few choice animals as a nucleus for the building-up of a pure-bred herd.

A few dairy bulls have been imported from south of the line with a view to further improvement of blood lines. The four dairy breed associations are active in furthering the interest of their respective breeds. A number of breeding animals from each of the breeds have been exported chiefly to the Prairie Provinces. The Holstein Association has appointed a fieldman, in the person of Mr. Harold Steves, to extend the interest of the breed in the four Western Provinces. Inquiries have been received from the Orient for dairy cattle, but owing to unsettled conditions the orders have not materialized. The written report relative to the 1925 shipment to Shanghai states that the British Columbia cattle made a very creditable showing in production and proved very satisfactory.

SWINE.

The prices and demand for breeding stock have stimulated an increased interest in hog production, prices at the beginning of the year running around $13 per hundredweight, but dropping towards the close of the year to $10.50 per hundredweight. There was produced in the Province around 40,813 hogs, whereas there is shipped in to meet market requirements 29,294,481 lb. of pork. We therefore have ample room for expansion of this industry to meet our Provincial requirements.

Boys' and Girls' Swine Clubs were organized in Cranbrook, Midway, Rock Creek, and Salmon Arm Districts. The three first mentioned districts are specializing in select bacon-hogs of Yorkshire breeding, while the Salmon Arm have adopted the Berkshire, the type running more to thick-smooth. It is the intention of the Live Stock Branch to enlarge on the Boys' and Girls' Club work during the coming year with the idea of extending assistance and encouraging the production of suitable types of hogs. Education work is rendered the boys and girls in the modern methods of breeding, feeding, and care of hogs to obtain the best results. The types produced and exhibited at the club fairs are commendable, the pigs brought out being a better average lot than the majority of hogs shown by the farmers of the same districts.

This Branch, in conjunction with the Dominion Department, selected and placed among the farmers fifty-one brood sows, nineteen being placed in the Tappen District and thirty-two in the vicinity of Haney and Hammond, in the Lower Fraser. These gilts were all pure-bred of Yorkshire breeding. A boar of the same breed was placed in these districts by the Dominion Department through their loan policy of supplying boars to local associations.

A series of meetings were held on Vancouver Island, the Lower Fraser, and Interior points during the months of November and December, the topics of discussion being selecting animals for breeding purposes, feeding hogs for select bacon, diseases and common ailments of pigs, slaughtering, dressing and curing of various cuts of the carcass. Mr. Foster, sent out by the Dominion Department of Agriculture at the request of the Provincial Department, proved a capable man in handling all phases of the hog industry. The meetings were well attended, interest being taken in the proceedings, and demonstrations and meetings of a similar nature will be repeated in other sections of the Province during the fall of 1927, provided arrangements can be made.

SHEEP.

The sheep industry has enjoyed another prosperous year: the prices for wool and lambs are high enough to encourage extension. Sheep, as in the past few years, appear to be one of the main attractions in the live-stock interest. The number of sheep in the Province have approximately doubled since 1923. We have to-day around 102,853 head, composed of breeding ewes and lambs. The greatest increase is largely in the Interior. Breeding ewes have been brought from Alberta and Saskatchewan and a number from south of the line. A number of sheep imported and coming into our range areas carry considerable Rambouillet blood, which is more suitable under range conditions. Owing to the grazing areas in the Interior being more readily

available for summer pasturage and the country suitable for alfalfa and other legumes for winter-feeding, the range districts will no doubt be more attractive to the sheepmen than the Coast. This will probably appeal more to the small man with limited capital, as well as being an inducement to the man who wishes to engage in the sheep business on a larger scale. Owing to the heavy cost of clearing on the Coast the number of sheep will not show such rapid increase as in the Interior districts, and at present the farm flocks west of the Cascade Mountains are run on rough pasturage and as a side-issue to other mixed-farming operations.

As a consequence of the increased production imports of mutton into British Columbia have been much reduced within the last two or three years, as shown below:—

	1926.	1923.
Sheep imported from other Provinces for mutton purposes	42,855	57,986
Sheep imported from various points	2,201	5,347
Total number sheep imported	45,056	63,333
Mutton imported from other Provinces (pounds)	417,826	211,366
Mutton imported from various points (pounds)	952,908	1,341,725
Total number pounds mutton imported	1,370,734	1,553,091

Thus money that was formerly sent out of the Province for mutton and lamb is being retained within our borders.

In the middle of May and the first part of June a series of meetings were held on Vancouver Island, Nicola, Lillooet, and Cariboo Districts on the care and handling of sheep; demonstrations in ticking, dipping, methods of preparing wool for marketing, and the dressing of carcasses. Literature on sheep-raising was distributed at the meetings. The meetings were well attended and much interest shown in the various demonstrations.

Prices for wool, so far as returns have been sent in, run from 15 cents for the coarser grades and 32 cents for the finer grades, although the final returns from the Canadian Co-operative may alter these prices; but indications point that the average price for all grades will run around 23 cents, which is somewhat lower than the average received for 1925. There has been shipped through the British Columbia Wool-growers' Association to the Canadian Co-operative at Toronto 210,000 lb. of wool, the largest quantity handled by the association from its existence, which is a very creditable showing for the past year; 161,000 lb. being shipped by the Provincial Association in 1925.

The grading of rams by an official of the Dominion Department of Agriculture was conducted as in 1925 and is much appreciated by the sheepmen. The grading creates more confidence between the breeder and purchaser, as the price paid is according to quality and sets a standard by which to make selections for either grade or pure-bred flocks.

GOATS.

There is continued activity amongst those interested in goats. The demand for goat's milk is active and the price paid by consumers is above the price of milk from the cow. The goat fills a need where conditions do not warrant the keeping of cows. Saanens and Toggenburgs hold the lead in numbers. By improving the milking ability of the Nubians they would increase their popularity. The estimate of all goats in the Province is well over 10,000, composed of approximately 750 pure-breds. The membership of the British Columbia Goat-breeders' Association is 434. Other Provinces are looking to British Columbia for foundation stock and we may look forward to an outlet along this direction in the future.

BRANDS.

The total number of brands recorded, as contained in the last issue of the brand-book, is: Cattle, 2,378; horses, 1,727. During the year new cattle-brands issued, 120; renewed, 420; new horse-brands issued, 98; renewed, 222.

A list of cattle and hides shipped each month from the various districts of the Province is included in Appendix No. 23.

PURE-BRED MALE ANIMALS FOR FARMERS' INSTITUTES.

During the year two Oxford Down rams were purchased on behalf of institutes, one shipped to Columbia Valley Institute and one to the South Bulkley; eight bulls, comprised of one Red Poll shipped to Baynes Lake, four dual-purpose Shorthorns to Kersley Farmers' Institute, two Jersey and one Holstein to the Spallumcheen; one Yorkshire boar to the Nechako Institute.

Remittances to the Department on the prices of the animals shipped are up to date.

FAIRS.

The quality of the stock exhibited at our fall fairs was particularly noticeable by more uniformity and fixity of type as shown by the animals in their various classes. Our larger fairs found it necessary to enlarge their accommodation for cattle, and the increased space so allotted for the exhibits was fully occupied and taxed to its capacity. The second Winter Fair held in Vancouver in December was successful in bringing out some very creditable exhibits of car-loads and pens of live stock, the heavy-horse class being commendable in numbers and quality. More attention given to commercial stock-judging according to marketing requirements will do more than anything else to encourage the use of high-class sires in breeding all classes of stock; also in preparing prize-lists to emphasize the line of agriculture best suited to their respective districts.

The live-stock business, to be successful, would necessarily have to cater to public demands. The live-stock men have been passing through difficult times in recent years, but judging the industry as we find it to-day we can look forward with confidence to the future.

Respectfully submitted.

A. KNIGHT,
Live Stock Commissioner.

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 report of the Veterinary Branch for the year January 1st to December 31st, 1926.

The year has been singularly free from any serious outbreaks of contagious diseases among live stock in the Province. Two outbreaks of sheep-scab occurred in the Province early in the season, but these are at present in quarantine under the supervision of the Federal Inspectors.

Coccidiosis is still prevalent in the Interior, but confined to certain local districts, and the trouble is not widespread. It can be largely controlled by internal antiseptics and precautionary methods.

ACTINOMYCOSIS AND ACTINIMO-BACCILOSIS.

While the former is not prevalent to any large extent and is not causing any serious alarm, the latter has proved somewhat more serious in one of our feeding establishments, as quite a percentage of the feeder cattle were affected. It has also been noted in a number of our dairy herds, usually affecting two or three animals a year. Such cases are isolated by quarantine and the sale of milk from cows so affected prohibited. The animals are usually promptly destroyed by the owner.

On April 1st a flock of sheep were reported as being in an emaciated condition and a number had died. This flock was situated in the vicinity of Whonnock. The owner reported that a number had died and that a number were in a very unthrifty condition. On inspection these were found to be suffering from a nodular disease. The advice given the owner as to the handling of the disease was carried out and no other trouble was reported.

ABORTION AND STERILITY.

Abortion in dairy cows has, for some years past, proven a source of great trouble and of considerable loss to the dairy-farmer. This disease has a very wide distribution and may be found among all classes of cattle kept under a variety of conditions.

Although the disease is chiefly reported by owners of dairy cattle, we also find it among beef stock kept upon the open range. It is impossible to form anything like an accurate estimate of the money loss caused by this disease, as we have no figures or data with reference to the number of calves lost, nor are we able to place a price on losses of a secondary nature, such as sterility, which is always more or less associated with it. At the present time there are no remedies which can be depended upon to eradicate the infection from the body or to bring about normal birth from an infected cow. Apparent favourable results from remedies are as a rule due to a spontaneous disappearance of the disease rather than to the treatment given. Research-work on this disease is being conducted by the Dominion Government laboratories and by other Government specialists throughout the world.

HÆMORRHAGIC SEPTICÆMIA.

One case of hæmorrhagic septicæmia on Vancouver Island was investigated. Five head of young stock had died, the mature animals escaping infection. All the stock on this farm had access to pasture on swampy ground. Practically all cases investigated for this trouble in British Columbia had occurred under similar conditions; that is, cattle, especially young stock, which had become infected were pastured on ground that was subject to an overflow at certain times of the year, such ground being of a swampy nature. We usually find by placing the cattle on higher ground, although on the same farm, they generally escape infection.

An investigation was made by this Department in the Lac la Hache District, where a stockman had lost three head of cattle. The cause of death in this case was due to poisoning. The emaciated condition of another herd in the same vicinity was found due to lack of nutrients in the feed.

TUBERCULOSIS.

During January the time of three of the Inspectors was taken up in securing the names and signatures of farmers petitioning the Government to establish a restricted area in the Lower Fraser Valley. The dairymen were practically unanimous in signing up for the establishment of such an area. The necessary signatures being secured, the petition was forwarded to Ottawa and a restricted area established in the following boundaries:—

"Commencing at a point on the easterly boundary of the Dominion Government Railway Belt where it is intersected by the northerly boundary of Township 11, Range 23, west of 6th meridian; thence west along the north boundaries of Townships 11, Ranges 23, 24, 25, and 26, to the north-east corner of Section 34, Township 11, Range 26; thence south along the east boundaries of Sections 34 and 27 in said Township 11, Range 26, to 9-Mile Creek; thence south-westerly along the centre line of 9-Mile Creek to the Fraser River; thence north-westerly along the centre line of the Fraser River to the mouth of Nahatlatch Creek; thence up-stream of said Nahatlatch Creek and passing through Nahatlatch Lake and along the centre of the Upper Nahatlatch River to the westerly boundary of the Railway Belt; thence southerly and westerly following the westerly and northerly boundaries of the Railway Belt to the north-west corner of the Railway Belt; thence west to the shore of Howe Sound; thence southerly through Howe Sound and passing to the east of all islands in said Sound to the Gulf of Georgia; thence through said Gulf of Georgia to the International Boundary; thence easterly along the International Boundary to the point where it is intersected by the easterly boundary of the Dominion Government Railway Belt; thence northerly along said easterly boundary of said Railway Belt to the point of commencement."

The Federal Veterinary Inspectors commenced the tuberculin-testing of cattle within this area on February 22nd. Four of the Provincial Veterinary staff were employed assisting the Dominion Inspectors, arranging for transportation from farm to farm, supervising the collecting, loading, shipping, and disposal of reactors. The four Inspectors were employed on this work until the end of September. The Federal Government employed nineteen Inspectors in the area besides the officials supervising the cleansing and disinfection of the yards and stables on the premises where reactors were found. The transportation of the Veterinary Inspectors within the area was borne by the Provincial Government. All reactors found were destroyed and the herds in which tuberculosis was found have been retested for the third time. The total number of herds in the T.B. restricted area is 5,567; the number of animals tested in the restricted area to date is 46,989 head, and 3,607 reactors, equal to 7.68 per cent. On the first retest of diseased herds 16,858 head were tested, with 644 reactors, equal to 3.83 per cent. On

the second retest of diseased herds 6,017 head were tested, with 62 reactors, equal to 1.04 per cent. The compensation paid by the Federal Government to November 23rd, 1926, was $154,420.75.

Your Provincial Inspectors have been carrying on the tuberculin-testing of dairy cattle at the request of owners throughout the Province; 1,237 herds have been tested, with a total number of 9,688 head, 454 reactors, or 4.73 per cent.; 50 premises have been classed under Grade A, 305 under B, and 882 under C. A list of the districts covered, together with number of premises visited, number of cattle tested, and number of reactors, together with the grading of the premises according to sanitation, is included in Appendix No. 24. Your Inspectors have also been engaged part of the time on the sanitary inspection of stables and dairies. The general report is that there is a gradual improvement, especially in the older sections.

All of which I beg to submit.

A. KNIGHT,
Chief Veterinary Inspector.

REPORT OF DISTRICT AGRICULTURIST, KAMLOOPS.

GEO. C. HAY, 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 annual report for the year 1926.

SHEEP INDUSTRY.

With particular reference to sheep-farming, it must be noted that the breeding of sheep still continues to be one of the most remunerative of farm enterprises; while recent years have not shown any appreciable increase in the Canadian sheep population, the disposition is quite pronounced towards adding to the numbers in flocks existing, and also of new ones being started. The 1925 sheep population of Canada was estimated by the Canadian Co-operative Wool-growers' Association at about 1,575,000, yielding approximately 11,000,000 lb. of wool, in comparison with 10,187,000 lb. in 1924 from 1,455,417 sheep. These figures also bear interesting comparison with an estimated total of something better than 2,000,000 sheep in 1920 and 1921. All these figures are exclusive of lambs.

British Columbia Provincial Government statistics estimates the 1926 sheep population to be 102,853, as compared with 62,247 in 1925, an increase of 40,606. Whether or not other Provinces have increased in the same proportion or not I have not been able to ascertain.

WOOL-MARKETING.

A review of present-day Canadian wool-marketing methods necessitates considering the operations of the Canadian Co-operative Wool-growers, Limited, which organization represents one of the most successful marketing organizations functioning in the Dominion on a co-operative basis. Formed in 1918 as a Dominion company for the purpose of grading and marketing wool, the association has grown steadily and has been the means of bringing about better and steadier returns to the grower for his product. It also acts as a valuable intermediary in bringing about a better understanding between the growers and consumers.

For the most part last season's Western domestic wools are still held intact, awaiting some kind of a market, and, with one or two exceptions, the same may be said of all other Canadian wool where the chief grades are Low Medium and above. The reason for the wool being yet in store is the absence of demand, resulting in an inactive market and lower quotations. It is in this kind of a year that the growers' organization serves best the grower's interest.

Of course it may be said that the wool could have been sold at shearing-time, but from knowledge of the facts it is doubtful if in 1926 any more wool could have been sold at shearing-time than was sold. That is, the Canadian clip would have remained largely in the growers' hands, which would tend to make for a difficult and perhaps embarrassing situation. Against this—thanks to the efforts of the growers themselves back in 1917 and 1918—they organized their own company, with the result that the wool each year as soon as ready could be shipped, graded, stored, insured, and held, pending a demand for the product; and, from the financial standpoint, to draw a cash advance against the wool at time of shipment.

All season the growers' organization has had, and still faces, a difficult market. Not only is it hard to secure prices which would give satisfaction to shippers, but it is a problem to find customers for wool in quantity. Mills are buying only for immediate requirements, which makes for small movements of stocks. The coal strike in England has had its effect on that market; the decline in cotton has also had its effect, so that the present conditions are not local, but apply to England, the United States, and in fact to all wool centres, with prices on what business is passing some 20 per cent. below those of a year ago this time.

The Canadian Co-operative Wool-growers, Limited, is carefully watching the situation, and whenever it is possible markets the wool as favourably as the market warrants and to the best of their ability. They believe they will be able to market all the 1926 clip and make final settlement to the growers before the 1927 clip commences coming on the market.

Late settlements to growers is very disappointing this season, but at the same time there is a very general appreciation of the fact that the 1926 wool-marketing situation is accounted for by world-wide conditions over which the growers' organization had no control.

BRITISH COLUMBIA STOCK-BREEDERS' ASSOCIATION.

The British Columbia Stock-breeders' Association has had an active year dealing with the question of live-stock marketing as well as its regular business. Numerous meetings have been held throughout the live-stock sections of the Province and keen interest has been aroused in this important problem.

To attempt to deal with live-stock marketing is to approach a very important problem in Canadian agriculture at the present time. That this is an important present-day agricultural problem needs no argument, because successful marketing of agricultural products is generally recognized to-day as the greatest agricultural problem of any country. Live-stock marketing has not made any advanced strides of success over that of other products of the soil. Therefore the marketing of live stock is one of the important present-day agricultural problems of this country.

It is well known that the outlet for Canadian live stock has been through three channels—namely, the domestic market, the British market, and the American market. Due to tariff adjustments from time to time, the American market has lacked the continuity necessary for a well-ordered trade. The geographical position of the British market means that heavy transportation will always prove a handicap to a satisfactory trade in that particular country. The domestic market, of course, is the most important of all, since it consumes the large proportion of our home production and which in respect to beef is approximately 85 per cent. The Canadian live-stock marketing problem, therefore, briefly, is the economic regulation of live-stock shipments through the three channels mentioned, the domestic, British, and American markets, in accordance with supply and demand.

The announcement of a $5 per head reduction in ocean freight rates should materially stimulate export shipments to the Old Country during the coming year.

To study the live-stock marketing problem one must study the practice of Canadian live-stock marketing. This is to deal with the operations of the public stockyards of the country, where the exchange of live stock from producer to packer or retailer takes place. These public markets are under Federal administration and governed by the "Live Stock and Live-stock Products Act." The Act allows for the establishing of a live-stock exchange on each public market, and gives to this exchange a large measure of control over the operations of the stockyards. The members of the exchange are the commission agencies operating under licence on the yards. The "Live Stock and Live-stock Products Act," under which the live-stock exchanges operate, was passed in 1917, and under this system the practice of marketing live stock through commission agencies is established very generally throughout Canada (British Columbia being an exception).

In recent years co-operative live-stock marketing has advanced to a point of demanding recognition. The sponsors of the movement are evidently not satisfied with the prevailing practice of stockyard operations and are agitating for a redrafting of the "Live Stock and Live-stock Products Act."

The following are four resolutions which sum up the result of a day of consultation and discussion by the various interests which had assembled in Regina, February 18th, at the call

of the Minister of Agriculture, Hon. W. A. Motherwell, to consider possible changes in the "Live Stock and Live-stock Products Act," to meet difficulties in trading complained of by co-operative organizations:—

(1.) "That this meeting believes that legislation and regulations should recognize equally the commission method of trading and the co-operative system of trading, both to be under Government regulations." Moved by Hon. Geo. Hoadley and seconded by A. B. Claypool, representing Alberta Live-stock Producers.

(2.) "*Resolved*, That the 'Live Stock Act' be so amended to take away from the live-stock exchange its present power of control over the operation of the stockyards and over the marketing of live stock, and that such control be placed under the sole and direct administration of the Dominion Department of Agriculture." Moved by Hon. George Hoadley and seconded by George Bevington, representing the Alberta Co-operative Live-stock Producers.

(3.) "*Resolved*, That the matter of rules and regulations governing business on live-stock yards be dealt with by the Department of Agriculture, having regard to the rules and regulations enacted by the Government under the present Act, and submitting these uniforming laws to different live-stock exchanges, Provincial Departments of Agriculture, and different organizations likely to be affected thereby, and, after further revising, a committee be named representing different interests to go over these rules and regulations and make a final draft."

(4.) "*Resolved*, That in any new rules and regulations provision be made for trying out the plan of selling live stock by auction on the various yards in Canada."

So much for the Canadian point of view of this problem.

It would appear, therefore, that there is quite a decided prevailing difference of opinion in respect to economic practice of Canadian live-stock marketing.

Whether the economic regulation of Canadian live-stock shipments to market will eventually be solved through the commission method of trading or the co-operative system of trading, or both systems, remains to be seen.

Without voicing any personal opinion, I simply wish to draw to your attention the fact that the people engaged in the practice of marketing the live stock of Canada are not agreed as to the best methods of marketing.

Therefore the economic regulation of live-stock shipments to market, which is recognized as the live-stock problem of this country, awaits its solution at the hands of the people engaged in the practice of marketing and who at the present time are not agreed as to the best methods of practice.

THE KAMLOOPS BULL-SALE.

The Eighth Annual Kamloops Bull-sale was held in March and was the first sale held in the new Arena. Besides the usual entry of beef bulls and breeding females, the sale included a number of sheep, hogs, and horses, as well as a very marked increase in fat-stock show entries. Altogether the eighth annual was regarded as a record event in the history of the sale.

The Wynn-Johnson challenge cup—for the best British Columbia born Hereford bull, any age, entered in the sale; cup to be won three years by the breeder before being owned and to be in the possession of the winner from one sale until the next—was won by the Tranquille Sanatorium Farm, Tranquille, B.C., with "Tranquille Hero," 56238, which was purchased by Fred Gavin, Vernon, B.C.

The Farm & Home challenge cup—for the best British Columbia born Shorthorn bull, any age, entered in the sale; cup to be won three years by the breeder before being owned and to be in the possession of the owner from one sale until the next—was won by P. E. French, Vernon, B.C., with "Broadview Archer," 175725, which was purchased by Guichon Ranch, Quilchena, B.C.

The Hudson's Bay challenge cup—for the best British Columbia born Shorthorn bull or female born in the calendar year preceding the sale; cup to be won three years by the breeder before being owned and to be in the possession of the winner from one sale until the next—was won by James Turner, Cadboro Bay, B.C., with "Augusta Star," 176908, which was purchased by John P. Tarves, New Westminster, B.C.

The Spencer challenge cup—for the Grand Champion animal of the Fat-stock Show; cup to be won three years by the winner before being owned and to be in possession of the winner from one sale until the next—was won by James Turner, Cadboro Bay, B.C., with a 2-year-old Shorthorn heifer.

City of Kamloops challenge cup—for the winning district team in stock-judging competition; cup to be won three times before becoming the permanent property of any district—was won by the Grand Prairie District.

BRITISH COLUMBIA SHORTHORN AND HEREFORD BREEDERS' ASSOCIATIONS.

The British Columbia Shorthorn and Hereford Breeders' Associations have each endeavoured to safeguard the interests of their respective breeds as well as to encourage their production. Diplomas and prizes have been awarded to successful contestants in competitions at different exhibitions. As secretary of these associations your Agriculturist has dealt with the various problems of concern to each.

BOYS' AND GIRLS' CLUB WORK.

The usual lines of Boys' and Girls' Club work has been conducted throughout the year. An excellent exhibition of well-finished market calves was held at the Annual Kamloops Bull-sale, as well as a very keen live-stock judging competition, which was encouraged by substantial prizes given by the British Columbia Stock-breeders' Association and a handsome challenge cup by the City of Kamloops to the winning district team. Kamloops District was also represented at the Vancouver and New Westminster Fairs by teams which participated in judging live stock, field crops, and poultry.

GRASSHOPPERS.

Grasshoppers continued to be a plague to the district during the season of 1926. A mixing-station was carried on for several months in the City of Kamloops, which was appreciated by the farmers, who readily took away the mixed bait, which very materially checked the destruction by the grasshoppers.

LAND SETTLEMENT BOARD.

Throughout the year numerous reports and appraisals on farm loans have been made for the Land Settlement Board. On account of the series of dry years in the district more calls have been made for loans, and also more attention has been necessary to those behind in their payments.

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 Association meetings, Boys' and Girls' Club meetings, etc., have been arranged for and assistance given.

FAIRS.

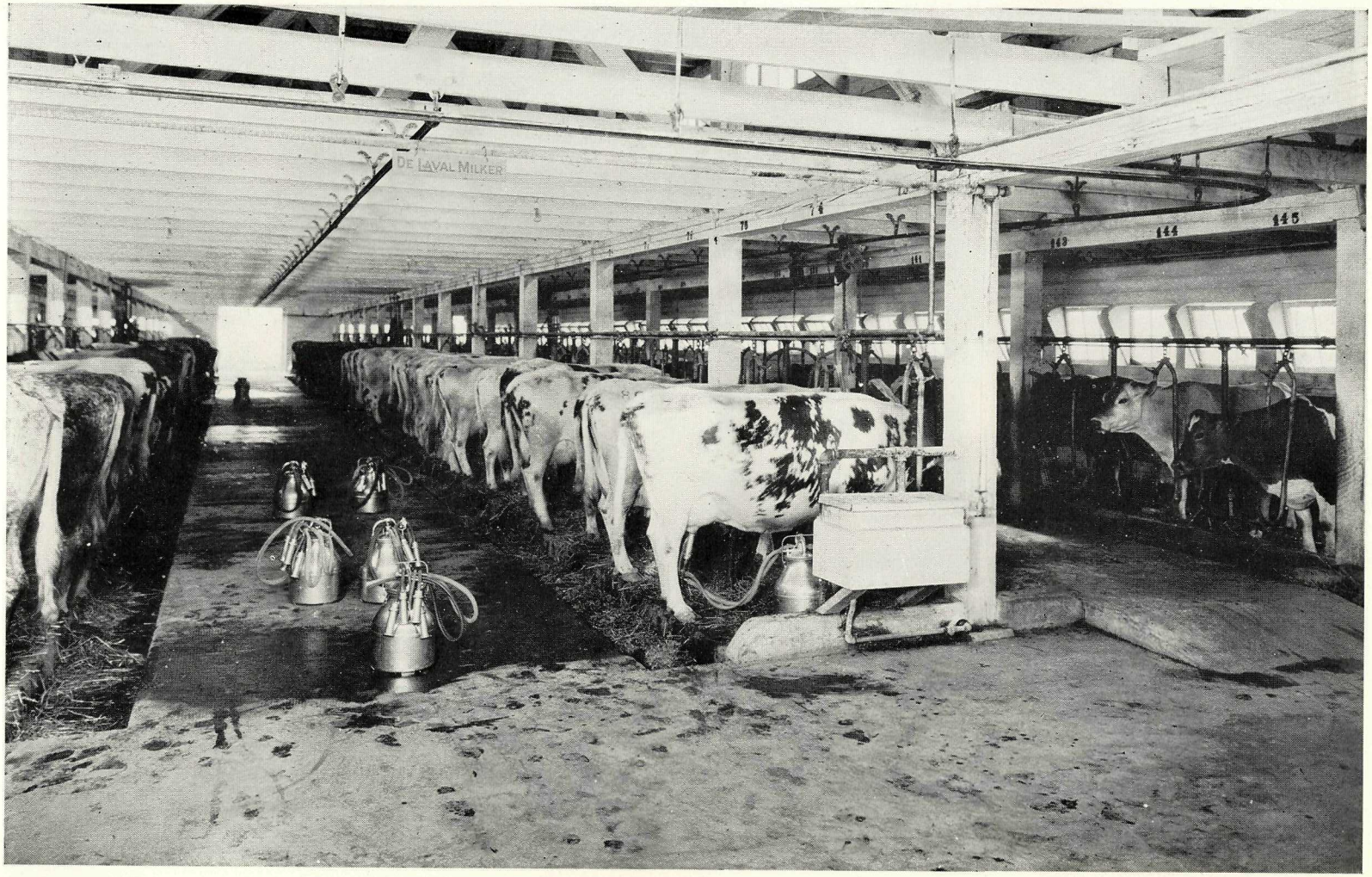
Various fairs throughout the Province were attended and in the capacity of judge assistance was granted whenever possible.

OFFICE.

The above lines of work, together with frequent inquiries for information at the office in Kamloops, has kept your Agriculturist especially busy during the past year. An effort has been made at all times to assist the local farmers in finding the best markets for their produce and stock. These various lines of work conducted by the Department of Agriculture in this district are appreciated by the local farmers and others interested, as noticed by the steady increase of correspondence as well as the increase in number of visitors. The efforts of the Department to develop the agricultural interests of the district are at all times greatly appreciated by all concerned.

Respectfully submitted.

GEO. C. HAY,
District Agriculturist.



Interior of barn of Consolidated Mining & Smelting Company, Trail, B.C. One hundred and forty milk cows housed here.

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 report as District Agriculturist in the East Kootenay District for 1926.

FARMERS' INSTITUTE MEETINGS.

Throughout the year Farmers' Institute meetings have been attended in all parts of the district and addresses given on different phases of agriculture. Acting as secretary of the District Institute of District I, your Agriculturist gave all possible assistance to the association through the year, particularly in connection with arrangements for its field-day held in July at the Experimental Farm at Invermere, and the annual convention held in Cranbrook in October.

FAIRS.

Numerous fairs were attended during the year, at several of which your Agriculturist acted in the capacity of judge of different branches of the live-stock exhibits. Being secretary of the Cranbrook Agricultural Association, all possible assistance was given the directors during the summer months, and particularly at the time of the fall fair. Unfortunately the weather was extremely bad during the first two days of the fair, which resulted in practically no attendance, but the last day being fair there was a good attendance, and with some local assistance financially the association cleared up the business for 1926 with no deficit.

LIVE STOCK.

In February, again being appointed British Columbia director of the Canadian Swine-breeders' Association, your Agriculturist attended the annual meeting of this association in Toronto. While in the East, at the request of the British Columbia Stock-breeders' Association, some time was spent locating entries for the Kamloops Bull-sale. Also your Agriculturist while in the East was requested to attend the annual meeting of the Canadian Co-operative Wool-growers' Association as delegate from British Columbia in lieu of Mr. George C. Hay, who was unable to attend, due to the dates conflicting with the dates of the annual Kamloops Bull-sale. In May your Agriculturist attended the meeting of the British Columbia Stock-breeders' Association held in the Cariboo and Chilcotin Districts.

Throughout the year, acting as director of the British Columbia Wool-growers' Association, all possible assistance was given to sheep-breeders in the district. In July a co-operative shipment of wool was made from Cranbrook, which included the clip from practically every flock of any size in the East and West Kootenay, totalling approximately 16,000 lb.

It is regrettable to note that several breeders have experienced losses in this industry, due to the ravages of the coyote, and a few have disposed of their flocks.

Assistance is continually given to stockmen in the way of locating and purchasing good stock. In this connection, at the request of the Consolidated Mining and Smelting Company, of Trail, B.C., last November, your Agriculturist went East to Ontario and Quebec and purchased two car-loads of registered Ayrshire cattle for their dairy at Trail. Practically all these cows have already freshened and are giving good satisfaction.

BOYS' AND GIRLS' CLUB WORK.

The East Kootenay Boys' and Girls' Swine Club work was again conducted in this district and for the third time won first place in the Provincial club competition. Upwards of thirty pigs were shown, all being exhibited in first-class condition. Keen interest was shown in this work throughout the summer months and a splendid display of Yorkshire pigs would have been staged at the Cranbrook Fall Fair had the weather been fit. This club-work advanced one step this year in this district, a ton litter competition being staged, in which four entries competed, consisting of litters of thirteen, eleven, and two tens, the first litter weighing approximately 2,700 lb. at 6 months of age.

Keener interest than ever before was shown this year in the boys' and girls' live-stock judging competitions. Teams were coached in the following districts for the Coast fairs:

Cranbrook, Golden, Natal, and Jaffray; and at the Vancouver Fair stood first, second, fourth, and ninth respectively. At the New Westminster Exhibition teams were entered from Golden and Cranbrook and stood first and fifth respectively.

POTATO-WORK.

During June, July, and August considerable time was spent combating the ravages of the potato-beetle, calcium arsenate and arsenate of lead being used. The growers greatly appreciate the assistance given by the Department of Agriculture in the way of supplying free poison.

OFFICE-WORK.

The office-work continues to increase; correspondence is on the increase and each year the office is used more by the farmers as a means of obtaining agricultural information. Being secretary of the District Institute, secretary of the Agricultural Association, secretary of the Boys' and Girls' Clubs, considerable time must be spent in the office, but your Agriculturist endeavours to spend as much time as possible, particularly during the summer months, visiting farmers throughout the district, where the local problems of the farmers can be handled with the greatest efficiency.

Respectfully submitted.

ANGUS L. HAY,
District Agriculturist.

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,—I have the honour to report as follows:—

The past year was, as a whole, a very favourable one for farmers in this part of Central British Columbia. A very mild winter permitted of considerable saving in the matter of winter-feeding. This was followed by excellent growing conditions during the summer, resulting in high yields in almost all crops. Practically the only adverse conditions throughout the whole season were: First, cold weather in April, causing considerable damage to new seeding of legume-crops; and, second, the early cold snap on September 21st, when the potato-crop suffered severe damage.

FIELD CROPS.

The hay-crop for the year was a good average, with grain and root crops exceptionally heavy. The season has brought considerable progress and also the opening-up of several new avenues of production which heretofore had not been tried.

Chief among these is that of wheat-growing on a commercial scale. During the spring a communication was received from the management of the new elevator at Prince Rupert, asking that samples of wheat grown along the line of the Canadian National Railway be forwarded for examination. Accordingly a number of farmers were visited and samples of wheat collected and forwarded to Prince Rupert. After receiving a very favourable report on these it was suggested to farmers of the district that they engage in commercial wheat-growing on a modest scale for a start.

The idea was taken up by a number of farmers around Vanderhoof; between 500 and 600 acres being sown to Marquis wheat. A close watch was kept on this crop during the growing season. Weather conditions remained favourable, so that the crop was all cut and practically all threshed before the bad weather set in in late September. A good yield was received; estimated at 25 bushels per acre average. The quality averaged fair, but would have been better had better seed been used.

To date one car-load has been shipped to the elevator and more is expected to move shortly. A considerable quantity is being held for seed, as the acreage sown next year will probably be many times that of this year. This is a move of great importance to the district. As mentioned in previous reports, timothy-hay has been the main crop of the district for some years. Its production has grown year by year in the face of a fairly stationary market. The only possible result has been a decrease in price and last year a small carry-over. This year the situation

is so far improved, in that the acreage sown to wheat has reduced the acreage in hay. It will do this to a further extent next year, with the result that the production of hay is bound to show a decline and thus a surplus will be avoided.

This move towards a more diversified type of farming is also noticeable in the fact that Vanderhoof District this year shipped out a car of alfalfa-hay. It has approximately two more cars available. For some years there have been several small areas in alfalfa, some well established, some otherwise, but the production has been negligible until this year. This amount has been grown by two farmers. They got two crops during the season and an average production of 3 tons per acre. The area in this crop will increase year by year, providing another source of revenue and in turn reducing the volume of timothy-hay production. It is very gratifying to note the establishment of alfalfa in the district, as each year considerable time and thought have been given to studying conditions with a view towards the successful growing of this crop.

SEED PRODUCTION.

After having put the possibilities of seed-growing before the farmers for a number of years, it is gratifying to note that a start has been made. Approximately 5 tons of timothy-seed have been threshed and now wait the cleaning-machine. This seed is of excellent quality and equal to the now famous Bulkley Valley seed. This amount will probably all be taken by local Farmers' Institutes and next year it is probable that a large acreage will be saved for seed. Considerable time was spent all through the season, studying this crop, discussing hay production and seed production, and in analysis of the market for the two products.

SOIL-WORK.

There has been more time and study given to this subject than to any other. There are several distinct types of soil in the district, and the characteristics and peculiarities of these are under observation all the time. Different systems of tillage and the effect of climatic conditions have been observed and discussed with farmers all over the district. Underdrainage has been discussed and estimates given. A few men have improvised rudimentary systems; the effect of these was watched with a view of recommending general adoption of the practice.

LIVE STOCK.

The live-stock situation is much the same as last year. About one car of dairy stock, two to three cars of horses, and one car of sheep have been brought into the district during the year. The dairy stock were purchased for the retail milk trade in Prince George; the horses were for logging camps and the sheep were purchased by a farmer at Croydon east of here. A slight change has been noticed in the demand for young dairy stock. Formerly few calves were raised, but now there is a small but growing demand for heifer calves. This demand is largely due to the progress made by the two local creameries. By keeping in touch with buyers and sellers it is possible to assist both parties in a number of cases. A few visits have been made to farms where sickness was reported among stock. In each case these were found to be common ailments and responded to ordinary treatment.

Working in co-operation with one of the largest dairymen of the district, an attempt was made to break some milk cows of the habit of eating young willow-shoots while on pasture. Such a habit induced a very bitter taste in the milk. Varying proportions of different mineral compounds were introduced into the feeding ration, but so far with little success. The matter will be under consideration again during the coming summer.

Occasional requests come in for an inspection for soundness in horses offered for sale. One such request came from the local agent of the Canadian National Railways, asking for an inspection of a car-load of horses claimed to have been injured in a minor railway accident.

Advantages of dairying, care and feeding of dairy cows, and prospects for sheep and swine raising have been the subjects of talks given at farmers' meetings, both formal and informal.

HORTICULTURE.

Some time has been given to the study of the obstacles in the way of fruit-growing. Climatic conditions preclude the possibility of any general development in this line, but a number of small fruits and bush-fruits are giving good results. In the case of strawberries a number of farmers set out young plants during the year. This was particularly noticeable in the Newlands

District to the east. Visits were made to practically all these men; varieties and cultural methods discussed and advice given. Some attempts are being made to establish cane-fruits. In certain localities these have done well. These farms have also been visited and advice given in regard to pruning and propagation.

Late this fall a definite move was started towards forming a Horticultural Association in the town of Prince George. This is primarily for the purpose of encouraging floriculture and landscape-gardening as applied to city homes. It is a very necessary move and it is hoped will prove a very useful one.

BIOLOGICAL WORK.

A close watch is always maintained during the growing season on all crops. Any evidence of insect pest or fungus disease is studied, and where possible identified and control measures adopted. So far few crops have been appreciably damaged. During a period of wet weather in the summer clover-blight showed on a rather widespread scale. It was particularly noticeable on second crop. It caused little or no damage and disappeared after a few days' dry weather. Some time was spent with market-gardeners in an attempt to control "damping-off" in hotbed plants. Wheat-fields and other grains were watched for evidences of smuts or rusts. Common smut in oats appeared to be the only one of importance.

In regard to potato-diseases, there was the usual blackleg, rhizoctonia, mosaic, and some of the minor diseases. A great improvement, however, is noticeable over last year, and it is believed this is due to better seed selection and treatment.

Several outbreaks of wireworms were observed. These did more damage in potatoes than any other crop. They were at their worst on upland benches. Lack of rotation and a mild winter were contributing causes.

During the hot, dry weather of midsummer a close watch was kept for any showing of the grasshopper pest. They were found in two places—at Vanderhoof, working in grain-fields, and also at Quesnel. Little damage was done and they disappeared after a few days of cool, showery weather.

Warm weather in May brought out a brood of the tent-caterpillar. While they denuded a great many forest trees, the outbreak was not so bad as last year and was of no economic importance.

As has been previously stated, the district is practically weed-free. Occasionally noxious weeds find their way in; these are watched for and where possible are eradicated. Particular care is taken to prevent their spread on cultivated fields. Specimens of such weeds and also of wild herbs of the poison group have been taken to farmers' meetings, exhibited, and control measures discussed.

FARMERS' INSTITUTE MEETINGS.

The mild weather made it possible to use a car all winter and thus a greater number of institutes were reached than would otherwise have been possible. Talks were given on a number of topics; charts and diagrams were prepared to illustrate points under discussion. In June a series of meetings was arranged during the visit of the Dairy Commissioner and the Poultry Instructor. Another series was arranged in July for an official of the Soil and Crop Branch. The following table sums up this work:—

TABLE OF FARMERS' MEETINGS ADDRESSED IN 1926.

Date.	Place.	Time.	Attendance.	Subject.
(1.) Jan. 29	Woodpecker	Evening	55	Potato-diseases.
(2.) Feb. 3	Prince George	Afternoon	35	Live-stock situation.
(3.) Feb. 20	Fort Fraser	Evening	58	Opportunities in agriculture.
(4.) Mar. 31	Pine View	Afternoon	15	Soil-drainage.
(5.) May 19	Prince George	Afternoon	38	Agriculture and land settlement.
(6.) May 21	Hixon Creek	Evening	32	Crop-rotation.
(7.) June 5	Prince George	Afternoon	15	Market conditions.
(8.) June 25	Pine View	Afternoon	55	General conditions.
(9.) July 13	Fort Fraser	Evening	50	Soil-fertility.
(10.) July 21	Isle Pierre	Afternoon	35	Community effort.
(11.) July 24	Mud River	Evening	5	Crop-rotation.

Johnson Bros., Salmon Valley. Red clover for seed.

Breaking new land in preparation for next year's crop. A Larson, Prince George.

FALL FAIRS.

The following fall fairs were visited in the capacity of judge: Chilliwack, September 1st to 3rd; North Vancouver, September 3rd and 4th; New Westminster, September 6th to 11th; Aldergrove, September 15th; Duncan, September, 17th and 18th; Langley, September 21st and 22nd; Surrey, September 22nd and 23rd; Smithers Seed-show, November 12th.

MARKETING.

Early in the summer a request came in from the central executive of the Farmers' Institute to prepare a paper on marketing conditions with reference to such bulk crops as hay, grain, and potatoes. Furthermore, the paper was to outline, if possible, plans which might aid in the formation of some sort of marketing agency. Considerable time was spent in collecting data and in working out feasible plans. The paper was delivered at a meeting of delegates from the various local institutes, and at a later date steps were taken to form a marketing organization along lines suggested. Close touch is maintained with this organization and every assistance is being given them.

MISCELLANEOUS.

In the fall a number of farmers were visited with a view of encouraging them to exhibit seed or potatoes at the Provincial Seed and Potato Fair. A number did exhibit, but this year's quality was below average on account of the frost in September. A number of farms were visited where quantities of potatoes and roots are being held in storage for the spring market. Suggestions and advice were given in regard to insulation, ventilation, sorting, etc.

CONCLUSION.

So far as possible, individual farmers have been visited and their work discussed on the ground. In so large a district, however, this is only possible to a very limited extent. Articles for the press are composed from time to time; these are of a practical nature and deal with seasonable subjects. During the summer as much time as possible is spent in the field, but it is necessary to spend at least three days a week in the office in order to keep up with the correspondence. No less than 1,200 letters were received and answered during the year, and when it is remembered that there is no assistance in the office the amount of work involved is obvious.

All of which is respectfully submitted.

R. G. SUTTON,
District Agriculturist.

REPORT OF DISTRICT AGRICULTURIST, SMITHERS.

DUNCAN D. MUNRO.

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

SIR,—I am pleased indeed to be able to report that the season of 1926 has shown a decidedly marked increase over any preceding year in agricultural production in this district.

The settlers generally throughout the district are adopting more up-to-date methods in preparing the soil and harvesting their crops. Perhaps the most noticeable change is in the increased acreage each year of fall ploughing over previous years; with the result that the 1926 production of grains has increased as follows: Wheat, 175 per cent.; oats, 30 per cent.; barley, 45 per cent.

There will be at least seven car-loads of wheat, 1926 crop, for export, which has been sold through the Alberta Wheat Pool, to be shipped to the Government elevator at Prince Rupert, which is under lease to the Wheat Pool.

However, as the Pool does not handle oats and barley at the Prince Rupert elevator, and as these grains, for feed purposes, cannot be shipped East and compete with Alberta, nor to the southern part of the Province on account of excessive freight rates, we therefore must to a very large extent depend on local consumption, which is limited; with the result that there is a surplus of oats in the district, and we must conclude that this condition will continue to exist unless an export market is found by way of the Pacific.

In the meantime we are endeavouring and hope to succeed in placing two or three car-loads of seed-oats in Alberta. This would seem possible owing to the small and inferior oat-crops of the past season in that Province. However, this is an exception and cannot be depended upon as a steady market.

The abattoir at Prince Rupert is proving to be of decided assistance to the beef-producers of the district. Car-load shipments started moving to the abattoir early in July, and all beef offering was shipped and marketed by January 10th. Formerly the settlers allowed their beef animals to roam the hills until driven home by snow and cold, when all were offered for sale at one time, temporarily oversupplying the markets; with the result that prices were forced downward to a point lower than the cost of production.

The old methods of feeding and caring for beef animals—i.e., in winter, feeding only sufficient to sustain life until new grass appeared in the spring—has almost entirely disappeared. Settlers are now more inclined to keep smaller herds, giving them better winter care, so that they can market their beef almost any month in the year, which is more remunerative than the former system of both feeding and marketing.

Quite a number of settlers are becoming interested in sheep-raising. Last fall a double-deck car-load was shipped from Lethbridge by Robert Kelley, of Houston, taking advantage of the 25-per-cent. reduction in freight rates offered by the railway for a limited time.

We are keeping in touch with this shipment and the last report we had was that they were doing splendidly. I feel sure that quite a number of sheep will be brought into the district in 1927.

Several farmers have also gone in for hog-raising in a small way, and should within the next two years be able to ship hogs in car-lots to the abattoir in Prince Rupert.

Had it not been for the coyotes the production of turkeys and chickens would easily have during the past season doubled former productions, but owing to this menace I feel that not more than 65 per cent. of the number produced in 1925 was marketed.

However, good prices were obtained. Dressed turkeys sold for from 40 to 41 cents per pound f.o.b. point of shipping, according to quality. Dressed chickens sold for from 30 to 32 cents per pound f.o.b. point of shipping. However, I feel sure that the coyote menace reached its peak in 1926, and should annually decrease, from natural causes alone, for the next seven years.

Dairy production has also shown an increase, especially the whole-milk and sweet-cream shipments to Prince Rupert. We are pleased to report that the commodity rate on cream has been extended to 300 miles, instead of, as formerly, 200 miles east of Prince Rupert. For instance, the former rate on a 5-gallon can at a greater distance than 200 miles up to 250 miles was $1.30, the new rate is 70 cents; on an 8-gallon can the former rate was $2, present rate 75 cents; on a 10-gallon can the former rate was $2.40, new rate 85 cents. This is quite an advantage, especially as the Bulkley Valley is from 230 to 265 miles distant from Prince Rupert. A very large percentage of the cream shipped to Prince Rupert is from the Bulkley Valley, which is outside the former commodity-mile limit.

The most outstanding feature in 1926 was the increased production of timothy-seed. From the 1925 crop 90,000 lb. was marketed, and from the 1926 crop there will be from 750,000 to 770,000 lb., all of which has been sold to Vernon and Buckerfield, Limited, Vancouver, at 8 cents per pound f.o.b. shipping-point, based on Grade No. 1, and they provide the sacks.

Eighty-five per cent. of the seed is grading No. 1; 15 per cent. of the seed is grading No. 2; 1 per cent. of the seed is grading No. 3. On purity analysis alone 99 per cent. of the seed would grade No. 1, but owing to the fact that in threshing the seed has been hulled in excess of the 25 per cent. permitted in Grade No. 1, and 35 per cent. permitted in Grade No. 1 C.W., the result is that 14 per cent. is grading No. 2.

However, we do not think the entire blame should be placed on the different men in charge of the threshing outfits, as most of them had no previous experience in threshing timothy-seed, and it would appear that an extremely hot spell, from July 1st to July 15th, had something to do with the high percentage of hulled seed, as it was noted that in sections where there was ample moisture and later-maturing timothy the percentage of hulled seed was much less.

Had it not been for the power seed-cleaning plants provided by your Department, and located at Smithers, Barrett, and Burns Lake, the timothy-growers of the district would have sustained a heavy financial loss, as it was quite apparent that the 1926 crop would be very

much in excess of the demand. Anticipating this, we ascertained from the railway company that 143 car-loads of the 1925 crop had been shipped from the district.

A survey was then made, the result of which showed that on June 1st, 1926, there was still for sale, either baled and in warehouse, on the track, or on the farms, 165 car-loads of hay, 1925 crop. We let this be known, with the result that a very large percentage of the timothy was harvested for seed.

Had it not been for the installation of the cleaners, which enabled the settlers to convert their timothy into seed, it would have resulted in a financial loss and a severe set-back to the district.

Throughout the district the mining industry has made substantial progress in the past year and this should react favourably upon the farming industry, giving a home market for many farm products. At Topley a very large deposit of gold-silver ore was found in June, and this has since been taken over by the Standard Silver Lead Mining Company, of Spokane, which is pursuing an active programme of development on the property.

Adjoining claims have been bonded by the Porcupine Goldfields Development and Finance Company, Limited, and are being developed as well. In the region tributary to Telkwa the Cassiar Crown Mine has been reopened on Grouse Mountain and the new work done there has been very favourable.

New expansion of the Duthie Mine, on Hudson Bay Mountain, near Smithers, is resulting from a year of marked progress there. A concentrator is now being installed, which should make possible the handling of the lower-grade ores at a profit.

In conclusion, it is safe to assume that the district has gone over the top in the development stage, and we may safely predict a marked improvement in conditions generally in 1927.

Respectfully submitted.

DUNCAN D. MUNRO,
District Agriculturist.

REPORT OF DISTRICT AGRICULTURIST, COURTENAY.

E. R. BEWELL, 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 Agriculturist at Duncan and Courtenay for the year ended December 31st, 1926.

I continued as District Agriculturist at Duncan until March 31st, 1926. During February it was decided that my office would be of service to a greater number if located at Courtenay instead of Duncan, so it was arranged to make the change on April 1st, 1926, when I transferred my office to Courtenay.

Before I left Duncan I had arranged for a crushed limestone and superphosphate of lime demonstration, in which thirty-two farmers took part, and some very good results were obtained, which demonstrated that lime or limestone is needed on Vancouver Island.

A similar demonstration was arranged and carried out in the Courtenay District, twenty taking part in it, which proved that limestone was required, but the price was too high at $7 to use very much.

I spent considerable time investigating sources of supply, cost of towing, etc.; finally it was decided to form a company, which is made up of local farmers, and a plant was installed to crush limestone here. The rock is towed over in large scow-loads from Blubber Bay and is being crushed and sold to farmers at $4 per ton in bulk.

While at Duncan I continued as secretary of the Stock-breeders' Association, but resigned this position when I came to Courtenay.

When I arrived here there was in process of formation a Vegetable-growers' Association. I spent considerable time on this, but it did not get functioning until late in the season and was not supported even by the growers, so they suspended operations until 1927 as the cost of operating was too high. They are planning to operate again in 1927 if they can arrange to handle the fruit and potatoes as well as vegetables.

I have followed the practice of being in my office mornings and visiting farmers in the afternoons, inspecting stock, crops, soils, and taking levels for drainage.

Flower, seed, and bulb growing is getting started in this district and I gave considerable information along this line. Potato-growing has developed, but the growers have been dissatisfied owing to the lack of markets for their produce and prices obtained for same. Prospects appear brighter for this industry now, so it should develop to a very important industry.

During the summer and fall I arranged for a potato field-day, which J. W. Eastham and W. Downes attended. A very profitable day was spent; about sixty farmers turned out. In the fall a ploughing-match was arranged. It was staged on short notice, but considerable interest was shown, and it is planned to make it an annual event. A bacon-hog demonstration was also arranged for and held in December.

I attended several meetings during the year and gave addresses on potato-growing, seed and bulb growing, etc.; also judged at fall fairs at South Vancouver, Metchosin, Pemberton Meadows, and Whonnock.

A large supply of department bulletins is kept on hand and a large number were distributed during the year.

A great many letters were written and information sent to prospective settlers.

Respectfully submitted.

E. R. Bewell,
District Agriculturist.

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 my annual report as Dairy Commissioner for the year 1926.

The dairy industry in British Columbia maintains a very steady and uniform progress. It continues also to furnish year by year a larger proportion of the total of agricultural products of the Province and to merit whatever of assistance and encouragement can be given it.

Little out of the ordinary has occurred during the year. Dairy crops throughout have been fair, though portions of the Interior suffered greatly from drought in the early summer. Millfeeds have remained high in most instances. Prices for dairy products stiffened somewhat as the year advanced.

CREAMERIES.

Nearly all creameries during 1926 have increased in production over previous years. This increase in most cases, while actually not large, yet represents a very good percentage of improvement and a corresponding reduction in charges of operation, which, with several of our smaller country institutions, are too high. Calls have been made on all creameries as frequently as possible during the year.

The Lower Mainland has twenty-nine licences under the "Creameries and Dairies Act," representing butter and cheese factories, condenseries, ice-cream plants, and milk-supply houses. F. Overland, Dairy Instructor and Inspector for this area, states in his report:—

"Regular calls were made on the creameries of the Lower Mainland, and one on those of Vancouver and Saltspring Island. The grading of cream was done regularly at all creameries and special calls were often made in the interests of this work. Frequently on these occasions the butter on hand was also graded, so that the results of the cream-work could be checked.

"Regular calls were made on all dairies on the Lower Mainland and assistance given in the care and handling of milk and cream. About 200 calls were made to farm dairies.

"There has been considerable improvement in the care and handling of milk on the farm and in the quality of milk handled at the distributing plants.

"Figures regarding the dairy butter manufactured on the Lower Mainland were secured. Much of the dairy butter manufactured was found to be sold direct from the farmer to the consumer on the New Westminster market and elsewhere. Some 200 calls were made in carrying out this work.

Looking south-west across the Kootenay River near Wasa, in the Kootenay Valley.

Coiling timothy-hay on the A. Johnson farm at 6-Mile Creek.

"Assistance was given during the year at the cream-grading courses held for two and three weeks in February and November–December."

The rest of the Province, comprising Vancouver and the Gulf Islands, the Okanagan, Kootenay, Columbia, and Cariboo Districts, with Central British Columbia, has twenty-eight licences under the Act, representing chiefly butter-factories with some ice-cream plants and milk-supply houses. F. C. Wasson, Dairy Instructor and Inspector, in reference to work in these districts, reports as follows:—

"The months of January and February were spent in visiting dairy and creamery plants near Victoria, assisting at the Dairy Convention held at New Westminster, and with the cream-graders' course held at the premises of the Fraser Valley Milk Producers' Association, Vancouver, in February.

"During March and early April visits were made to creameries on Vancouver and Saltspring Islands. Instruction was given in cream-grading and butter-analysis. Calls were made on most of the farmers shipping cream to Saltspring Creamery.

"Work with creameries of the Interior was started about the middle of April. The greater part of the spring, summer, and early fall was spent visiting creameries, dairies, and ice-cream plants in the Okanagan, Kootenay, and Cariboo Districts. Time was given to cream-grading, butter-analyses, and general inspection-work.

"The late fall and early winter was spent with the creameries and dairy plants on Vancouver and the Gulf Islands and assisting with the cream-graders' course held at the Fraser Valley Milk Producers' Association, Vancouver, in November. Information in regard to the amount of dairy butter manufactured on Vancouver Island was secured.

"In all, 130 visits were made to the different creameries and ice-cream plants and about 150 to smaller dairies and producers."

With the introduction of cream-grading regulations, a check on the work being done by the licensed cream-graders of the Province has become most necessary. Accordingly, much time has been spent by the Dairy Instructors on the weigh-stands of creameries, viewing the work done by the person appointed. For the first year of operation the results may be considered satisfactory, the required grades being very generally observed and payment being made on this basis. There still exists much laxity of discrimination in some localities and a disinclination to penalize sufficiently patrons for poor cream, but throughout some improvement has been effected. The larger factories had for several years previous voluntarily practised cream-grading, with good results to the quality of butter manufactured. It may fairly be assumed that a very few seasons' experience under the cream-grading regulations will be productive of much good and add in a great degree to the efficiency of methods employed on dairy-farms in caring for cream and of workers in butter-factories. The returns received from cream-graders of cream graded during 1926 may be summarized as follows: Table, 2 per cent.; special, 48 per cent.; first, 40 per cent.; second, 10 per cent.

For the first year of operation under the regulations a laxity in grading may be considered as indicated by the relative percentages of special and first grades allotted, but it is confidently expected that future years will bring a stricter practice throughout.

CHEESE-MAKING.

Little can be said regarding progress in this branch of dairying. Supplies of milk being needed in more remunerative channels, less cheese has been manufactured than for several years. A factory for the manufacture of Wisconsin brick cheese was started during the year at Edgewood.

ICE-CREAM.

A steady increase in quantity of ice-cream manufactured is apparent everywhere. The need for a qualified ice-cream instructor continues. Some forty-four firms in British Columbia have ice-cream plants and are manufacturing.

CONDENSERIES.

The condenseries operating at Ladner, Abbotsford, and South Sumas did not have during the past season as large an output as usual. The explanation in this case also is that other and more remunerative outlets for milk were available. The amounts of powdered milk and of casein manufactured were somewhat greater, though still relatively small.

COW-TESTING—MILK RECORDS.

Nine Cow-testing Associations are now operating in the Province. Six are in the Fraser Valley, with one each in Comox, the Okanagan and the Bulkley Valleys. These may all be stated to be in good condition as regards both finances and membership.

The system has undergone modification and changes until it can now be considered to be operating on thoroughly practical, reliable, and well-thought-out lines.

Concerning these matters, the assistant in charge, G. H. Thornbery, writes in his report:—

"Up to the end of 1925 all cows were allowed 365 days to a milking-period. During the latter part of that year all associations were asked to consider whether or not the 365-day milking-period should be dropped in favour of the 305-day milking-period. All associations heartily approved of the idea and from the beginning of 1926 the 305-day milking-period has been adopted for all except 2-year-olds. No limit was set for calving-date after test, but all records completed by animals which freshen again within 400 days of previous calving-date qualify for the designation 'Calved Within Period' (C.W.P.)."

During the year much thought has been given to the preparation of a circular in which are laid down rules and regulations governing all phases of Cow-testing Association work. This has been the means of bringing uniformity into the work of all associations and of furnishing those concerned with definite instructions and rulings as to the carrying-out of the regulations.

Considerable time has been spent in visiting members of Cow-testing Associations. Frequent conferences have been held with Supervisors, when problems arising from the work were discussed.

At the request of a number of dairymen a testing centre has been started in the Districts of Peardonville and Poplar. Owners of herds situated near Cowichan, Bradner, and Mount Lehman continue to make use of the centres in these localities.

Rapid strides have been made by the system of certification of records since its inception in 1922. In the early part of 1925 a system of tattooing heifer calves from cows which had completed records qualifying for certification was formulated. The system met with good results, but in the case of black-eared animals tattooing was not a success. After taking the matter up with all associations it was decided to discard the tattooing altogether and adopt in its place the ear-tag. This is considered a great improvement.

With the adoption of definite rules and regulations governing the issuing of certificates, the system of Cow-testing Associations is on a sound basis, and as the strictest supervision is observed during the monthly visits of Superviors the records possess the highest of reputations.

DAIRY LEGISLATION.

No change in legislation directly concerning this Branch or the work of its staff has occurred. There is contemplated, however, a revision of the "Milk Act" to enable the Veterinary Inspector to grade dairy herds and farms more effectively. The pasteurization of all market-milk supplies, except those from Grade A farms, is being considered. Much time has been spent with Dr. Knight, Chief Veterinarian, in regard to these matters.

TESTERS' LICENCES.

Eleven applicants were examined by this Branch and 109 licences were issued. (For the list of testers holding licences during 1926 *see* Appendix No. 25.)

CREAM-GRADERS' LICENCES.

Thirty-five licences to cream-graders were issued. Twenty-three were single licences, the applicants already possessing testers' licences for 1926. Twelve combining cream-graders' and testers' licences were issued. Five licences were temporary only, the applicants being subject to further examination before renewal will be permitted. (For the list of cream-graders so licensed *see* Appendix No. 26.)

DAIRY AND CREAMERY LICENCES.

Licences were issued to fifty-seven persons, firms, companies, or associations buying milk or cream on the basis of the butter-fat content. (For the list of creameries and dairies so licensed *see* Appendix No. 27.)

FALL FAIRS.

Assistance was given as usual with the classes of dairy exhibits at the three largest fairs of Victoria, Vancouver, New Westminster, and that of Chilliwack. It is pleasing to record that the dairy classes at the three chief exhibitions have been considered worthy of greater attention than heretofore from the Dominion authorities in their allocation of judges. J. R. Sweeney, Dominion Grader at Winnipeg, judged at Victoria and Vancouver, and Dr. J. A. Ruddick, Dominion Dairy Commissioner, at New Westminster.

CREAM-GRADER'S LICENCE COURSES.

With the introduction of cream-grading regulations and the licensing of cream-graders, licence examination courses must periodically take place. The first was held at the premises of the Fraser Valley Milk Producers' Association, Vancouver, from February 1st to 13th, inclusive.

Equipment necessary to the course has been secured and for power a motor is rented. Steam is obtained from the boilers of the building.

Forty-two factorymen attended the course. Thirty-five successfully passed the prescribed examinations.

On the occasion of this, the first course to be held, the Department allowed transportation expenses to one representative from each creamery in the Province.

The governing regulations taking effect only on January 1st, 1926, the holding of the course at the end of the previous year was not possible. This is intended for the future, as it will permit licences for successful ones to date from the first of the oncoming year.

The second course was held November 22nd to December 10th, inclusive, 1926, at the same place. Twenty-two persons attended. Twelve successfully passed the examinations and will be granted licences for the year 1927.

THE BRITISH COLUMBIA DAIRYMEN'S ASSOCIATION.

The usual activities of this association were continued in 1926. Prizes were offered for C.T.A. and R.O.P. records, and a new contest called the "creamery-run competition for butter-makers" was instituted with good success.

The convention of 1927 is to be held at Chilliwack in January.

PUBLICATIONS.

Publications for 1926 included: Dairy Circular No. 11, Annual List, Certified C.T.A. Records; Dairy Circular No. 12, Rules governing C.T. Associations in B.C.; Dairy Circular No. 13, A Farm Dairy Sterilizer.

OFFICE.

The correspondence of the Branch continues to grow. Several thousand market reports are annually sent out and as many dairy bulletins and circulars. Cow-testing Association affairs make considerable demand on the time of the clerical staff; the number of certificates now annually increasing at the rate of 50 per cent.

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 continue to be deserving of commendation.

Respectfully submitted.

HENRY RIVE,
Dairy Commissioner.

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 1926:—

GENERAL CONDITIONS.

The prices received for eggs during the year were a little lower than those obtained during the past few years. This condition was to a great extent caused by the abnormally mild winter season throughout Canada. During January, when prices generally average around 40 cents per dozen, eggs were forced down to as low as 17 to 20 cents wholesale. In the eastern portion of the Dominion, and also the Prairies as well, the weather experienced was such as to encourage very heavy egg production—an unusual experience for these parts. The result was that the dealers were unable to market the cold-storage supply, and in sacrificing prices for this product the returns for fresh eggs were very adversely affected. At one time, in the East, cold-storage eggs bought by retailers were selling for 40 cents per dozen, and British Columbia fresh eggs of high grade were standing in car-lots in the same locality unable to find a purchaser at 25 cents per dozen. The cold-storage dealers were very heavy losers, and among them were many new to the business, attracted by the profits made the year previous. This class of speculator was, strange to relate, drawn from men engaged in businesses having no connection with produce of any kind.

The price of poultry-meats was, if anything, a little better than the year previously. An innovation was made during the year, that of shipping car-lots of dressed poultry to Eastern markets—a remarkable proceeding when one remembers that many thousand pounds of dressed poultry is still imported. Several poultry-fatteners of Vancouver combined during the summer months and dispatched a car-lot of prime fattened Leghorn broilers, totalling nearly 18,000, to Montreal. In addition to fetching good prices per pound, the shipment helped to steady prices for an article that is almost a drug on the market each summer. It is also worthy of record that a Vancouver fattener was able to fill a large order for the same class of product for a big firm in Los Angeles, California. When it is remembered that there are many millions of Leghorns in that State it is all the more remarkable that the shipment was made. It appears that the methods of killing and dressing broilers there—by means of scalding and skinning—does not allow the product to be kept as long as birds killed by bleeding and dry-picking.

The price of day-old chicks averaged about 20 cents each, with a range of from 50 cents for higher-grade stock and about 17 cents for the lower grades.

During the summer season many thousands of Leghorn pullets from 8 to 10 weeks of age were sold. The prices ranged from 75 cents to $1.25 each.

The price of feedstuffs remained high throughout the year, and it is difficult to state if it will ever moderate, now that the feed-dealers supply and the producers demand such a large number of complicated feed mixtures, containing, in many cases, very expensive concentrates. In addition, the majority of feed merchants now have on their staffs experts receiving goodly remuneration.

PRICES OF EGGS.

The following is a comparison of prices (wholesale) from 1905–1926, inclusive:—

	Cents.		Cents.
1905	24½	1916	34
1906	29½	1917	41
1907	31	1918	50
1908	31½	1919	60¼
1909	33¾	1920	57½
1910	34¼	1921	39½
1911	34¾	1922	32½
1912	41	1923	28
1913	35	1924	32
1914	35	1925	32
1915	32½	1926	30

As usual, during the year the Coast shippers sent many car-loads of eggs to Eastern and Prairie points, as well as many express shipments of smaller proportions. Among the shipments were many eggs produced by the Co-operative Creamery patrons throughout the Province, particularly those of Cowichan, Comox, Fraser Valley, and the Southern Okanagan points.

IMPORTS.

From Canadian Provinces the dressed-poultry imports totalled 1,026,622 lb., valued at $293,158.

The total number of eggs received from the Eastern Provinces was 143,490 dozen, valued at $40,012.

The total imports from foreign points of dressed poultry and eggs were valued at $33,335, being a decrease of $26,237 for the year.

The number of day-old chicks brought in was 14,087, at an average price of 15½ cents.

EXPORTS.

Poultry products were sent out to the value of $487,674. Of this total, live poultry accounted for $51,715, the number of birds being 19,486. Dressed poultry, valued at $45,205, was also shipped out. Eggs exported totalled 1,132,620 dozen, valued at $390,754.

WEATHER CONDITIONS.

An abnormally mild winter was experienced throughout the Province, with an early spring, and drought conditions throughout the summer and early fall. In all districts the rainfall was many inches below normal, and a grave situation, owing to the drying-up of the ranch water-supplies, prevailed. Many breeders had to transport water from a distance, an operation both costly and time-consuming.

As a result of the mild winter many breeding hens that were not expected to be producing until the end of January, on the average, were laying almost to capacity in January and February. The result was that there were many complaints of poor fertility and low hatching-power of eggs during the early part of the incubation period.

BREEDING OPERATIONS.

The Provincial Record of Performance Association, continuing their policy of heavily advertising in foreign countries as well as in the eastern part of the Dominion, were able to report an increase of business done. Many repeat orders were received. The fact that birds on record in this Province have a larger egg yield than any other Province has been a great advertisement.

Many breeders not connected with the official recording association, but at the same time operating breeding establishments with private records, also report increasing sales of hatching-eggs, stock, and chicks during the year.

DEPARTMENTAL WORK.

During the year the Branch officials again visited all sections of their districts. The Instructor for the Kootenays, having returned to commercial work at his own request, left vacant a position which was filled by a capable expert, who had been previously employed on similar work in the Province of Quebec. There has been a continuation of mining activity in this district, with the result that the poultry industry has steadily gone ahead. It is worthy of mention that in the smelting districts all of the men employed are forced, through the fumes adversely affecting their digestive systems, to live almost entirely on raw eggs, and tremendous quantities are consumed in the Trail and Kimberley sections. The District Instructor reports a large increase in the number of fowls now kept by the ranchers, who a few years ago confined their activities entirely to fruit-raising. The disastrous condition of that industry has turned many ranchers to the possible solution of their difficulties by means of mixed farming, of which poultry-keeping is one of the major branches.

The Fraser Valley section still continues to hold its supremacy as a poultry-raising centre and the District Instructor at New Westminster again reports tremendous strides. Many of the ranches now operating are the equal of the best of those of the adjoining State of Washington. With so many, especially those with a lack of knowledge, of capital, and acreage combined, going into the business, it is to be feared that quite a few will not find the industry the "El Dorado" they pictured. It behoves the beginner to seek advice and experience before launching heavily into a business that demands more than the average amount of knowledge as to live-stock rearing, salesmanship, and executive ability. At the end of the year quite a boom

seems to have started in duck-raising. The Instructor, knowing the limitations of the market, warned those thinking of taking up this branch in a large way without thought as to where their products were to be sold.

The Interior and Northern districts, covered by the Inspector stationed at Salmon Arm, are reported by him as having developed very steadily during the year. The Northern section, which was visited in the summer-time and at which many demonstrations were given, is proving to be an ideal place to enable the ranchers to ship out a car-load lot or two. These were choice specimens and fetched very remunerative prices. The abundance of cheap range country, unlimited almost in extent, proves an ideal place for turkey-raising. The poultry-breeder has many advantages in this district to offset the somewhat milder winter conditions obtained at the Coast. Wheat is now grown in great quantities, whilst the alfalfa and clover fields yield cheap greenstuffs for the fowls. Most of the ranchers are able to supply milk *ad lib.* to all kinds of stock as well.

BOYS' AND GIRLS' POULTRY CLUBS.

Mission District again carries off the palm for having organized the largest number of clubs in one centre. At the local fall fair, held at Mission City, the largest show of children's poultry held in the Dominion takes place. This year over 400 birds were shown. The children of this city also exhibit their best birds at the leading fairs at the Coast and prove invariably successful in carrying off the majority of prizes.

The total number of clubs organized was fifty-one.

Most of the clubs are located in the Okanagan District, with the following totals: Salmon Arm, 9; Armstrong, Vernon, and Enderby, 4 each; North Bend, 3; Grindrod and Mara, 2 each. There are also two clubs at Sidney, on Vancouver Island, and two at Ashcroft.

The total number of eggs supplied the clubs was 6,526, made up of 502 sittings, and the following breeds were used: Barred Rock, White Wyandotte, White Leghorn, Buff Orpington, and Rhode Island Red.

The recent winner at the Agassiz contest originally started as a Boy and Girl Poultry Club member and was given a sitting of eggs by the Mission Club. It was recently stated that this young breeder now has a flock of birds valued at over $20,000, all of which has been built up from less than 100 birds.

PROVINCIAL POULTRY ASSOCIATION.

The association finished a successful year with a slightly increased membership, consisting of about 75 per cent. engaged as utility farmers, with the rest listed as fanciers. During the year associations were affiliated, being the same number as the year previously. The association became affiliated with the National Canadian Produce Association, an organization that now numbers all of the big poultry-selling farmers' co-operative bodies amongst its members. The association was represented at the Congress at Winnipeg during the summer, at which the grading of market poultry was thoroughly discussed with Dominion Government officials. The new regulations are to be shortly enforced throughout the Dominion.

The matter of arranging for a series of contests to be competed for by chefs, restaurant and hotel proprietors, etc., for the purpose of selecting a poultry-dish that could be nationally known was also taken up. It is hoped to greatly extend the sale of dressed poultry by this means.

The Provincial Poultry-show was again held at Vancouver and proved one of the best ever held. In addition to the increased entry and enhanced quality of the stock, the fact that the show was held at the same time and place as the new Provincial Fat-stock Show was the means of bringing the poultry-show to the attention of thousands of out-of-town visitors. Many sales were made in all sections. An innovation was the exhibit of dressed fowls for valuable cash prizes given by the Dominion Government. The exhibit of dressed turkeys was among the best ever shown in the Dominion. The whole exhibit was a credit to the fatteners and producers of the stock.

The live-bird exhibits comprised specimens of every breed in the standard, together with entries of new British breeds of ducks and fowls. The Branch staff were in attendance and assisted in judging many of the exhibits.

The association donated the usual silver cup at the Coast fairs for poultry-judging competitions amongst the boys and girls, and the contests were all uniformly successful, the competi-

tion at New Westminster being the largest ever held. The contestants were from all parts of the Province.

The first egg-show ever held in the Province was organized by the association in the fall in connection with the Provincial Seed and Potato Show held at Victoria. The eggs shown were donated by exhibitors and the prize-money was given by the association. At the conclusion of the show the several hundred dozen eggs were auctioned off and the sum of $67 received was given to the British Columbia Solarium. The show was a decided success and many comments of approval were made regarding the new style of egg-stand utilized by the association. This stand, some 12 feet long by 6 feet wide, will easily accommodate over 3,000 eggs and is being adopted by other associations.

WORLD'S POULTRY CONGRESS.

During the year much organization-work was done throughout the Dominion, and the Provincial Committee, composed of representatives of every branch of the industry, held a meeting at the Vancouver Fat-stock Show, at which plans were made regarding the shipment of birds to the Congress. Earlier in the year a Congress official visited the principal poultry sections here and a meeting was also held at New Westminster, at which many points were explained. It was decided at that time to ask for an adequate exhibit of the Provincial resources, as well as the live-stock exhibit, if funds were available. The poultry exhibit from the Province is to consist of both exhibition and utility stock.

WATER-FOWL.

This branch of the industry continued to increase at a rate that appeared to assume "boom" proportions as far as duck-raising was concerned. Warnings were issued by members of the Branch as to the danger of easily swamping a limited market, but, due to much publicity in newspapers and periodicals, many breeders were added. The unfortunate conditions that existed in 1912 were apparently going to be repeated.

The continued drought militated against a cheap supply of greenstuffs being provided for the maximum profitable raising of geese, but, nevertheless, an increase in this class of stock is to be recorded, with the Toulouse breeds in the lead. Where plenty of grass and creeks or streams are available, geese can profitably be raised at very small cost and trouble.

TURKEYS.

Whilst the Province cannot as yet compete in numbers with any of the Prairie Provinces as to turkeys produced, yet the number of fowls raised during the past year proved that we are gradually catching up with the Eastern sections. The dry belts and the Northern Interior prove ideal locations for turkeys. At Thanksgiving, Christmas, and New Year the breeders were able to supply vast quantities for Coast markets, as well as to export to the United States. Some Prairie turkeys were, as usual, imported, particularly at Christmas. Several of the larger fattening establishments brought in range birds and fattened them here with good success.

The losses from blackhead or coccidiosis were less than expected, due in a good measure to the abnormally dry conditions. Owing to plagues of grasshoppers and Rocky Mountain crickets an effort was made to secure Government loans to import large quantities of Prairie turkeys, but owing to the hazardousness of the undertaking the loans were not forthcoming. A fortunate visitation of disease amongst the pests and the good work of the turkeys in the affected districts, combined with Government-assisted spraying and baiting operations, staved off what might have proved a very calamitous event. It was also found that Leghorn cockerels, now selling annually at very low prices, could profitably be used in small areas to clean up the grasshoppers. The cockerels are also of great service in keeping down strawberry-weevils.

RABBIT-BREEDING.

An increase in number of breeders is again to be recorded, with a more healthy condition of the industry. There are now more commercial rabbitries operating and a large number of high-priced breeding stock is being regularly shipped out, principally to United States points. Many breeders are now sending pelts co-operatively to Great Britain, where, apparently, better prices are received for certain breeds. The exhibits of rabbits at the leading fairs and rabbit-shows are annually becoming larger, and better quality is apparent. Many breeders now exhibit regularly at the largest rabbit-shows in the United States and have succeeded in winning maximum awards.

DISEASES.

During the year the losses from coccidiosis and white diarrhœa showed an increase of the preceding period. The adoption of a plan advised by many Government institutions, both in Eastern Canada and the United States, of providing cement runs for chicks for the first ten or twelve weeks to avert heavy losses from tainted soil, particularly worms and coccidiosis, may have to be resorted to. Many plants reported losses up to 25 per cent. from these troubles.

Post-mortems were held on birds sent in or examinations were made at the ranches direct. What might be termed the "March, April, and May" disease amongst the light-weight varieties was again the most numerous of cases reported. Fewer cases of tuberculosis were met with, due in a great measure to the gradual cleaning-up of this disease amongst dairy herds.

OFFICE-WORK.

The officials again met many persons desiring information regarding the industry and also received the usual number of communications. The actual figures of inward and outward mail were: Received, 1,424; dispatched, 1,635.

MEETINGS, DEMONSTRATIONS, AND JUDGING-WORK.

The Branch attended and lectured at Farmers' and Women's Institutes, Poultry Associations, and other meetings. They also held demonstrations—killing and dressing, culling and caponizing. At the fall fairs and poultry-shows members of the staff officiated as judges as usual.

The continued efficient efforts of the three Instructors and clerk-stenographer throughout the year is again noted and appreciated.

Respectfully submitted.

J. R. Terry,
Chief Poultry Instructor.

REPORT OF PROVINCIAL AGRONOMIST, VICTORIA.

Cecil 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 Field Crop Branch.

GENERAL CONDITIONS.

During the winter months of 1925–26 precipitation was light throughout the interior of British Columbia. On this account very little storage-water or snow remained in the mountains to provide irrigation-water in sections that depend on it for their moisture. The winter was especially mild and all fall-sown cereals, as well as the hay meadows, came through in splendid condition. Copious spring rains in the Fraser Valley and on Vancouver Island produced a hay-crop that surpassed any of those of the preceding years. Ideal growing weather continued until the end of June and pastures held up well until early July. Haying and harvesting conditions were specially good and normal yields of grain were secured.

In the Interior sections, owing to a shortage of irrigation-water, field-crop yields were slightly below the average. This is especially true of the East Kootenays, South Okanagan, Kamloops, Similkameen, and Boundary Districts. In the North Okanagan and Shuswap Lakes areas field crops were good. The wheat produced in the interior of the Province was good and the quality of the grain was high.

In Central British Columbia there was plenty of moisture during the growing season and, following the mild weather, crops made an early growth, which brought on haying and harvesting from a week to ten days earlier than usual. Early frosts were reported from many sections of the Province, which cut down corn and other tender crops that were still green and considerable damage to the potato-crop was reported.

The acreage of potatoes this year was considerably larger than that of 1925, but the yield was not as great.

SOIL INVESTIGATIONS.

Much of the soil-work this year has been done through personal visits to the farms where assistance was required. Seven hundred and thirty such visits were made during the past year. In all cases fields were carefully examined and occasionally soil samples were taken for analysis at Victoria. Fifty samples were analysed in 1926. (*See* Appendix No. 30.)

The first commercial shipment of British Columbia certified seed-potatoes left the Province for California in the early part of 1926. These potatoes were grown by C. W. Buckle, Brighouse. It will be observed that crates and not sacks were the containers used.

Our observations this year lead us to believe that subbing of the soil or breaking up the hard-pan by means of a pick-plough or soil-subber may serve the twofold purpose of bringing lime to the surface and permitting the roots of legumes and other plants to penetrate deeper into the subsoil. On those soils that suffer from acidity, in spite of their normal lime content, it has generally been noted that underdrainage is inadequate.

Considerable activity among prospectors in search of phosphate-deposits have been noted in the Fernie section of the East Kootenays. Large areas in this district have been staked as phosphate claims and some development-work has been done. Samples from one of the claims were brought in by J. B. Munro, Assistant Agronomist, and upon analysis were found to contain 50 per cent. of lime phosphate and 25 per cent. of lime carbonate.

LIME AND FERTILIZER COMPETITIONS.

A comprehensive system of tests with lime and superphosphate were planned in 1926 for the Cowichan and Comox Districts on Vancouver Island. The work was undertaken by this Branch in co-operation with the Dominion Seed Branch. In both districts the local Agricultural Society was the organization which fostered the scheme and the materials were purchased through the local Creamery Association. Ground limestone was used and the cost of this material to the farmer was $6.50 per ton (sacked). In addition to the cost of the lime there was a small handling charge.

The main ideas in conducting the competitions were as follows:—

(1.) We wished farmers to establish experimental plots on their farms in order that they might get first-hand knowledge of the actual requirements of their respective soils.

(2.) Having sufficient evidence already that lime and fertilizer were required on the Island soils, we desired to bring these facts to the attention of the farmer, and there is no better way than by field demonstration.

The number of competitors in the Cowichan District was thirty and in the Comox District twenty. The size of the plot was 2 acres and it was divided into four sections, as follows: (*a*) ½ acre treated with 100 lb. of superphosphate and 1 ton of lime; (*b*) ½ acre treated with 150 lb. of superphosphate; (*c*) ½ acre untreated—check-plot; (*d*) ½ acre treated with 1 ton of lime.

The farmers in both the Cowichan and Comox Districts were visited early in the year and detailed information given well in advance of the time the tests were begun.

Weather conditions were not satisfactory for positive results, especially on high ground, where moisture was deficient. On ground well stored with humus even the late applications showed improvements in the crops.

From this year's operations we have confirmed our belief that spring applications of lime and fertilizer must be made early. With the exception of soluble nitrates, they should be applied well in advance of seeding, especially on soil deficient in moisture during the summer. On wet, peaty soil even the June application of lime and superphosphate gave good results, for moisture was abundant. The combined use of lime and superphosphate gave the most generally improved results, though lime alone on acid soils and superphosphate alone on neutral soils followed closely. This is due to the fact that with a deficiency of lime the superphosphate does not function to the best advantage.

The two competitions reported on, we believe, have served very useful purposes. They have stimulated the use of lime in both districts and particularly in the Comox District. The Comox farmers have purchased machinery and established a plant for the crushing of lime rock.

FORAGE AND PASTURE CROPS.

A further advance in the establishing of alfalfa-fields on Vancouver Island has been noted this year. Many farmers who put in small test-plots in 1925 are well satisfied with the successes they have achieved and as a result are increasing their acreage.

Experimental work with artichokes was undertaken on a 1/40-acre plot in Victoria. Tubers were secured from W. H. Crane, Nanaimo, and planted on March 5th, 1926. The yield of artichokes was approximately 27 tons of stems and leaves and 22 tons of tubers to the acre. A fertilizer analysing 3–10–7 was used at the rate of 1 ton per acre. From observations and experiments extending over two years, we are convinced that the Improved White Jerusalem artichoke is a forage-crop worthy of attention. Analytical data on this crop were presented in the annual report of this Branch for 1925.

Several new crops have been noted in different sections of the Province this year.

Speltz was this year grown for seed for the first time in the Salmon Arm District and yielded satisfactorily on dry land without irrigation in a year of scant rainfall.

Both the Manhardy and Altaswede clovers have been introduced into the Lake District of Central British Columbia and are proving satisfactory in their initial years.

Ensilage corn, mainly of the North-west Dent variety, is being grown extensively in the vicinity of White Lake and Notch Hill, adjacent to the Shuswap Lake area. Several silos have been erected here and an ensilage-cutter has been supplied by the Department to the Farmers' Institute for use in the district.

POTATO, BULB, AND SEED SHOW.

The annual British Columbia Potato-show was held in Victoria, November 24th to 27th, under the direction of this Branch, working in co-operation with the Victoria Chamber of Commerce, the British Columbia Certified Seed-potato Growers' Association, and the Victoria and District Gardeners' Association. On account of the increasing importance of the bulb and seed industry in the Province, non-competitive exhibits of bulbs were staged and competitive classes for seeds of all kinds arranged. Although the number of entries were not as large as last year, due to the unfavourable season, nevertheless the general enthusiasm and interest shown in the exhibition was much greater than it ever has been before.

During the week the annual meeting of the British Columbia Certified Seed-potato Growers' Association took place and much useful business was conducted.

Addresses on potatoes, bulbs, and seeds were given by prominent officials and were well received.

POTATO-IMPROVEMENT WORK.

The system of seed-potato inspection and certification continues to form a very important part of the work of this Branch. In this connection it is interesting to note that the number of growers of certified seed-potatoes and the general interest in the work is increasing annually. The demand for British Columbia certified seed-potatoes is becoming keener each year from points across the border.

Extent and Progress.—Four hundred and thirty fields covering thirty districts were inspected for certification purposes during the year. The total number of acres inspected was 511.75, of which 408.25 passed the two field inspections. A number of tables have been prepared giving detailed figures covering the inspection-work for 1926. (*See* Appendices Nos. 31–35.)

Federal Aid.—The Division of Botany of the Central Experimental Farm, Ottawa, continues to provide Inspectors to assist in the inspection of the crops. This assistance is very much appreciated, for it would be difficult to give all the districts applying for inspection this service without this additional aid.

Test-plot.—During the past year this Branch co-operated with the Provincial Plant Pathologist in the establishment of a potato experimental plot at the Dominion Experimental Farm, Agassiz. (The results of this test-plot will be found in the annual report of the Provincial Plant Pathologist.)

BRITISH COLUMBIA CERTIFIED SEED-POTATO GROWERS' ASSOCIATION.

This Branch has continued to assist the British Columbia Certified Seed-potato Growers' Association in every way possible during the past year. Your chief official, who is now an honorary director of the association, has attended every executive meeting and given all possible advice.

CANADIAN SEED-GROWERS' ASSOCIATION.

In his capacity as director of the Canadian Seed-growers' Association for British Columbia, your Provincial Agronomist attended the annual meeting which was held at MacDonald College and Oka Agricultural Institute, Quebec. A report on the seed situation in the Province was presented.

POTATO INVESTIGATIONS.

After attending the annual meeting of the Canadian Seed-growers' Association in Eastern Canada your official was instructed to proceed to the Maritime Provinces to obtain first-hand information regarding the potato situation in those Provinces. Afterwards the States of Colorado and California were visited with the object of ascertaining the possibilities of shipping

PART III.

APPENDICES.

our seed-potatoes into those States. A full report of this trip has already been prepared and presented to the Department.

PROVINCIAL SEED BOARD.

Meetings of the Provincial Seed Board were held whenever necessary during the year. Your official is chairman of this Board.

FIELD-CROP SEED-IMPROVEMENT WORK.

Considerable encouragement and assistance was rendered the seed industry during the year by officials of this Branch working in conjunction with the Dominion Seed Branch.

D. W. Thompson, B.S.A., who was employed on potato-inspection work in 1925, was stationed during the summer of 1926 at Smithers with the sole object of assisting with the development of the seed industry in Central British Columbia. In addition to this, the Department has loaned three Clipper cleaners for use in that section.

Conditions in Central British Columbia are admirably suited to timothy-seed production. During the past season some 2,500 acres of timothy have been harvested for seed in the Bulkley Valley, Francois and Ootsa Lake Districts. The total output will be approximately 250 tons of seed, which has been sold on the basis of Grade No. 1 at a satisfactory price.

Early in the year a combined field and clean-seed competition was instigated in this area and success was achieved, in that over forty farmers took part.

The standing fields of timothy were judged on a basis of 40 per cent. for freedom from weeds and approximate yield, the resulting clean seed counting 60 per cent.

Early in November a local seed-show, the first of its kind in Central British Columbia, was held in Smithers. Prizes were offered for grains, potatoes, and grass-seeds.

It is interesting to note that exhibits of timothy-seed from Central British Columbia were sent to the International Hay and Grain Show, Chicago, and captured first, sixth, seventh, and eighth prizes. The exhibitors taking first honours were Messrs. Haven and Braaten, of Southbank.

Apart from the subject of timothy-seed production, it should be pointed out that a movement is already on foot to test out red clover, alsike, and other grasses as seed-crops in the Central British Columbia area.

Turnip-seed was introduced to thirty growers last spring, and this next year we expect the majority of these men to set out roots and produce seed.

Approximately 3 tons of meadow-fescue seed were sold from this area last year at 16 cents per pound.

The production of red-clover seed in the Fraser Valley is assuming importance. In the fall of 1926 some 500 acres were harvested for seed and next year there will be ten times the present acreage available for seed production.

Root-seed production work is developing steadily. Last spring this Branch, in co-operation with the Dominion Seed Branch, distributed a large quantity of the highest grade of root-seed, which had been produced under most exacting conditions at the University of British Columbia, among farmers residing on the Lower Mainland and on Vancouver Island.

Large quantities of elite and registered seed-oats were also distributed by this Branch among farmers living on the Lower Mainland.

STAFF.

The staff of the Field Crop Branch during the past year has consisted of three permanent and three temporary officials. Two of these latter men have been employed on potato-inspection work, while the other devoted his entire time to seed-improvement work in Central British Columbia.

J. B. Munro, Assistant Agronomist, has devoted the greater part of his time to soil investigations and forage-crop problems; while S. S. Phillips has supervised the potato-inspection work.

ACKNOWLEDGMENTS.

Your Provincial Agronomist wishes to take this opportunity of expressing his appreciation of the valuable assistance rendered by the various officials and clerk-stenographer attached to the Branch; also for the co-operation received from Provincial, Dominion, and University officials interested in field-crop problems.

Respectfully submitted.

CECIL TICE,
Provincial Agronomist.

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, 1926.

The estimated value of agricultural production for the year 1926 is $71,362,209, as against $65,153,513 for the year 1925, an increase of $6,208,696, or 9.53 per cent., in the value of production; the quantity production, however, showed a much greater increase. In all lines of production, with the exception of vegetables, marked increases are shown.

Total imports of agricultural products during the year amounted to $21,059,361, an increase of $1,483,845, or 7.58 per cent. Imports from other Provinces in Canada are valued at $17,437,350, as compared with $16,755,676 in 1925, while imports from foreign points are valued at $3,622,011, an increase of $802,171 over the previous year.

As an offset to the increased value of importations, a satisfactory feature of agricultural production is the large increase shown in the value of our exports.

It is estimated that the total value of exports for the year amounted to $8,408,638, this being an increase of $1,676,929, or 24.91 per cent.

FRUITS.

Records show the fruit-crop to be the largest on record. Prevailing prices for all fruits were slightly less than the previous year.

The total production of all fruits amounted to 213,580,000 lb., as compared with 136,082,000 lb. in 1925, representing an increased yield of 77,498,000 lb., or 56.94 per cent. The total value of the fruit-crop is placed at $7,585,520, which is an increase of $2,171,626.

The total apple-crop was 175,414,000 lb., as compared with 122,878,000 lb. in 1925.

Other tree-fruits showed an increase of 421.57 per cent. in quantity production. The 1926 crop amounted to 25,432,000 lb., as against 4,876,000 lb. in 1925.

Small fruits produced amounted to 12,734,000 lb., valued at $1,307,432, as compared with a production of 8,328,000 lb., valued at $1,019,885, in 1925, indicating an increase of 52.90 per cent. in quantity and 28.19 per cent. in value.

The quantity of fruits exported greatly exceeded that of any previous year.

VEGETABLES.

The total vegetable-crop amounted to 250,744 tons, or 277 tons less than in 1925.

The acreage of potatoes shows an increase of 1,906 acres, or 9.37 per cent. over the previous year. The yield per acre, however, was 8.04 per cent. less, caused chiefly through drought during the summer.

Market vegetables show an increase in production of 3,219 tons.

Although the acreage planted to field tomatoes was considerably greater than the previous year, due to early frosts in September the crop was materially shortened. The crop amounted to 17,437 tons, which was 4,394 tons less than the 1925 tonnage.

There was an increase of 64 tons in the quantity of greenhouse tomatoes produced; the 1926 crop amounting to 984 tons, valued at $336,754.

A marked increase occurred in the yield of outdoor cucumbers. The 1926 crop amounted to 1,430 tons, valued at $74,775, as against a yield of 875 tons, valued at $40,941, in 1925.

GRAINS.

The total area sown to grains was 135,490 acres, an increase of 2,726 acres over the previous year.

The production of all grains amounted to 5,018,412 bushels, valued at $4,453,939, an increase in quantity production of 361,093 bushels, or 7.75 per cent., and an increase in value of $202,618, or 4.76 per cent.

The price of wheat fell from $1.43 a bushel in 1925 to $1.36 a bushel in 1926; oats from 64 cents a bushel to 63 cents. Similar reductions are noted in the price of all grains.

FODDERS.

The area planted to fodders was 1,015 acres less than the previous year.

Fodder-crops aggregating a total of 720,375 tons, valued at $10,457,459, were produced, as compared with 700,816 tons, valued at $11,629,132, in 1925.

Clover and timothy averaged 2 tons to the acre, as against 1.83 tons in 1925.

Prices were exceedingly low; clover and timothy averaging $16.40 and alfalfa $17.50, as against $18.90 and $19.85 in 1925.

DAIRY PRODUCTS.

The dairying industry in British Columbia continues to make steady progress, the production for 1926 exceeding that of any previous year.

The value of all dairy products was $11,627,300, compared with a production of $10,629,350 in 1926, indicating an increased value of $997,950, or 9.39 per cent.

The quantity of creamery butter produced amounted to 3,849,276 lb., which was 367,574 lb., or 10.55 per cent., above the 1925 figures. Dairy butter increased 275,200 lb., or 13.45 per cent., during the year.

Cheese produced amounted to 194,070 lb., as against 434,257 lb. manufactured in 1925.

The quantity of fresh milk consumed was 15,775,000 gallons, this being 1,665,000 gallons more than the previous year.

Evaporated milk manufactured amounted to 172,762 cases, which was 37,842 cases less than in 1925.

The increase in the quantity of ice-cream made during the year was quite pronounced. The 1926 production amounted to 542,597 gallons, valued at $825,124, as against 489,869 gallons, valued at $741,442, produced in 1925.

LIVE STOCK.

The value of all domestic animals is placed at $20,752,433, representing an increased value of $2,496,204 over the year 1925.

Horses increased in number from 57,016 in 1925 to 61,158 in 1926, the increase for the year being 4,142.

Dairy and beef cattle both showed an increase in numbers; there now being in the Province 338,244 cattle, an increase of 40,298 during the year.

Swine increased in number by 4,255.

Sheep increased in number to the extent of 40,606; there now being in the Province 102,853, which is an increase of 65.23 per cent. for the year.

The numbers of poultry increased 15.15 per cent. during the year. There are now in the Province 2,784,361 birds.

Egg production for the year amounted to 9,956,375 dozen; this being an increase of 1,512,506 dozen, or 17.91 per cent.

The quantity of eggs exported during the year amounted to 1,132,620 dozen; this being an increase of 392,140 doz., or 52.95 per cent.

MISCELLANEOUS.

Meats marketed during the year aggregated 42,489,711 lb., valued at $2,410,461, as compared with the 1925 production of 34,117,300 lb., valued at $1,781,896. Prices on the whole ranged higher than during the previous year.

The hop production amounted to 966,438 lb., valued at $367,246, as against 848,211 lb., valued at $322,320, in 1925.

A large increase in the production of honey is noted, 898,257 lb. being produced at a value of $197,616, an increase in quantity of 40.72 per cent.

Seeds produced show an increase in value of 135.78 per cent.

Wool produced amounted to 566,168 lb., valued at $124,557, as compared with 345,060 lb. produced in 1925, valued at $93,166.

During the summer months, with the assistance of S. H. Hopkins 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 the Branch during the year was 2,284, while the total number dispatched was 1,253.

During the year eight circular letters, aggregating in all 1,860 letters, were sent out to Farmers' Institutes, manufacturers of dairy products, etc. In addition to these, over 2,200 crop-report forms were sent out to crop correspondents.

Weekly reports have been prepared for banking institutions, as well as numerous reports for manufacturing and financial interests in Canada and the United States.

The compilation of the data for the 1925 Statistics Bulletin was carried on during the months of January, February, March, and April, and 1,200 copies of the report were issued in May.

With the compilation of the June census returns, the monthly reports of crop correspondents, the time spent in assisting farmers in the work of keeping farm records, and the attention given to correspondence, and other routine matters, the entire time of your Statistician has been fully occupied.

All of which is respectfully submitted.

G. H. STEWART,
Statistician.

REPORT OF PROVINCIAL APIARIST, VICTORIA.

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 year 1926.

THE HONEY-CROP.

The honey-crop of the past season, estimated at 898,257 lb., is the largest recorded to date, being 186,901 lb. in advance of 1922, the next best year. The average per hive, estimated at 52 lb., is lower than 1922, when it was 61 lb. per hive. The increase in the number of hives over 1922 is 5,397.

The season promised exceptionally well at the commencement, as the winter previous was phenomenally mild, so that the bees came through with but very few losses. The early expectation of a much larger crop of honey than was actually taken was not realized as unfavourable conditions for nectar-secretion developed later in the year. Long-continued dry weather and smoke from forest fires considerably lessened the duration of the honey-flows. Fireweed, the mainstay in some districts, yielded but very little honey. However, there was a good yield from the clovers, so that the quality of the honey taken was of the very best. The average yield per hive of 52 lb. compares well with 41 lb. for the year 1925. The total number of apiaries is 2,471, compared with 2,406 for 1925, and the total estimated number of hives is 16,988, as against 15,505 for the year previous. (*See* Appendix No. 36.)

DEMONSTRATION APIARIES.

The demonstration apiaries in the different parts of the Province continue to serve a useful purpose in imparting information and showing what the various locations are capable of. There is room for an extension of these apiaries, especially in new districts, where opportunities exist for increasing the honey production. (For reports of demonstration apiaries *see* Appendix No. 37.)

FOUL-BROOD INSPECTION.

Three hundred and twenty-four colonies in sixty-three apiaries in the Province were found to be affected with American foul-brood. The Lower Mainland shows 122 fewer colonies affected than last year, but the Okanagan shows an increase of 60.

Territory.	Colonies affected.		Apiaries.		Brood-combs destroyed.	
	1926.	1925.	1926.	1925.	1926.	1925.
Lower Mainland	208	330	43	56	2,860	3,220
Kootenays	9	22	3	8	108	302
Okanagan	87	27	16	8	1,680	270
Vancouver Island	20	.....	1	....	400	.....
Totals	324	379	63	72	5,048	3,792

Compensation was given by the Department for 5,048 brood-combs destroyed.

As a good many bee-keepers with large apiaries have now installed sterilizing outfits for treating super-combs with the water-formalin solution, this will no doubt assist considerably in keeping American foul-brood under control. Unfortunately, operating this equipment is very unpleasant work, necessitating the wearing of a gas-mask as a protection against the irritating vapour given off by the formalin.

IDENTIFICATION OF BEE-DISEASES.

More bee-keepers are taking advantage of being able to send samples of diseased, or suspected diseased, comb to either the Department of Agriculture, Victoria, or to the Court-house, New Westminster, at both of which places there are microscopes for making examinations of same, it being practically impossible to determine the differences between American foul-brood and European foul-brood with the naked eye in certain stages of these diseases. The treatment of the two diseases being different, it is important that the continued use of this service should be fully taken advantage of by the bee-keepers.

BIG HONEY YIELDS FROM SWEET CLOVER.

Increasingly large yields of honey are being annually obtained in districts in which sweet clover is being grown as a cover-crop in the orchards and where it has become established in waste lands. The honey taken in these districts is of the very best quality.

LARGE APIARIES INCREASING.

The extent and number of large apiaries is increasing in the Province, and inquiries are being continually received for information as to suitable locations for establishing new apiaries. If some satisfactory means could be found to market British Columbia honey at stabilized prices the industry would go ahead much more rapidly than at present.

All of which is respectfully submitted.

W. J. SHEPPARD,
Provincial Apiarist.

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

A. W. FINLAY.

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

SIR,—I beg to submit my annual report for the season of 1926.

GENERAL CONDITIONS.

The season of 1926 opened with encouraging conditions for bee-keeping on the Lower Mainland. The winter preceding had been very mild, with few extremes in temperature. It was feared that colonies under such circumstances would have consumed heavily of their winter stores, but early inspection found most of them to be in excellent condition.

In many localities bees were reported to be bringing in pollen early in February from the willows, and sufficient nectar was obtained early enough to save them from having to draw greatly on their remaining stores. Winter losses were very light and were due, in most cases, to colonies being queenless.

The earliness of the season made it possible to commence field-work sooner than usual, and advantage was taken of the mild weather to examine several apiaries that had been treated for disease the season previous, in addition to others reported or suspected to be diseased. Special calls for inspection were also received early in the season and were promptly attended to.

A considerable amount of honey was gathered from the maples and dandelions during April. May opened cool and wet and continued so until the end of the month, so that the honey gain of April was used up for brood-rearing. During the month of June and the early part of July colonies gained steadily in weight with clover-honey and a record crop was anticipated, but continued dry weather was unfavourable for nectar-secretion afterwards. Fireweed was a failure, except in a few localities on low and wet lands.

The crop in general on the Lower Mainland may be considered fair, as, although disappointing in most of the fireweed locations, it was most satisfactory in the districts depending mainly on clover, therefore making a more even average for the different districts and a much larger total yield than last year.

A contributing factor to the better general average honey yield is the improved equipment and methods of bee-keeping adopted by the majority of bee-keepers as a result of the educational propaganda that has been instigated.

Box-hive bee-keeping that was all too common a few years ago is now almost non-existent.

DEMONSTRATION APIARIES.

The Provincial Government demonstration apiaries, established in the various districts for the purpose of demonstrating the essential equipment and proper methods of manipulation for successful bee-keeping, again show a greater average production of surplus honey per colony than that of the districts in which they are located. Supervision of the demonstration apiaries by the Inspectors is of necessity less every year since they were first established, owing to the steady increase in the size and number of apiaries, whereby more inspection-work has to be done and more special calls have to be attended to.

Many of the demonstration apiaries are used as centres for bee-keepers' meetings and field-days, and their usefulness is further emphasized by the appearance of an increasing number of surrounding apiaries being modelled on similar lines and obtaining larger honey yields.

FIELD-WORK, ETC.

Field-work was chiefly confined to answering calls for inspection where owners desired to move bees from one locality to another, and to general inspection for the control of bee-diseases.

About 400 apiaries were visited, many of them several times where disease was found, and approximately 3,000 colonies examined. American foul-brood was found in forty-three apiaries, 208 colonies being affected, or about 7 per cent. of the total examined. As most of this work was done in territory known to contain disease, and outside calls answered where disease was reported or suspected, the ratio given is very high in comparison with districts known to be free, or fairly free, from disease, which would probably not average 2 per cent. of the whole.

Where disease was found in commercial apiaries consisting of twenty-five or more colonies, and it was considered advisable to use the formalin method of treating combs, permission was given to adopt this system for treating super-combs, the brood-combs being destroyed by burning and compensation paid for them, with the understanding that the money would be applied to assist in the purchase of proper formalin sterilizing equipment.

Several commercial bee-keepers have installed sterilizing plants for using the formalin treatment, with apparent success, thereby saving for further use super-combs that would otherwise have had to be destroyed.

The diagnosis of bee-diseases by microscopical examination of samples, or smears, of diseased brood sent in by the bee-keepers for this purpose has been carried on, and saves much time that would otherwise be taken up in visiting apiaries to make a personal examination where disease was suspected. This service is much appreciated by the bee-keepers, as it provides positive proof in the early stages of disease and ensures prompt treatment. Ninety-two samples of diseased brood and smears were received during the season. Sixty-seven were found to be American foul-brood, twenty-one European foul-brood, and four proved to be sterile.

EXHIBITIONS.

The splendid exhibits of honey and other apiary products at the three principal fall fairs—namely, Vancouver, Victoria, and New Westminster—again exceeded those of previous years and were features of great attraction to the visitors. The quality of the honey shown was of the highest standard, and in the commercial and other displays more attention had been given to originality of design and artistic attraction, which made them more strikingly interesting.

Respectfully submitted.

A. W. FINLAY,
Apiary Inspector.

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

J. F. ROBERTS.

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

SIR,—I beg to submit my report as Apiary Inspector for the Okanagan, Shuswap, and Thompson Valley Districts for the season of 1926.

My work this year has been much extended owing to the increase in bees, more especially in the Okanagan Valley. The number of apiaries is larger, but the increase in the number of colonies has been greater proportionately. A good deal of my time has been taken up in educational work.

In several of the large orchards, where bees have been kept solely for pollinating the fruit-blossoms, the owners have found that they can obtain honey from them as well, with proper attention.

American foul-brood has shown up here and there in the Okanagan, but it only became serious in one instance when a diseased colony was robbed out by the bees from the surrounding apiaries. This district is now, to the best of my belief, free from disease.

A greater interest has been taken in bee-keeping in the Okanagan this season, which should be further stimulated by the larger honey yield and the fact that honey has been moving freely on the market.

The honey yield in the Shuswap District has not been so high as in the Okanagan, but has been an improvement on last year. Bee-keeping here is increasing and some of the apiarists are planning for more hives next season. A number of people are also making a start in a small way with the idea of making this a profitable side-line. American foul-brood has shown up slightly in this district.

The Thompson territory has given good returns, especially in the Ashcroft District, where splendid crops of very high-grade honey have been taken. The average for this territory would have been very much higher if some of the irrigation-water had not given out on some of the larger acreages of alfalfa and clover. American foul-brood has been found here to some extent.

In conclusion, I would add that the season just passed has been a satisfactory one in every way for the majority of the bee-keepers in the districts named.

Respectfully submitted.

J. F. ROBERTS,
Apiary Inspector.

REPORT OF SUPERINTENDENT 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 the annual report of the Women's Institutes of British Columbia for the year ended December 31st, 1926.

GENERAL.

There have been four new institutes incorporated during the year 1926—Howe Sound, Midway, Canoe, Edgewood, and Fire Valley—whilst Kootenay Valley has changed its name to Tarrys-Thrums. Institutes that have either lapsed or suspended operations are Gordon Head, Barnston Island, Fern Ridge, Matsqui, Milner, Naramata, Glenmore, and Fruitvale. These institutes may revive.

The year 1926 has seen fulfilled the great object for which we have been working since February, 1925; that is, the completion of the sun-cure home for crippled children. The site, building, equipment, which includes its own electric lighting and water system, has cost something over $51,000. The institution opens on March 1st free of debt.

There were three district conferences held—the Islands District Institute in Victoria, the Lower Mainland in New Westminster, and Kootenay and Boundary at Nelson.

The British Columbia Women's Institutes were for a third time represented at the Canadian National Exhibition in Toronto through the kindness of Sir Henry Thornton again granting free transportation to the various exhibits from the different Provinces.

The exhibit this year features seeds and bulbs with the idea of educating the public, particularly the Eastern public, to the superior quality of seeds and bulbs produced in British Columbia. This will have a direct influence on many of the country-women as it is an industry in which many are interested. Mrs. Wm. Rutherford, of Nelson, accompanied the exhibit, and the Department was very fortunate indeed in having the services of Mrs. Margaret L. Murray, whose business took her East at that time. Very encouraging reports of the work of these two members have been received in the Department.

COMMITTEE-WORK.

The ten committees are progressing very favourably. Many institutes appoint ten conveners for the year; each convener is responsible for one monthly programme on her subject. A large number of conveners apply to the Department for assistance in preparing a programme. We are hoping for the year 1927 to have material on hand and, with the co-operation and assistance of the travelling library, to be able to supply subject-matter for any programme under the ten committees.

HOME ECONOMICS.

Interest in home economics is growing. This is especially noticeable since the drive for the endowment of the Home Economics Chair at the University of British Columbia, initiated by the Parent-Teachers' Association. The institutes as a whole throughout the Province have co-operated enthusiastically, and we confidently expect, with the growing interest through 1927, that the objective of $80,000 will probably be reached. The books given for prizes at flower-shows dealing with home-making were so much appreciated that we have added to our list very materially, and have at the present time a list of books to recommend to the institute libraries or to institute members on this subject.

There are indications of a revival of interest in cookery. Requests have been received for instruction through the night-school classes in this branch, but especially have we noticed an interest in the preparing of exhibits for the various fairs. We have completed arrangements with the technical branch of the Education Department whereby a course of three lessons can be put on giving full instruction on this subject.

It is with pleasure that I have to report the appointment of Miss Jessie McLenaghen, Provincial Supervisor of Home Economics of British Columbia. Miss McLenaghen's office is in the Department of Education and she will be of great help to our institutes, especially, I think, in helping the conveners of home economics to prepare programmes under this subject.

The relation of the Education Department to the Board of School Trustees still needs emphasizing; 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 in unorganized districts and three-fifths in municipalities, the class or the institute, or both, making up the remaining one-fifth, together with any expenses of heating, light, or transportation of the instructor. I again urge the reading and discussion, under the home-economics work, of the report on domestic science by the Organizer of Technical Education, Department of Education, found always in the annual report of the Department of Education. This gives information on the progress of the teaching of household science in our schools and should be of great interest to all rural mothers.

PUBLIC HEALTH AND CHILD-WELFARE.

The work for crippled children has been the outstanding feature of the Public Health and Child-welfare Committee during the year 1926. As reference has already been made to the culmination of our hopes and efforts, I need make very little further reference. At the end of the year there were forty applications from crippled, delicate, and undernourished children for admission to the institution when completed. It is the hope of many of us that little Othoa Scott, the child on whose behalf the first appeal was made and whose case was the starting-point of this great work, will be, if not the first, at least among the first patients at the

Solarium. Early in the year it was found for convenience' sake more expedient for the committee to incorporate under its own name; in grateful memory of Queen Alexandra, and her love and interest in crippled children, the name "Queen Alexandra Solarium for Crippled Children" was chosen. That due credit might be given our own organization the certificate of incorporation carries directly under this title the statement, "Initiated by the Women's Institutes of British Columbia."

To-day there are seventeen Public Health Nurses in rural districts of British Columbia. They have been placed in these districts through the influence and support of local Women's Institutes, and it is through the Women's Institutes and their influence that the Department of Health expects to reach every rural school district in the Province.

There are many districts in British Columbia to-day that would establish and maintain a nursing service if a suitable person could be sent into their district to organize the voluntary agencies interested in this work. There are many requests coming in from different parts of the Province for information and for assistance in organizing.

The Provincial Department of Health sends the annual report of the health conditions of the Province, with the report of the medical inspection of school-children, to the secretary of every institute, with the request that the report found on the first pages, together with the report of the medical inspection of schools and the figures in relation to the local schools, be made the subject-matter of the monthly programme on public health and child-welfare. We have tried to supply a roll-call of pithy paragraphs, dealing with various branches of Provincial public health, and the question-box, bringing out the salient facts of work under way, conditions, needs, and remedies.

All this is having its effect, as showing in an increased interest and a growing demand from rural communities for public-health nursing and dental services.

EDUCATION AND BETTER SCHOOLS.

There is still a very strong and increasing interest in the work of this committee.

Many institutes report discussion of the "Educational Survey" as the subject-matter for an address in the monthly programme under the heading "Education and Better Schools."

Of the sixty-five flower-shows held this year, each included an exhibit of school-children's work, while some institutes held only exhibits of school-children's work. About all the institutes report school picnics and Christmas treats for school-children.

Hazelmere Women's Institute in the Lower Mainland has the great credit of first inaugurating the annual school picnic for its district, which has grown to tremendous proportions. The school picnic to-day consists of the schools in the Municipality of Surrey and it necessitated a special train of the British Columba Electric Railway to carry the children from Cloverdale to Stanley Park.

Langley Prairie Women's Institute has taken the keenest interest and has held, with a tenacity of purpose worthy of emulation of every institute in the Province, to the improvement of the sanitary conditions of the three schools in its immediate vicinity, and has the satisfaction of reporting that at last sanitary conditions are entirely up to the standard.

In Peachland the friendliness and co-operation between the School Board and the Women's Institute is greatly to be admired and is a condition of affairs which we hope will prevail eventually between every institute and every School Board.

Many institutes report hot lunch or milk for the rural school-children being provided.

I again emphasize the benefit of reading the annual report of the Department of Education, especially as a programme on education and better schools, the Superintendent's report, and the Inspector's report on the local district. Again I emphasize the recommendation—the Women's Institutes to co-operate with the Provincial Inspector of their school district and, if possible, arrange a conference between their members and this official when he visits the school district. There are many points on which the School Inspector can assist the institute in bettering the conditions of the local schools. Again, that the members communicate with J. W. Gibson, Department of Education, for advice on improving and beautifying school-grounds; and communicate with Mr. Kyle, Department of Education, for advice on choosing and arranging pictures for the school-rooms and books for the school library. Communicate with H. Killam, Travelling Library, Parliament Buildings, for advice on the selection of books for a community library.

LEGISLATION.

The interest in this branch is still maintained. The members are becoming more and more interested in the legislation passed at each session of the House, and it would be well if we could have a summary of such legislation prepared by this branch and submitted to every institute in the Province. In some instances the institutes are comparing the laws on our statute-books in relation to women and children and on education with similar laws of other countries.

Many institutes are reporting the fact that application has been made to their local members of Parliament for " Votes and Proceedings " during the session.

If the district conveners can be supplied with the summaries of legislation it would be of great help to the institutes in their districts, as the district conveners can confer with the institutes regarding such information.

IMMIGRATION AND SETTLEMENT.

Progress is not very marked in this committee. There is not yet a clear understanding by many of our members of the importance of a sound immigration policy to the future of the Province. Many of our members appear to be anxiously concerned at the influx of settlers lest it will mean fewer opportunities for the young men and women born in the Province. It seems difficult for our members to grasp the idea that with increased population comes new ideas, increased markets, and, as has been found in the republic to the south of us, an increased prosperity. Many of our institutes are in direct communication with authorities at Ottawa and in Great Britain, and in conversation with Miss Charlotte Whitton, the Executive Secretary of the Canadian National Child Welfare Council, the hope was expressed that each institute in the Province might make its membership responsible for one new farmer-settler. This could be worked out if the institutes would constitute themselves a committee of reception, while the immigration authorities in Great Britain would constitute a committee of selection.

PUBLICITY AND NATIONAL EVENTS.

There is nothing spectacular to report this year under this heading. The " Buy B.C. Products " campaign is still being carried on through the agency of the institutes, and the idea of national and historical events is being taken up by the institutes as they gradually co-operate with the British Columbia Historical Society.

The institutes are reporting their activities in the local papers; in the Vancouver, Victoria, and Westminster papers; and in the *Western Home Monthly*. *Country Life* devotes one page to institute activities, specializing a certain feature of the work.

INDUSTRIES.

As a result of the institute exhibit at the Canadian National Exhibition in Toronto, Mrs. Murray is enthusiastic over the marketing of hardy chrysanthemum blooms in the Prairie cities. It is expected that she will make a trip to the Mainland and Island institutes in an effort to foster the commercial growing of these blooms.

There is a movement towards reviving the old handcrafts, such as quilt-making, hooked and braided rugs, while the more modern glove-making, basket-making, and woven rugs are receiving attention; but unless we can arrange for some central selling-point and provide instructions in order to standardize the work the commercial possibilities are very uncertain.

AGRICULTURE.

The growing of blooms, seeds, bulbs, etc., is rapidly taking its place as one of the commercial possibilities of agriculture for women. This was brought out very conspicuously following the seed and bulb collection comprising the Women's Institute exhibit at Toronto, and we are hoping to develop this to a greater extent in the year 1927.

At the Provincial Potato, Bulb, and Seed Fair held at Victoria in November the Women's Institute exhibit was again an important feature. A unique part of the programme this year was the catering done by the Women's Institutes in the vicinity of Victoria. The manufacturers and Agricultural Associations were asked for donations of foodstuffs. The members of these institutes did the cooking and all menus as far as possible were comprised entirely of British

Columbia products. All foodstuff as far as possible was donated. Luncheon was served to the Rotarians, supper to the Canadian Society of Technical Agriculturists, and a banquet on the last evening, and the proceeds were donated to the Queeen Alexandra Solarium Fund.

COMMUNITY BETTERMENT.

This is the principal work of the Women's Institutes; in fact, it might be said that all of the committees are really branches of the community betterment, for, after all, a healthy community with good educational facilities, under good laws, with flourishing industries and fruitful fields, make up the ideal living-place, and all of the committees after all aim for that great goal. Especially under this heading comes such work as community centres, the improvement of roadways, roadsides, cemeteries, and other local community projects. In fact, what has hitherto been considered everybody's business and nobody's business, the institutes have taken up and are making their special duty, and every community in which a Women's Institute operates shows this influence. Perhaps, under this heading, should come mention of the rural social-service work, which is carried on and of which half has never yet been told, and perhaps it is just as well that the institutes recognize the admonition, "Let not your left hand know what the right hand doeth." Not an institute in the Province but what has through the year been the good Samaritan to some individual or some family in their community.

WOMEN'S INSTITUTE WORK AND METHOD.

The year started with 111 institutes; four new institutes have been incorporated—Howe Sound, Midway, Canoe, and Edgewood and Fire Valley; while the Kootenay Valley Institute has changed its name to Tarrys-Thrums. The total membership is 3,127. The institutes received from different sources, including the balance on hand at the beginning of the year, $51,030.34, and expended $41,347. The receipts included the *per capita* grant from the Department. The institutes showing the largest sums of money handled are: Kelowna, $2,271.82; Victoria, $2,017.19; West Saanich, $1,601.46; Salmon Arm, $1,560.60; Vernon, $1,427.22; South Saltspring Island, $1,329.25; Okanagan Falls, $1,269.78; Pitt Meadows, $1,034.84; Tappen, $1,032.99; Strawberry Vale, $1,009.41.

The latter part of this year an inquiry was received as to the method of increasing the interest in the institutes in order to attract more members. It has always been found that an institute with some specific objective is never lacking in enthusiasm, interest, or membership. Therefore the recommendation to all institutes to have a yearly objective, and the nearer home, the more local this objective is, the stronger and more effective becomes the membership. Institutes die from inanimation; never from overwork.

The institutes in the Province have contributed to the Crippled Children's Fund in Vancouver, to the Queen Alexandra Solarium Fund, to the Federated Women's Institutes of Canada treasury, to the Near East Relief, to the Home Economics Endowment Fund, and other worthy objects.

For the year 1927 we expect to hold the third biennial conference of the Provincial Women's Institutes, where the ten committees will report.

It is surely a matter of satisfaction and pride to the institutes throughout the Province to know that the promoters of any Provincial-wide movement are turning more and more to the Women's Institutes for assistance, not so much financially, as to have the weight of the institute organization behind their movement. I have heard it said by several in leading positions, "What the Women's Institutes support always succeeds." Such a reputation has placed the Women's Institutes in the far front of the women's organizations in the Province of British Columbia.

All of which is respectfully submitted.

(Mrs.) V. S. MacLachlan,
Superintendent, British Columbia Women's Institutes.

APPENDICES.

APPENDIX No. 1.

CORRESPONDENCE RECEIVED AND DISPATCHED BY THE DEPARTMENT OF AGRICULTURE (AT VICTORIA) FOR THE YEARS ENDED DECEMBER 31ST, 1925 AND 1926.

Office.	Received.		Dispatched.	
	1926.	1925.	1926.	1925.
Office of the Deputy Minister—				
General and Secretary's Office	5,856	4,095	3,185	3,298
Accountant and Chief Clerk	3,130	2,000*	2,191	2,000*
Farmers' Institutes	2,836	2,078	905	961
Women's Institutes	611	995	446	590
Agricutural Associations	491	604	706	982
Apiaries Branch	384	.....	502	.....
Dairy Branch	1,579	1,575	1,938	1,760
Field Crop Branch	1,851	2,074	2,465	3,278
Horticultural Branch	2,370	2,448	2,253	2,158
Live Stock Branch—				
General	3,416	1,047	3,268	1,071
Brands	1,277	1,582	2,179	951
Poultry Branch	2,713	2,462	3,162	2,225
Statistics Branch	2,284	2,194	1,253	1,349
Women's Institutes Branch	1,850	1,700	3,935	3,875
Totals	30,648	24,854	28,388	24,498

* Estimated.

APPENDIX No. 2.

TABLE SHOWING CHIEF LINES OF CO-OPERATIVE ACTIVITY OF FARMERS' INSTITUTES WHOSE RECEIPTS WERE OVER $1,000 IN THE YEAR 1926.

Name of Farmers' Institute.	Receipts.	Expenditure.	Powder, Fuse, and Caps bought or sold.	Feed, Flour, Hay, Fertilizer, and Seed purchased.	Miscellaneous.	Remarks.
Alberni	$1,255.17	$1,180.48	$1,097.90	.....	.....	
Aldergrove	3,533.55	2,529.09	2,003.02	.....	.....	
Atchelitz	1,347.18	1,347.18	1,262.68	.....	.....	
Bella Coola	1,038.73	897.80	752.90	.....	.....	
Boswell	1,299.81	1,218.05	66.13	$761.54	$177.80	Fall Fair Account.
Bulkley Valley	2,583.62	2,583.62	.....	2,433.98	.....	
Chilliwack	5,109.91	4,575.86	4,046.91	.....	.....	
Crawford Bay	20,462.89	19,487.41	245.77	16,522.98	1,035.85	Apple Account.
Delta	1,917.76	1,459.71	.....	.....	1,300.00	Donations.
Denman Island	1,259.36	1,047.18	726.08	244.25	.....	
Francois Lake	1,286.55	1,286.40	.....	.....	1,224.66	Building new hall.
Hall's Prairie	1,477.36	1,260.21	597.21	40.90	300.00	Mortgage paid.
Jaffray	1,200.94	1,153.84	.....	.....	1,049.46	Hall and piano payments.
Kent	2,725.07	2,573.72	1,568.49	654.48	223.00	Wire fencing.
Kootenay Lake	19,531.16	18,582.38	.....	17,258.90	.....	
Langley	1,164.81	1,079.43	1,009.93	.....	.....	
Maple Ridge	4,576.85	4,036.10	3,824.70	.....	.....	
Moberly to Donald	2,002.47	1,981.31	159.75	1,335.49	.....	
Northern Okanagan	4,443.55	3,440.74	2,303.59	777.46	.....	
Otter District	4,808.55	4,378.41	3,424.23	769.35	.....	
Prince George	1,511.42	1,482.26	808.20	.....	153.00	Community hall.
Quick District	1,187.54	1,161.09	209.34	814.65	66.75	Fanning-mill.
Salmon Arm	4,166.50	3,867.77	3,447.25	.....	150.00	Fall Fair donation.
Shawnigan	1,107.85	899.76	547.55	226.91	.....	
Spallumcheen	2,257.58	2,195.21	1,568.09	.....	441.65	Payment on bulls.
Strawberry Hill	1,865.81	1,572.28	1,524.25	.....	.....	
White Creek Valley	2,389.76	2,203.86	.....	2,112.21	.....	
Winlaw	2,715.63	2,669.26	.....	1,247.85	1,093.50	Berries sold for members.
Graham Island	3,618.96	3,413.39	109.75	3,187.32	.....	
Totals	$103,846.34	$95,562.80	$31,303.72	$48,388.27	$7,215.67	

APPENDIX No. 3.

WOMEN'S INSTITUTE FLOWER-SHOWS, ETC., 1926.

Date of Show.	Name of W.I.	Remarks.
	Vancouver Island.	
April 7	Metchosin	Bulb-show.
,, 9	Royal Oak	Bulb-show.
June 19	Valdes Island	Flower-show; exhibition of women's work and school-children's work.
,, 24	Parksville	Flower-show; exhibition of school-children's work.
July 6	Luxton and Happy Valley	Flower-show; exhibition of women's work and school-children's work.
,, 8	Qualicum Beach and District	Flower-show; exhibition of women's work.
,, 13	Whaletown	Flower-show; exhibition of women's work.
,, 21	Colwood	Flower-show; exhibition of women's work and school-children's work.
,, 28	Esquimalt	Flower-show; exhibition of women's work and school-children's work.
Aug. 16–21	Victoria	Exhibition of women's work.
,, 25	Garden City	Flower-show; exhibition of women's work and school-children's work.
,, 26	Langford	Flower-show; exhibition of women's work.
,, 25	Lake Hill	Flower-show.
Sept. 3	Valdes Island	Health exhibit; "better babies" clinic.
,, 3	South Saltspring	Fall Fair.
,, 4	Royal Oak	Flower-show; exhibition of women's work and school-children's work; health exhibit.
,, 13	Cowichan	Flower-show.
,, 15	Cobble Hill	Flower-show; exhibition of women's work and school-children's work.
,, —	Lazo	Flower-show; exhibition of school-children's work; vegetable-show.
,, —	Mackenzie (Bella Coola)	Flower-show; exhibition of women's work; health exhibit.
	Lower Mainland.	
May 20	Hatzic	Flower-show.
June 9	Hazelmere	Flower-show.
,, 15	Atchelitz	Exhibition of school-children's work.
,, 16	Langley Prairie	Exhibition of women's work.
,, 17	Agassiz	Flower-show; exhibition of women's work.
,, 24	Upper Sumas	Flower-show; exhibition of women's work.
,, 30	Burquitlam	Flower-show.
July 7	Surrey	Flower-show.
,, 14	Mount Lehman	Flower-show.
,, 31	Coghlan	Flower-show; exhibition of women's work and school-children's work.
Aug. 6	Langley Fort	Flower-show; exhibition of women's work and school-children's work.
,, 6	Mission	Flower-show; exhibition of women's work.
,, 21	Port Kells	Flower-show; exhibition of women's work and school-children's work.
,, 28	Howe Sound	Flower-show; exhibition of women's work and school-children's work.
,, 31	Cannor	Flower-show; exhibition of women's work.
Sept. 2	Clearbrook Road	Flower-show; exhibition of school-children's work.
,, 3	Pitt Meadows	Flower-show; exhibition of women's work and school-children's work.
,, 6	Squamish Valley	Flower-show; exhibition of women's work and school-children's work.
,, —	Central Park	Exhibition of women's work.
,, 11	Lynn Valley	Flower-show; exhibition of women's work and school-children's work.
	Okanagan and Dry Belt.	
June 10	Winfield	Flower-show; exhibition of school-children's work.
,, 12	Armstrong	Flower-show; exhibition of women's work; health exhibit.
July 29	Rutland	Flower-show; "better babies" clinic.
,, —	Okanagan Centre	Flower-show; exhibition of women's work.
,, 29	Keremeos	Flower-show; exhibition of women's work and school-children's work.
,, 31	Salmon Arm	Flower-show.
Aug. 5	Summerland	Flower-show; exhibition of women's work.
,, 5	Valley	Flower-show.
,, 25	Mount Ida	Flower-show.
,, 26	Grindrod	Flower-show; exhibition of women's work and school-children's work.
Sept. 2	Peachland	Flower-show; fruit-show.
,, 6	Silver Creek	Flower-show; exhibition of women's work.
,, —	Tappen	Flower-show; exhibition of women's work and school-children's work.
,, 18	Malakwa	Flower-show; exhibition of women's work and school-children's work.
Dec. 3	Kalamalka	Exhibition of school-children's work.

APPENDIX No. 3—*Continued.*

WOMEN'S INSTITUTE FLOWER-SHOWS, ETC., 1926—*Continued.*

Date of Show.	Name of W.I.	Remarks.
	Kootenay.	
June 12	Creston	Flower-show.
,, 18	Maple	Exhibition of women's work.
July 16	Boswell-Sanca	Flower-show.
,, 28	Kaslo	Flower-show.
Aug. 18	New Denver	Flower-show.
,, 19	Cranbrook	Flower-show ; exhibition of women's work.
,, 21	Willow Point	Flower-show ; exhibition of women's work and school-children's work.
,, 26	Burton City	Flower-show ; exhibition of women's work and school-children's work.
,, —	Nakusp	Flower-show.
Sept. 1	Arrow Park	Flower-show ; exhibition of women's work and school-children's work.
,, 11	Crawford Bay	Flower-show ; exhibition of women's work and school-children's work.
,, 22–24	Bonnington and S. Slocan	Exhibition of women's work at Nelson Fair.
,, 22–24	Slocan Valley	Exhibition of women's work at Nelson Fair.
Oct. 1	Rock Creek	Flower-show ; exhibition of women's work and school-children's work.
,, 14	Harrop and District	Exhibition of women's work.

APPENDIX No. 4.

TREE-FRUIT SURVEY.

Acreage in Okanagan Horticultural District.

	1920.	1925.
Apples	14,902.9	15,805.0
Crabs	861.8	587.2
Pears	882.9	1,003.0
Plums	313.9	298.4
Prunes	642.2	477.2
Sour cherries	130.0	102.1
Sweet cherries	337.4	412.0
Apricots	457.0	730.1
Peaches	676.9	749.1
Totals	19,205.0	20,164.2

Acreage in Kootenay Horticultural District.

	1920.	1925.
Apples	6,846.3	5,353.8
Crabs	57.8	47.7
Pears	435.0	311.7
Plums	315.4	186.1
Prunes	401.3	171.3
Sour cherries	117.2	70.6
Sweet cherries	308.1	326.1
Apricots	2.9	10.2
Peaches	31.3	21.5
Totals	8,515.3	6,499.0

APPENDIX No. 5.

British Columbia Berry Acreage, 1926.

District.	Growers.	Raspberries.			Blackberries.			Loganberries.			Strawberries.		
		1926.	1925.	Pre.	1926.	1925.	Pre.	1926.	1925.	Pre.	1926.	1925.	Pre.
Fraser Valley	1197	49¾	46⅛	1,195⅛	5 7/12	2½	129½	14½	24	417⅛	577 5/6	261⅓	396 5/24
Kootenay-Boundary	397	11	23 1/12	99 7/12	3/10	1/20	7⅗	.....	.....	1⅛	85½	61 7/12	126¼
North Okanagan	67	.....	2	45½	.....	.....	12¼	.....	.....	.....	3¾	3½	14 7/12
Salmon Arm	116	2¼	¾	94	.....	.....	⅝	.....	½	23	6	8⅞	13½
Vancouver Island	608	1/24	1/20	71⅛	4½	⅗	15 2/5	78 1/12	19 1/10	225½	193	164⅞	125½
Totals	2385	63 1/24	72	1,505¾	10 2/5	3	165 1/10	92⅚	43 3/5	666¾	866½	500⅛	676 19/24
		1,640¾			178½			802½			2,042 1/24		

District.	Growers.	Red Currants.			Black Currants.			Gooseberries.			Rhubarb.		
		1926.	1925.	Pre.	1926.	1925.	Pre.	1926.	1925.	Pre.	1926.	1925.	Pre.
Fraser Valley	1197	5⅛	1 7/12	17 5/24	10⅝	10⅓	89½	1¼	2¾	33 5/6	75⅞	33⅔	88⅝
Kootenay-Boundary	397	.....	11/20	5⅜	⅜	1¾	29⅚	1/15	½	9⅜	.....	.....	1⅜
North Okanagan	67	.....	.....	11/12	.....	½	18 9/10	.....	.....	6⅜	.....	2	1¼
Salmon Arm	116	.....	.....	⅙	¼	1	4½	.....	.....	1 7/12	¾	1	1 7/12
Vancouver Island	608	⅙	.....	2⅜	. ...	⅓	24⅞	.....	1/15	11⅓	4	3½	29½
Totals	2385	5 7/24	2 2/15	26⅝	11	13 11/12	167	1⅓	3⅓	63 1/24	80⅝	40⅙	123 1/12
		34 1/20			191 11/12			67 17/24			243⅞		

Total acreage, 5,201⅓ acres.

APPENDIX No. 6.

Pruning Demonstrations, 1926.

District.	Instructor.	Dates.	No. of Pupils.
Islands.			
1. Sahtlam	E. W. White	January 26	4
2. Denman Island	,,	February 6	25
3. Whaletown	R. Randall	February 8	9
4. Port Washington	E. W. White	February 9	12
5. Browning Harbour	,,	February 10	14
Lower Mainland.			
1. Whonnock	G. E. W. Clarke	January 28	22
2. Dow Road, Burnaby	,,	February 13	18
3. Otter District	,,	February 22	9
4. North Vancouver	,,	March 20	14
Kootenay.			
1. Nelson	E. C. Hunt	February 13	5
2. Harrop	,,	February 16	8
3. Willow Point	,,	February 18	6
4. Winlaw	,,	February 19	12
5. Erie	,,	March 12	4
6. Thrums	,,	March 24	8
Okanagan.			
1. South Canoe	C. R. Barlow	February 26	5
2. Salmon Arm	,,	March 3	5
3. Salmon Arm	,,	March 4	6
4. Notch Hill	,,	March 11	7
5. Salmon Arm High School	,,	March 31	40
6. Vernon (Winfield)	H. H. Evans	January 27	25
7. Vernon (South)	,,	February 12	10
8. Westside Swan Lake	,,	February 22	12
9. Kelowna	Ben Hoy	March 15	10
10. Oliver (West Lateral)	R. P. Murray	February 22	6
11. Oliver (South)	,,	February 23	14

Total number of demonstrations, 26; total number of pupils, 310.

APPENDIX No. 7.

PRUNING-SCHOOLS, 1926.

District.	Instructor.	Dates.	No. of Pupils.
Islands.			
1. Comox (Courtenay)	E. W. White	February 3 to 5	8
2. Valdes Island	R. Randall	February 3 to 5	8
3. Sayward	,,	February 10 to 12	10
4. Qualicum	E. W. White	February 15 to 17	8
5. Alberni	,,	February 18 to 20	5
6. Diamond Crossing	,,	February 22 to 24	10
7. Ladysmith	,,	February 25 to 27	11
Kootenay.			
1. Balfour	E. C. Hunt	February 3 to 5	11
2. Nakusp	,,	March 2 to 4	9
Okanagan.			
1. Westbank	Ben Hoy	February 9 to 11	12
2. Penticton	R. P. Murray	February 10 to 12	10

Total number of schools, 11; total number of pupils, 102.

APPENDIX No. 8.

PACKING-SCHOOLS, 1926.

District.	Instructor.	Dates.	No. of Pupils.	No. of Lessons.	Average Proficiency.
Kootenay.					Per Cent.
1. Balfour	H. Guy Greenwood	February 8 to 13	13	12	75
2. Kaslo	,,	March 2 to 6	13	15	70

APPENDIX No. 9.

MEMORANDUM OF IMPORTED FRUIT, POTATOES, CORN, ETC., INSPECTED AT ALL PORTS OF ENTRY IN BRITISH COLUMBIA (INCLUDING THOSE CONDEMNED).

	1926.	1925.
Apples (boxes)	48,867	36,193
Apples (½ boxes)	649	21
Apples (barrels)	178	12
Crab-apples (boxes)	16	2
Pears (boxes)	41,185	81,826
Pears (½ boxes)	37	978
Plums (boxes)	16,058	18,963
Prunes (boxes)	6,254	44,558
Peaches (boxes)	120,080	161,983
Cherries (boxes)	10,538	14,080
Apricots (boxes)	27,479	32,719
Yakamines (boxes)	87	.....
Quince (boxes)	32	21
Nectarines (boxes)	.....	43
Tangerines (boxes)	.....	20

APPENDIX No. 9—*Continued.*

MEMORANDUM OF IMPORTED FRUIT, POTATOES, CORN, ETC., INSPECTED AT ALL PORTS OF ENTRY IN BRITISH COLUMBIA—*Continued.*

	1926.	1925.
California oranges (boxes)	227,419	164,903
Japanese oranges (boxes)	215,955	197,685
Japanese oranges (boxes) (to points east of B.C.)	344,600	284,200
Marmalade oranges (boxes)	10,524	7,490
Chinese oranges (boxes)	445	476
Australian oranges (boxes)	3	802
Florida oranges (boxes)	.....	4
Lemons (boxes)	40,772	36,372
Limes (boxes)	3	7
Grapefruit (boxes)	30,079	28,637
Grapefruit (boxes) (Oriental)	631	383
Pineapples (boxes)	535	497
Tomatoes (boxes)	30,551	36,844
Peppers (boxes)	1,742	1,383
Eggplant (boxes)	666	208
Persimmons (boxes)	602	484
Pomegranates (boxes)	1,208	983
Potatoes (tons)	79	3,705
Sweet potatoes (tons)	380	279
Yams (tons)	37	38
Taro (tons)	130	102
Rice (tons)	16,425	16,871
Corn (tons)	21,981	12,585
Peas (tons)	250	274
Beans (tons)	1,735	1,040
Peanuts (tons)	1,643	2,055
Walnuts (tons)	883	715

APPENDIX No. 10.

MEMORANDUM OF IMPORTED FRUIT, POTATOES, ETC., CONDEMNED AT ALL PORTS OF ENTRY IN BRITISH COLUMBIA.

	1926.	1925.
Apples (boxes)	1,014	220½
Apples (½ boxes)	173	.....
Pears (boxes)	111	5,142
Pears (½ boxes)	5	193
Plums (boxes)	.....	390
Prunes (boxes)	.....	4,347
Peaches (boxes)	52	597
Cherries (boxes)	149	77½
Cherries (lb.)	38	.....
Apricots (boxes)	15	.....
California oranges (boxes)	650	1
Grapefruit (boxes)	60½	204
Tomatoes (boxes)	28½	328½ 15 lb.
Peppers (boxes)	10	.....
Potatoes (lb.)	29	1,077
Sweet potatoes (lb.)	708	200
Jumping beans (lb.)	.....	3

APPENDIX No. 11.

MEMORANDUM OF IMPORTED FRUIT, VEGETABLES, RICE, BEANS, PEAS, CORN, ETC., INSPECTED AT VANCOUVER (INCLUDING THOSE CONDEMNED).

	1926.	1925.
Apples (boxes)	43,250	27,437
Apples (½ boxes)	526	10
Apples (barrels)	8	1
Pears (boxes)	37,693	77,254
Pears (½ boxes)	37	978
Plums (boxes)	13,162	16,278
Prunes (boxes)	4,533	37,465
Peaches (boxes)	97,861	132,107
Cherries (boxes)	6,367	7,702
Apricots (boxes)	22,535	26,428
Nectarines (boxes)	.....	15
Yakamines (boxes)	54	.....
Quince (boxes)	20	15
Tangerines (boxes)	.....	10
California oranges (boxes)	174,268	124,288
Japanese oranges (boxes)	172,142	159,685
Japanese oranges (boxes) (to points east of B.C.)	88,000	234,000
Florida oranges (boxes)	.....	4
Marmalade oranges (boxes)	10,524	7,065
Australian oranges (boxes)	3	802
Chinese oranges (boxes)	240	265
Lemons (boxes)	31,762	29,714
Grapefruit (boxes)	25,827	25,229
Grapefruit (boxes) (Oriental)	415	237
Limes (boxes)	2	7
Pineapples (boxes)	479	403
Persimmons (boxes)	585	452
Pomegranates (boxes)	1,104	848
Tomatoes (boxes)	28,267	34,222
Peppers (boxes)	1,203	808
Eggplant (boxes)	387	130
Potatoes (tons)	63	1,615
Sweet potatoes (lb.)	642,933	447,700
Yams (lb.)	54,424	61,800
Taro (lb.)	220,230	180,200
Peanuts (tons)	1,640	2,054
Walnuts (tons)	877	710
Rice (tons)	15,132	15,387
Corn (tons)	18,170	9,306
Beans (tons)	1,711	1,008
Peas (tons)	240	200

APPENDIX No. 12.

MEMORANDUM OF IMPORTED FRUIT, VEGETABLES, RICE, BEANS, PEAS, CORN, ETC., CONDEMNED AT VANCOUVER.

	1926.	1925.
Apples (boxes)	976	210
Apples (½ boxes)	173	.....
Pears (boxes)	87	4,631

APPENDIX No. 12—*Continued.*

MEMORANDUM OF IMPORTED FRUIT, VEGETABLES, RICE, BEANS, PEAS, CORN, ETC., CONDEMNED AT VANCOUVER—*Continued.*

	1926.	1925.
Pears (½ boxes)	5	193
Plums (boxes)	.....	390
Prunes (boxes)	.....	1,449
Peaches (boxes)	.....	580
Cherries (boxes)	137	76
California oranges (boxes)	606	1
Grapefruit (boxes)	56½	197
Tomatoes (boxes)	.....	327
Potatoes (lb.)	4	1,077
Sweet potatoes (lb.)	708	200
Jumping beans (lb.)	.....	3

APPENDIX No. 13.

MEMORANDUM OF IMPORTED RICE, BEANS, PEAS, CORN, ETC., FUMIGATED AT VANCOUVER.

	1926.	1925.
Rice (tons)	6	104
Beans (tons)	2	2
Peas (lb.)	1,265	.....
Peas (tons)	.....	116
Peanuts (tons)	157	.....
Walnuts (tons)	97	18
Almonds (tons)	6	23
Cob corn-seed (lb.)	670	.....
Coriander-seed (lb.)	.....	1,753
Cocoa-beans (boxes)	.....	15
Pineapples (crates)	305	60
Prunes (lb.)	448	1,512
Raisins (lb.)	43,904	7,965
Currants (lb.)	310,037	39,589
Dried apples (lb.)	2,702	1,263
Apple core and pulp (lb.)	66,300	.....
Evaporated apple skins and cores (lb.)	30,000	.....
Figs (lb.)	13,580	.....
Nutmegs (cases)	.....	16
Nutmegs (lb.)	2,240	.....
Chili and spice (lb.)	710	97
Peppers (lb.)	525	.....
Maize (lb.)	2,145	.....
Peach-pits (lb.)	.....	3,192
Mats (empty)	.....	1,200
Sacks (empty)	10,000	4,650
Straw covering for bottles (crates)	.....	31
Crockery (boxes)	.....	1
Furniture (cases)	.....	32
Settlers' effects (cases)	.....	8
Vermont (cases)	.....	100
Cars (empty), Nos. F.G.E. 15862 and 14608	2	.....

The following were fumigated at Victoria: Peas, 500 lb.; rice, 10 tons.

APPENDIX No. 14.

MEMORANDUM OF VEGETABLES, FRUIT, NUTS, ETC., FOR WHICH NO CERTIFICATES WERE ISSUED.

	1926. Crates.	1925. Crates.
Asparagus	8,015	10,798
Artichokes	214	166
Almonds (lb.)	225,730	159,515
Avocadoes	42	9
Beets	63	434
Bananas	95,175	111,363
Brazil nuts (lb.)	489,878	68,400
Brussels sprouts	395	278
Bak choy	23	139
Beans (green)	549	146
Broom-corn	369	546
Buckwheat (lb.)	500	.....
Black walnuts (lb.)	1,500	.....
Cabbage	6,802	8,159
Cabbage (tons)	12	273
Cauliflower	7,722	8,097
Casabas	830	991
Casabas (by count)	18,256	14,750
Chestnuts (lb.)	13,693	18,169
Chestnuts (barrels)	52	.....
Caladium (lb.)	33,700	38,752
Carrots	1,603	7,238
Cloves (lb.)	1,400	1,500
Cucumbers	331	300
Celery	6,157	7,151
Cocoanuts	631	140
Cocoa-beans (lb.)	7,250	11,400
Cantaloupes	11,907	20,074
Chicory	2	6
Chard	.....	6
Coffee-beans (lb.)	69,000	137,420
Cactus pears	17	25
Cranberries	2,751	1,920
Cinnamon	.....	600
Cress	.....	2
Caltrops	5	.....
Caltrops (lb.)	.....	1,400
Chillies (lb.)	300	.....
Cardoons	1	.....
Dill-flowers	.....	900
Endives	5	10
Foo gwah	11	12
Filberts (lb.)	395,840	86,400
Figs	64,344	550,057
Fennel-root	1	.....
Gye choy	15	168
Grapes	95,335	65,153
Grapes (lb.)	4	.....
Ginger-root (lb.)	79,200	50,460
Garlic (lb.)	83,365	25,467
Geet gwah	7	5
Gooseberries	20	7,002

APPENDIX No. 14—*Continued.*

MEMORANDUM OF VEGETABLES, FRUIT, NUTS, ETC., FOR WHICH NO CERTIFICATES WERE ISSUED—*Continued.*

	1926. Crates.	1925. Crates.
Garbanzos	200	200
Horse-radish (lb.)	1,000	1,215
Hickory nuts (lb.)	300	100
Huckleberries	15	.....
Lettuce	38,058	34,077
Lychee nuts (lb.)	50	300
Lentils (lb.)	29,712	61,000
Leeks	.....	2
Loquats	.....	101
Lily bulbs (edible) (lb.)	17,400	6,450
Lotus rhizomes (lb.)	139,210	.....
Melons	1,443	1,142
Melons (by count)	66,419	12,239
Mint	2	2
Maize-husks (lb.)	575	.....
Maize	3	5
Mangoes (lb.)	775	600
Nutmeg (lb.)	19,950	9,006
Mushrooms (lb.)	10	.....
Mace (lb.)	1,900	.....
Onions	10,133	23,057
Olives	16	31
Olives (lb.)	500	1,950
Okra	18	.....
Parsley	115	235
Peas	449	1,322
Pecan nuts	2,502	1,100
Parsnips	.....	573
Prunes (lb.)	100	.....
Pepper (lb.)	25,050	.....
Pimento (lb.)	4,500	.....
Peppers	96	.....
Pine-nuts (lb.)	100	.....
Radishes	102	130
Rhubarb	2,106	2,719
Rutabaga	1,422	34
Raisins	100	.....
Spinach	8,452	8,923
Squash	50	62
Seeds (miscellaneous)	382,189	182,271
Sue choy	29	96
Sugar-cane (lb.)	66,500	56,950
Sing gwah	.....	8
Strawberries	5,912	13,244
Sechium (lb.)	5	.....
Turnips	1,400	1,339
Tumeric rhizomes (lb.)	600	.....
Topeco	.....	1
Water-chestnuts (lb.)	52,650	39,500
Water-lily rhizomes	.....	68,774
White nuts	8,850	4,800
Watermelons (by count)	.....	51,614

APPENDIX No. 15.

MEMORANDUM OF IMPORTED NURSERY STOCK INSPECTED AT VANCOUVER (INCLUDING THOSE CONDEMNED).

	1926.	1925.
Standard fruit-trees—		
Apple	24,580	4,740
Crab-apple	956	154
Pear	3,262	5,328
Cherry	21,033	12,892
Plum	3,479	2,483
Prune	3,191	4,725
Peach	6,291	9,067
Yakamine	100	55
Quince	40	41
Nectarine	104	45
Apricot	4,441	9,559
Fig	21	9
Nut-trees—		
Walnut	722	795
Hazelnut	435	158
Chestnut	111	28
Almond	65	10
Seedlings, grafts, and scions—		
Fruit seedlings	279,104	235,523
Ornamental seedlings	34,126	42,164
Grafts	810	1,100
Scions	2,817	92
Small-fruit bushes and plants—		
Cranberry-vines	140,001	10,012
Grape-vines	15,198	10,672
Currant-bushes	6	26
Blueberry-bushes	31	8
Gooseberry-bushes	26	12
Blackberry-canes	5,690	3,392
Loganberry-canes	2,267	86
Blackerry-canes	880	1,678
Strawberry-plants	103,220	137,587
Miscellaneous—		
Ornamental trees, etc.	56,252	42,515
Ornamental cuttings	4,328	3,225
Rose-bushes	151,718	93,735
Plants (herbaceous)	41,443	39,549
Roots	417,504	290,027
Bulbs	3,299,508	2,784,473
Totals	4,623,760	3,745,965

NURSERY STOCK INSPECTED AT CRANBROOK DURING 1926.

Fruit-trees	81	Greenhouse plants	402
Small fruits	72	Ornamental seedlings	1,000
Ornamentals	779	Perennials, roots, etc.	75
Rose-bushes	71	Bulbs	14

APPENDIX No. 16.

MEMORANDUM OF IMPORTED NURSERY STOCK CONDEMNED AT VANCOUVER.

	1926.	1925.
Standard fruit-trees—		
Apple	1,461	282
Crab-apple	26	5
Pear	22	236
Quince	.....	1
Cherry	138	146
Plum	38	12
Prune	23	139
Peach	166	52
Nectarine	29	3
Apricot	64	225
Nut-trees—		
Walnut	1	.....
Hazelnut	1	4
Chestnut	1	.....
Almond	5	.....
Seedlings, grafts, and scions—		
Fruit seedlings	1,980	2,604
Ornamental seedlings	.....	3
Scions	.....	12
Small-fruit bushes and plants—		
Grape-vines	3	479
Gooseberry-bushes	26	.....
Raspberry-canes	3	2
Strawberry-plants	1	.....
Blueberry-vines	.....	1
Currant-bushes	.....	8
Miscellaneous—		
Ornamental trees, etc.	125	402
Ornamental cuttings	7	3
Rose-bushes	7	8
Plants	503	3
Roots	2	18
Bulbs	81,415	5,189
Totals	86,047	9,837

APPENDIX No. 17.

MEMORANDUM OF IMPORTED NURSERY STOCK INSPECTED AT VICTORIA (INCLUDING THOSE CONDEMNED).

	1926.	1925.
Grape-vines	4	.....
Raspberry-canes	1	.....
Rose-bushes	53	177
Ornamental trees, etc.	23	2
Ornamental cuttings	1	236
Plants	3,389	5,140
Roots	316	98
Bulbs	97,820	140,112
Peach-pits (sacks)	.....	4

APPENDIX No. 18.

IMPORTED NURSERY STOCK CONDEMNED AT VICTORIA.

	1926.	1925.
Raspberry-canes	1	.....
Rose-bushes	3	.....
Ornamental trees, etc.	23	2
Plants	15	1
Bulbs	7	.....
Ornamental cuttings	1	.....
Peach-pits (sacks)	.....	4

APPENDIX No. 19.

APPLES EXPORTED TO ENGLAND AND EUROPEAN PORTS VIA VANCOUVER AND PANAMA CANAL AND FOR WHICH NO CERTIFICATES WERE ISSUED, 1926.

England—Apples (boxes)	135,804
Europe—Apples (boxes)	19,628
Total	155,432

APPENDIX No. 20.

PRODUCTS FOR WHICH EXPORT INSPECTION CERTIFICATES WERE ISSUED AT VANCOUVER AND OKANAGAN, 1926.

To.	Apples.	Frozen Raspberries.	Potatoes.			Onions.		Turnips.	Wheat.
	Boxes.	Bbls.	Sacks.	Crates.	Cases.	Sacks.	Crates.	Sacks.	Sacks.
England	1,034	.....	.....	.....	....	....	.....	....	.....
New Zealand	45,825	.....	.....	.....	....	....	42,429	....	.....
India	100	.....	.....	.....	....	....	.....	....	.....
United States	1,523	.....	25,416	.....	5	....	.....	....	.....
China	4,795	.....	545	140	....	....	10	15	4,616
Peru	.....	.....	.....	.....	....	....	.....	....	20,365
Hawaii	4	.....	.....	.....	....	....	.....	....	.....
Fiji Islands	380	.....	.....	200	....	....	1,670	....	.....
Samoa	.....	.....	.....	30	....	....	20	.....	.....
Philippines	.....	.....	.....	300	....	....	.....	....	.....
Japan	.....	.....	.....	.....	....	....	.....	....	20,001
South Africa	12,600	.....	.....	.....	....	....	.....	....	.....
Newfoundland	750	.....	.....	.....	....	....	.....	....	.....
Holland	9,000	.....	.....	.....	....	....	.....	....	.....
Finland	840	.....	.....	.....	....	....	.....	....	.....
Cuba	.....	.....	.....	.....	....	50	50	....	.....
Sweden	4,335	.....	.....	.....	....	....	.....	....	.....
Norway	2,650	.....	.....	.....	....	....	.....	....	.....
Denmark	3,800	.....	.....	.....	....	....	.....	....	.....
Saskatchewan	.....	.....	400	.....	....	....	.....	....	.....
Manitoba	.....	.....	800	.....	....	....	.....	....	.....
Ontario	.....	411	1,350	.....	....	....	.....	....	.....
Quebec	.....	.....	900	.....	....	....	.....	....	.....
Totals	87,636	411	29,411	670	5	50	44,179	15	44,982

APPENDIX No. 21.

NURSERY STOCK INSPECTED FOR EXPORT, FOR WHICH CERTIFICATES WERE ISSUED, 1926.

To.	Fruit-trees.	Small Fruits.	Ornamentals.	Roses.	Seedlings, Fruit.	Bulbs.	Perennials, Roots, etc.	Greenhouse Plants.	Fruit Scions.	Rose Cuttings.	Packages.	Native Conifer seed (Lb.).
England	14	3	20	1	.....	554	218	115	12	.....	53	1,283
United States	.....	100	682	720	.....	28,813	98	.....	2,000	2,757	49	490
Australia	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	2	15
Denmark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	6
Holland	.....	.....	.....	2	.....	.....	350	.....	.....	.....	2	.....
Austria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	300
Belgium	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	50
China	146	495	130	1,017	100	1,970	33	.....	60	.....	25	.....
East Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	10
Ireland	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
Honolulu	.....	.....	.....	.....	.....	24	.....	.....	.....	.....	1	.....
New Zealand	.....	.....	3	.....	.....	1,205	.....	.....	.....	.....	28	3,702
Japan	.....	44	3	.....	.....	.....	1	.....	.....	.....	2	2
France	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	66
Finland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	25
Totals	160	642	841	1,740	100	32,567	700	115	2,072	2,757	177	5,949

APPENDIX No. 22.

RESULTS OF SEED-TREATMENT EXPERIMENT, 1926.

Plot.	Variety.	Seed.	Treatment.	No. of Hills.	Total Yield.	Yield per Hill.	Weight of Clean Tubers.	Per Cent.	Weight of Rhiz. Tubers.	Per Cent.
					Lb.	Lb.	Lb.		Lb.	
1	N.G.	Cut	None; clean	98	148	1.5	132	89.5	16	10.5
2	N.G.	Cut	$HgCl_2$ 1–1,000, 1½ hr.; clean	99	164½	1.7	155	94.2	9½	5.8
3	G.C.	Whole	None; diseased	93	180	1.9	112	62.2	68	37.8
4	N.G.	Cut	None; diseased	88	125	1.4	12	9.6	113	90.4
5	N.G.	Cut	$HgCl_2$ 1–1,000, 1½ hr.; diseased	100	153	1.5	117	76.5	36½	23.5
6	G.C.	Cut	$HgCl_2$ 1–1,000, 1½ hr.; diseased	87	153	1.75	140	91.5	13	8.5
7	N.G.	Cut	2 oz. Sem. Bel before cutting	107	146	1.4	9	6.2	137	93.8
8	G.C.	Whole	2 oz. Sem. Bel before cutting	93	174	1.9	114	65.5	60	34.5
9	N.G.	Cut	3 oz. Sem. Bel after cutting	110	154	1.4	9	5.8	145	94.2
10	G.C.	Cut	3 oz. Sem. Bel after cutting	97	172	1.8	129	75.0	43	25.0
11	N.G.	Cut	10 per cent. Sem. Bel after cutting	106	138	1.3	3	2.2	135	97.8
12	G.C.	Cut	10 per cent. Sem. Bel after cutting	97	164	1.7	106	64.6	58	35.4
13	G.C.	Whole	2 oz. D.D. 12 before cutting	91	186	2.0	113	60.8	73	39.2
14	G.C.	Cut	3 oz. D.D. 12 after cutting	92	165	1.8	113	68.5	52	31.5
15	G.C.	Cut	10 per cent. D.D. 12 after cutting	95	177	1.9	103	58.2	74	41.8
16	G.C.	Whole	10 per cent. D.D. 12 before cutting	74	156	2.1	79	50.6	77	49.3
17	G.C.	Cut	2 oz. D.D. 37 before cutting	99	190	2.0	156	82.1	34	17.9
18	G.C.	Cut	3 oz. D.D. 37 after cutting	93	173	1.9	146	84.4	27	15.6
19	G.C.	Cut	10 per cent. D.D. 37 after cutting	102	202	2.0	191	94.6	11	5.4
20	G.C.	Whole	10 per cent. D.D. 37 after cutting	84	206	2.5	154	74.8	52	25.2
21	G.C.	Cut	Untreated; check on rots..	44	64	1.5	45	70.3	19	29.7

APPENDIX No. 23.

CATTLE AND HIDES SHIPPED DURING 1926.

District, Cariboo and South.

Month.	WILLIAMS LAKE.		LAC LA HACHE.		QUESNEL.		CLINTON.		LILLOOET.	
	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.
January	.....	.....	.....	.....	.....	.....	64	.....	.....	3
February	.....	.....	.....	.....	.....	43	84	16	.....	.....
March	.....	.....	.....	.....	.....	9	22	.....	.....	4
April	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	.....	.....	.....	.....	60	47	.....	39
June	172	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	890	.....	244	.....	.....	17	.....	.....	.....	45
August	456	.....	75	.....	.....	164	462	.....	.....	.....
September	180	.....	279	.....	25	11	441	.....	.....	.....
October	2,208	.....	210	.....	201	.....	493	.....	.....	15
November	704	.....	39	.....	82	30	345	.....	.....	55
December	176	.....	.....	.....	.....	.....	157	.....	.....	.....
Totals	4,786	.....	847	.....	308	274	2,128	63	.....	161

Totals: Cattle, 8,069; hides, 498.

District, Okanagan, etc.

Month.	KELOWNA.		PENTICTON.		VERNON.		KEREMEOS, OLIVER, ETC.		PRINCETON AND COALMONT.	
	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.
January	146	2	.....	.....	21	.....	.....	204	.....	55
February	12	131	.....	173	15	401	.....	11	.....	.....
March	8	184	12	19	113	413	22	69	.....	71
April	2	11	17	.....	.....	.....	.....	28	.....	104
May	.....	168	.....	233	2	561	.....	6	.....	128
June	129	1	30	.....	51	.....	98	67	73	10
July	.....	.....	49	154	73	501	197	19	154	128
August	76	.....	89	184	12	312	200	3	78	91
September	38	.....	16	.....	.....	303	52	.....	.....	.....
October	18	96	7	67	6	.....	97	5	80	105
November	.....	30	5	155	122	270	.....	114	35	194
December	16	93	.....	.....	17	190	50	27	.....	40
Totals	445	716	225	985	432	2,951	716	553	420	926

Totals: Cattle, 2,238; hides, 6,131.

District, South-east British Columbia.

Month.	NELSON.		CRESTON.		CRANBROOK, FERNIE, ETC.		GRAND FORKS AND MIDWAY.	
	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.
January	.....	7	16	25	.....	414	.....	153
February	.....	.....	.....	120	.....	122	8	.....
March	.....	10	26	.....	.....	.....	17	49
April	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	57	.....	.....	.....	.....	.....	23
June	5	.....	.....	.....	.....	.....	.....	43
July	.....	.....	.....	162	.....	191	328	51
August	.....	322	.....	.....	16	46	183	89
September	.....	.....	.....	.....	4	.....	26	55
October	.....	131	.....	.....	252	353	.....	.....
November	.....	.....	.....	120	225	97	99	25
December	1	83	.....	.....	.....	51	55	58
Totals (about)	6	610	42	427	497	1,274	716	546

Totals: Cattle, 1,261; hides, 2,857.

APPENDIX No. 23—*Continued.*

CATTLE AND HIDES SHIPPED DURING 1926—*Continued.*

District, Central British Columbia.

Month.	SMITHERS, TELKWA, ETC.		BURNS LAKE AND FORT FRASER.		PRINCE GEORGE AND McBRIDE.		POUCE COUPE.	
	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.
January	.....	103	.....	36	.....	.....	.....	.....
February	41	68	.....	75	.....	.....	87	.....
March	5	1	.....	54	.....	29	.....	40
April	.....	21	.....	51	.....	.....	39	.....
May	.....	226	68	172	.....	.....	.....	.....
June	21	17	5	24	.....	.....	.....	.....
July	55	.....	.....	33	.....	.....	.....	.....
August	30	.....	1	.....	.....	.....	85	.....
September	26	.....	.....	.....	.....	.....	.....	.....
October	95	.....	.....	.....	.....	.....	.....	.....
November	133	20	19	.....	.....	.....	50	.....
December	.....	3	.....	.....	.....	.....	28	.....
Totals	406	459	93	445	.....	29	289	40

Totals: Cattle, 788; hides, 973.

District, Kamloops, Nicola, etc.

Month.	ASHCROFT.		MERRITT AND NICOLA.		KAMLOOPS.	
	Cattle.	Hides.	Cattle.	Hides.	Cattle.	Hides.
January	420	40	37	.....	234	434
February	41	189	.....	.....	106	235
March	111	85	20	105	101	255
April	.....	94	199	.....	112	341
May	.....	.....	.....	117	15	434
June	21	52	1,041	117	345	326
July	.....	.....	983	.....	494	112
August	44	.....	1,056	197	295	264
September	37	.....	441	.....	366	417
October	136	.....	84	234	382	40
November	336	85	194	19	431	262
December	326	.....	179	.....	205	289
Totals	1,472	545	4,234	789	3,086	3,409

Totals: Cattle, 8,792; hides, 4,743.

District Totals.

District.	Cattle.	Hides.
Cariboo and South	8,069	498
Okanagan, etc.	2,238	6,131
South-east British Columbia	1,261	2,857
Central British Columbia	788	973
Kamloops, Nicola, etc.	8,792	4,743
Grand totals	21,148	15,202

APPENDIX No. 24.

List of Districts covered by Inspectors testing for Tuberculosis, 1926.

District.	No. of Cattle tested.	No. of Reactors.	Grade of Premises.			No. of Herds tested.
			A.	B.	C.	
Lower Fraser Valley.						
Burnaby	16	.....	.....	.....	1	1
Chilliwack	138	5	.....	2	16	18
Dewdney	53	4	.....	.....	3	3
Kent-Agassiz	22	.....	.....	.....	1	1
Ladner	38	3	.....	.....	8	8
Langley	158	4	.....	.....	11	11
Lulu Island	173	19	2	.....	23	25
Pitt Meadows	35	.....	.....	.....	6	6
Matsqui	53	4	.....	.....	3	3
Surrey	150	13	1	.....	19	20
Upper Sumas	4	.....	.....	.....	2	2
Vancouver	90	23	2	.....	10	12
Totals	930	75	5	2	103	110
Coast Points.						
Ocean Falls	21	.....	1	.....	.....	1
Bowen Island	24	4	.....	1	1	2
Anyox	7	.....	.....	1	.....	1
Alert Bay	12	.....	.....	.....	4	4
Kingcome Inlet	36	.....	.....	2	.....	2
Malcolm Island	104	.....	.....	7	54	61
Prince Rupert	8	1	.....	1	.....	1
Squamish	72	.....	.....	4	18	22
Valdes Island	9	.....	.....	1	.....	1
Woodcock	40	1	.....	1	3	4
Totals	333	6	1	18	80	99
Okanagan Valley.						
Armstrong	481	11	.....	1	81	82
Enderby	218	.....	.....	.....	25	25
Canoe	23	.....	.....	.....	2	2
Grindrod	32	.....	.....	.....	3	3
Kaleden	7	.....	.....	.....	7	7
Kelowna	269	5	.....	2	33	35
Oliver	17	.....	.....	.....	4	4
Salmon Arm	79	.....	.....	.....	22	22
West Summerland	29	.....	.....	.....	9	9
Totals	1,155	16	.....	3	186	189
West Kootenay.						
Nakusp	150	9	1	.....	45	46
Revelstoke	81	.....	.....	.....	17	17
Grand Forks	27	.....	.....	2	7	9
Creston	4	.....	.....	.....	1	1
Greenwood	1	.....	.....	.....	1	1
Rossland	79	.....	.....	.....	12	12
Nelson	439	32	4	.....	46	50
Sandon	18	.....	.....	.....	3	3
Slocan City	119	.....	1	.....	10	11
Trail	92	19	1	.....	5	6
Totals	1,010	60	7	2	147	156
East Kootenay.						
Corbin	11	.....	.....	.....	2	2
Cranbrook	280	6	2	.....	14	16
Fernie	219	.....	3	.....	36	39
Natal	84	16	.....	.....	5	5
Totals	594	22	5	.....	57	62

APPENDIX No. 24—*Continued.*

LIST OF DISTRICTS COVERED BY INSPECTORS TESTING FOR TUBERCULOSIS, 1926—*Continued.*

District.	No. of Cattle tested.	No. of Reactors.	Grade of Premises.			No. of Herds tested.
			A.	B.	C.	
Kamloops and Surrounding Districts.						
Barnhartvale	25	1	.....	.....	1	1
Barriere	14	.....	.....	.....	5	5
Black Pines	3	.....	.....	.....	1	1
Heffley Creek	3	.....	.....	.....	1	1
Kamloops	121	26	.....	.....	5	5
Mount Olie	24	.....	.....	.....	8	8
Raleigh Mount	9	.....	.....	.....	1	1
Tranquille	164	.....	1	.....	.....	1
Totals	363	27	1	.....	22	23
Similkameen.						
Princeton	51	.....	.....	.....	7	7
Central B.C.—Bulkley Valley.						
Smithers	61	.....	.....	.....	6	6
Forestdale	24	.....	.....	.....	9	9
Houston	15	.....	.....	.....	3	3
Quick	89	10	.....	.....	8	8
Telkwa	105	8	.....	.....	11	11
Topley	19	.....	.....	.....	3	3
Totals	313	18	.....	.....	40	40
Central B.C.—Nechako Valley.						
Beaverly	7	.....	.....	.....	1	1
Giscome	9	.....	.....	.....	1	1
Prince George	112	5	.....	1	12	13
Mud River	16	.....	.....	.....	4	4
Vanderhoof	28	.....	.....	.....	6	6
Totals	172	5	.....	1	24	25
Cariboo.						
Alexandria	14	2	.....	.....	2	2
Australian	51	.....	.....	1	4	5
Kersley	32	.....	.....	.....	5	5
Quesnel	77	2	.....	.....	13	13
Totals	174	4	.....	1	24	25
Vancouver Island.						
Campbell River	19	1	.....	3	2	5
Comox	46	1	1	4	2	7
Courtenay	158	2	2	12	1	15
Cumberland	84	1	1	4	1	6
Colwood	17	.....	.....	2	2	4
Duncan	801	11	5	41	27	73
Fanny Bay	31	3	.....	2	2	4
Hilliers	4	.....	.....	.....	2	2
Ladysmith	97	3	2	2	5	9
Langford	4	.....	.....	.....	2	2
Metchosin	46	8	.....	9	2	11
Merville	190	15	1	18	6	25
Nanaimo	410	5	5	21	5	31
Oak Bay	33	2	.....	4	2	6
Parksville	36	.....	.....	4	3	7
Royston	16	.....	.....	1	.....	1
Sandwick	251	2	1	18	15	34
Saanich	1,476	145	13	75	73	161
Sooke	78	1	.....	6	6	12
Union Bay	43	4	.....	8	4	12
Victoria	638	17	.....	42	29	71
Totals	4,478	221	31	276	191	498
Gulf Islands.						
Pender Island	9	.....	.....	1	1	2
Galiano Island	6	.....	.....	1	.....	1
Totals	15	.....	.....	2	1	3

APPENDIX No. 25.

TESTERS' LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," R.S.B.C. 1924.

Name.	Address.
Abbott, R. C.	Vanderhoof.
Anderson, Alfred H.	Armstrong.
Asserlind, H. E. E.	2136 Union Street, Vancouver.
Atkinson, L. A.	Vancouver.
Bell, S. A.	478 Fraser Street, Victoria.
Batey, H. S.	2504 Chesterfield Avenue, North Vancouver.
Boulter, Wm.	Ladner.
Boyne, Wm.	Kamloops.
Calder, Jas.	882 Hamilton Street, Vancouver.
Caldwell, John	1855 Georgia Street East, Vancouver.
Canavor, L.	3917 Albert Street, Vancouver.
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.
Clarke, T. G. M.	Vernon.
Coxen, W. G.	Victoria.
Cook, E. W.	405 Eighth Avenue West, Vancouver.
Crabtree, G. H.	Abbotsford.
Cranswick, P.	Royal Dairies, Vancouver.
Crawford, Wm.	7828 Prince Albert Street, Vancouver.
Dempster, A. M.	Kamloops.
Dill, C. A.	Kamloops.
Drake, A. W.	Ganges.
Dudman, A.	333A Thirteenth Avenue East, Vancouver.
Dunn, J. S.	553 Fifth Street, Nanaimo.
Dunn, James	553 Fifth Street, Nanaimo.
Enman, V.	2056 Forty-ninth Avenue East, Vancouver.
Godwin, F.	Vernon.
Grant, Everett	Abbotsford.
Grimes, G. G.	Langley Prairie.
Hall, F. D. B.	Box 172, Chilliwack.
Harkness, Wm.	Nelson.
Hansen, A. B.	Golden.
Henderson, C. A.	Kamloops.
Holmes, J.	Vancouver.
Hurley, M. H.	1111 Fort Street, Victoria.
Isbister, J.	Langley Prairie.
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.
Lawrence, G. H.	Mission City.
Livingstone, J. M.	15 Alexander Street, Vancouver.
Lord, W. C.	Sardis.
Magar, J. A.	Sardis.
Main, T.	3917 Albert Street, Vancouver.
Matheson, D. W.	Port Haney.
Medd, G. H.	Fort Langley.
Monteith, W. J.	1922 Second Avenue West, Vancouver.
McAllister, C. W.	707 View Street, Victoria.

APPENDIX No. 25—*Continued.*

TESTERS' LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," R.S.B.C. 1924—*Continued.*

Name.	Address.
McCoshan, W. H.	Cranbrook.
McKerricher, W. R.	1924 Fortieth Avenue East, Vancouver.
Menzies, T. A.	Abbotsford.
Metcalfe, F. J.	3436 Oak Street, Vancouver.
Moor, J. S.	Penticton.
Morse, A. O.	1750 Eighth Avenue West, Vancouver.
Moss, James	Box 634, Kelowna.
Nelson, C. E.	J. M. Steves' Dairy, Vancouver.
Neill, A.	New Westminster.
Newland, C. G.	Colony Farm, Essondale.
Northcott, C. W.	Vancouver.
Norton, F. H. A.	1311 Broad Street, Victoria.
Orr, J. B.	Sardis.
Overland, F.	2571 Thirty-sixth Avenue West, Vancouver.
Pallot, C. S.	Box 121, Haney.
Pyvis, W. J.	Chilliwack.
Patten, W.	Armstrong.
Patterson, W. L.	536 Twenty-first Avenue West, Vancouver.
Perrins, A. C.	639 Belton Avenue, Victoria.
Price, T. W.	905 Twenty-fourth Avenue East, Vancouver.
Quaedvlieg, E.	Keremeos.
Reston, H. C. F.	684 Burnside Road, Victoria.
Richards, T. E.	1001 Pender Street West, Vancouver.
Rive, Elias	405 Eighth Avenue West, Vancouver.
Rose, Wm.	Courtenay.
Rus Krister	Vancouver.
Sejrup, V. M.	Duncan.
Sellers, J. H.	1257 Eighteenth Avenue East, Vancouver.
Sherwood, E. G.	1032 Hornby Street, Vancouver.
Silver, M. R.	2215 Dundas Street, Vancouver.
Skelton, R. J.	Salmon Arm.
Smith, R.	Penticton.
Stanton, Lloyd	Vancouver.
Stock, C.	Vancouver.
Swanson, C. J.	Vancouver.
Taylor, Arthur	Pouce Coupe.
Thomas, S. J.	Kelowna.
Thomson, Darwin	Salmon Arm.
Thomson, J. L.	Armstrong.
Thomson, James	Vernon.
Thomson, F. D.	Vancouver.
Thornbery, G. H.	Department of Agriculture, Victoria.
Turnbull, Miss M.	Kelowna.
Turnbull, H.	Cloverdale.
Valentin, M.	Prince Rupert.
Wagg, C. H.	Ganges.
Washington, F. J.	405 Eighth Avenue West, Vancouver.
Wasson, F. C.	Department of Agriculture, Victoria.
Watson, J. B.	R.R. No. 1, Sardis.
Wells, B.	Ladner.
Wells, J. R.	Penticton.
West, C. H.	280 Sixth Avenue East, Vancouver.
Westlund, Mrs. A.	c/o P. Burns & Co., Vancouver.

APPENDIX No. 25—*Continued.*

TESTERS' LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," R.S.B.C. 1924—*Continued.*

Name.	Address.
Wood, R. K.	707 View Street, Victoria.
Woods, R. H.	Grand Forks.
White, C. J.	1166 Hornby Street, Vancouver.

APPENDIX No. 26.

CREAM-GRADERS' LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," R.S.B.C. 1924, AS AMENDED 1925.

Name.	Address.
Anderson, Z. K.	82 Seventeenth Avenue West, Vancouver.
Batey, H. S.	2504 Chesterfield Avenue, Vancouver.
Burger, I.	2033 Trafalgar Street, Vancouver.
Clarke, T. E.	Armstrong.
Christensen, A. H.	Invermere.
Cook, E. W.	2416 Burns Street, Vancouver.
Drake, A. W.	Ganges.
Dunn, J. S.	Nanaimo.
Hansen, A. B.	Golden.
Jackson, G. T.	1115 Nelson Street, Vancouver.
James, D. A.	1114 Broadway, Vancouver.
Jenne, H. H.	Nelson.
Johnson, A.	Quesnel.
Karnagel, R.	Enderby.
Lawrance, G. H.	Mission City.
Livingstone, J. M.	15 Alexander Street, Vancouver.
Lord, T.	Athalmer.
Lynds, F. G.	Penticton.
Mackerricker, W. R.	Kamloops.
McAlister, A. W.	Royal Dairy, Victoria.
Middlemas, J. D.	1125 Eleventh Avenue West, Vancouver.
Morse, A. O.	1750 Eighth Avenue West, Vancouver.
Perrins, A. C.	Victoria.
Reston, H. C.	930 North Park Street, Victoria.
Rive, E.	2226 Twelfth Avenue West, Vancouver.
Rive, C.	2226 Twelfth Avenue West, Vancouver.
Rodger, J. M.	Courtenay.
Sejrup, V. M.	Duncan.
Sellers, J. H.	414 Pender Street East, Vancouver.
Skelton, R. J.	Salmon Arm.
Smith, J. K.	Grand Forks.
Smith, R.	Penticton.
Smith, W. S.	37 Seventeenth Avenue West, Vancouver.
Thomas, S. J.	Kelowna.
White, C. J.	644 Sixty-sixth Avenue West, Vancouver.

APPENDIX No. 27.

CREAMERY OR DAIRY LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," R.S.B.C. 1924.

Name.	Address.
Arrow Lakes Cheese Factory	Edgewood.
Beaconsfield Dairy Co.	905 Twenty-fourth Avenue East, Vancouver.
Borland Ice Cream Co.	1520 Sixth Avenue West, Vancouver.

APPENDIX No. 27—*Continued.*

CREAMERY OR DAIRY LICENCES ISSUED UNDER "CREAMERIES AND DAIRIES REGULATION ACT," R.S.B.C. 1924—*Continued.*

Name.	Address.
Borden Co., Ltd., The	Sardis.
Burns, P., & Co., Ltd.	Woodland Drive, Vancouver.
Burns, P., & Co., Ltd.	Vernon.
Caldwell's Dairy	1847 Georgia Street, Vancouver.
Cariboo Farmers' Co-operative Association	Quesnel.
City Dairy & Produce Co., Ltd.	414 Pender Street East, Vancouver.
Columbia Valley Co-operative Creamery Assn.	Golden.
Comox Creamery Association	Courtenay.
Cowichan Creamery Association	Duncan.
Crescent Ice Cream, Ltd.	Burrard and Hastings Streets, Vancouver.
Crystal Dairy, Ltd.	Cranbrook.
Curlew Creamery Co., Ltd.	Nelson.
East End Dairy	2459 Oxford Street, Vancouver.
Ferrera Cheese Manufacturing Co.	Chilliwack.
Fraser Valley Milk Producers' Association	405 Eighth Avenue West, Vancouver.
Fraser Valley Milk Producers' Association	405 Eighth Ave. W., Vancouver (1170 Hornby St.).
Fraser Valley Milk Producers' Association	405 Eighth Avenue West, Vancouver (Sardis).
Fraser Valley Milk Producers' Association	405 Eighth Avenue West, Vancouver (Abbotsford).
Fraser Valley Milk Producers' Association	405 Eighth Avenue West, Vancouver (Ladner).
Godwin, F.	Vernon.
Guernsey Creamery	914 Robson Street, Vancouver.
Holland Dairies, Ltd.	2626 Granville Street, Vancouver.
Karnagel, R. (Palace Creamery)	Enderby.
Karnagel, R. (Palace Creamery)	Lumby.
Kelowna Creamery Co., Ltd.	Kelowna.
Kettle Valley Creamery Co.	Grand Forks.
Lake Windermere Creamery, Ltd.	Invermere.
Nanaimo Creamery Association	Nanaimo.
Nechaco Creamery	Vanderhoof.
Okanagan Valley Co-operative Creamery Assn.	Armstrong.
Northwestern Creamery, Ltd.	1311 Broad Street, Victoria.
Penticton Purity Products, Ltd.	Penticton.
Port O'Van Ice Cream, Ltd.	602 Hastings Street West, Vancouver.
Pouce Coupe District Co-op. Creamery Assn.	Kilkerran.
Purity Dairy, Ltd.	280 Sixth Avenue East, Vancouver.
Quaedvlieg, Victor	Keremeos.
Royal City Creamery	New Westminster.
Royal Dairies	1001 Pender Street West, Vancouver.
Royal Dairy, Ltd.	707 View Street, Victoria.
Salmon Arm Creamery Association	Salmon Arm.
Saltspring Island Creamery Association	Ganges.
Sherwood Creameries, Ltd.	1166 Hornby Street, Vancouver.
Sherwood Creameries, Ltd.	1166 Hornby Street, Vancouver (Chilliwack).
Spencer, David, Ltd., Creamery	Kamloops.
Spencer, David, Ltd., Creamery	Cordova Street West, Vancouver.
Steves, J. M., Dairy	2024 Twelfth Avenue West, Vancouver.
Union Dairy	Penticton.
Valley Dairy, Ltd.	1569 Sixth Avenue West, Vancouver.
Vancouver Creamery Co., Ltd.	23 Alexander Street, Vancouver.
Vancouver Dairies, Ltd.	1132 Hastings Street East, Vancouver.
Vancouver Ice & Cold Storage Co., Ltd.	11 Gore Avenue, Vancouver.
Vancouver Island Milk Producers' Association	930 North Park Street, Victoria.
Victoria City Dairy Co., Ltd.	1111 Fort Street, Victoria.
White Lunch, Ltd.	124 Hastings Street West, Vancouver.

APPENDIX No. 28.

Cow-testing Associations in British Columbia.

Name.	Instituted.	Secretary.	Tester.	Departmental Grant.
Bulkley Valley	October, 1926	C. J. Killer, Telkwa	A. Neill	$225
Chilliwack	March 17, 1913	W. T. Richardson, Atchelitz	G. G. Grimes	600
Comox-Nanaimo	April 23, 1914	R. M. Halliday, Sandwick	Wm. Rose	600
Langley	June 8, 1914	A. Hope, Fort Langley	J. Isbister	600
Okanagan	April, 1920	W. G. Benson, Kelowna	T. G. M. Clarke	600
Pitt Meadows-Maple Ridge	November, 1925	J. E. Stewart, Port Hammond	C. S. Pallot	600
Richmond-Ladner	March, 1919	Axel Nelsen, Steveston	G. H. Medd	600
Surrey	November, 1924	F. J. Kellaway, Cloverdale	H. C. Clark	600
Sumas-Matsqui	November, 1923	Harry Day, Abbotsford	G. H. Crabtree	600

APPENDIX No. 29.

Summary of all Milking Periods completed during 1926 received from the Eight Cow-testing Associations in this Province.

The average production is given of cows representing the various dairy breeds and the percentage of the total number of milking periods that belong to each breed.

It should be remembered that the maximum length of a milking period during 1926 was 305 days, except those of 2-year-old animals, which are allowed 365 days.

Breed.	Lb. Milk.	Per Cent. Fat.	Lb. Fat.	Percentage of all Records.
Ayrshire	8,296	3.84	318.3	6.3
Guernsey	6,822	4.59	312.9	9.4
Holstein	8,763	3.56	311.7	46.9
Jersey	6,768	4.83	327.0	34.9
Shorthorn	7,630	3.84	293.2	2.5

The true average of all milking periods completed during 1926: Milk, 7,826 lb.; fat, 4.05 per cent.; fat, 317.1 lb.

Average Production of all Milking Periods from each of the Associations for the Years 1925 and 1926.

Association.	Year.	Lb. Milk.	Per Cent. Fat.	Lb. Fat.
Chilliwack	1925	6,900	4.30	296.9
	1926	7,202	4.00	287.3
Comox Valley	1925	6,457	5.04	325.9
	1926	6,571	5.00	328.3
Langley	1925	7,675	3.80	295.1
	1926	7,788	3.77	295.0
Okanagan	1925	8,469	4.20	353.2
	1926	8,244	4.24	349.5
Pitt Meadows and Maple Ridge	1926	6,662	4.23	279.9
Richmond-Ladner	1925	8,596	3.70	318.6
	1926	9,175	3.75	344.3
Sumas-Matsqui	1925	8,241	3.80	312.8
	1926	8,366	3.83	320.8
Surrey	1926	8,365	4.25	355.5

APPENDIX No. 30.

Field Crop Branch—Soil Analyses.

Locality.	Nature of Soil.	Nitrogen.	Potash.	Phosphoric Acid.	Lime.	Iron and Alumina.	Insoluble in Acids.
Victoria greenhouse soil..	Neutral	0.15	0.30	0.14	1.10	9.90	76.5
	Acid	0.15	0.21	0.68	0.70	10.10	76.4
	Alkali	0.12	0.21	0.18	1.20	9.20	77.1
	Neutral	0.10	0.26	0.25	1.00	8.60	78.6
	S. alkali	0.36	0.48	1.04	2.50	9.60	69.3
	S. acid	0.25	0.18	0.32	0.90	9.50	76.3
	S. alkali	0.16	0.09	0.30	0.70	5.00	78.7
	Acid	0.09	0.13	0.12	0.50	4.50	81.7
	S. acid	0.25	0.47	0.88	1.00	10.90	65.1
	S. acid	0.15	0.20	0.38	0.80	12.80	68.6
	S. acid	0.15	0.16	0.25	0.60	12.50	74.1
	S. acid	0.25	0.06	0.30	0.90	10.00	74.6
	Acid	0.16	0.16	0.32	0.60	14.10	69.4
Saanich	Acid	0.30	0.05	Trace	0.60	9.50	75.0
	Acid	0.10	0.13	0.25	0.80	10.50	81.5
	Acid	0.30	Trace	Trace	0.60	8.00	79.3
	Acid	0.18	0.07	0.20	0.40	8.80	75.3
	Acid	0.10	Trace	0.01	0.50	11.90	77.7
	Neutral	0.04	Trace	Trace	0.80	9.20	84.2
	Acid	0.56	Trace	0.32	1.20	8.80	73.0
Sooke	S. acid	0.27	0.10	0.07	2.60	15.70	67.4
	S. acid	0.15	0.04	0.06	0.40	10.1	78.6
Bamfield	S. acid	0.70	Trace	0.05	1.40	8.30	41.1
Shawnigan	Acid	0.72	*Nil*	0.26	0.10	5.60	45.2
	Acid	0.21	Trace	0.64	0.80	14.00	71.0
	Acid	0.10	Trace	0.10	0.50	10.10	80.4
	Acid	0.12	Trace	0.10	0.50	10.30	76.4
	Acid	0.28	0.14	0.90	1.00	10.30	72.3
	Acid	0.47	0.12	0.90	1.30	12.10	64.5
Cowichan Lake	Sl. acid	0.20	0.15	0.36	1.70	14.00	74.5
	Acid	0.35	0.20	0.15	1.00	15.00	67.6
	Neutral	0.18	0.15	0.16	1.70	15.80	72.0
	Neutral	0.12	0.11	0.18	1.20	15.70	71.4
	Neutral	0.17	0.12	0.90	1.30	15.90	71.0
	Neutral	0.19	Trace	0.10	1.00	12.50	72.6
	Sl. acid	0.16	0.05	Trace	1.20	13.60	76.0
	Sl. acid	0.36	0.32	0.22	2.10	15.10	68.1
	Neutral	0.39	0.32	0.25	2.10	15.00	65.7
Parksville	Neutral	0.01	Trace	Trace	1.40	10.30	80.7
	S. acid	0.05	Trace	Trace	1.00	10.90	84.0
	S. acid	0.04	Trace	Trace	1.50	10.20	83.0
	S. acid	0.03	Trace	0.15	1.80	13.80	79.0
	Neutral	0.08	Trace	0.14	1.60	10.70	79.6
Comox	Acid	0.94	Trace	0.02	Trace	Trace	11.5
	Acid	2.65	*Nil*	0.01	Trace	Trace	6.6
	Acid	2.50	*Nil*	Trace	1.00	2.00	18.1
	Acid	0.75	Trace	*Nil*	0.30	1.60	34.0
	Acid	0.25	0.12	0.09	0.88	17.50	62.3
	Acid	0.53	0.03	0.12	0.60	17.00	60.5
	Acid	0.70	0.09	0.22	0.70	14.30	62.0
	Sl. acid	0.38	0.01	0.13	0.70	11.50	64.5
	Sl. acid	0.62	0.05	0.13	1.10	5.50	62.7
Vananda	Sl. acid	0.86	Trace	0.10	4.50	1.80	15.5
Saltspring	Neutral	1.66	0.02	0.06	2.90	5.90	16.5
Ahousat	Acid	1.13	0.01	0.04	0.80	2.00	52.0
	Acid	0.56	0.01	Trace	1.10	3.60	68.3
Mission	Neutral	0.08	0.08	0.50	1.10	11.80	71.2
	Neutral	0.12	0.15	0.25	1.30	12.30	74.3
	Neutral	0.14	0.15	0.32	1.20	12.60	73.2
Clayburn	Neutral	0.13	0.13	0.54	0.60	14.50	71.4
Langley	Acid	0.08	Trace	0.06	0.30	11.80	73.1
Chilliwack	Acid	0.21	Trace	0.10	0.50	12.50	71.3

APPENDIX No. 30—*Continued.*

FIELD CROP BRANCH—SOIL ANALYSES—*Continued.*

Locality.	Nature of Soil.	Nitrogen.	Potash.	Phosphoric Acid.	Lime.	Iron and Alumina.	Insoluble in Acids.
Pitt Meadows	Sl. acid	0.14	0.02	0.09	0.40	9.20	78.2
Eburne	Acid	0.62	0.40	0.04	0.30	8.10	62.0
Aldergrove	Acid	0.11	0.06	0.08	0.50	11.80	74.0
Sumas	Neutral	0.04	0.19	0.25	0.90	11.70	81.2
	Neutral	0.06	0.15	0.25	1.30	11.60	82.4
	Neutral	0.04	0.15	0.24	1.00	10.30	85.0
	Neutral	0.07	0.12	0.23	1.10	10.50	83.3
	Neutral	0.04	0.15	0.24	1.00	10.20	85.3
	S. alkali	0.04	1.16	0.25	0.90	13.50	80.3
	S. alkali	0.03	0.15	0.26	1.00	10.50	81.8
	S. alkali	0.03	0.07	0.18	1.10	9.50	86.0
	S. alkali	0.04	0.13	0.19	1.20	11.80	82.6
	S. alkali	0.04	0.06	0.19	1.10	10.70	79.0
	S. alkali	0.03	0.11	0.15	1.20	7.00	79.7
	S. acid	0.32	0.21	0.16	0.30	18.75	65.3
	S. acid	0.68	0.15	0.25	0.80	9.80	64.2
Pemberton Meadows	Sl. alkali	0.31	0.28	0.24	3.10	8.00	75.8
Bella Coola	S. acid	0.09	0.05	0.38	1.00	10.40	77.2
Kildalla Valley		0.32	0.28	0.16	1.10	6.60	51.1
		0.26	0.56	Trace	0.90	6.60	79.2
Toba River	Neutral	Trace	0.30	0.37	0.70	8.50	87.5
Powell River	Neutral	Trace	0.06	Trace	0.20	5.30	90.8
	Neutral	0.08	Trace	0.31	0.50	6.50	85.3
	Neutral	Trace	Trace	0.40	0.30	7.50	83.8
	Acid	0.10	0.28	0.25	0.50	10.20	73.9
	Acid	0.07	Trace	0.20	0.10	6.10	89.5
Grand Forks	Neutral	0.07	0.19	0.16	0.80	6.80	85.7
	Neutral	0.08	Trace	0.12	0.60	5.50	89.7
	Acid	0.08	Trace	0.12	0.60	4.50	88.6
	S. alkali	0.05	0.07	0.28	0.90	6.10	84.4
Shuswap Lake	Neutral	0.04	0.30	0.05	0.60	6.50	86.7
	Neutral	0.04	Trace	0.35	0.55	8.40	82.5
	Neutral	0.10	Trace	0.35	0.50	8.80	82.2
	Neutral	0.05	0.20	0.16	0.40	5.20	88.6
	Neutral	0.04	0.10	0.22	0.40	6.20	87.5
	Neutral	0.08	0.28	0.42	0.60	9.00	82.4
	Neutral	0.03	0.30	0.30	0.70	6.80	88.3
	Neutral	0.05	0.38	0.32	0.80	9.40	82.6
	Neutral	0.10	0.28	0.25	1.10	7.30	84.1
	S. alkali	0.10	Trace	0.35	1.30	8.80	78.2
	S. alkali	0.05	0.20	0.21	0.60	7.40	85.7
	S. alkali	0.02	0.26	0.25	1.00	9.00	82.1
	S. acid	0.01	0.20	0.25	0.40	6.50	86.9
	S. acid	0.03	0.38	0.16	0.70	12.2	76.8
Revelstoke	Acid	0.08	0.26	Trace	0.70	12.20	72.7
	Alkali	0.03	0.35	Trace	0.80	8.00	85.8
	Alkali	0.03	0.33	Trace	0.90	8.10	79.8
	Alkali	0.02	0.32	0.12	1.20	11.80	76.4
Nakusp	S. acid	0.06	0.12	0.19	Trace	4.70	80.0
	S. acid	0.05	0.08	0.19	Trace	8.20	83.0
	S. acid	0.08	0.08	0.38	Trace	3.50	89.6
Castlegar	Neutral	0.06	0.18	1.28	0.50	8.30	81.7
Edgewood	Alkali	0.13	0.50	0.16	1.70	18.70	66.5
Kamloops	Alkali	0.04	0.34	0.25	3.00	11.30	65.9
	Alkali	0.16	0.08	0.10	3.80	7.60	54.2
	Alkali	0.04	0.06	0.10	2.90	10.70	78.0
	Alkali	0.15	0.62	0.18	0.80	7.00	78.3
	Alkali	0.10	0.60	0.19	0.90	6.20	78.6
	Alkali	0.08	0.89	0.19	1.20	11.00	72.3
	Alkali	0.15	0.62	0.25	1.10	11.00	76.5
	Alkali	0.11	0.43	0.24	1.10	10.90	78.6
	Alkali	0.12	0.43	0.13	0.70	9.80	82.4

APPENDIX No. 30—*Continued.*

FIELD CROP BRANCH—SOIL ANALYSES—*Continued.*

Locality.	Nature of Soil.	Nitrogen.	Potash.	Phosphoric Acid.	Lime.	Iron and Alumina.	Insoluble in Acids.
Kamloops	Alkali	0.13	0.32	0.15	2.40	11.60	77.7
	Alkali	0.16	0.51	0.16	0.90	13.50	76.1
	Alkali	0.19	0.34	0.12	0.70	9.20	81.4
	Alkali	0.18	0.42	0.18	1.00	9.40	83.0
	Alkali	0.29	0.27	0.03	1.10	8.70	76.0
	Alkali	0.12	0.10	0.25	2.40	10.50	66.7
	Alkali	0.06	0.10	0.19	1.50	9.20	66.0
	Alkali	0.19	0.20	0.20	1.70	12.70	68.0
Canim Lake	Neutral	0.24	0.31	0.25	2.00	8.80	77.7
Terrace	Acid	0.01	0.04	0.44	0.20	12.60	80.0
Shames	Neutral	0.06	Trace	0.18	1.00	9.50	82.5
Vanderhoof	Neutral	0.08	0.39	0.52	0.70	13.30	78.0
	Acid	2.76	Trace	0.09	0.50	2.00	2.6
Golden	S. alkali	0.11	0.11	0.18	1.00	9.80	74.0
New Denver	Neutral	0.20	0.23	0.15	0.90	9.80	32.5
Princeton	Neutral	0.10	0.17	0.25	1.20	9.80	83.4
	Alkali	0.11	0.39	0.16	2.00	12.20	77.1
	Sl. acid	0.09	0.17	0.09	0.09	7.30	81.4
Keremeos	Alkali	0.04	0.32	0.19	1.20	9.00	82.8
Armstrong	Neutral	0.08	0.11	0.09	0.60	6.00	85.1
Glenemma	Alkali	0.45	0.25	0.25	12.20	10.00	56.2
	Alkali	0.05	0.40	0.25	2.00	14.00	75.0
Deep Creek	S. alkali	0.07	0.30	0.16	1.30	12.00	84.6
Vernon	Alkali	0.03	0.65	0.19	1.50	12.50	76.6
Oliver	Neutral	0.05	0.26	0.19	0.80	6.00	89.1

It will be noted from the foregoing tables that the greenhouse soils in the vicinity of Victoria are uniformly high in all the essential elements of fertility, while the ordinary soils taken from fields under general crops show a marked deficiency of phosphoric acid and potash. In the Shawnigan District the soils are mainly deficient in potash and in Parksville both mineral elements are lacking. In the Cowichan District all soil samples analysed were fairly uniform and practically normal in their fertility contents.

The first four samples from the Comox District are of a peaty nature, while the rest are representative of average clay loam.

All the samples from the Sumas area, with the exception of the last two, were taken from the recently reclaimed lake-bottom and show a marked uniformity throughout. They are rather high in insolubles on account of a fairly large proportion of sand. They are normal in the mineral elements and lime, but are deficient in nitrogen, which is a usual condition in newly drained lake areas.

The Kamloops area, represented by numerous samples, is high in potash, phosphoric acid, and lime, is neutral, and contains a fair amount of nitrogen where the humus-supply is adequate.

In the Shuswap Lake area the chemical content of the soil is good, with the exception of an area south of the Canadian Pacific Railway at Notch Hill. On this area there was a smaller percentage of potash than in the soils to the north of the railway and adjoining Shuswap Lake.

The soils from Powell River District vary considerably, but with the exception of one sample they were all deficient in one or more of the essential elements.

The other districts of the Province from which samples were taken for analysis are represented by so few samples that no conclusions can be reached as to the general chemical composition in those areas.

APPENDIX No. 31.

SYNOPSIS OF CERTIFIED SEED-POTATO WORK IN BRITISH COLUMBIA, 1926.

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 No. of Sacks of Certified Seed.
Alberni	5	6	7.00	6	7.00	3	3.25	3	3.25	75
Birch Island	7	7	3.50	7	3.50	7	3.50	7	3.50	10
Bulkley Valley	19	24	18.50	19	12.75	19	12.75	19	12.75	510
Burton	15	21	14.00	19	12.75	16	10.50	16	10.50	215
Comox	23	36	40.75	31	37.00	25	32.50	23	31.50	1,879
Cowichan	6	10	10.00	6	8.00	6	8.00	5	5.00	405
Delta	3	6	16.00	1	1.50	....	.....	....	.....	.....
Fairfield Island	8	19	20.50	12	14.50	12	14.50	12	14.50	665
Grand Forks	6	9	19.50	8	17.25	6	14.00	6	14.00	.....
Kamloops	13	15	27.75	13	26.75	11	25.25	10	20.25	475
Keremeos	7	12	3.75	11	3.50	4	1.25	4	1.25	20
Kersley	18	30	23.25	26	22.00	23	20.00	20	18.75	318
Malakwa	4	5	10.50	5	10.50	5	10.50	5	10.50	124
McBride	6	6	2.75	4	2.25	3	2.00	3	2.00	.....
Mount Lehman-Bradner	14	24	16.00	23	15.75	23	15.75	23	15.75	508
Nanoose	2	2	0.50	2	0.50	2	0.50	2	0.50	28
Notch Hill	3	4	4.50	3	4.00	3	4.00	3	4.00	130
Okanagan	9	12	27.75	8	19.75	6	17.25	6	17.25	575
Pemberton Meadows	1	1	1.50	1	1.50	1	1.50	1	1.50	.....
Pitt Meadows	2	11	7.42	9	6.92	9	6.92	9	6.92	930
Princeton	3	3	2.00	3	2.00	3	2.00	3	2.00	.....
Salmon Arm	5	6	11.00	4	7.00	2	3.00	2	3.00	50
Saltspring Island	6	6	4.00	4	2.50	2	1.50	2	1.50	70
Sayward	7	14	5.75	14	5.75	13	4.75	13	4.75	99
Shawnigan	8	14	7.50	10	6.00	10	6.00	9	5.50	295
Surrey	7	12	13.00	9	11.50	9	11.50	9	11.50	710
Terrace	4	6	5.00	5	4.00	5	4.00	3	1.50	10
Victoria	8	17	19.00	16	18.00	16	18.00	16	18.00	790
Windermere	20	36	37.75	31	36.00	31	36.00	30	35.75	502
Woodpecker	9	12	7.00	12	7.00	7	4.00	6	3.75	87
(Individual growers)	18	44	124.33	38	117.58	36	113.58	33	111.08	8,610
Totals	266	430	511.75	360	445.50	318	408.25	303	392.00	18,080

APPENDIX No. 32.

SUMMARY OF BRITISH COLUMBIA CERTIFIED SEED-POTATO INSPECTION-WORK, 1926.

No. of fields inspected	430
No. of acres inspected	511.75
No. of fields passed	318
No. of acres passed	408.25
Per cent. fields passed	74.00
Per cent. acres passed	79.77
Average per cent. disease in total fields inspected—	
Blackleg	0.28
Leaf-roll	0.26
Mosaic	1.35
Wilts	0.08
Impurities	0.11
Average per cent. disease in total fields passed—	
Blackleg	0.05
Leaf-roll	0.26
Mosaic	0.61
Wilts	0.08
Impurities	0.08

APPENDIX No. 32—*Continued.*

SUMMARY OF BRITISH COLUMBIA CERTIFIED SEED-POTATO INSPECTION-WORK, 1926—*Continued.*

Average per cent. disease in total fields rejected—

Blackleg	0.92
Leaf-roll	0.26
Mosaic	3.40
Wilts	0.08
Impurities	0.21

Of the 430 fields inspected—

46 fields containing 40.75 acres were rejected owing to mosaic.
8 fields containing 11.25 acres were rejected owing to blackleg.
2 fields containing 1.50 acres were rejected owing to leaf-roll.
1 field containing 2.75 acres was rejected owing to wilt.
5 fields containing 2.75 acres were rejected owing to impurities.
39 fields containing 36.00 acres were rejected owing to lack of vigour and other causes.
11 fields containing 8.50 acres were rejected owing to non-isolation.

APPENDIX No. 33.

REPORT ON FIELD INSPECTIONS MADE IN CERTIFIED SEED-POTATO DISTRICTS, 1926.

District.	Leaf-roll.	Mosaic.	Blackleg.	Wilt.	Impurities.
Alberni	.....	1.12	.....	1.08	.....
Birch Island	0.80	0.25	.....	0.14	0.65
Bulkley Valley	2.19	0.15	3.52	.....	0.07
Burton	.....	1.32	0.14	0.05	0.18
Comox	.....	1.20	0.01	0.01	Trace
Cowichan	0.02	0.60	.....	0.07	0.02
Delta	.....	13.29	.....	.....	0.12
Fairfield Island	0.10	3.15	.....	0.16	0.10
Grand Forks	0.55	1.22	0.28	.....	.....
Individual	0.10	1.93	0.03	.....	0.36
Kamloops	0.41	0.85	0.22	0.55	0.28
Keremeos	.....	3.66	0.06	.....	.....
Kersley	0.26	1.33	.....	.....	Trace
Malakwa	0.50	0.30	0.20	.....	.....
McBride	0.08	1.04	0.50	.....	0.04
Mount Lehman-Bradner	0.11	1.17	.....	0.22	0.07
Nanoose	.....	0.37	.....	0.37	.....
Notch Hill	0.12	2.50	.....	.....	.....
Okanagan	0.25	2.52	.....	.....	.....
Pemberton Meadows	0.50	.....	.....	.....	.....
Pitt Meadows	0.02	0.43	.....	.....	0.02
Princeton	0.50	2.00	.....	.....	.....
Salmon Arm	0.55	1.75	1.54	.....	0.04
Sayward	0.07	0.40	0.05	0.14	0.23
Saltspring Island	.....	3.80	.....	0.04	.....
Shawnigan Lake	0.12	0.53	.....	0.03	.....
Surrey	0.33	0.90	0.10	0.14	0.04
Terrace	0.24	0.38	0.04	.....	0.08
Victoria	0.05	0.34	0.05	0.13	0.09
Windermere	0.01	0.16	.....	.....	0.08
Woodpecker	0.33	0.12	0.77	.....	0.35

N.B.—This table refers only to fields entered for certification, 1926.

APPENDIX No. 34.

Synopsis of Diseases in all Varieties of Potatoes inspected for Certification in British Columbia, 1926.

Variety.	No. of Districts.	Total Fields.	Total Acres.	Blackleg.	Leaf-roll.	Mosaic.	Wilt.	Impurities.	Acres passed.	Rejected Acres.							
										Rejected Fields.	Blackleg.	Leaf-roll.	Mosaic.	Wilt.	Impurities.	Lack of Vigour.	Non-isolation.
				%	%	%	%	%			Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Early Ohio	9	14	8.00	0.11	0.50	0.77	.....	0.02	6.00	5	.....	1.00	0.25	.....	.....	0.25	0.50
Bliss Triumph	5	6	3.50	.....	0.04	2.16	.....	0.04	2.50	3	.....	.....	0.75	.....	.....	0.25	.....
Early Rose	9	18	13.00	.....	0.01	5.16	.....	0.65	5.25	9	.....	.....	2.75	.....	0.50	4.25	0.25
Early St. George	6	18	17.50	2.70	0.77	0.79	0.16	0.12	14.00	6	2.50	.....	0.25	.....	.....	0.50	0.25
Epicure	1	2	1.25	.....	.....	1.37	.....	.....	1.25	....	.....	.....	.....	.....	.....	.....	.....
Irish Cobbler	5	5	3.25	.....	.....	0.60	.....	0.05	1.50	2	.....	.....	1.50	.....	.....	0.25	.....
B. of Hebron	1	2	1.87	.....	.....	0.12	.....	.....	1.87	....	.....	.....	.....	.....	.....	.....	.....
May Queen	3	7	8.25	.....	.....	0.68	.....	.....	7.25	2	.....	.....	.....	.....	.....	0.75	0.25
Early Surprise	6	7	4.75	.....	0.11	0.36	0.03	0.03	4.75	....	.....	.....	.....	.....	.....	.....	.....
Burbank	15	62	114.05	0.06	0.06	1.56	0.09	0.02	99.80	12	.....	.....	8.75	.....	.....	2.25	3.25
Netted Gem	24	146	226.75	0.10	0.20	0.84	0.10	0.10	182.75	28	5.00	.....	15.75	.....	0.50	18.75	4.00
Green Mountain	10	47	27.33	0.07	0.10	3.66	0.02	0.04	14.33	24	.....	0.50	9.00	.....	.....	3.50	.....
Gold Coin	7	31	24.00	1.31	1.46	0.52	.....	0.04	20.00	5	3.25	.....	0.75	.....	.....	.....	.....
Wee McGregor	7	32	18.50	0.30	0.15	0.31	0.03	0.35	13.00	10	0.50	.....	0.75	.....	1.75	2.50	.....
Up-to-date	5	9	12.00	.....	0.03	0.36	0.86	0.05	9.25	1	.....	.....	.....	2.75	.....	.....	.....
Sir W. Raleigh	10	19	24.50	0.03	0.10	0.54	0.04	0.09	21.75	4	.....	.....	0.25	.....	.....	2.50	.....
Rural Russet	2	4	1.75	.....	.....	0.19	.....	.....	1.50	1	.....	.....	.....	.....	.....	0.25	.....
Eureka	1	1	1.50	.....	.....	0.25	.....	0.25	1.50	....	.....	.....	.....	.....	.....	.....	.....
Totals and averages	....	430	511.75	0.28	0.26	1.35	0.08	0.11	408.25	112	11.25	1.50	40.75	2.75	2.75	36.00	8.50

APPENDIX No. 35.

REPORT ON INSPECTION OF TUBERS MADE BEFORE GRADING CERTIFIED SEED-POTATOES, 1926.

District.	Fields inspected.	Acres.	Wet-rot.	Late Blight and Dry-rot.	Rhizoctonia.	Scab.	Necrosis, Wilt, Internal Discol.
Alberni	3	3.25	.....	.....	1.66	.....	66.66
Birch Island	7	3.50	.....	.....	.....	0.57	.....
Bulkley Valley	19	12.75	.....	.....	0.43	0.42	84.00
Burton	16	10.50	.....	.....	7.81	1.70	0.44
Comox	25	32.50	.....	.....	0.20	.....	40.40
Cowichan	6	8.00	.....	.....	2.50	14.16	55.83
Fairfield Island	12	14.50	0.04	.....	.....	0.12	0.12
Grand Forks	6	14.00	.....	.....	35.00	.....	2.50
Individuals	36	113.58	0.01	0.25	0.59	0.06	9.76
Kamloops	11	25.25	.....	.....	3.27	0.46	4.08
Keremeos	4	1.25	.....	.....	.....	0.38	26.25
Kersley	23	20.00	.....	.....	0.82	2.00	20.48
Malakwa	5	10.50	.....	.....	.....	0.90	0.14
McBride	3	2.00	.....	.....	2.16	0.42	11.66
Mount Lehman-Bradner	23	15.75	0.04	.....	0.91	.....	0.01
Nanoose	2	0.50	.....	.....	2.50	.....	.....
Notch Hill	3	4.00	.....	.....	2.16	.....	1.50
Okanagan	6	17.25	.....	.....	27.00	.....	39.33
Pemberton Meadows	1	1.50	.....	.....	0.50	.....	3.00
Pitt Meadows	9	6.92	.....	.....	.....	.....	.....
Princeton	3	2.00	.....	.....	73.33	.....	1.33
Salmon Arm	2	3.00	.....	.....	40.00	1.00	1.50
Sayward	13	4.75	.....	.....	3.31	1.54	9.70
Saltspring Island	2	1.50	.....	.....	.....	.....	.....
Shawnigan Lake	10	6.00	.....	.....	6.00	6.00	8.00
Surrey	9	11.50	0.11	.....	1.00	0.16	1.22
Terrace	5	4.00	.....	.....	0.90	0.25	32.60
Victoria	16	18.00	.....	.....	0.87	1.56	45.00
Windermere	31	36.00	.....	.....	16.10	3.16	1.20
Woodpecker	7	4.00	.....	.....	0.71	11.57	4.29
Totals	318	408.25	.....	.....	.....	.....	.....
Average per cent. disease	.....	.....	Trace	Trace	4.97	1.49	17.58

Trace: Below 0.01 per cent.

APPENDIX No. 36.

ESTIMATED HONEY-CROP, 1926.

District.	Apiaries.	Hives.	Crop.	Average per Hive.
Vancouver Island, Gulf Islands, and Howe Sound.			Lb.	Lb.
Comox	61	566	25,470	45
Duncan	87	414	16,560	40
Nanaimo	101	392	13,720	35
Victoria	197	498	12,450	25
Gulf Islands	38	92	4,600	50
Howe Sound	50	250	21,250	85
Totals	534	2,212	94,050	42

APPENDIX No. 36—*Continued.*

ESTIMATED HONEY-CROP, 1926—*Continued.*

District.	Apiaries.	Hives.	Crop.	Average per Hive.
			Lb.	Lb.
Greater Vancouver.				
Burnaby	80	500	20,000	40
Coquitlam	25	120	4,800	40
Kerrisdale	24	110	4,950	45
South Vancouver	46	184	8,832	48
Marpole	22	85	3,400	40
New Westminster	45	200	6,000	30
North Vancouver	42	195	8,775	45
Point Grey	24	80	2,800	35
Vancouver	45	135	4,050	30
Totals	353	1,609	63,607	39
Lower Fraser Valley.				
Delta	90	750	48,750	65
Surrey	138	1,680	84,000	50
Langley	164	1,312	78,720	60
Matsqui	128	1,168	58,400	50
Maple Ridge	75	430	25,800	60
Richmond	60	450	20,250	45
Totals	655	5,790	315,920	54
Upper Fraser Valley and Chilliwack.				
Chilliwack	88	445	35,600	80
Dewdney	28	220	13,200	60
Kent	37	152	11,400	75
Mission	79	510	33,150	65
Sumas	70	550	30,250	55
Totals	302	1,877	123,600	66
Okanagan, Shuswap, and Thompson Valleys.				
Okanagan	300	2,900	174,000	60
Shuswap	62	400	16,000	40
Thompson	61	390	23,400	60
Totals	423	3,690	213,400	58
Kootenays.				
Slocan Valley	38	330	16,500	50
Kootenay Lake and West Arm	29	93	4,650	50
Nelson	30	168	9,240	55
Arrow Lakes	22	258	11,610	45
Castlegar	8	382	17,190	45
East Kootenay	17	242	12,100	50
Boundary	29	104	5,200	50
Creston Valley	30	222	9,990	45
Totals	203	1,799	86,480	48
Central British Columbia.				
McBride	1	11	1,200	109
Summary.				
Vancouver Island, Gulf Islands, and Howe Sound	534	2,212	94,050	42
Greater Vancouver	353	1,609	63,607	39
Lower Fraser Valley	655	5,790	315,920	54
Upper Fraser Valley and Chilliwack	302	1,877	123,600	66
Okanagan, Shuswap, and Thompson Valleys	423	3,690	213,400	58
Kootenays	203	1,799	86,480	48
Central British Columbia	1	11	1,200	109
Totals	2,471	16,988	898,257	52

Estimated value of honey-crop produced in 1926, $197,616; estimated value of beeswax produced in 1926, $5,000; capital value of bees, hives, supers, and other apiary equipment, reckoning 16,988 hives at, say, $25 each, $424,700.

APPENDIX No. 37.

Provincial Demonstration Apiaries—Reports for Season of 1926.

(*a.*) *Fraser Valley.*

Situation of Apiary.	Name of Owner.	Hives under Supervision.	Date Queen introduced.	Surplus Honey taken during Season.		Average per Hive.	Increase made.
				Lb.	Lb.	Lb.	
Sullivan	W. H. Turnbull	4	(1) May, 1926	125		.....	....
			(2) May, 1926	150		.....	1
			(3) May, 1926	120		.....	1
			(4) May, 1926	135		.....	....
				—	530	132	
Port Kells	C. J. P. Phibbs	3	(1)	100		.....	....
			(2)	120		.....	....
			(3)	60		.....	....
				—	280	93	
Langley Prairie	Mrs. J. W. Berry	3	(1) May, 1926	161		.....	1
			(2) May, 1926	25*		.....	....
			(3) May, 1926	12*		.....	....
				—	198	66	
Bradner	T. L. Baker	3	(1) 1925	110		.....	....
			(2) 1925	60		.....	....
			(3) 1925	75		.....	....
				—	245	82	
Agassiz	Dominion Exp. Farm	4	(1) Aug., 1926	149		.....	....
			(2) Aug., 1926	93		.....	....
			(3) Aug., 1926	200		.....	....
			(4) Aug., 1926	163		.....	....
				—	605	151	
Mission	Charles Moore	3	(1) April, 1926	60		.....	....
			(2) April, 1926	55		.....	....
			(3) April, 1926	30		.....	....
				—	145	48	
Ladner	Mrs. M. B. McCallan	3	(1) April, 1926	100		.....	....
			(2) April, 1926	200		.....	....
			(3) April, 1926	100		.....	....
				—	400	133	
Matsqui	A. W. Finlay	4	(1) May, 1926	140		.....	1
			(2) May, 1926	90		.....	1
			(3) June, 1926	160		.....	....
			(4) May, 1925	180		.....	1
				—	570	142	
Murrayville	E. Chipperfield	3	(1) May, 1926	98		.....	....
			(2) May, 1926	105		.....	....
			(3) May, 1926	110		.....	....
				—	313	104	
Chilliwack	H. Langton Johnson	4	(1) April, 1926	193		.....	....
			(2) Aug., 1925	206		.....	....
			(3) Aug., 1925	196		.....	....
			(4) Aug., 1925	178		.....	....
				—	773	193	
Lulu Island	Mrs. E. Hall	2	(1) May, 1926	134		.....	2
			(2) April, 1926	155		.....	....
				—	289	144	
Harmsworth	D. W. Welsh	2	(1)	125		.....	....
			(2)	105		.....	2
				—	230	115	
Totals	.....	38	.....		4,578	120	10

(*b.*) *Kootenays.*

Castlegar	A. E. Pittaway	4	(1) Aug., 1925	64		.....	1
			(2) Aug., 1925	36		.....	1
			(3) Aug., 1925	48		.....	1
			(4) Aug., 1925	34		.....	....
	Carried forward	4	.....	—	182	45	3

* Superseded queen.

APPENDIX No. 37—*Continued.*

PROVINCIAL DEMONSTRATION APIARIES—REPORTS FOR SEASON OF 1926—*Continued.*

(*b.*) *Kootenays*—Continued.

Situation of Apiary.	Name of Owner.	Hives under Supervision.	Date Queen introduced.	Surplus Honey taken during Season.		Average per Hive.	Increase made.
				Lb.	Lb.	Lb.	
	Brought forward....	4			182	.....	3
Vallican	B. Munch	2	(1) May, 1926	34		.....	2
			(2) May, 1926	36		.....	1
				—	70	35	
Grand Forks	John A. Hutton	3	(1) June, 1926	55		.....	1
			(2) June, 1926	48		.....	....
			(3) June, 1926	41		.....	1
				—	144	48	
Balfour	Charles Holt	3	(1) May, 1926	49		.....	....
			(2) May, 1926	47		.....	....
			(3) May, 1926	43		.....	....
				—	139	46	
Slocan City	V. K. Soharev	1	May, 1926	70		.....	....
				—	70	70	
Creston	John Blinco	2	(1) May, 1925	47		.....	....
			(2) May, 1925	52		.....	....
				—	99	49	
Boswell	James Coupland	2	(1) June, 1926	79		.....	....
			(2) June, 1926	62		.....	....
				—	141	70	
Crawford Bay	W. J. Kidman	2	(1) 1925	56		.....	....
			(2) 1925	43		.....	1
				—	99	49	
Totals		19			944	49	9

(*c.*) *Okanagan, Shuswap, and Thompson Valleys.*

Kelowna	R. H. Brown	4	(1) May, 1925	115		.....	....
			(2) May, 1925	85		.....	....
			(3) May, 1925	75		.....	....
			(4) May, 1925	80		.....	....
				—	355	89	
Penticton	John Price	4	(1) 1925	102		.....	....
			(2) 1925	83		.....	1
			(3) 1925	81		.....	1
			(4) 1925	72		.....	1
				—	338	84	
Rutland	J. F. Roberts	2	(1) 1925	100		.....	1
			(2) 1925	110		.....	....
				—	210	105	
Summerland	Dominion Exp. Station	4	(1) June, 1924	173		.....	....
			(2) July, 1925	189		.....	....
			(3) July, 1924	268		.....	....
			(4) June, 1924	229		.....	....
				—	859	214	
Totals		14			1,762	125	4

(*d.*) *Vancouver Island.*

Comox	Fred Swan	2	(1) May, 1926	85		.....	....
			(2) May, 1926	75		.....	....
				—	160	80	
Keating	M. Dean	4	(1)	70		.....	....
			(2)	63		.....	....
			(3)	84		.....	....
			(4)	87		.....	....
				—	304	76	
Totals		6			464	77	....

APPENDIX No. 37—*Continued.*

PROVINCIAL DEMONSTRATION APIARIES—REPORTS FOR SEASON OF 1926—*Continued.*

(*e.*) *Summary.*

Territory.	Hives under Supervision.	Surplus Honey taken during Season.	Average per Hive.	Increase made.
		Lb.	Lb.	
Fraser Valley	38	4,578	120	10
Kootenays	19	944	49	9
Okanagan, Shuswap, and Thompson Valleys	14	1,762	125	4
Vancouver Island	6	464	77	....
Totals	77	7,748	100	23

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