EXHIBITS - GENERAL EVIDENCE.

1. Instructions for agents' reports.
2. Further general in structions to agents.
3. Ltr.May 4/42, C.C.M.T.A. to Custodian, re Tanaka, 5 pages.
4. Ltr.Apr.22/42, H.D.Campbell to Custodian, re Yanagawa, and 4 page report.
5. Report of H.D.Campbell re Nakatani, 2 pages.
6. Report of H.G. Hinton on Tokumatsu Tamai.
7. Advertisement, sale by tender. June 19/43.
8. Catalogue of real ppty.for sale by public tender.
9. Advertisement " " " " tender. Nov.20/43.
10. Copy ltr.Mch.31/44, F.G.Shears to Coulthard Sutherland & Co.
11. " " Apr.11/44, " " " Judge David Whiteside.
" " Apr.13/44, " " " " " "
Ltr.Mch.17/44, Hal Menzies to F.G.Shears.
Copy ltr.Apr.15/44, F.G.Shears to Alex.Gillespie.
" " " " " E.F.Burton.
" " " " " W.H.Shortridge.
11. Copy ltr.July 27/43, F.G.Shears to Hugh M.Fraser & Co.Ltd.
" " " " " H.A.Roberts Ltd.
" " " " " Moore & Moore.
" " Aug. 12/43, " " The Western City Co.Ltd.
12. " " July 31/43, " " Horne Taylor & Co.Ltd.
" " July 31/43, " " Geo.E.Davidson
" " " " " The Home Investments.
" " Aug. 14/43 " " Horne Taylor & Co.Ltd.
13. Copy ltr.Sep. 10/43 " " The Pemberton Realty Corpn.
" " Sep. 17/43 " " " " " "
14. Copy ltr.Nov. 10/43 " " Lakha Singh
" " " " " " James Wright.
" " " 30/43 " " Lakha Singh
" " " 26/43 " " James Wright.
" " Dec. 30/43 " " Joseph Wright.
15. Copy ltr.Jan. 26/44 " " Ker & Ker Ltd.
" " Feb. 4/44 " " " " "
16. Minutes meeting May 29/44, with real estate agents.
17. "For Sale" sign.
18. Copy ltr. July 28/42, J.Shirras, B.C. Police, to Custodian.
" " July 31/42, H.F.Green to J.Shirras.
" " Aug. 12/42, J.Shirras to Custodian.
" " Nov. 25/42, Edgar T.Read to Chief Constable, City Police.
Extract from "Marpole Richmond Review" Mch.17/43.
Memorandum June 28/43, Wm.Wills to Mr.Spain.
Excerpt from memorandum July 23/43, Spain to Green.
Memorandum July 24/43, Spain to Green.
Copy ltr. Dec.14/43, F.G.Shears to Chief Constable McKay.
Copy memorandum Jan.22/44, Green to Shears.
Copy ltr. Jan.27/44, Green to Wilson's Night Patrol.
Memorandum Sept.5/44, Green to Shears.
Copy ltr. June 10/42, Westminster Trust Co. to Custodian.
Copy ltr. July 3/42, E.W.Forward to Custodian.
Ltr. Oct.8/43, F.J.Clunk, B.C.Police Chemainus to Custodian.
Copy of report by R.C.M.P. re damage at Steveston.
Report Nov.19/42 by J.Moryson re ppty.& chattels Maple Ridge & Pitt Meadows.
19. Ltr. Nov.1/45, Thompson & Co. to Custodian.
Memorandum (copy) June 10/47 F.G.Shears to P.S.Ross & Sons.
Ltr. Nov.2/45, R.M.Gill, Can.United Allied Relief Fund to Custodian.
Ltr. Jan.4/47, The Welfare Industries to Custodian.
Copy ltr. Oct.1/46, Esther L.Ryan to Custodian. and original.
20. "New Canadian" July 31/43. and June 19/43.
21. Notice of auction sale Aug.9/44, by W.G.Willard.
" " " " Aug.10/43, by Thompson & Binnington Ltd.
" " " " by C.Spencer Pallot.
" " " " by J.W.James, Gowing Frost & Joseph Gibson.
" " " " by Thwaites & Bazett.
" " " " by Thompson & Binnington and W.G.Willard.

EXHIBITS - GENERAL EVIDENCE.

22. Copy ltr. May 1/42, C.L.Drewry to E.S.Woodward, Fishermen's Institute
Ltr. May 4/42, Fisheries Institute to C.L.Drewry.
Ltr. May 7/42, " " " "
23. Copy ltr. May 19/42, R.P.Alexander to A.B.C.Packing Co.Ltd.
" " July 2/42, " " " The Phoenix Cannery.
24. Ltr. July 14/42, Gulf of Georgia Cannery, Can.Fishing Co.to Custodian
" July 16/42, " " to ustodian.
" Aug.28/42, " " " " "
" Mch. 8/46, Great West Packing Co. Ltd. to Custodian.
" June 10/46, Phoenix Cannery, A.B.C.Packing Co. to Custodian.
25. Advertisement, Motor Vehicles for sale. (2)
26. Ltr. Mch.7/42, Pacific Co-Op.Union to C.H.Hill, R.C.M.P.
with form acknowledgment.
Copy ltr. Apr.25/42, G.W.McPherson to C.H.Hill, R.C.M.P.
27. Release of motor vehicles by Custodian, Apr.30/42.
4 page list of trucks transferred to Pac.Co-Op.Union.
28. Extract from ltr. G.W.McPherson to Pac.Co-Op.Union, Sep.10/42.
Excerpt from ltr. F.G.Shears to G.WMcPherson Mch.1/43.
29. Ltr. May 17/43, I.T.Barnet, Soldier Settlement of Canada to Custodian.
30. Statement of comparative figures, farms.
31. Ltr. May 29/43, G.Murchison, S.S.& V.L.A. to G.W.McPherson.
32. Ltr. June 14/43, D.Whiteside, Advisory Committee on rural ppties. to Secretary of State.
33. Ltr. July 12/43, G.W.McPherson to F.G.Shears.
34. Extract minutes Public Accts.Comm. re sale to Director V.L.A.
35. Extract Vol.6 Minutes of proceedings and evidence,
Standing Committee on Public Accts. House of Commons.
(list propertieswithdrawn from V.L.A.offer.)
36. Extract from table Vol.6 Minutes of proceedings.(1944-45 sales)
37. Analysis of sale of 69 ppties withdrawn from V.L.A.offer.
38. 3 pages, C.P.Leckie's appraisals.
39. B.C.Security Comm. memorandum to all supervisors, May 8/44.
40. Particulars "Time Lag" between evacuee declar'n. and Custodian agents report.Sept.22/48.
Examples of lapse of time from evacuation to time Custodian took possession.
41. Advertisement "News Herald" notice to Japanese. Mch.11/42.
42. Page 34 of report re"Advisory Committees."
43. Authority G.W.McPherson to John Gould, re surveying and repair of vessels, Feb.7/42.
44. Survey Report of John Gould re "SMILER" August 1942.
45. " " " " " re "T.T." " "
46. List of vessels examined for the Custodian by Gould, Aug.3/42.
47. List of Custodian vessels, Dec.7/42, John Gould.
48. Survey report of John Gould re "Camrose 2" Aug.1942 with list attached
49. List of Custodian vessels taken over from Naval Service, 12 pages.
50. Form ltr. J.F.V.D.C. to owners of vessels.
51. List vessels to be taken over by Custodian and examined, but not sold by Custodian, 3 pages.
52. Used Car Appraisal Record, Ford Pick-up/38.
53. Ltr.May 14/42, Custodian to C.P.Leckie & Co. with list of canneries and owners, where nets stored.
54. Method of valuation of Japanese nets with list of C.P.Leckie & Co. showing sizes and weights of nets.

GENERAL EXHIBITS

55. List 10 examples where more than one appraisal.
56. List appraisals by Mr.Reeve - properties sold within 2 mos.
57. List " " " " - properties east of Main St.
58. Notes by D.W.Reeve re diff.between Assessment and market values.
59. Memorandum, Apr.27/42, D.Murchison, Dir'r.S.S. to Mr.Barnet.
60. Cpy.ltr.May 13/42, Dist.Sup. to G.T.McKay.
" " " " " " to R.W.Brown.
" " " " " " to R.L.Ramsay.
" " " " " " to D.Dodding.
" " " " " " to B.C.Wormworth.
" " " " " " to H.L.Sinclair.
" " May 12/42, " " to T.Godfrey.
" " " " " " to J.D.Patterson.
" " " " " " to L.B.Plumbly.
61. List unsold farm pptŧes under Veterans Land Act. 5 pages.
62. Statement Japanese Lands.
63. Form Farm Appraisal Report.
64. 7 S.S.Field Reports.
65. Memoranda(6) I.T.Barnet to Appraisers.
66. Booklet "Some Facts about B.C."
67. 13 pages Extracts from S.S.B.Appraisals.
68. 3 page list sales of Jap.lands to Public Bodies or civilians.
69. Farm Appraisal Report, File No.DL.2503-A.
70. Booklet, Agricultural Statistics Report, 1942.
71. List appraisals made by sundry appraisers.
72. Statement of average price paid to growers for berries 1939-1947.
73. Map of Langley Municipality 1924.
74. Photograph of dwelling house, Masuhara.
75. Extract Farm Appraisal Report Lot #C" Langley, Masuhara.
76. Langley Tax Sale Land Sale By-Law 1943, Bo.540.
77. List of comparable sales.
78. Cert.Copy App'n.to register fee simple, Masuhara.
79. B.C.Horticultural Circular No.58, Strawberry Culture.
80. Thompson & Binnington list auction of radios, 992 Powell St. 4 pgs.
81. 2 photos, residence and barn. J.L.55. Kusano?
82. List compatable sales, Kusano and Ito.
83. Map, Maple Ridge.
84. List comparable sales, S. Tanaka, Rockwell et al.
85. List comparable sales, Nabuto.
86. List comparable sales, Arinobu.
87. Photo of Marr house, J.L.53.
88. List comparable sales, Nagamatsu.
89. Map Pitt Meadows.
90. Photo Carter house, Pitt Meadows, J.L.427.
91. List comparable sales, Takeo FUJISHIGE.
92. General brief for Crown Counsel - details business experience of B.C.Wormworth.
93. Copy ltr. Aug.16/44, Custodian to G.W.McPherson.
94. " " June 3/42, Dist.Sup. S.S. to B.C.Wormworth.
95. Extract appraisals, Appendix #1 Vol.15 Public Accts.Comm.Minutes.
96. Report Jan.7/49 by Clement Consulting Services Ltd.
97. Statement of relationship between 1941 census of farm values and V.L.A. farm appraisals.
98. Map of portion of Municipality of Maple Ridge.
99. Submission to Commission by National Japanese Citizens Association.
100. Ltr. Jan.21/49, Dom.Bureau of Statistics to Clement Consulting Services Ltd. with copy of ltr.O.A.Lemieux to Clement Consulting Services, copy of instructions re farm values and Report of Census of Agriculture by Dominion Bureau of Statistics.
101. Statement of market sales, assessment and D.V.L.A. purchase price.
102. Statistical Analysis of relationship between market prices, D.V.L.A. prices, and assessed values.

EXHIBITS - GENERAL EVIDENCE.

103. Graph Chart showing trend of assessments, building costs etc.
104. Statement by Dominion Construction Co. showing comparative prices lumber, carpenters and labour 1939 to 1945.
105. Map Sec.36, Blk.6 N. R.1 E.
106. List properties sold, Pitt Meadows.
107. List 1943 private sales, Maple Ridge.
108. Analysis of Custodian sales of Japanese owned automobiles.
109. Table indicating amount by which Custodian's sales must be multiplied to achieve calculated market value, autos.
110. Distribution of 132 claims, cars and trucks.
111. Distribution of 173 claims, nets and fishing gear.
112. Distribution of 109 claims, boats and boat gear.
113. Chattels individual claims, and summaries.
114. Analysis of amended claims real property.
115. Charges which have been deducted from proceeds of sale of personal property.
116. Study of sales by Custodian to V.L.A. (6 pages)
117. Market sales & V.L.A. purchase price - with schedules "A" & "B"
118. Particulars Japanese properties bought by D.V.L.A. 1943.
119. Rearrangement by municipalities of material produced by Crown relating to purchase of properties, and Memorandum re comparison D.V.L.A. purchases.
120. Statement of D.V.L.A. sales 1943 (8 pages)
121. Memorandum re D.V.L.A. (2 pages)
122. Memorandum on fishing vessels.
123. Memorandum re boats, submitted by claimants' Counsel.
124. Memorandum of information by Easthope Bros. re boats.
125. Memorandum re nets, by Claimants' Counsel.
126. Order No. M.V.C.18, Motor Vehicle Controller.
Order No.18A (Used passenger motor vehicle prices)
127. Memorandum re Hakoda Bay property.
128. List of unsold properties.
129. Memorandum re special charges for advertising real property other than V.L.A.
130. Copy of ltr. sent to independent Counsel who filed and presented claims, with list attached.
131. Map Mission Municipality.

Some Facts about British Columbia Canada

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EXHIBIT No. Gen 66
DATE 1 Dec 1948
FILED BY R. J. McMaster

AGRICULTURAL DEPARTMENT
CIRCULAR No. 44 (Revised Edition) 1945

PREPARED UNDER THE DIRECTION OF THE
Hon. FRANK PUTNAM, Minister of Agriculture
VICTORIA ✦ ✦ BRITISH COLUMBIA

SOME FACTS ABOUT
BRITISH COLUMBIA
CANADA

AGRICULTURAL DEPARTMENT

CIRCULAR No. 44

(Revised Edition)

1945

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1945.

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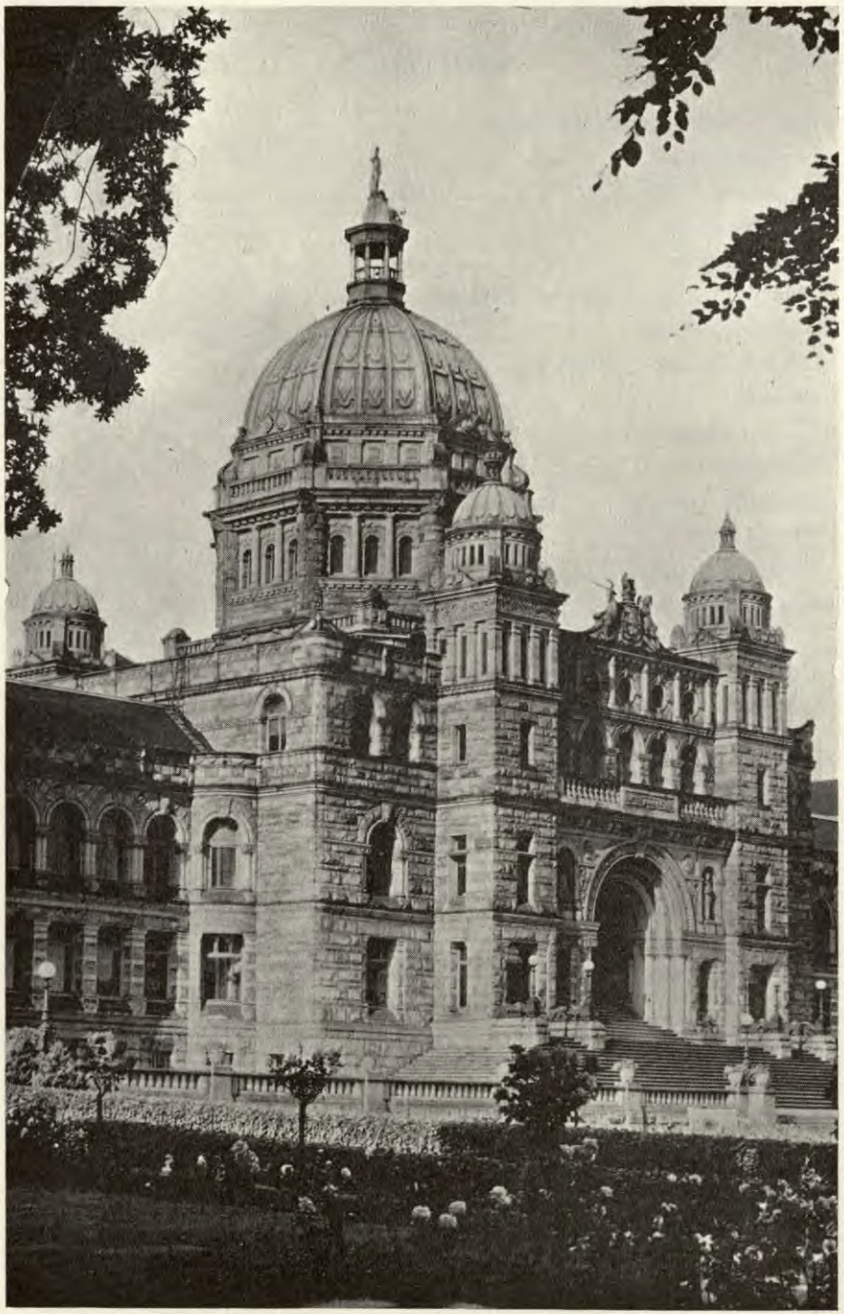


Parliament Buildings, Victoria.

FOREWORD.

CANADA is no land of the midnight sun, half British and half American, populated chiefly by Indians, Eskimos, the Mounted Police, and trappers on snowshoes. It is a land of opportunity for individuals and organizations who have a forward look and are not afraid to work.

RACIAL ORIGINS.

Canadians do not form a compact group like the English or the French, but are a collection of diverse races moulding themselves into a nation that takes its pattern from the land of their adoption. They are held together by love of country, common interests, and loyalty to the Crown.

By the time of the 1941 census, the population of British Columbia was 817,661; the principal racial stocks being from the British Isles, totalling 571,336 or 70 per cent. The next largest racial group was Scandinavian with 5 per cent. The estimated population of the Province in 1944 was 930,000.

CONSTITUTION.

The "British North America Act," passed in 1867, is the basic document of the constitution of Canada, designed to knit together two great races, geographically distant territories with opposing economic interests and many widely divergent view-points. This federal union was a plan whereby, through mutual concession, cultural and local loyalties could be preserved. That union was possible, and that it evolved into what Canada is to-day, illustrate the genius of the British in developing colonies into nations. The whole evolution of the Empire, except in mere fortresses or trading stations, is in the direction of responsible government. Self-government is extended in proportion to the growing capacities of the people, brought to maturity by education and the example of just administration.

PARLIAMENT.

The Canadian Parliament is composed of the King (represented by the Governor-General), the Senate, and the House of Commons. As in Britain, the part played by the King's representative and the upper chamber has been steadily decreasing, with chief responsibilities involved in legislation being assumed by the House of Commons, members of which are elected directly by the people.

The political party in power selects a cabinet, or ministry, which is responsible to parliament and holds office while it enjoys the confidence of the people's representatives; a ministry resigns when it

becomes apparent that it is not supported by a majority in the House of Commons. All British subjects, men and women, who have attained the age of 21 years and have been ordinarily resident in Canada for twelve months, and in the electoral district when the election is called, have the franchise. Each of the nine Provinces has a legislature; each Province has a Lieutenant-Governor.

EDUCATION.

Education is assigned by the constitution to Provincial Governments, and a system of public elementary and secondary education, financed mainly by local school authorities but assisted by Provincial allowances, has developed in every Province. In the realm of higher education, six Provinces, including British Columbia, have each a university receiving Government financial support, and the remaining three Provinces have each one or more colleges helped by Provincial funds. British Columbia is recognized as having the most modern system of education in Canada.

AGRICULTURE.

The average Canadian farmer owns more property, is in better cash position, and owes less in debts than ever before in our history. This is of paramount importance in an industry which is most important in the country. It employs, according to the 1941 census, 30 per cent. of the gainfully occupied males. Agriculture provides raw material for many factories, and its products in raw or manufactured form constitute a large percentage of exports. In British Columbia the total gross value of agricultural production for 1943 was the highest on record, being $86,917,546, or an increase of 17.7 per cent. over the figures for 1942.

Some Facts about British Columbia.

The Province of British Columbia possesses unrivalled resources in Agriculture.

OPPORTUNITIES.

THERE is no country which offers more inducements to men of energy and industry than British Columbia. To the practical farmer, horticulturist, and dairyman it offers a comfortable living and ultimate independence. Dependent upon capital available and experience, there is a choice of the following: (*a*) Poultry-farming and small-fruit growing on limited acreage close to the big Coast Cities of Victoria, Vancouver, and New Westminster; (*b*) dairy and mixed farming in the Duncan and Courtenay Districts of Vancouver Island, in the Lower Fraser Valley or the Shuswap and Northern Okanagan, and in the Creston District of West Kootenay; (*c*) commercial orcharding in the Okanagan Valley and West Kootenay; (*d*) live-stock raising and mixed farming in the Columbia Valley, Nicola, Lillooet, and Cariboo Districts.

In Central British Columbia along the lines of the Canadian National Railway and Pacific Great Eastern Railway there are big areas of excellent land available at low prices in the Bulkley Valley, Francois Lake, Ootsa Lake, Fort Fraser, Nechako, Prince George, and Lillooet Districts, all well adapted for mixed farming and dairying.

AREA.

The land area of the Province of British Columbia is 226,186,370 acres, the numerous lakes accounting for an additional 1,560,830 acres, or a total of 355,855 square miles; that is rather more than the area of the United Kingdom, France, Holland, Belgium, and Denmark combined. The coast-line with its many inlets is 7,000 miles long.

POPULATION.

1931 (census)	694,263
1941 (census)	817,861
1942 (estimated by the Dominion Bureau of Statistics)	870,000
1943 (estimated by the Dominion Bureau of Statistics)	900,000
1944 (estimated by the Dominion Bureau of Statistics)	930,000

Over 52 per cent. of the population is rural. The last census also showed that 70 per cent. of the population in British Columbia is of British origin, as against 55 per cent. for the whole of Canada.

CLIMATE.

Owing to the mountainous character of much of this Province and its great range in latitude, the climate naturally varies greatly according to local conditions.

(*a.*) Along the Pacific seaboard the climate during the winter months is remarkably mild and the rainfall is considerable.

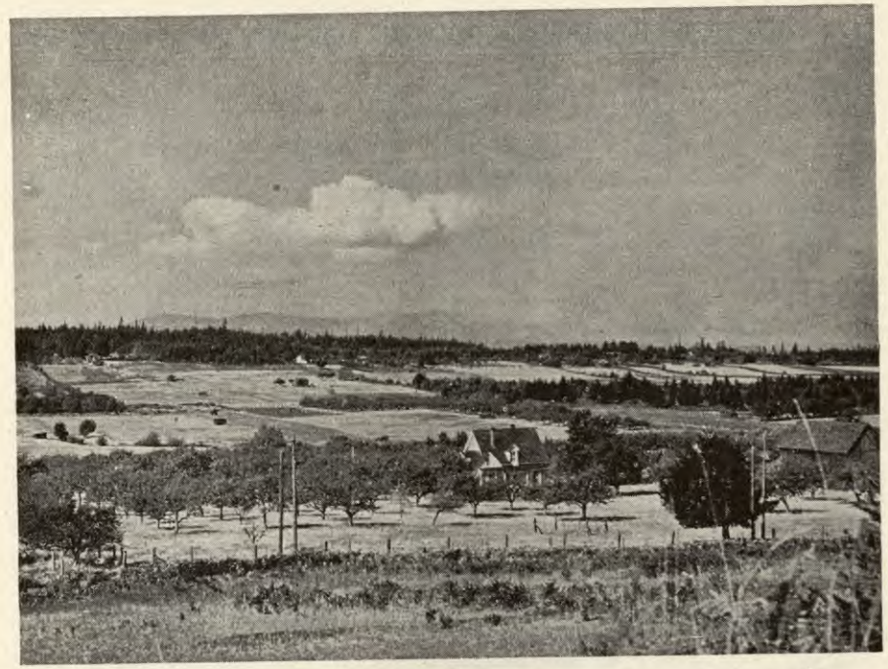
The prevalence of moisture-laden winds from off the Pacific during the winter months cause heavy rains on the western slopes of the Coast Mountains on both Vancouver and other islands and the Coast Mainland.

During the summer months the changing tidal waters tend to keep the day temperature moderate, while the nights are usually cool. The rainfall is moderate, and prolonged fine spells frequently occur, particularly in the Southern Coast District.

(*b.*) Passing inland to the eastern side of the Mainland Coast Mountains, much greater ranges in temperature prevail between summer and winter and considerably less precipitation occurs, while in some districts it is so light that dry belts exist and irrigation is necessary in order to bring the land under productive cultivation, such as in the Okanagan Valley, Kamloops District, Lillooet District, etc.

Owing to the mountainous character of much of the Interior, climatic conditions there are of various types. In the Southern Interior and the Kootenays the summer temperatures are high, while in winter the temperatures do not fall much below zero, and the air is clear and bracing.

(*c.*) In the Central and Northern Interior—i.e., Cariboo, Bulkley Valley, Nechako Valley, and the Peace River—the winters are clear and cold, while in the summer sufficient rain falls to ensure luxuriant vegetation. Summer frosts are also experienced occasionally in various parts of these districts. In the higher altitudes of the mountain valleys, such as the Columbia River Valley, the summers are cool and the snowfall in winter is heavy.



Farm lands in coastal zone.



Farm lands in Central Interior.

Some records illustrative of temperatures and precipitation follow:—

District.	Year.	Temperature.		Total Precipitation (Rain and Snow).	Altitude.
		Highest.	Lowest.		
		Deg. F.	Deg. F.	Inches.	Feet.
Vancouver Island.					
Alberni	1942	100 (July)	9 (Jan.)	50.88	300
	1943	93 (Aug.)	— 3 ,,	51.88	
Nanaimo	1942	92 ,,	13 ,,	32.58	125
	1943	87 (Sept.)	6 ,,	32.97	
Victoria	1942	93 (July)	25 ,,	19.68	210
	1943	83 (Sept.)	7 ,,	18.18	
Lower Fraser Valley.					
Abbotsford	1942	97 (July)	15 ,,	39.23	30
	1943	88 ,,	— 1 ,,	42.11	
Vancouver	1942	90 (Aug.)	17 ,,	47.41	45
	1943	82 ,,	4 ,,	46.17	
South Mainland Coast.					
Powell River	1942	89 (July)	26 ,,	34.16	176
	1943	80 (June)	11 ,,	27.59	
Thompson River.					
Kamloops	1942	104 (July)	0 ,,	10.74	1,133
	1943	97 ,,	—27 ,,	8.61	
Salmon Arm	1942	100 ,,	— 1 ,,	17.09	1,100
	1943	94 ,,	—26 ,,	14.83	
Okanagan Valley.					
Armstrong	1942	102 ,,	— 5 ,,	19.23	1,187
	1943	97 ,,	—39 ,,	12.39	
Penticton	1942	98 ,,	9 ,,	15.76	1,121
	1943	97 ,,	—10 ,,	8.49	
Vernon	1942	99 ,,	2 ,,	19.14	1,383
	1943	95 ,,	—25 ,,	12.49	
Kettle Valley.					
Grand Forks	1942	101 (Aug.)	— 7 ,,	17.90	1,746
	1943	100 (July)	—30 ,,	13.97	
West Kootenay.					
Creston	1942	96 (Aug.)	0 ,,	19.52	2,000
	1943	95 (July)	—18 ,,	16.56	
Kaslo	1942	86 (June)	— 2 ,,	27.16	1,930
	1943	88 (July)	—17 ,,	23.83	
Nelson	1942	95 ,,	1 ,,	27.52	2,235
	1943	97 ,,	—13 ,,	23.56	
East Kootenay.					
Cranbrook	1942	94 (Aug.)	—22 ,,	21.03	3,013
	1943	94 (July)	—41 ,,	14.29	
Invermere	1942	91 (Aug.)	—12 (Feb.)	11.37*	2,840
	1943	91 (July)	—34 (Jan.)	10.69	
Central British Columbia.					
Telkwa	1942	90 (Aug.)	—12 ,,	16.42	2,000
	1943	80 (July)	—31 ,,	15.55	
Terrace	1942	93 (Aug.)	— 3 ,,	47.00	200
	1943	80 (July)	—10 ,,	40.72	
Prince George	1942	94 (Aug.)	—17 ,,	22.74	1,862
	1943	86 (July)	—36 ,,	21.01	

* Average.

CENTRAL BRITISH COLUMBIA.

Whilst similar detailed observations are lacking for some of the mixed-farming areas in Central British Columbia along the line of the Canadian National Railway, the following records of the dates of sowing and harvesting certain crops are valuable:—

Crop.	Date seeded.	Date of cutting.	Days maturing.
Bulkley Valley—			
Wheat (Ruby)	May 9	Sept. 1	115
Corn (N.W. Dent, fodder)	,, 16	Aug. 30	106
Sunflowers	,, 16	,, 30	106
Potatoes	,, 19	Oct. 10	144
Francois Lake District—			
Wheat (Marquis)	,, 12	Sept. 4	115
Wheat (Ruby)	,, 12	,, 1	112
Oats and peas (ensilage)	,, 13	Aug. 25	104
Field peas	,, 31	Sept. 22	132
Potatoes	,, 14	Oct. 18	157
Prince George District—			
Wheat (Marquis)	,, 7	Aug. 22	107
Wheat (Ruby)	,, 14	,, 22	100
Oats (Banner)	,, 16	,, 22	98
Oats and peas (ensilage)	,, 12	,, 14	94
Turnips	June 9	Oct. 16	129
Sunflowers	May 12	Aug. 15	95
Potatoes	,, 15	Oct. 10	148

SOILS AND CROPS.

The agricultural soils of British Columbia are alluvial types situated in valleys, and their textures vary from fine to coarse. They are derived from well-drained terraces and poorly-drained valley-bottoms. In a geographic and geological sense the soils of the different agricultural areas have much in common, but in respect to climate and its effect on agriculture no two localities are alike.

The crops that bring a premium on the Canadian market are those of earliest maturity and crops that can not be produced successfully in most parts of the Dominion. In competition with the States to the south, the warmest parts of the Province are in the most favourable position. Under these conditions the chief limiting factor is temperature, rather than moisture, and the economic importance of the different agricultural areas is proportional to the amount and distribution of heat in the climatic regime.

The climates that contain the most heat lie in the southern part of the Province, and in these the heat-loving crops are grown. The warm climates on the south coast are used for the specialized production of early vegetables and small fruits, which find sale on the large local market. Other important production includes dairying on bottomlands, together with poultry, honey, and seed-growing.

Some of the more arid Southern Interior valleys have a greater concentration of heat in the growing season than favourably situated areas at the Coast, where seasonal heat is spread over a longer period. These climates find expression as a region of tree-fruits. Within this region apricots, peaches, and cantaloupes are confined to the warmest locations, while apples and pears spread to its outside limits. The tree-fruits are confined to the well-drained areas, where the bulk of the moisture-supply is provided by irrigation. Areas with restricted drainage in the valley-bottoms are utilized for dairying, truck-crops, and seed-growing for the local market and for export.

To the north of the 49th parallel, with each degree of latitude and (or) increase of elevation, the general climatic regime cools off. There is a later spring, a shorter growing season, and a shorter frost-free period. This process is responsible for the selection of the more hardy tree-fruits in a northward progression, and for the northern limit of the tree-fruit belt and its coastal counterpart. The progressive reduction of climatic heat decreases the ability of each area to compete for the early market and to produce crops that cannot be grown successfully in most parts of Canada. To the north of the tree-fruit region the farms require a larger acreage, and live stock and dairy products become the basis of the farm income.

The size of the family unit required to make a living at the business of farming varies with the climate, soil texture, drainage, topography, and the type of agriculture to be practised.

In any climate a 5-acre farm is generally too small for specialized production, unless part of the family income is to be derived from outside employment. From time to time a part of the land used for intensive cropping must be rested and built up, and this is difficult without adequate acreage. Ten acres of fertile soil should be the minimum for specialized truck-crops.

In the tree-fruit belt from 10 to 20 acres or more of trees are required, depending on the climate, the soil texture, and the topography. Ten acres are the minimum under the best conditions, where the soils are fine textured, the slopes gentle, and the location warm.

On sandy soils with less favourable topography or climate, 15 to 20 acres or more are necessary for production of the same value.

For dairying and mixed farming the acreage should be as large as possible, because the limiting factor is feed production. In the southern valleys, where the winter-feeding period is comparatively short and the acreage is most productive, about 60 acres should be the minimum mixed farming unit. In the Central Interior, where the winter-feeding period is of long duration, 100 acres of cultivated land is required for production of comparable value.

LIVE STOCK IN BRITISH COLUMBIA.

British Columbia with its wide scope of varying conditions presents opportunities favourable for the production of any class of live stock.

On Vancouver Island, the Gulf Islands, the Lower Mainland, and certain portions of the Interior, intensive farming is carried on which lends itself to dairy-farming, while in the extensive grazing lands are to be found ranches of varying sizes up to those maintaining approximately 10,000 head of beef cattle.

It is an absolute fact that a greater development of live stock can be secured on the Pacific slope, contained within British Columbia, than can be obtained east of the Rocky Mountains, given similar conditions of breeding, feeding, and general care. This is due to the influence of a more moderate climate, with milder winter and summer weather characterized by cool nights instead of the hot nights experienced during certain seasons in prairie and eastern sections of Canada. Statistics show that the average production for dairy cows is higher for British Columbia than in any other Canadian Province; while this Province, although pure-bred herds are comparatively limited, has made and holds a creditable share of the records for Canada for individual animals.

DAIRY BREEDS.

The four leading dairy breeds—Ayrshire, Guernsey, Holstein, and Jersey—are well represented and all four are making splendid progress. Each year sees new herds founded and pure-bred females as well as males are being introduced into the newer districts. In this connection the policy of the Department of Agriculture, over a long term of years, in assisting Farmers' Institutes to purchase pure-bred sires, with reduced transportation, etc., has borne splendid results. In Central British Columbia, along the line of the Canadian National Railways, in the Kootenays, the Okanagan Valley, and many other districts, herds of excellent merit are being established, and it is reasonable to expect that still further expansion in the breeding of pure-bred stock will take place in the future.

The high standard of excellence set by our pure-bred breeders of dairy stock is being maintained by careful selection of sires, attention being paid to the productive qualities together with type and constitution. The breeders of pure-bred dairy cattle in British Columbia are now in a position to meet local demand for dairy sires.

BEEF CATTLE.

The chief beef-cattle areas in British Columbia are the Nicola-Princeton-Okanagan Valleys, the Kamloops District, the Cariboo and Lillooet Districts, and the East Kootenay and Columbia Valley, together with other districts and valleys contributing in the way of small range and farm herds.

All the above districts are fairly well stocked in accordance with present development of range property. Crown range is still available in the above districts for the support of increased herds. In Central British Columbia and the Peace River Block there are possibilities for



Beef cattle on the Range.



Horses for shipment to England.

the raising of thousands of head of beef cattle, as well as horses and sheep. Up to the start of the war about 2¾ million acres of Crown range had been surveyed, and there is at least twice that area currently used, and an unknown larger area not used. There are certain local shortages of range, especially the open bunch-grass ranges, due to overstocking and in some cases poor management, but the carrying capacity could be increased by better range practices. There is ample summer range. The present available markets are Vancouver, Victoria, and Prince Rupert within the Province and the Edmonton and Calgary markets in Alberta. Future markets will include the Orient as well as markets in the United States. It should be borne in mind that British Columbia produces less than one-half of the beef needed for home consumption, thus indicating some of the possibilities for expansion. For those qualified to produce pure-bred cattle of beef breeds there is in general an excellent market especially for quality bulls.

HORSES.

Even during the period of the last few years of shortage of farm labour, and with modern machinery being more generally used each year, it is safe to say there is always a good market for quality work-horses. There are sections of Central British Columbia and other parts of the Province where the snowfall is heavy, where draught and agricultural horses will always furnish a major part of farm-power requirements.

Light Horses.

In very few parts of Canada does one find more interest shown in saddle-horses than in British Columbia.

SHEEP.

There are sections of this Province in which sheep-breeding will always be a major activity and a reasonable extension in similar areas may be expected, with some organization for the banding together of small flocks in order to protect against predators, which are always to be found in sheep-raising districts. The man, however, with small holdings can do quite a lot. 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, our range districts are more suitable for sheepmen than the Coast. With reasonable organization a very great deal could be done to greatly increase the sheep production of this Province, such organization to include both ranch, farm, and smaller holdings.

WOOL.

Prior to World War II., British Columbia wool had been marketed to advantage through the Canadian Co-operative Wool-growers' Asso-

ciation. In 1943 wool production amounted to 548,000 lb., valued at $141,000. This was an increase of 8 per cent. over the previous year.

SWINE.

Production rotates closely around the dairy industry and feed and grain supplies. The Peace River Block, without doubt, is one of the outstanding swine-raising districts of British Columbia where there is a fair amount of dairy by-products and an abundance of grain. As some of the more heavily timbered sections of the Province, such as Central British Columbia, become more opened up and more grain is produced, swine-raising will extend and become a major unit of farm production.

DISEASES AND T.B. TEST.

British Columbia is remarkably free from animal diseases and every precaution is taken to maintain this enviable condition. Owing to an aggressive policy by the Department of Agriculture over a period of years, bovine tuberculosis has been brought under control to such an extent that in no other Province are dairy herds so free from this disease. In addition there are two T.B.-free areas under Federal direction in the Fraser Valley and on southern Vancouver Island.

AVERAGE FARM VALUES PER HEAD OF LIVE STOCK IN BRITISH COLUMBIA, YEARS 1941–43.

Description.	1941.	1942.	1943.
Horses	$75.00	$81.00	$103.00
Milk cows	62.00	78.00	86.00
Other cattle	44.00	51.00	54.00
Sheep	8.85	9.26	11.18
Hogs	15.75	18.90	16.03
Poultry—			
Hens and chickens	0.80	0.95	1.25
Turkeys	2.75	3.10	3.35
Geese	2.00	2.30	2.82
Ducks	1.00	1.04	1.40

NUMBERS OF LIVE STOCK ON FARMS IN BRITISH COLUMBIA, YEARS 1940–43.

Description.	1940.	1941.	1942.	1943.
Milk cows	85,190	87,623	92,500	93,700
Other cattle	204,130	229,834	265,500	282,300
All cattle	289,320	317,457	329,000	376,000
Sheep	130,300	123,116	125,500	132,000
Hogs	74,000	78,542	82,000	89,800
Horses	61,460	62,145	62,000	62,170
Poultry—				
Hens and chickens	4,100,300	2,777,591	2,968,000	3,561,600
Turkeys	44,800	42,103	53,300	46,300
Geese	6,000	6,828	7,000	8,500
Ducks	22,600	19,610	18,600	10,300

DAIRYING IN BRITISH COLUMBIA.

The dairy industry in British Columbia is still in its infancy, but opportunities for growth are good. The Province is a large one and with its varied activities many centres of population will appear besides the principal towns of to-day—Vancouver, Victoria, New Westminster, Nanaimo, Kamloops, Revelstoke, Nelson, Vernon, and Kelowna. By the end of the first decade of the century the industry showed a total production valued at $3,000,000, prices for dairy products being good. With boom times and the subdivision and alienation of dairy lands, dairy production decreased for several years until conditions in 1917 again offered encouragement to the dairy-farmer. Thence to 1921, when deflation came, higher returns were realized, but from this time to 1930, gradual declining prices were encountered. The improved prices obtained since the Second World War started have, it is hoped, now terminated permanently ten years of uniformly low unprofitable returns to dairy producers, though the problem of farm labour remains. The business of dairying has now increased until the annual production in 1943 had a value of $18,438,111.

There were about 93,700 milk cows in 1943 in British Columbia, possibly 15 per cent. of these pure-bred. The four main breeds—Jersey, Guernsey, Holstein, Ayrshire—are represented, Jerseys and Holsteins being in the majority. The principal dairy areas are to be found in the coastal regions on what is termed the Lower Mainland between the City of Vancouver and the Cascade Mountains and on the eastern side of Vancouver Island. Considerable development has occurred in the last fifteen years in the Okanagan Valley, which runs in a southerly direction to the United States Boundary from near Salmon Arm, which is on the main line of the C.P.R. At points farther east and north and in Central British Columbia which extends along the line of the C.N.R. between Prince Rupert and Prince George and south of this, much pioneer work with erection of creameries has been undertaken since the First Great War.

Vancouver Island is particularly adapted for winter dairying on account of the mildness of the climate, but the southern portion is being gradually given over to small holdings. Fair-priced lands suited for mixed farming operations are to be found as one proceeds north where several fertile valleys are encountered. Meadow-lands and logged-off lands are still to be had for reasonable prices—that is to say, 40- to 60-acre tracts, partially cleared, from $50 to $75 per acre. On Vancouver Island, with the adjacent island of Saltspring, are to be found four creameries given over to butter-making, while the cities of Victoria and Nanaimo demand considerable in the way of domestic supplies. The rainfall varies as one proceeds north from 30 to 40 or more inches. Summer rainfall is light and much is done in the way of fall-sown mixtures for dairy feeding. The principal cow in this area is the Jersey, though Holsteins are also present.

The Lower Fraser Valley or Lower Mainland is particularly adapted to mixed farming or dairying on account of the ease with which greenstuff and roots are grown. The soil is almost entirely alluvial. In newer parts drainage and liming are essential. Huge crops of red clover are harvested (three cuttings) and corn for the silo reaches a good maturity, yielding well. Enormous tonnages of mangels and beets are grown. Occasionally yields of 60 tons per acre are secured. Thousand-headed kale can also be grown to very good advantage. The rainfall in this area is greater than on Vancouver Island, but varies considerably with proximity to the mountains, being generally between 50 and 75 inches. The cities of Vancouver and New Westminster on the Coast, with several good agricultural towns, give outlet for fluid milk and cream. Several million pounds of creamery butter are produced with considerable evaporated milk. Five creameries, two condenseries, one cheese-factory, and two milk-powder plants are in operation in this district. This area extends from the sea to the mountains, the farthest point being about 100 miles from Vancouver. The four principal breeds of dairy cattle are to be found on the Lower Mainland —Holsteins and Jerseys predominating—but with several distinguished pure-bred herds of each of the four breeds.

The Southern Interior of British Columbia is a mixed farming area commencing between Kamloops and Salmon Arm, both on the C.P.R. main line, and with irregularities runs south. A decreasing rainfall is encountered until one eventually gets into irrigated country. Good development has taken place in this area during the past ten years, but there is room for considerable expansion. Four creameries operate and several small towns are supplied with fluid milk. Jerseys and Ayrshires are the principal dairy animals found. This area is good alfalfa country and several cuttings are harvested; much corn is also grown for silo purposes. From Salmon Arm, lands suited for mixed farming in various stages of development are to be found for reasonable prices, which advance, however, as tree-fruit districts are met with in a southerly direction. The rainfall varies from 4 to 24 inches, ample irrigation supplies usually being available for the alfalfa fields.

In the Kootenay and Boundary country development of dairying has been slower, stretches of mixed farming land are more infrequent, and mining and lumbering with some fruit-growing have been longer established. North of this portion lies the Cariboo which roughly extends east and west of a line between Ashcroft and Quesnel. This is principally given over to range and many immense beef herds are to be found. On both sides of the road, however, are to be found mixed farming areas where dairying occurs. Cream is shipped by train to Vancouver and to the creameries at Quesnel and Williams Lake. Little development has occurred between Quesnel and Prince George, although good lands are to be found, principally east of the Fraser River, which are gradually being taken up. Sufficient precipitation occurs in this area, much of it in the form of snow. Altitudes



Sheep in the Kamloops District.



Dairy cattle, Vancouver Island.

are greater proceeding northward, diminishing again as one goes westward from Prince George. From Prince George along the C.N.R. in a westerly direction is encountered the valley of the Nechako, which is a big tributary of the Fraser River. Much good land is available in this section. Proceeding westerly, the Lakes country, which extends southward, has much good land, some dairying, and an abundance of game and fish.

Still farther west, the Bulkley Valley offers opportunity for beef ranging and also for mixed farming. Relatively few settlers were on this land before the First Great War and before the completion of the railway. Development has not been fast owing largely to the fact that those taking up land were frequently miners, prospectors, railway-men, and also trappers and others whose principal interests lay otherwise than in the development of farms. A good mixed farming area around Smithers, on the C.N.R., provides Prince Rupert with domestic milk and cream. Manufacturing creameries are to-day to be found at Prince Rupert, Telkwa, and Prince George. Lands may still be bought in this area within easy reach of the main line of the C.N.R. The rainfall throughout this country is sufficient for the growing of crops. The cold experienced in winter diminishes towards the west. From Hazelton to Prince Rupert the country is much broken and agricultural settlements are small and intermittent, but dropping down in the valley of the Skeena the winter changes to the rainy one encountered on the British Columbia coast.

Considerable work has been done in British Columbia in the way of herd improvement. Cow-testing associations have operated for twenty-five years and good stock of the four main breeds is to be purchased within the Province. General dairy progress has not been rapid compared to that experienced at prairie points, because in the past much of the land had to be cleared by the individual settler himself. Returns of production from year to year show an average annual increase of about 15 per cent.

Dairy conditions in British Columbia to-day are far from normal. On account of the large increase in population at the Coast, much milk has been diverted from manufacturers to fluid and domestic channels. Evaporated milk production has risen in the past few years but creamery butter has been completely denied its usual annual increase.

SURVEY OF DAIRY-FARMS.

Some years ago the Department of Animal Husbandry of the University of British Columbia conducted a dairy-farm survey in the following areas: (1) Chilliwack, in the Lower Fraser Valley; (2) the Okanagan Valley; (3) the Arrow Lakes in West Kootenay; and (4) Central British Columbia, along the line of the Canadian National Railway. The following are some of the facts arrived at:—

(*a.*) The size of the dairy-farms in British Columbia varies from 15 to more than 400 acres.

(*b.*) Area No. 1 is more highly specialized in dairying than the other areas, approximately one-third of the tillable area being used as pasture.

(*c.*) In Areas 2, 3, and 4 a smaller proportion of the tillable area of the farm is required as pasture, as a lesser number of stock is maintained and more uncleared land is available as pasture.

(*d.*) Very little temporary grass feeding is practised, many farmers supplementing summer pastures by feeding silage.

(*e.*) Land values are highest in Area No. 1, arable dairy land being valued at from $100 to $300 per acre. In Areas 2, 3, and 4, land is valued at from $30 to $200 per acre.

(*f.*) Ownership is the general form of land tenure, the original owner or his family tends as yet to remain in command of the farm, approximately 20 per cent. of the capital involved being secured by mortgage.

(*g.*) The cultivated area of the average dairy-farm is devoted to crops as follows:—

Crop.	Per Cent.
Grain	28.10
Hay	59.42
Silage	8.08
Roots	1.94
Potato	2.46
	100.00

(*h.*) By-products: Within the creamery areas hogs are maintained to utilize skim-milk and buttermilk. The highly specialized poultry industry in Area No. 1 provides an outlet also for an amount of skim-milk and the various processing plants manufacture casein and skim-milk powder.

SOME MISCELLANEOUS FACTS FROM THE SURVEY.

	Area No. 1, Chilliwack.	Area No. 2, Okanagan.	Area No. 3, Arrow Lakes.	Area No. 4, Central B.C.
Acres per farm	77	128	98	358
Tillable acres	61	64	37	104
Land value per acre	$146.27	$75.07	$40.46	$13.19
Operators' capital in land	$10,090.76	$8,604.16	$3,981.87	$3,763.32
Animal units of cattle	22.64	16.51	9.78	13.95
Butter-fat production per cow per annum	267 lb.	267 lb.	221 lb.	236 lb.

(*i.*) Farmers are justified in stressing dairying, but unless they have either outstandingly good cows or receive a comparatively high price for the product, they should give attention to good cash crops and profitable side-lines as a complement to dairying.

The management of a dairy-farm in British Columbia is a task requiring skill and experience. Each operator should regard it as a business and reap the benefit to be derived from careful book-keeping records not only of all transactions, but of the annual inventories. Such a record makes an annual balance-sheet possible. With such detailed knowledge of the business of the past year, plans for the business of the new year may be laid. A carefully laid plan provides a foundation upon which to succeed, and many dairymen in every section of British Columbia have succeeded during the years covered by this investigation.

THE POULTRY INDUSTRY IN BRITISH COLUMBIA.

There are more commercial poultry-farms in British Columbia than in any other Province of Canada, which indicates favourable climatic conditions. Poultry and egg production valued at $11,493,000 in 1943 showed considerable increases over previous years.

There has been a big increase generally in the poultry industry in recent years, as the following table shows:—

POULTRY AND EGGS—TOTAL VALUE PRODUCED.

Year.	Poultry.	Eggs.	Total.
1941	$1,468,000	$5,108,000	$6,576,000
1942	1,869,000	6,937,000	8,806,000
1943	2,838,000	8,655,000	11,493,000

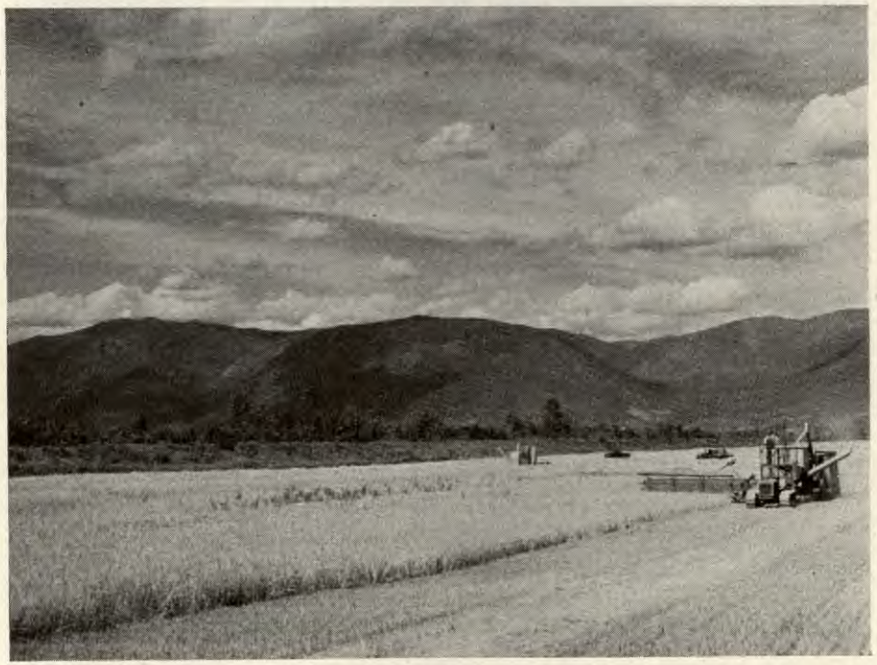
Records show that in 1918 and 1926 the total figures were $2,643,000 and $5,539,000 respectively.

Poultry-raising is one of the most attractive branches of agricultural activity in British Columbia. In addition to being recognized as a good paying side-line on the farm, many breeders are specializing in the business with marked success. There is a constantly increasing demand for fresh eggs, which ensures a higher price for the local product than is obtainable for the imported article, and few branches of agriculture offer better returns on the capital invested. There have been failures, chiefly due to inexperience, lack of sufficient capital or business aptitude, or insufficient interest in the work, and too many people have thought that the business was a gold-mine and that every one could succeed, but many breeders have now been successfully engaged in the poultry business for a number of years. There are good opportunities for experienced breeders to start on a commercial scale, and the small holder with a few acres, the fruit-grower, market-gardener, and general farmer find poultry a very profitable adjunct.

As a consequence of the mildness of the climate and good markets, the majority of these are located in the Coast districts. Speaking generally, however, the poultry business may be successfully pursued in



Poultry-farm near Victoria.



Harvesting wheat in the Southern Interior.

almost any part of the Province, except in localities in the mountains where there are exceptionally heavy snowfalls and fairly long winters. Thus far the majority of breeders have confined their operations to egg production rather than market poultry, and the most popular breeds are the White Leghorn, New Hampshire, Rhode Island Red, Plymouth Rock, and Light Sussex.

SURVEY OF POULTRY-FARMS.

A survey of poultry-farms in British Columbia was conducted by officials of the University of British Columbia a few years back, records being obtained from several hundred farms. The farms concerned were highly specialized, an average of over 80 per cent. of the receipts being obtained from poultry; White Leghorns predominated, but flocks of commercial size of Buff Orpingtons, Barred Rocks, and Rhode Island Reds were found.

(1.) The poultry-farms of British Columbia may be divided into four types, namely: (*a*) Commercial egg-farms which buy their stock annually, either as pullets or chicks; (*b*) farms which specialize in the production and sale of breeding stock; (*c*) farms on which breeding is carried on solely for the replacement of the farm flock; and (*d*) farms which contract with commercial hatcheries to supply them with hatching-eggs from blood-tested stock, pure-bred. In practically all these cases the sale of market eggs forms the chief source of revenue.

(2.) A study of the various groups over five years reveals the fact that while the size of the flocks on all of the farms has been gradually increasing, this increase is more marked on the small farms of 5 acres or less in area.

(3.) The proportion of pullets in a flock would appear to have a relatively greater influence on the average returns than the number of birds in the flock.

(4.) Conclusions would suggest that approximately 60 to 70 per cent. of pullets as being the most satisfactory proportion for the average commercial flock.

(5.) *Cost of Feed, etc.*—Feed naturally constitutes the chief item of expense on all poultry-farms, and ranges from $2.50 to $3 a bird, with a yearly average for all farms of $2.65. The percentage of the total expense that is represented by feed costs varies from 66 to 72 per cent., and the average for all farms amounts to 69.1 per cent. The average total expense per bird for all groups was shown as $3.75; in other words, it costs approximately 1 cent a day to maintain a bird.

(6.) The average production for each hen amounted to 133.6 eggs and the average selling-price amounted to 32.2 cents per dozen.

(7.) *Summary.*—The averages of the total farms under the survey over the five years show 13.18 acres, valued at $196.83 an acre, as the average size of a poultry-farm; 681 hens as the laying flock; $7,435.42 as the amount of capital invested; $10.90 as the amount of investment

for each hen; $1,130.53 as farm returns (receipts less expenses); $520.48 as interest charges carried; and $610.05 as the average labour and management wage.

The most successful farms as measured by farm returns were usually found with one or more of the following factors present:—

(*a.*) Flocks consisting of 750 birds or over.

(*b.*) A higher egg production than that found on the average farm.

(*c.*) A higher proportion of working capital than the average farm possesses.

(*d.*) A relatively high average price for eggs sold.

(*e.*) Lower production costs than those on the average farm.

AGRICULTURE.

MIXED FARMING.

The opportunities for profitable diversified farming in British Columbia are very great, and to the man with limited capital it affords the safest and most promising means of a comfortable living from the start. Large farms and specialties in agriculture, such as tree-fruit growing, should only be undertaken by men of sufficient means to tide over the period of unproductiveness. The mixed farm—a small orchard or berry plantation, a vegetable-garden, a good flock of fowls, a few cows, a team of horses, some sheep and pigs, a few acres of grain, root-crops, and hay-meadow—provides a variety of income, a good living, some profit, and steady employment, besides keeping up the fertility of the land without artificial manures.

The capital that settlers have at their disposal should be placed to good advantage. As large a percentage as possible, consistent with comfort and convenience of the operator and his family, should be kept in liquid channels or enterprises that turn over quickly. For this reason great care must be given to the placing of fixed capital in such channels as land, buildings, and machinery; and every extravagance must be guarded against. As large a percentage of this capital, consistent with good management, should be placed in good live stock.

Mechanized Farming.—Gradual changes are noted throughout the Province, this is particularly noticeable in the case of farm machinery. Hand-labour and horses are being replaced with power-driven machines, the shortage of labour during the war years being largely responsible. The large number of small combines in use throughout British Columbia is very much in evidence at harvest-time and during the past three years the " pick-up baler " has become very popular, there being several types of these machines on the market requiring from one to several men to operate. Some of the large ranches that put up several thousand tons of hay a year are solving the labour problem by the use of these balers.

FIELD CROPS.

The fertile soils and climatic advantages of British Columbia are well shown by the following figures compiled by the Dominion Bureau of Statistics at Ottawa:—

AVERAGE YIELD OF FIELD CROPS IN BRITISH COLUMBIA COMPARED WITH ALL CANADA AND THE EASTERN AND PRAIRIE PROVINCES.

Crop.	Dominion of Canada.		Eastern Provinces.		Prairie Provinces.		British Columbia.	
	Av. Yield per Acre.		Av. Yield per Acre.		Av. Yield per Acre.		Av. Yield per Acre.	
	1942.	1943.	1942.	1943.	1942.	1943.	1942.	1943.
Wheat ..... bu.	25.8	16.8	22.1	18.7	26.4	18.9	28.5	26.0
Oats ..... „	47.3	31.3	34.8	29.3	50.9	34.9	52.1	50.1
Barley ..... „	37.2	25.7	30.0	25.1	37.6	26.0	37.3	34.5
Rye ..... „	18.5	12.4	18.4	15.7	19.3	12.7	22.3	20.8
Mixed grains ..... „	40.8	24.4	35.2	27.9	35.1	27.7	40.8	40.3
Peas ..... „	18.8	15.3	17.6	14.9	22.0	16.0	23.1	20.1
Beans ..... „	19.3	16.5	18.2	15.4	11.7	12.0	24.2	21.5
Flax-seed ..... „	10.0	6.1	39.9	38.4	10.2	7.1	13.7	14.0
Hay and clover ..... tons	1.65	1.76	1.62	1.67	1.85	1.73	2.22	1.84
Alfalfa ..... „	2.59	2.52	2.58	2.73	2.28	2.13	3.16	2.50
Fodder corn ..... „	9.08	8.63	10.51	8.70	3.31	3.83	10.65	11.12
Grain-hay ..... „	2.01	1.62	.....	.....	2.0	1.60	2.25	2.00
Potatoes ..... cwt.	85.0	82.0	102.9	89.4	89.0	72.0	100.0	115.0
Turnips and mangels ..... „	208.0	219.0	230.6	253.2	112.0	101.0	204.0	218.0

NOTE.—1 cwt.=100 lb.

RETURNS RECEIVED BY THE FARMER FOR CERTAIN CROPS IN BRITISH COLUMBIA, YEARS 1941–43.

Crop.	1941.	1942.	1943.
	Average Price received.	Average Price received.	Average Price received.
Grains—			
Wheat ..... bu.	$0.75	$0.80	$0.96
Oats ..... „	0.45	0.45	0.50
Barley ..... „	0.60	0.62	0.66
Rye ..... „	0.64	0.65	0.72
Mixed grains ..... „	0.50	0.52	0.61
Field Crops—			
Beans ..... „	1.80	1.90	2.00
Flax (seed) ..... „	1.53	1.95	2.10
Peas ..... „	1.51	1.60	1.90
Potatoes ..... tons	28.00	45.00	35.00
Turnips, mangels, etc. ..... „	12.00	15.00	18.00
Hay and Fodders—			
Alfalfa ..... „	11.50	12.50	21.00
Hay and clover ..... „	11.00	12.00	20.00
Fodder corn ..... „	5.00	5.00	6.00
Grain-hay ..... „	9.00	9.50	17.00
Miscellaneous—			
Hops ..... lb.	0.35	0.55¼	0.70
Rhubarb (field) ..... tons	36.37	48.38	62.39
Tomatoes (outdoor) ..... „	29.81	38.84	60.30
Tomatoes (hothouse) ..... „	218.76	273.65	373.06
Cucumbers (field) ..... „	52.17	77.84	95.91
Other garden vegetables ..... „	44.19	50.07	59.28

NOTE.—1 ton=2,000 lb.

FRUIT-GROWING.

The chief fruit-growing districts for tree-fruits are:—

(*a.*) The Okanagan Valley, in the Southern Interior, including such centres as Vernon, Kelowna, Penticton, Summerland, etc.
(*b.*) The Salmon Arm District.
(*c.*) The Similkameen Valley at Keremeos.
(*d.*) The Boundary District of Grand Forks.
(*e.*) The Arrow Lakes and West Kootenay.
(*f.*) Vancouver Island and the Lower Mainland.

Small fruits such as strawberries, raspberries, and loganberries are produced chiefly on Vancouver Island and the Lower Fraser Valley, at Creston (south of Kootenay Lake), and also at Salmon Arm (main line of Canadian Pacific Railway).

THE OKANAGAN VALLEY.

This valley extends for about 150 miles from the International Boundary to the main line of the Canadian Pacific Railway. Whilst the northern end of the valley is adapted to mixed farming and dairying, the main and southern portion adjacent to the shores of Okanagan

Lake has become famous as a fruit-growing district. Extensive irrigation systems have transformed these lands into fruitful areas from which apples have been exported to Eastern Canada, New York, Great Britain, and foreign points.

In 1943, 7,202 car-loads of apples, pears, peaches, plums, apricots, and cherries were produced in this valley. This production constituted practically 88 per cent. of the commercial production of the Province, and compares with earlier figures, given as 75 per cent. in the year 1924.

QUANTITY AND VALUE OF TREE-FRUITS PRODUCED AND MANUFACTURED IN THE VARIOUS DISTRICTS OF BRITISH COLUMBIA.

1941.

District.	PACKAGES.		MANUFACTURED.	
	No.	Value.	No.	Value.
Islands	39,713	$46,555	203,529	$6,307
Lower Mainland	80,400	70,595	6,050,213	135,870
Thompson Valley	292,802	320,448	55,068	1,348
Okanagan Valley	4,892,809	5,236,708	28,497,879	430,468
Boundary and Kootenay	482,825	547,527	477,413	16,025
Totals	.....	$6,221,833	.....	$590,018

1942.

Islands	32,758	$46,448	229,903	$7,748
Lower Mainland	73,060	82,560	2,993,737	101,223
Thompson Valley	358,445	498,307	.....	.....
Okanagan Valley	6,555,839	8,800,815	32,187,278	789,235
Boundary and Kootenay	197,326	298,040	193,212	13,432
Totals	.....	$9,726,170	.....	$901,638

SMALL-FRUIT GROWING IN BRITISH COLUMBIA.

Strawberries, raspberries, and blackberries have been successfully produced in commercial quantities in the Province for many years. Strawberries have been predominant on Vancouver Island and in the Lower Fraser Valley, and to a lesser extent in West Kootenay. Since the Japanese deportations during the present war, strawberry acreage has shrunk very considerably, especially in the Fraser Valley.

Raspberries, the chief acreage of which is also in the Fraser Valley, are showing a slight increase.

Blackberries are found chiefly on Vancouver Island and black currants are grown mostly in the Fraser Valley. Loganberries are grown in some quantity on Vancouver Island and the Lower Fraser Valley.



Strawberry-picking, Vancouver Island.



An orchard in the Okanagan Valley.

A survey in 1944 gave the following acreages:—

	Acres.
Strawberries	1,551⅛
Raspberries	1,519¼
Loganberries	467⅜
Black currants	189
Blackberries	85¼
Gooseberries	26
Red currants	12
Rhubarb	141⅜
Total	3,991⅜

Of the above small-fruit acreage 77.7 per cent. is found in the Lower Fraser Valley, 12.2 per cent. on Vancouver Island, and 6 per cent. in West Kootenay. In a survey carried out some years ago the average size of small-fruit farms was found to be as follows: Gordon Head (Vancouver Island), 12 acres; Keating (Vancouver Island), 17.5 acres; and the Lower Fraser Valley, 24.5 acres.

VALUE OF SMALL FRUITS PRODUCED AND MANUFACTURED IN THE VARIOUS DISTRICTS OF BRITISH COLUMBIA, 1941–43.

District.	1941.		1942.		1943.	
	Packages.	Manufactured.	Packages.	Manufactured.	Packages.	Manufactured.
Islands	$61,429	$60,756	$73,324	$66,173	$130,088	$49,110
Lower Mainland	459,255	762,560	238,510	940,212	550,149	1,022,011
Thompson Valley	14,061	10,416	16,332	15,202	19,768	.....
Okanagan Valley	56,133	26,752	84,559	41,475	31,833	47,248
Boundary and Kootenay	70,374	12,986	70,430	23,719	129,411	29,693
Totals	$661,252	$873,470	$483,155	$1,086,781	$861,246	$1,148,062

QUANTITY OF FRUIT PRODUCED.

Year.	Apples.	Other Tree-fruits.	Small Fruits.
	Lb.	Lb.	Lb.
1941	192,466,000	55,580,000	23,212,000
1942	250,032,000	53,708,000	17,744,000
1943	189,522,000	41,520,000	13,166,000

TOTAL VALUE OF FRUIT (TO THE PRODUCER).

Year.	Apples.	Other Tree-fruits.	Small Fruits.
1941	$4,580,999	$2,245,958	$1,523,565
1942	7,789,710	2,867,415	1,552,571
1943	7,913,588	3,225,818	2,009,331

FRUIT MARKETING.

In the small-fruit districts the fruit is largely marketed by the growers through their co-operative associations. Such fruit is sold as fresh fruit on the local markets or shipped in refrigerator-cars to the Prairie Provinces of Alberta, Saskatchewan, and Manitoba. Large quantities are also sold to the local jam and canning plants as well as being barrelled in SO_2 for sale on Eastern Canadian markets and for export.

Tree-fruits in the Coast sections are limited in quantity and are for the most part sold direct to the consumer or through wholesale fruit-houses established in the main centres of population.

In the Okanagan and Kootenay districts where tree-fruits of all kinds are produced in large quantities the growers have their fruit packed by a co-operative or independent packing-house. The sale of such fruit in these areas is made through the organization, namely, "Tree Fruits, Limited." This is a marketing organization set up by the growers under the Provincial "Natural Products Marketing Act."

CARS OF FRUIT PRODUCED IN BRITISH COLUMBIA (ALL TREE AND SMALL FRUITS).

Year.	Islands.	Lower Mainland.	Thompson Watershed.	Okanagan Valley.	Boundary and Kootenay.	Total.
1941	149.3	1,311.5	412.3	7,493.4	700.4	10,077.5
1942	125.0	855.9	502.6	9,844.2	304.0	11,641.1
1943	102.1	615.5	404.9	7,202.5	482.6	8,815.9

BULB-GROWING IN BRITISH COLUMBIA.

The major bulb production areas in the Province are on Vancouver Island and in the Fraser Valley, with smaller plantings in the Okanagan and Kootenays. There has been a marked increase in bulb acreage since 1939, and with an increased demand and the ability of the growers to turn out an excellent product a good future for the industry seems assured.

TOTAL ACREAGE UNDER BULBS.

Year.	Acres.
1929	159⅓
1933	203½
1937	249½
1941	315½
1943	360⅝

The value of bulb production in the Province for 1943 was estimated at $212,400.

SEED PRODUCTION IN BRITISH COLUMBIA.

Seed production in British Columbia has shown a remarkable increase during the past six years. The following is a comparison of the total value of vegetable-seed produced during this period:—

Year.	Value.
1938	$48,420
1939	72,130
1940	153,608
1941	456,255
1942	901,515
1943	1,297,965

Mangel and sugar-beet seeds are not included in the above; these crops have, however, increased materially in recent years.

The estimated production of field-crop seeds for 1943 was as follows:—

	Lb.		Lb.
Timothy	754,000	Alsike clover	115,000
Sugar-beet	400,000	Sweet clover	100,000
Alfalfa	200,000	Mangel	80,000
Red clover	120,000	Brome-grass	10,000

Flower-seed values showed a decline in 1940 and 1941 owing to the impossibility of export to Great Britain, but a steady increase is noted again due to a new market in the United States.

Year.	Value.
1941	$12,773
1942	27,992
1943	65,000

A number of British Columbia firms are well equipped to clean all kinds of vegetable-seeds and there are quite a large number of growers sufficiently equipped to clean their own seed.

TRENDS OF FARMING IN BRITISH COLUMBIA.

The following is an analysis of the trends of farming in British Columbia (based on the values of agricultural production):—

PERCENTAGE OF TOTAL AGRICULTURAL PRODUCTION.

Description.	1941.	1942.	1943.
Mixed farming (including live stock, field crops, and miscellaneous)	Per Cent. 40.9	Per Cent. 41.6	Per Cent. 43.1
Fruit and vegetables	20.1	22.6	22.5
Dairy products	27.7	23.9	21.2
Poultry products	11.3	11.9	13.2
Totals	100.0	100.0	100.0



Bulb-growing on Vancouver Island.



A field of onions in the Okanagan Valley.

Over a period of years fruit and vegetable growing and poultry-farming have shown the most consistent increases; for instance, in 1922 fruit accounted for only 9 per cent. and in 1926, 10.5 per cent.; whilst in 1922, also, poultry-farming rated at only 7.2 per cent. Dairy-farming has also increased from 14.5 per cent. in 1922 and 17 per cent. in 1926; the drop in the last two years (shown in the table) being due to dry seasons and shortage of experienced labour and, to some extent, to the disposal and sale of dairy herds during the present war.

BEE-KEEPING.

Bee-keeping in British Columbia has shown a remarkably steady extension since 1911, when the first " Foul-brood Act " for the protection of the bee-keepers was passed by the Provincial Legislature, and when the total honey-crop for that year was estimated at 20 tons. Although honey production has increased to crops that in recent years have exceeded 700 tons, and individual bee-keepers have produced as much honey in one season as the total production of the Province in 1911, there is still vast room for improvement.

In spite of a steady increase in the number of registered apiaries and corresponding increase in production, the honey-supply of the Province still falls far short of the requirements of the home market. As hundreds of tons of honey annually go to waste in British Columbia through lack of bees to gather the nectar, there seems to be no reason why this Province should not at least fully supply the shortage in its own market that is at present made up by importations from other Provinces. We have at present (1945) about 6,000 registered bee-keepers in British Columbia, totalling approximately 30,000 colonies.

While most of the best locations for honey production within easy access of good roads are already fully occupied, there is still much virgin territory capable of producing good crops of honey available to the enterprising bee-keeper, especially in the Central and Northern parts of the Province. The topography of the Province does not lend itself to commercial bee-keeping on a large enough scale to provide a living from bee-keeping alone, as the cost of a large number of out-apiaries is not economical, but honey production in many locations that will profitably support from thirty to fifty colonies is a valuable side-line to other branches of farming.

Bulletin No. 92, entitled " Bee-keeping in British Columbia," and published by the Department of Agriculture, explains fully the methods and equipment most suitable for bee-keeping in this Province. The main objects of this bulletin are not to induce beginners in bee-keeping to launch out on a commercial scale, with honey production as a sole means of livelihood, as this part of the industry will automatically be taken care of by the more advanced bee-keepers already engaged in the business, but rather to show the advantages of using modern bee-keeping equipment and methods of management best suited to the

climatic and other existing conditions in British Columbia, so as to make this industry more profitable and encourage its expansion, chiefly in the form of increasing the average production per colony with a corresponding decrease in the cost of production.

British Columbia honey from various parts of the Province was exhibited for three successive years at the Imperial Fruit and Honey Show in England, and received the greater portion of the awards in Empire competition. There is a ready market for all the honey produced in the Province, as it has always commanded a premium price over the imported product on a quality basis.

The production of honey in 1943 was estimated at 1,275,760 lb., of a value of $197,743, as against 1,333,600 lb., valued at $280,100, in 1942.

Although the numbers of bee-keepers and of colonies were the highest on record, average yields were disappointingly low, the general average for 1943 being 48.8 lb. per hive as compared with 58.5 lb. per hive in 1942.

Some of the highest average production in 1943 was to be found in the Okanagan, Shuswap, and Thompson Valleys, where the figure was 70 lb. per hive, and in the Central Interior, 60 lb.

FUR-FARMING IN BRITISH COLUMBIA.

Notwithstanding existing war conditions and the consequent drain on all types of labour, food, and material, fur-farming is still being followed quite extensively in the Province and there is every possibility of the number of fur-farms increasing after the present conflict is over.

The conditions in every part of British Columbia are ideal for the farming of various species of fur-bearing animals. As is the case in all other forms of farming, however, the beginner would be well advised to commence his fur-farming operations in a small way with a few well-bred animals and gradually increasing his stock as he obtains experience which is so vitally necessary.

The majority of fur-farmers in British Columbia are engaged in the business of farming mink and foxes, while some are endeavouring to farm marten and fisher. A few farmers appear to have had some success in the farming of the latter mentioned animals. Attempts to farm muskrats in their natural state and in captivity have not been successful, but a number of registered trappers have, through hard work and with considerable foresight, increased muskrats as well as beaver on their trap-lines.

Returns, which are required to be submitted annually, indicate that now we have greater interest being shown in the farming of mink, whereas some twenty years ago when fur-farming was in its infancy in this Province the majority of farmers were interested in farming foxes.

Fur-farms are to be found in nearly every part of the Province, but the larger mink-farms are located within a few miles of three of the Province's principal cities—Vancouver, New Westminster, and Victoria. For many years it was assumed that in order to obtain prime pelts animals had to be farmed in sections of the Province where fairly severe cold weather was to be encountered, but now we find that this is not essential but that suitable food and care are the chief factors in assuring a good pelt.

The Game Department of the Province is willing at all times to furnish information as to the fur-farming laws and regulations or, generally speaking, on any matter pertaining to the fur-farming industry.

Official Requirements.—It probably would be advisable to state that any applicant for a fur-farming permit must be the owner or lessee of the land on which he wishes to engage in this business and is required to submit information to the Game Commission, 540 Howe Street, Vancouver, B.C., as to the steps he has taken or intends to take for the purpose of impounding or keeping under control the animals to be farmed.

The importation or exportation of live fur-bearing animals is prohibited except under free permit from the Game Commission or any Game Warden or Provincial Constable. The exportation of the pelts of fur-bearing animals trapped, farmed, or otherwise taken in the Province is also prohibited, except under permit which can be obtained on application to any of the foregoing and upon payment of the required royalty fees.

At the present time there is no fee payable for a fur-farm permit. Crown lands cannot be pre-empted for fur-farming purposes. Generally a holder of a fur-farm permit can pelt his farmed animals at any time of the year.

Trapping is extensively carried on in all parts of the Province. A licence, for which a fee is charged, must be obtained for this, and can only be issued to a British subject or a farmer residing in the Province, in either case after six months' residence. Most of the Province is covered by the regulations dealing with the registration of trap-lines and any person wishing to trap should first acquaint himself with these regulations.

AID TO SETTLERS IN CLEARING LAND.

For many years past there has been an agreement between the Department of Agriculture and the Canadian Industries, Limited, to supply stumping-powder at a reduced price to members of Farmers' Institutes and Agricultural Associations for the purpose of clearing land for agricultural production. At the present time the price of the powder is $9.25 per 100 lb., f.o.b. Canadian Industries magazines. As a further incentive the Department pays a rebate of $2 per case per

person (up to ten cases in any one year) for powder that has been actually used in this manner.

As a matter of interest it might be pointed out that from January 1st, 1920, until December 31st, 1944, settlers and farmers in British Columbia purchased 239,173 50-lb. cases of stumping-powder at a cost of $1,399,819.82, f.o.b. powder magazines. Rebates paid by the Department for the same period amounted to $410,283, representing many thousands of acres brought under agricultural production.

LOANS TO FARMERS.

(A system of long-term mortgage credit for farmers.)

The "Canadian Farm Loan Act," a Dominion statute, was enacted in 1929 and was intended primarily to provide an organization to assist in developing farm lands. The Act defines a "farmer" as a person whose principal occupation consists in farming, and defines "farm land" and "farm" as land under occupation and cultivation by a farmer or land purchased by a farmer for *immediate* occupation and cultivation by him. The Board created under the Act may "make long-term loans to farmers on the security of first mortgages." Before a loan not exceeding 50 per cent. of the actual value of the land and buildings can be made the security offered must be appraised under section 7 of the Act, wherein it is provided that the appraised value shall be based on the value of the land for agricultural purposes and, as far as possible, on the productive value as shown by experience and on no other basis. At the present time the rate of interest charged by the Board to farmers on first mortgage loans is 5 per cent. per annum.

TAXATION.

The taxation on farm lands is one-half of 1 per cent. of the assessed value, or, in other words, of the ordinary market value. Full exemption is given to all fruit-trees situate on farm land, and such improvements consisting of buildings, fixtures, and things erected upon or affixed to land as have been assessed upon farm land.

The Province does not now collect income tax owing to the agreement in effect with the Dominion.

Personal property is exempt from taxation under the "Taxation Act" but subject to taxation for school purposes under the "Public Schools Act."

COST OF LIVING.

(From Dominion Bureau of Statistics.)

The cost-of-living index budget does not represent a minimum standard of living; it is a budget based upon actual living expenditure records of typical wage-earning families.

INDEX NUMBERS OF LIVING COSTS IN CANADA, YEARS 1942–43.

(1935–39=100.)

Year.	Food Index.	Fuel Index.	Rent Index.	Clothing Index.	Home Furnishings and Service.	Miscellaneous.
1942 (average)	127.2	112.8	111.3	120.0	117.9	107.1
1943 (average)	130.7	112.9	111.5	120.5	118.0	108.0

INDEX NUMBERS OF LIVING COSTS IN EIGHT CITIES OF CANADA, 1939–43.

City.	1939.	1940.	1941.	1942.	1943.
Halifax	103.10	106.05	110.31	114.75	117.08
Saint John	102.95	105.40	110.87	116.13	117.70
Montreal	104.40	106.78	113.30	118.52	120.43
Toronto	102.85	104.03	110.20	115.66	116.53
Winnipeg	102.85	104.20	109.26	113.86	115.05
Saskatoon	104.20	105.86	112.20	116.83	118.21
Edmonton	103.30	104.01	108.43	112.78	115.11
Vancouver, B.C.	102.35	103.71	109.20	114.10	116.86

COST AND METHODS OF CLEARING BUSH LANDS IN BRITISH COLUMBIA.

At the present time in the southern and timbered parts of the Province it is generally advisable for the intending settler to buy, where possible, acreage already partly cleared, even where at first sight the cost appears high in comparison with bush or undeveloped land. The gain in time in producing a marketable crop more than offsets the extra cost of the higher-priced land. Labour is scarce and costly these days and the modern spirit is seldom in accord with the patient and laborious effort of pioneer days. Fortunately, with stumping-powder available at reasonable cost and the increasing use of machinery bulldozers and tractors, a new era in the clearing of land in British Columbia appears to be in sight. Clearing by contract is probably the most satisfactory method for a new settler, and in many districts local men are glad to give a price per acre on clearing; however, where time is not important and there is only a small acreage to be cleared, good and economical work can be done with a combination of stumping-powder, some type of small stump-puller, and a good team.

The piling and burning of the stumps and logs can usually be done by the farmer himself with horses, both cheaper and almost as quick and make a better job of it, as a bulldozer piles up a lot of soil and makes the burning after that much harder.

The various operations of clearing bush land appear at first sight to be a much bigger and more costly undertaking than it is in reality,

in many cases the farmer can make a profit on the cordwood or at least good wages.

The following data are condensed from reports received from agricultural experts in different parts of the Province and, unless so stated, are for methods of clearing without the use of heavy modern machinery.

1. VANCOUVER ISLAND.—The forest-growth away from the settled southerly portions of the island consists mainly of Douglas fir, western hemlock, western red cedar, balsam fir, and, on the west coast only, Sitka spruce, some of the timber being large.

The following figures on the cost of clearing are compiled from operations carried out some years ago by the use of powder, stump-pullers, and donkey-engines, and whilst some bulldozers are just beginning to be used, costs of such operations are not yet available.

	Per Acre.
Saanich (north of Victoria)	$250–$300
Metchosin and Sooke (south-west of Victoria)	250– 350
Cowichan Valley	300– 400
Nanoose District (north of Nanaimo)	200– 300
Comox Valley	225– 400

2. THE LOWER FRASER VALLEY AND COAST DISTRICTS.—Land which is not swampy or does not flood is invariably timbered and consists of scattered first-growth fir and cedar 3 to 5 feet in diameter; groves of second-growth fir 12 to 24 inches in diameter mixed all through with smaller growth, and with occasional fir and cedar logs scattered through the whole.

The first cost of getting some of the valley lands ready to crop is approximately $150 per acre, in some cases a little less. Heavy machinery costs from $8 to $10 per hour. The cost of clearing has not changed much in recent years and the cost of clearing high land in the Fraser Valley remains between $200 and $400 per acre. There is a good deal of variation, however, both as to cost and to what might be considered a good or finished job.

3. LOWER SIMILKAMEEN VALLEY AND THE OLIVER-OSOYOOS DISTRICT.—Land-clearing here does not constitute a problem, practically all the land available for settlement is covered with light sage-brush or greasewood and could be cleared with present-day equipment for $5 to $10 per acre.

The biggest cost in these areas would be grading in preparation for irrigation-water; whilst this varies, an average of $15 per acre should be sufficient, even for the rougher lots.

4. PRINCETON DISTRICT.—It is estimated that in this district it would cost from $50 to $100 per acre to clear the forest-growth.

5. ROCK CREEK-BRIDESVILLE DISTRICT.—Much of the merchantable timber is being rapidly logged-off. The forest-growth consists of pine, spruce, and fir, with poplar fairly heavy, the cost of clearing running from $200 to $250 per acre.

6. GRAND FORKS-BOUNDARY DISTRICT. — Much of the arable land here has been cleared and farmed for a number of years, especially where irrigation is available. The cost of clearing has been $75 to $100 per acre. There are narrow valleys adjacent where bottom-land can be cleared of light poplar, spruce, and pine. These meadows will produce hay and grain in sufficient quantity to support a limited live-stock population on grazing-grounds on the higher levels. Cost estimated at from $100 to $175 per acre to clear.

7. WEST KOOTENAY.—Cost of clearing land and preparing for a crop:—

	Per Acre.
Arrow Lakes	$75–$100
Kootenay and Slocan Valley	50– 100
Creston	75– 100

These figures are substantially lower than those of some years back, due to improved methods and equipment. In the Creston District work can be done at one-third less expense when the frost comes out of the ground in the early spring as compared to clearing during the dry season of July and August when the clay surface bakes and clings to the roots. During the dry summer more powder has to be used and also to free the soil clumps from around the roots so as to make them ready for piling and burning.

At Camp Lister clearing the old stumps would cost about $45 per acre in the spring, but the timber limits south of Creston, logged some ten years ago, would cost from $75 to $100 per acre.

8. EAST KOOTENAY.—Columbia River Valley, the cost of clearing, etc., averages from $50 to $75 per acre.

8A. EAGLE RIVER VALLEY.—There are two types of land in this district: (1) Old burns where fires have gone through years ago, and second-growth timber, and (2) heavy virgin timber.

In the first case the following are the actual recorded costs of clearing:—

Burning and blasting	$56.00
Stumping, filling holes, and levelling	96.00
Powder, caps, and fuse	9.00
Total cost per acre	$161.00

In the second case the costs were as follows:—

Slashing, burning, and piling windfalls and blasting stumps	$116.00
Powder, fuse, and caps	50.00
Breaking	16.00
Total cost per acre	$272.00

In another case where a bulldozer was available the cost was:—

Slashing, burning, and piling	$84.00
Bulldozer	40.00
Clearing stumps, levelling, and breaking	96.00
Total cost per acre	$220.00

9. CARIBOO.—Clearing is much lighter in this large district of British Columbia, where willows and cottonwoods predominate. An estimate of the cost of clearing willow bottom-lands is $80 to $100 per acre, and cottonwood lands $50 to $65 per acre. Owing to high labour costs, no land is being cleared at the present, but when machinery is available the above figures should be reduced.

9A. NORTH THOMPSON VALLEY.—(Heffley Creek to Barriere and Barriere, North.) The general character of the clearing in this district consists of cedar bottoms with big stumps and, on the uplands, light brush and small trees with old stumps left from logging; a fair estimate of cost of clearing is $100 per acre.

10. CENTRAL BRITISH COLUMBIA.—(Along the line of the Canadian National Railways.) The land-clearing situation in Central British Columbia has changed much in recent years, and but little clearing is being done now except some machine work.

Terrace District.—Much of the heavy timber and stumps on potential farm lands have gone and the land is covered with a relatively light second-growth. Land-clearing costs of powder plus machinery average $50 to $125 per acre, with some areas as low as $30.

Burns Lake and Bulkley Valley.—Light clearing costs from $15 to $25 per acre, close cut, piled, and burned. Heavy clearing, $30 to $50 per acre, chiefly close cut with the heavier trees torn out, including piling and burning. Ploughing, $6 to $9 extra.

Fort Fraser District.—Rolling land moderately heavily covered with poplar, spruce, willow, and some jack-pine. Slashing and burning, $20 to $30 per acre; breaking, $10 per acre; with total costs from $30 to $40 per acre.

Vanderhoof District.—Level lands on north side of the Nechako River and rolling lands to the south. The bush varies from moderate to heavy, mostly spruce and large poplar. Indian labour for slashing at ground-level and burning costs from $20 to $30 per acre, with white labour costing a little more. Breaking has been done with large tractor units at from $15 to $20 per acre. Total costs for clearing average from $35 to $50 per acre.

Prince George District.—There is level land in most of the Pine View area, with rolling land in most other parts. The ground-cover is poplar, spruce, willow, and jack-pine. Clearing by hand from $30 to $40 per acre, by machinery $33 to $43 for cutting and piling, and a further cost of $10 to $15 per acre for breaking, but much time is saved.

(NOTE.—The Prince George District has recently been the scene of land-clearing operations by heavy machinery, mostly for the airport, but some work has also been done for farmers. A heavy caterpillar tractor pushes a V-shaped blade with saw teeth, cutting the trees at ground level, whilst a separate machine does the "bunching," the brush being left piled in long rows, ready for burning.)

McBride District.—The lands are of a rolling nature, with some level land near the Fraser River. The bush is mostly light poplar, spruce with some jack-pine. Cost of clearing by hand, $30 to $40 per acre. Farmers are now expecting to use machinery; the operator of the brush-cutter is charging $13 per hour, with an expectation of 10 acres per day cut.

11. PEACE RIVER BLOCK.—In this north-eastern section of British Columbia, the problem of land-clearing is much easier, the brush is light, mostly willow and cottonwood. Whilst land-clearing prices vary considerably, the work is usually done by contract and there are now power brush-cutters in the district. Charges are from $6 to $7 per acre, or in some cases $10 per hour, this would be for just cutting the brush; for putting in windrows or piling another $2 to $3 per acre is charged.

WAGES FOR FARM LABOUR.

(Canneries, Creameries, etc.)

The Second World War with its drain of man-power from the agricultural districts of the Province has brought about abnormal conditions and high wage-rates. The figures quoted below for the years 1942–44, supplied by the Dominion-Provincial Emergency Farm Labour Service, are not indicative of figures which workers might reasonably expect in normal times.

Male Farm Help.	1942.			1943.			1944.		
Daily—									
With board	$1.98	$2.00	$2.95	$2.50	$2.72	$3.28	$3.07	$3.19	$3.43
Without board	2.78	2.92	3.64	3.62	3.84	4.18	3.92	4.21	4.56
Monthly—									
With board	33.68	44.09	50.25	52.88	57.20	63.71	60.44	68.10	74.16
Without board	56.34	68.57	73.55	76.16	79.98	87.11	83.04	89.11	97.16

OKANAGAN VALLEY (VERNON DISTRICT).

Agriculture and Allied Industries.	1942.	1943.	1944.
Farm-workers—			
Married	$60 per month and free house.	$75 per month and free house.	$75 per month and free house.
Single	$40 per month with board.	$45 per month with board.	$55 per month with board.
Single	$50 per month, no board.	$95–$100 per month, no board.	$95–$100 per month, no board.
Orchard-workers	30–40 cents per hour.	35–45 cents per hour.	45–55 cents per hour.
Canneries—			
Skilled workers		43–55½ cents per hour.	51–63½ cents per hour.
Labourers		35–43 cents per hour.	41–50 cents per hour.
Dehydrator operators		51–54 cents per hour.	59–62 cents per hour.
Creameries—			
Helpers	$90 per month.	$90 per month.	$90 per month.
Butter-wrappers	$75 per month.	$75 per month.	$75 per month.

The workers in the fruit and vegetable industries are largely seasonal, including employees in fruit and vegetable canneries, jam-factories, and fruit packing and shipping houses. Many women, boys, and girls assist in the actual gathering of these crops. The season is short and the earning period limited; it is rarely that work in other than dairy-farms and creameries is provided during the whole year; a few large plants, however, located chiefly at the Coast, furnish continuous employment for their staffs.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1945.

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(EXCERPT FROM DIRECT EXAMINATION OF DEAN CLEMENT)

MR. HUNTER: Q; What year?

MR. McMASTER: It will be shown in 1943.

Q Now, Dean Clement, you know the appraisers of the Soldiers Settlement Board?

A Not all of them. I know Mr. Barnett very well, the Chief Supervisor, and I know Mr. Godfrey very well, and I know Mr. Ramsay, a fishing companion, and so on. They are all good fellows.

Q And you have no reason whatsoever to question their sincerity or honesty in making their appraisals?

A I would not let anyone question them.

Q How do you account for the difference, then, between what appears to be a marked difference between your direct valuation of these properties as of 1942 and the values which they and their associates appear to have placed on their lands?

THE COMMISSIONER: This must necessarily be a conclusion of the witness. If the witness answers your question, it must necessarily be a conclusion.

MR. McMASTER: Well, what is his opinion.

THE COMMISSIONER: Well, I shall be glad to hear your views, Dean Clement.

A I think in part that all of us are creatures of our experience. We just cannot help it. Certain things become part of us; and most of these men were settled in the Fraser Valley on small fruit lands, when berries were selling about the same price as they re today-- 18 to 20 cents a pound.

I have a bulletin which was gotten out under my direction at that time, which was valued --

Q At what time are you speaking of? What year are you speaking of? A: 1920 and 1921 -- 1920 and '21, when the Soldiers settlers were first put on the land, and I accept my share of responsibility, because I was a member of the Qualification Committee dealing with the men and not the land. I was Chairman of it. But by 1921 and '22, prices had dropped off from around 20 cents to 10 cents, and they gradually worked down to 5 and 6 cents, in the middle thirties. These men were honest and sincere in their approachto the difficult task. They saw families, heart-broken from day to day because they could not meet their liabilities. They saw families living off their farms and they assisted in the adjustments in having the debts written down, and they went through a hard experience, which made them cautious; and I think when they came to valuing those properties, it made them excessively cautious in valuing properties in that Valley. In other words, their experience had been one of extreme pessimism, so much so it reflected in their valuations.

So much for the negative side. On the positive side we have this, that these lands -- these farms were valued as lands and buildings and only here and there was there any consideration given to the crop, mainly raspberries, strawberries

loganberries and black currants which were being grown on them.

I do not recall a single instance where they said, "This raspberry patch, which is 5 or 6 years old, is a capital investment worth so much"-- or "this rhubarb, which rots in the ground, that the capital investment is worth so much," and I remember one excellent bed of asparagus which had taken three years to establish, and it was given no value. In other words, it was given as land and house, without taking into consideration the capital investment which was invested in plants on the land.

And then there is another aspect of it, and that is that these were areas of land supporting families. They were homes and businesses. They were not just dead propeties. They were homes and businesses and there was no consideration given to that factor. I might also say they were stabilized businesses by stabilized men, who had maintained their soil and maintained their families, and yet were valued as properties -- just so many square feet or so many square yards of land, and the house and buildings in certain condition. I think that, in the main, will account for the undue pessimism on the part of the D.L.V.A. valuators who valued those properties.

VANCOUVER, B.C., May 9th, 1942.

MEMORANDUM TO

FIELD SUPERVISORS
APPRAISING JAPANESE PROPERTIES

EXHIBIT No. Gen 65
DATE 30 Nov 1948
FILED BY J. W. F. Rowles

Appraisals of Japanese properties

A few appraisals have been received in the District Office, and a quick review of same has been of valuable assistance to me in arriving at certain conclusions. I think it is recognised by all concerned that in handling a problem of this nature certain factors are brought out by trial and error methods by which we can all benefit. The following suggestions can now be made.

(1) Make two diagrams, both on a separate sheet two of the appraisal form in the space provided for the diagram. One original and one carbon copy will serve our purpose.

(2) Show the names or numbers of the road or roads on which the property faces. This will be an added method of being able to identify the property either by our own staff or outsiders when inquiries are made.

(3) Although no specific value may be shown by you of the crops on the land today, in case inquiry should be made, or argument arise, I think for our own protection you should set out clearly the acreage in the different fruits; for example, ½ acre strawberries, 2 acres raspberries, ¼ acre asparagus, etc.

(4) The buildings may be old with only a nominal or salvage value, and not thought suitable by you for habitation by a white family. If this is the only drawback to the suitability of a property for settlement purposes, bear in mind that if the other factors are reasonably good a new house could be built later on.

(5) I advise collecting all the data available on any sales that have taken place in the last year, and recording your opinion as to the value of the property in accordance with the standards of value you may be using.

(6) State clearly if electric light is installed in the house. If not, whether a pole line for domestic use has been constructed along the property. Many people insist on electricity today otherwise they are not interested in looking at a property if the question of purchase arises.

This is rather a large problem and, naturally, it can be expected to take some little time to get everything working smoothly. Any suggestions you may have from time to time will be appreciated.

District Superintendent.

ITB:B

VANCOUVER,B.C., May 15, 1942.

MEMORANDUM TO APPRAISERS

OF JAPANESE PROPERTIES

Appraisals of Japanese Lands

It is appreciated that certain problems would lead to a good deal of discussion among you during the first week of this work. However they should now be gradually ironing themselves out.

It is only natural that there will be a considerable variety of opinion as to land values as you approach this problem with its varying ramifications. The very nature of the duties of a field supervisor over the past ten or fifteen years will have developed a decided individualistic point of view. Considerable of this has to be set aside when we undertake this new work, particularly when it must be done, keeping in mind the saving of transportation. I realise the many contradictions you will get on any standard of land values which you may establish. This has always been the case in the Fraser Valley, particularly on small holdings, and I see no reason to think that it will ever change to any extent. We will simply have to follow the course which we believe can be supported as a whole, and is thought fair to all concerned.

I think it would probably simplify matters if under the 'Buildings Schedule' you state whether electric light is installed or, if not, if electricity for domestic purposes is available from the power line on the road on which the property faces. I mention availability for domestic purposes for the reason that I know there are a number of power lines on some roads of too high a voltage for domestic use.

Apparently some of you feel that my comments as to acreage of the various crops means added detail on the diagrams. I did not have this in mind, and I consider that all the diagrams I have examined to date have sufficient detail for our present purpose. I do feel, however, if this problem is properly handled, that we will have fairly accurate information as to the acreage in the various kinds of small fruits. This can be set out in 'Remarks' or, as some are now doing, under the heading 'Orchards, Small Fruits, etc' in the following manner.-

½ acre raspberries
¼ " loganberries
1 " hops
1 " strawberries

I realise that in some instances there will be considerable interplanting, such as a row or two of strawberries between rows of young plantations of raspberries, new hop plantations, etc.

All of these things are anticipated where intensive farming is practised, and you can only use your best judgment in describing the situation.

H E Barnes

District Superintendent.

ITB:B

VANCOUVER, B.C., May 15, 1942.

MEMORANDUM TO

ALL APPRAISERS OF JAPANESE LANDS

Mr. Child has advised me that some of you who are away from your regular headquarters took up with him the question of being able to return home for the 24th of May. Naturally most of you had to leave home fairly quickly, and probably you did not fully appreciate the magnitude of the work we are undertaking.

Under the circumstances I feel that there would be no criticism of your returning home for the weekend, the 24th of May, at the expense of the Department as cheap fares can be obtained at that time. Some of you may not wish to take the aforesaid weekend off, but would prefer to go in a month's time. This alternative is in order so far as I can see at the moment.

I realise that our setup in supervision has permitted the majority being home at night during the greater portion of the time. Very often neither we, nor our families, take kindly to the change which work of this nature necessitates. It is part of our job however and, apart from the above break, we will have to stay with the job until it is finished.

District Superintendent.

ITB:B

VANCOUVER, B.C., June 3, 1942.

MEMORANDUM TO

APPRAISERS OF JAPANESE LANDS

Monday, June 8th, is a legal holiday, and the next legal holiday is July 1st. It has occurred to me that the majority of the field men would probably like to spend one of these days in his own home.

In all probability the excursion rates for Dominion Day will be good on the morning of June 30th and return on July 2nd, or some combination of dates which will make it possible to have a break of three days. Personally, when away from my headquarters, I would just as soon work as lie around. I suggest, if you are agreeable, that you work on June 8th, and two Saturday afternoons this month, which would permit a longer holiday on the first of July.

If this scheme meets with everybody's approval please let me know as I think by handling the matter this way that transportation costs home would be entirely offset by the saving in hotel bills at your present quarters. If Messrs. Godfrey and Ramsay desire to fall in line it will be in order. This procedure would permit the maximum number of appraisals and reports being made this month.

ITB:B

District Superintendent.

VANCOUVER, B.C., June 17, 1942.

MEMORANDUM TO - ALL APPRAISERS

Japanese Lands

On June 13th thirty-five working days had elapsed since active appraisal work on the above lands commenced. According to the figures submitted by Appraisers as at that date, 397 appraisals had been made, which is an average of 1.25 per day. The number which you stated had been submitted to the District Office averaged 1.1 per day. There are 1096 appraisals to make according to the tax rolls.

When I tabulated the first 220 appraisals received, the average value per farm worked out at $1000, and the average size property was 10 acres. The four men centered at Abbotsford have made as many appraisals as the five men centered at New Westminster. I have discussed this matter with Mr.Child and, frankly, I believe that from now on it is only reasonable that we should expect an increase in the volume as in six weeks' time a good background for the work must have been established.

I have instructions to keep an absolute record of the cost of this work, and the time expended on it by our staff. The cost per appraisal to date is too high. Two men have been put in the Land Registry Office at New Westminster to supply sketches of the properties where available. Tax and assessment records have also been supplied. If each man will figure out the cost per appraisal of the work you have done to date (taking into consideration your salary and expenses, to say nothing of the amount yet to be added in the time and expenses of the men at the Land Registry Office, general administration and transcribing these reports), you will see that, with production as low as one appraisal per day, the price would be extremely high for properties averaging 10 acres, with an average value of $1000.

The New Westminster team to date have been working on concentrated settlement in one municipality which, frankly, makes me concerned as to what is going to be the result when they get into more scattered territory where new factors have to be investigated. I think if those of you whose production is low will examine your system as to why volume is low, you will probably find the weakness. If, after checking the matter, you cannot find ways or means of overcoming it, please get in touch with Mr.Child, or myself, and we will tackle the problem from this end.

I feel that sufficient time has now elapsed to let you know results to date, and the manner in which I am required to account for this work. The Director has already called for progress reports and, in order that I can forward statements week by week from now on, I would like you to advise me every Saturday at the close of business the number of appraisals made to date, and the number of reports submitted to the district office - this statement to be in the district office the following Monday morning.

District Superintendent.

ITB:B

VANCOUVER, B.C., June 23, 1942.

MEMORANDUM TO

ALL APPRAISERS

Re: Japanese Lands

A review of this work brings to light one or two points on which I think, looking to the future, we can improve our system to some extent.

In the majority of municipalities house numbers have been put on the properties. Where this is the case I think it would be well to put the house number just under the land description. If, at a later date, it should be necessary for us to go back to the property for some reason or other, it would then be possible to drive there with little delay when we had a record of the road and house number. The tenants on many of these holdings which are served by mail routes are now covering up the names of the owners, and putting their own names on the mail boxes. It wont be long until this source of information will have passed out of the picture.

In appraising an undeveloped property, with no improvements, some appraisers are not including sheet two of S.S.Form No.43. This second sheet is necessary as the appraisal has to be signed by me before going forward to Head Office. I also consider that the diagram should be completed to scale although there may be nothing of special interest to note on it so far as the physical features of the property are concerned.

Some appraisers when making their weekly return on the number of properties appraised are including properties they visit, and which they find have been sold; non-agricultural properties, etc. Unless an appraisal is completed on Form S.S. No.43, I do not consider it an appraisal. Your information on these types of cases can be submitted by way of S.S.Form No.C.3 as we will have to account for every property that appears on the tax rolls.

Before the job is completed I figure that five to ten per cent of the total number originally appearing on the tax roll will be eliminated without an actual appraisal one way or the other. Any appraisers who have been taking credit for cases coming in this category are asked to adjust their return to the correct figure as at June 27th.

W. T. Barnett

District Superintendent.

ITB:B

S.S. Form No. 3
(Replacing L.S.B. C3)

Soldier Settlement – Field Report

District

Re T. Go.

File No. BC/22P

9.797ac. NL

Can be Veined as bush lot.
Cabin is habitable.
Approach by 1/2 Road.
Little to recommend it, Municipality has much
of Similar Stuff in Tax Sale.
Considered unsuitable for Departmental use

EXHIBIT No. Gen 64
DATE 30 Nov. 1948
FILED BY J. W. G. Hunter

Not suitable – "I. T. Barnet"

Date June 15. 1942

Signature T. Godfrey

S.S. Form No. 3
(Replacing L.S.B. C3)

Soldier Settlement – Field Report

District

Shimmoreuki Sasaki

File No. J.L.500

Appraisal of above property is attached.

Owing to limited acreage of crop land This holding is not considered suitable for settlement purposes.

"Suitable for settlement."

"I. T. BARNET"

Date July 13/42

Signature [illegible]

S.S. Form No. 3
(Replacing L.S.B. C3) COPY

Soldier Settlement – Field Report

District MISSION

Re S. Harai

File No. J.L. 87

S.W.Sec.20, Tp.17, Blk.23

The five acres here is not in my opinion suitable for white settlement in its present state. The soil is however good quality, and with additional acreage in the same locality, say another fifteen, or possibly the adjoining ten to the north (H.Nakamura folio 29/17) it could be given favourable consideration.

May 19th, 1942. sgd. G.T.McKay

"Not suitable"
"I.T.BARNET"

Date..... Signature.....

S.S. Form No. 3
(Replacing L.S.B. C3)

Soldier Settlement – Field Report

District Pitt Meadows Dist.

Re MASO. ITO.

File No.

Lot 2. Pcl "A" of Lot 223. Gp 1. Map 5392. N.W.D.

Please find attached SS Form 43 together with sketches in duplicate.

If this 6.06 acres was joined with Lot 1. making 12.12 acres. & water & a new set of buildings erected would consider same suitable for Departmental use.

Electric light & Phone are available but not installed to property (no number on the shack)

Not suitable - "I.T. Barnet"

Date 4/7/42.

Signature L. B. Plumbly

S.S. Form No. 3
(Replacing L.S.B. C3)

Soldier Settlement – Field Report

District Vancouver, B.C.

Re Shigeo - Shuto

File No. 21668

Attached hereto please find Appraisal Report covering the above named property.

This property is not considered suitable for Settlement purposes.

NOT SUITABLE. "I.T. BARNET"

Date July 28 / 42

Signature H. Sinclair

S.S. Form No. 3
(Replacing L.S.B. C3)

Soldier Settlement – Field Report

District.....

[redacted]e.....

File No. 27/7

M.Okamura

Unfit for soldier settlement by itself, Acreage small and too little cleared and buildings unsuitable.
It might be combined with adjoing Jap acreages however and be of advantage as a small mixed farm.

7-7-42 R.L. Ramsay.

Not suitable.

"I.T. BARNET"

Date.....

Signature.....

S.S. Form No. 3
(Replacing L.S.B. C3)

Soldier Settlement – Field Report

District Pitt Meadows Dist:

Re DENGHIN. NAGAMATSU. File No. J.L. 383

Lot 5. Plan of S/D. of 50 ac Ptn of Lot 282. Gp1. Map. 4461. N.W.D

Please find attached S.S. Form 43. together with sketches in duplicate.

This is light land but well located with excellent home, with Electric light installed with Electric pump.

Consider same suitable for Departmental use.

"SUITABLE FOR SETTLEMENT"
"I.T.BARNET"

Date 26/6/42.

Signature L.B. Pembly.

Photograph of Dwelling House.

EXHIBIT No. Gen 74
DATE 2 Dec 1948
FILED BY
Jwg Hunter.



Extract Gen 75

FARM APPRAISAL REPORT

File No.J.L.744

Land Description: 92 acs. of Lot "C" Langley Townsite, as shown on Map 2735, N.W.D. and 1 ac. of Lot "C" Langley Townsite as shown on Sk.8101, N.W.D..

Containing 93 acres

Owner's Name: MASAHARA, A. Post office address: R.R.#1 Milner, B.C.

Nearest rail point: Langley Fort Distance 2 miles

Market Town: " Distance: 2 miles

Church (give denomination) All denominations, Langley Fort Distance: 2 miles

Nearest School: Langley Fort Distance: 2 miles

State how property was identified: Map, roads, iron post.

Roads: State whether property has access to main road, the kind of road and its condition: Well served by roads (see remarks).

Is this district a good one? Very fair, but somewhat pioneer just here.

Employment opportunity? Seasonal farm work.

Predominating nationality and religion: British - Protestat.

Describe fencing and it s condition: South line of 1 acre well fenced by neighbour's fence; otherwise none.

Water supply: Shallow well and spring on 92 acres, river on 1 ac.

BUILDINGS ON FARM

Buildings	Dimensions	Material	Height	Roof	Age	Foundation	Repair	Valuation
House 1 st.	20 x 24 x 12	Frame	9' eave	Shgl.	1	Wood	Good	200.00

(No other buildings)

Total present day value $200.00

Total value buildings add to farm $100.00

Is dwelling habitable without repairs? Yes.

Describe the basement and chimneys: Metal chimney; no basement.

No. rooms downstairs? 4 Upstairs? - How finished: Shiplap lined, shingled outside.

Are buildings painted? No.

Distance from nearest bush: Close

AREA WHICH CAN BE CULTIVATED AFTER A REASONABLE AMOUNT OF CLEARING TIMBER, STONES, DRAINAGE ETC.

Acres	Level undulating, rolling or hilly.	Soil (state depth)	Sub-soil	Nature of reclamation necessary.	Reclamation cost per acre	Value per acre	TOTAL
93	Heavily rolling. Soil is good clay 12" - 24" on bottoms underlaid with clay but gravelly on ridges. There is a certain amount of cordwood not easy to get out. No commercial timber.				10.00		930.00

EXHIBIT No. Gen 75
DATE 2 Dec, 1948
FILED BY J W S Hunter.

Total value of Land	$930.00
Total added by buildings to value of farm	100.00
Total fruit trees add to value of farm (for use in orchard districts only)	nil
Total value of farm	$1030.00

Describe condition of farm commenting on tillage, length of time unoccupied or partly occupied: Only occasionally occupied and never tilled.

State most suitable type of agriculture for farm bearing in mind the district's limitations, if any. Unsuitable till cleared.

Noxious weeds: Naturual weeds only.

Give approximate detail and amount of all annual taxes and names of Taxing Authorities: Langley - $47.95

Date: August 5th 1942.
Place: Chilliwack, B.C.

I certify that the above report is based on a personal examination of the whole farm made on the 4 day of August 1942.

Inspector's Signature: "R.L. RAMSAY"

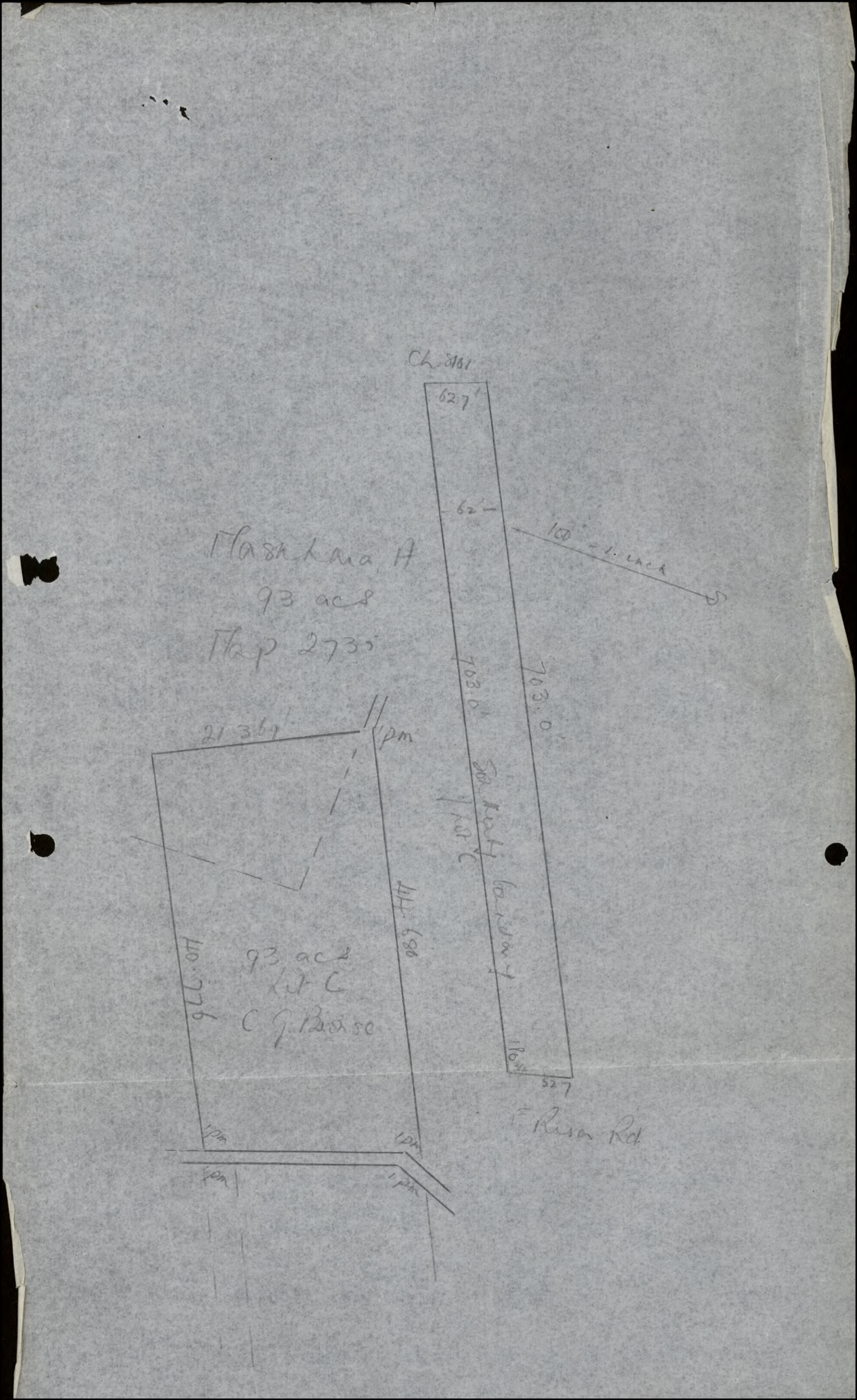
Remarks: This is a rough piece of bush land such as is obtainable from Langley Municipality in reverted tax sale lands for $10 per acre. It is on the hilly side; has been logged off and cordwood is scattered and expensive to get out. Owner is said to keep a store in Vancouver and has not lived on it. Locally it is thought to be sold to one Lloyd Cody who it is thought has again sold it. Nevertheless it is on the tax roll. I did not attempt to check this with Municipality. One of these purchasers comes out to property and spends a little time there occasionally and the house has evidence of being recently lived in.

Location is fair. It is on the end of a road stub so far as southerly side of 92 acs. goes. This stub ends at the end of the property, is lightly gravelled and evidently passable at all times of the year. On the other end of the 92 acres, it is situated on the Allard road, which is a good gravelled road. From this road too runs the 1 acre piece to the Fraser River. It is only 62' wide at widest part but gives access to river. Where it meets the river the bank is probably 45' high sheer down to the water. This piece has a small clearing on it but is mostly light bush with grazing in it. It is too narrow to be of value by itself agriculturally. It could profitably be joined to properties on either side belonging to other farmers. The soil on most of the place appears excellent being a good clay underlaid by clay subsoil; gravel outcrops on the ridges of which there are a number on the 92 acre piece and there is the odd small swamp in the bottoms. There is good spring water on the 92 acre piece. The only building is the small dwelling and the only cleared land on the large piece lies immediately around it. A strip on the Allard road on 92 acres has at one time been slashed and burned, but is now again grown up, and while there is some grazing must be classed as bush. As cleared area, is such a small proportion it wouldn't be considered in total price by a buyer and I have therefore ignored it in valuing.

There is no small fruit, orchard of any kind or other plantings.

Following careful review of this appraisal report, it is my opinion that the present value is $1000.00

Date: 5th August 1942. "I.T. Barnet" District Superintendent.


Ch. 3161
627'
62'
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Mashkina H
93 acs
Map 273
703.0'
703.0'
So. Fork Canal
213.6'
pm
1320'
1320'
93 acs
Lot C
C G. Bosse
1320'
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1320'

EXHIBIT No. Gen 72
DATE 2 Dec 1948
FILED BY Jwf. Lumber

AVERAGE PRICE PAID TO THE GROWERS FOR STRAWBERRIES, RASPBERRIES, LOGANBERRIES AND BLACKBERRIES IN THE FRASER VALLEY AND VANCOUVER ISLAND, YEARS 1939-1947

District	Year	Strawberries		Raspberries		Loganberries		Blackberries	
		Fresh	Processed	Fresh	Processed	Fresh	Processed	Fresh	Processed
		cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.
Vancouver Island	1939	.0861	.0550	.0777	.0800	.0666	.0475	.0555	.0350
Fraser Valley	1939	.0667	.0516	.0777	.0531	.0611	.0321	.0528	.0275
Vancouver Island	1940	.0833	.0550	.0833	.0800	.0666	.0500	.0555	.0400
Fraser Valley	1940	.0676	.0525	.0833	.0600	.0639	.0333	.0500	.0300
Vancouver Island	1941	.1028	.0600	.0250	.1000	.0709	.0500	.0694	.0500
Fraser Valley	1941	.0787	.0575	.0972	.0750	.0687	.0570	.0639	.0475
Vancouver Island	1942	.1361	.0761	.1444	.1050	.1044	.0752	.0833	.0650
Fraser Valley	1942	.1399	.0800	.1610	.1050	.1030	.0771	.0722	.0675
Vancouver Island	1943	.2500	.1600	.2500	.1600	.1666	.1050	.1388	.1000
Fraser Valley	1943	.2722	.1550	.2833	.1450	.1888	.1077	.1805	.0850
Vancouver Island	1944	.2083	.1600	.2000	.1400	.1666	.1150	.1388	.1050
Fraser Valley	1944	.1805	.1475	.1944	.1450	.1892	.1062	.1388	.0800
Vancouver Island	1945	.2277	.2500	.2222	.1800	.1666	.1150	.1583	.1050
Fraser Valley	1945	.1944	.2500	.1972	.1450	.1675	.1159	.1388	.0850
Vancouver Island	1946	.2833	.2000	.2083	.1400	.1777	.1400	.1666	.1100
Fraser Valley	1946	.2777	.1786	.2222	.1532	.1675	.1154	.1805	.0836
Vancouver Island	1947	.2500	.1900	.1944	.1500	.1666	.1450	.1388	.1150
Fraser Valley	1947	.2500	.1650	.2361	.1525	.1833	.1402	.1805	.0800

NOTE: The above are f.o.b. prices as taken from our Agricultural Statistics Report for the years indicated and are on a poundage basis.

Custodian's File No.	Japanese Owner's Name	V.L.A. Appraiser's Name	J.L. NO.	V.L.A. Appraisal	Subsequent Sale Price	Sold by	% above V.L.A. Appraisal	Date of Sale	Remarks
8654	Hatsuo ARINOBU	D. Dodding ✓	53	$ 612.00	$ 850.00	Owner	41.2	23 May 1942	
XI/564	Kiyoji HARA	L.B. Plumbly	128	836.17	1250.00	"	49.5	20 May 1942	
9587	Kujiro KUSANO	T. Godfrey	55	2241.50	4200.00	Custodian	87.3	10 June 1943	
7375	Nosaku MUKUDA	T. Godfrey	71	894.70	1500.00 ~~1000.00~~	Owner	11.7	13 May 1942	
X 9053	Akiyasu MASUHARA	R.L. Ramsay ✓	744	1030.00 X	X 1250.00	"	21.3	14 May 1942	Bought by Mrs in Sept '41 at 800.-
6620	Ken HAYASHI	B.C. Wormworth	33	368.00	1500- ~~1050.00~~	"	185.3	4 June 1942	
5401	Takeo FUJISHIGI	H.L. Sinclair ✓	63	1155.00	1650 ~~1425.00~~	"	23.3	15 June 1942	
4840	Soshichi TANAKA	T. Godfrey	273	522.50	950.00	"	81.8	12 June 1942	
1540	Noboru NAGAMATSU	D. Dodding ✓	427	550.75	1400.00	"	154.2	Feb. 1943	
4796	F. & K. NABUTO	J.D. Patterson ✓	157	466.35	1000.00	Marie Mazerolle	114.4	7 Aug. 1942	
1758 & 1786	H. & F. KOMORI	T. Godfrey ✓	707	1778.50	1650.00 1360.90	Custodian	- 7.2	13 June 1944	
						Average	69%		

EXHIBIT No. Gen 71
DATE 7 Dec 1948
FILED BY J.W.S. Hunter

PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF AGRICULTURE
(STATISTICS BRANCH)

AGRICULTURAL STATISTICS REPORT

YEAR 1942

EXHIBIT No. Gen 70
DATE 1 Dec 1948
FILED BY J. W. G. Hanley

PUBLISHED BY
AUTHORITY OF HON. K. C. MacDONALD, MINISTER OF AGRICULTURE.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
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INTRODUCTION.

THIS REPORT contains statistics of the agricultural industries of the Province of British Columbia. These statistics relate to areas of land under crop and under cultivation; production of the various crops; animals and animal products. Included also are statements relating to the express movements of fruits and vegetables and imports and exports of all agricultural products.

The data shown for the years 1941–42 relating to the area of field crops and numbers of farm live stock are based on information returned from farmers and is prepared in co-operation with the Dominion Bureau of Statistics.

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ACKNOWLEDGMENTS.

Grateful acknowledgments are tendered to the following for valuable co-operation in supplying data contained in this report: Various produce merchants for data relating to imports from other Provinces in Canada; Canadian National Express Company and Canadian Pacific Express Company for data showing express movements of fruits and vegetables; and the Bureau of Economics and Statistics, Victoria, for statements relating to imports from foreign points.

AGRICULTURAL STATISTICS, 1942.

SYNOPSIS OF AGRICULTURAL CONDITIONS IN BRITISH COLUMBIA, YEAR 1942.

The total gross value of agricultural production in British Columbia in 1942 exceeded that of any previous year. Estimated at $73,748,235, the 1942 total is $15,245,358 or 26 per cent. above the revised estimate of $58,502,877 for 1941.

Increases are recorded in the revenue from farm animals, poultry and eggs, dairy products, fruits and vegetables, field crops, honey, wool, fur-farming, and seeds. A decrease is shown in the revenue from tobacco.

The total value of imports is placed at $29,768,618, as compared with $22,720,-110 in 1941, an increase of $7,048,508 or 31 per cent.

Imports from other Provinces are valued at $27,976,058, compared with $21,068,649 in 1941, while imports from foreign points increased from $1,651,461 in 1941 to $1,792,560 in 1942.

The total value of exports is placed at $14,380,765, while in 1941 the estimated value was $11,648,588. This represents an increase of $2,732,177 or 23.4 per cent. The 1942 values are the highest ever recorded.

FRUITS.

From a horticultural standpoint the climatic conditions were most variable. The fall of 1941 was extremely wet. The winter was, on the whole, mild with light snowfall in the Interior sections and less rainfall in the Coast area than is usually experienced at this time of the year. Dry weather and mild conditions generally permitted the early starting of spring work, but growth on the whole was late in comparison with 1941.

Unsettled weather with heavy rains was experienced in all districts up to the middle of July. From that date until the end of October there was continuous dry weather. This was very satisfactory for harvesting crops, but in the case of the apple and seed crops undoubtedly caused a general reduction over early estimates of production. During the month of November there was moderate rainfall in the Coast sections with light snowfall in some of the Interior areas.

The apple-crop in all sections was smaller than anticipated. In the Okanagan indications were for a heavy crop. At picking-time the crop was much smaller than was forecast by spring and summer estimates. This was due largely to the dry weather conditions which prevailed for the two months previous to harvesting. In the Kootenay sections the crop was also materially reduced by disease as well as by the drought conditions which were general there as well as in other areas. A reduction of approximately 20 per cent. from original estimates is indicated from the amount of fruit picked.

The crab-apple crop was considerably larger than in 1941 and prices were higher than those of last year.

The crop of pears, plums, prunes, and cherries was lighter than that of the previous year. Harvesting was carried out satisfactorily and the returns for these fruits were better than in 1941. Peaches and apricots were a heavy crop in all sections and of exceptional quality. Market demand for this fruit was good.

In the main small-fruit areas of the Fraser Valley the small-fruit industry has been largely in the hands of Japanese growers. Due to war conditions it was found necessary to move these aliens to points away from the Coast. The result was that many plantings of small fruits originally owned by Japanese were either partly or wholly neglected, with resultant loss of crop. These difficulties, together with unsettled weather at harvesting-time, reduced the tonnage below the anticipated crop in all cases. The production of strawberries and loganberries was

less, while that of raspberries and blackberries was slightly larger than that of the previous year. Prices generally were higher than in 1941.

The total production of all fruits in 1942 amounted to 321,484,000 lb., valued at $12,209,696, as compared with 271,258,000 lb., valued at $8,350,522, in 1941, indicating an increase of 50,226,000 lb. or 18.5 per cent. in volume and $3,859,174 or 46.2 per cent. in value.

The total production of commercial apples for 1942 is estimated at 243,950,000 lb., of a value of $7,637,384, as compared with 188,106,000 lb., value $4,484,187, in 1941.

Of the other fruits, the estimated commercial production and value for 1942 are as follows, with corresponding figures for 1941 within brackets: Crab-apples, 6,082,000 lb., $152,326 (4,360,000, $96,812); pears, 15,958,000 lb., $809,040 (16,622,000, $571,230); plums, 2,924,000 lb., $121,206 (5,166,000, $128,341); prunes, 6,028,000 lb., $289,439 (10,814,000, $380,758); peaches, 19,156,000 lb., $876,286 (13,974,000, $572,336); apricots, 4,876,000 lb., $226,744 (3,798,000, $153,607); cherries 4,578,000 lb., $525,563 (4,994,000, $424,580); strawberries, 7,352,000 lb., $693,089 (13,924,000, $930,099); raspberries, 3,998,000 lb., $441,435 (3,532,000, $293,483); blackberries, 826,000 lb., $57,955 (778,000, $42,590); loganberries, 1,950,000 lb., $154,268 (2,014,000, $112,251); bush-fruits, 3,618,000 lb., $205,824 (2,964,000, $145,142).

VEGETABLES.

On the Coast the season was fairly satisfactory. The mild open winter permitted the early preparation of land. The broccoli-crop matured satisfactorily and no serious damage was done by the freeze in January. Unsettled weather at seeding-time and planting-time, and to some extent throughout the early part of the season, was not conducive to rapid development. Production, however, was on the whole good and exceeded that of any previous year. Increases are recorded in the production of such vegetable-crops as beets, cabbages, carrots, corn, parsnips, spinach, and turnips.

In the Interior the onion acreage excelled last year's, but tonnage was under expectations. Fall-planted onions produced an excellent crop of large-size uniform onions, but there were more of them than could be marketed through ordinary channels and many were shipped to the evaporator.

Spring-seeded onions made excellent growth until the hot weather in August. Thrips became numerous and mildew suddenly stopped growth. Onions at this time were only two-thirds to three-quarters grown and did not develop further. This small size accounts for the reduced yield. Harvesting weather was the best in years, practically no rain falling since the onions were pulled.

The cold, wet spring weather retarded growth of tomato plants and the crop was late in starting. From late July to the end of September favourable weather prevailed, but there was not time to make up for the late start. The bulk of the canning-crop was harvested in September and late-picked tomatoes never have the quality of those harvested in August. As was the case last year, the demand for canning was greater than the supply, and though not a satisfactory tomato year it was an improvement over 1941.

The lettuce and celery acreage was very little larger than last year and the crops somewhat below the average in quality. Celery blight was general in the principal plantings at Armstrong and Kelowna. Asparagus yields were also below normal, due to unsatisfactory conditions during the cutting period.

Greenhouse vegetables such as tomatoes and cucumbers were produced in quantities approximately equal to last year and marketed at higher prices than in 1941.

The aggregate of all vegetable-crops for the year 1942 was 84,265 tons, of a value of $4,476,393, as compared with 76,359 tons, of a value of $3,431,554,

produced in 1941, indicating an increase of 7,906 tons or 10.3 per cent. in volume and $1,044,839 or 30.4 per cent. in value.

The production of field rhubarb is estimated at 1,160 tons, of a value of $56,121, as compared with 1,107 tons, valued at $40,262, in 1941.

A decrease of 52 tons is recorded in the quantity of forced rhubarb produced. The 1942 crop amounted to 443 tons, valued at $44,433.

The quantity of field cucumbers produced in 1942 amounted to 1,333 tons, of a value of $103,761, an increase of 16 tons over the previous year.

Production of hothouse cucumbers in 1942 amounted to 306 tons, of a value of $45,236, as compared with 310 tons, value $36,382, in 1941.

Field tomatoes produced amounted to 23,564 tons, as against 23,626 tons in 1941, a decrease of 62 tons.

The production of hothouse tomatoes in 1942 amounted to 1,944 tons, valued at $531,976, as compared with the 1941 production of 2,087 tons, valued at $456,552.

Other vegetables produced in 1942 amounted to 55,515 tons, valued at $2,779,640, as against 47,417 tons, of a value of $2,095,357, in 1941, representing an increase in quantity production of 8,098 tons or 17.1 per cent.

GRAINS, FODDERS, AND ROOTS.

The early part of the season was considerably later than in 1941 and cool, wet weather was experienced until the end of June. The fine, warm days of July brought the crops along and at the end of the month field crop prospects were generally excellent. Weather conditions favoured harvesting and the principal crops showed better yields than in 1941.

The total area of the principal field crops in British Columbia in 1942 is estimated at 545,300 acres, as compared with 517,600 acres in 1941, an increase of 27,700 acres.

Wheat production in 1942 is estimated at 2,579,000 bushels from 90,500 acres, a yield per acre of 28.5 bushels, as compared with 2,120,000 bushels from 84,800 acres or 25 bushels per acre in 1941. Oats yielded 3,819,000 bushels from 73,300 acres, as compared with 3,725,000 bushels from 81,500 acres in 1941; yields per acre of 52.1 bushels and 45.7 bushels respectively. The yield of barley is estimated at 854,000 bushels from 22,900 acres, as compared with 592,000 bushels from 18,000 acres in 1941; the average yields per acre being 37.3 bushels and 32.9 bushels. Rye is estimated to have yielded 45,000 bushels from 2,000 acres, as compared with 101,000 bushels from 4,800 acres in 1941; yields per acre of 22.3 bushels and 21 bushels respectively. The production of mixed grains is estimated at 253,000 bushels from 6,200 acres, or 40.8 bushels per acre, as compared with 176,000 bushels from 4,700 acres, or 37.5 bushels per acre, in 1941. The yields of other grain-crops, in bushels, are as follows, with the 1941 figures within brackets: Peas, 148,000 (127,000); beans, 15,000 (24,100); flax-seed, 30,000 (34,000).

The production of all grains amounted to 7,743,000 bushels, valued at $4,746,000, as compared with a production of 6,899,100 bushels, valued at $4,061,000, in 1941.

The total yield of hay and clover in 1942 amounted to 484,000 tons from 218,000 acres, or 2.22 tons per acre, as compared with 400,000 tons from 193,000 acres, or 2.07 tons per acre, in 1941. Alfalfa yielded 221,000 tons from 69,800 acres, or 3.16 tons per acre, as compared with 200,000 tons from 65,700 acres, or 3.05 tons per acre, in 1941. Fodder corn yielded 47,000 tons from 4,400 acres, or 10.65 tons per acre, as compared with 53,000 tons from 4,600 acres, or 11.53 tons per acre, in 1941. Grain-hay is estimated to have yielded 68,000 tons from 30,000 acres, as compared with 71,000 tons from 32,300 acres in 1941; yields per acre of 2.25 tons and 2.19 tons respectively.

The production of all fodders amounted to 820,000 tons, valued at $9,396,000, as compared with 724,000 tons, valued at $7,604,000, produced in 1941.

The total yield of potatoes in 1942 was 75,500 tons from 15,100 acres, as compared with 74,900 tons from 15,600 acres in 1941; the yields per acre being 5 tons and 4.80 tons respectively.

Turnips, mangels, etc., yielded 39,800 tons from 3,900 acres, or 10.20 tons per acre, as compared with 34,650 tons from 3,500 acres, or 9.90 tons per acre, in 1941.

The average prices up to December 31st received by growers at the point of production for the 1942 crops are estimated as follows, with the revised prices for 1941 within brackets: Cents per bushel—wheat, 80 (75); oats, 44 (45); barley, 61 (60); rye, 63 (64); peas, 160 (151); beans, 190 (180); flax-seed, 185 (153); mixed grains, 52 (50). Dollars per ton—hay and clover, 12 (11); alfalfa, 12.25 (11.50); fodder corn, 5 (5); grain-hay, 9.50 (9); potatoes, 45 (28); turnips, etc., 15 (12).

The aggregate value of all field crops in 1942 is now estimated at $18,137,000, as compared with $14,178,000 in 1941, an increase of $3,959,000.

DAIRY PRODUCTS.

The season of 1942 shows little increase in annual total production of dairy produce, although the value of all products is sensibly greater. Creamery butter has given more than its ordinary annual increase to evaporated milk, the output of which is accordingly higher. Cheese and ice-cream have gained appreciably, the latter largely owing to service supply. Fluid-milk requirements increased considerably in all parts and much disturbance of ordinary marketing arrangements and of manufacturers has been experienced.

Much uncertainty as to the future of dairy demands exists with dissatisfaction at the unprecedented shortage of experienced labour and the wages needed by such help as is available. It is felt generally that returns are not commensurate with expenses in the production of milk for the wholesale fluid market or even for manufacturing. The dispersal and sale of dairy herds, concerning which many rumours have been afloat, has not proceeded at any rate calculated to damage the industry. The transfer to the services or to industry of dairy-farm owners and workers has necessitated readjustment and the prices paid for cows as beef have caused the slaughter of more dairy animals than is usual.

The total value of dairy production in 1942 is placed at $17,662,371, as compared with $16,209,733 in 1941, an increase of $1,452,638 or 8.9 per cent.

The butter output of creameries in 1942 was 5,357,027 lb., as compared with 6,062,442 lb. in 1941, a decrease of 705,415 lb. or 11.6 per cent.

Factory cheese is estimated at 879,787 lb. in 1942, as compared with the final estimate of 719,528 lb. for the year previous, an increase of 160,259 lb. or 22.2 per cent.

The production of evaporated milk reached an all-time high. The output of the condenseries for 1942 was 603,467 cases, valued at $2,413,868, as compared with 581,806 cases, valued at $2,094,502, in 1941.

Ice-cream totals were likewise higher than during any previous season. The combined output of ice-cream and ice-cream mix for the year 1942 amounted to 1,412,705 gallons, valued at $1,612,348, as against 1,357,812 gallons, valued at $1,533,621, in 1941.

The quantity of fresh milk consumed in 1942 was 23,525,000 gallons, showing an increase over the previous year of 1,660,000 gallons.

LIVE STOCK AND POULTRY.

The total numbers and values of farm live stock in British Columbia at June 1st, 1942, are estimated as follows, with the corresponding figures for 1941 within brackets: Horses, 62,000, $5,022,000 (62,145, $4,661,000); milk cows, 92,500, $7,215,000 (87,623, $5,432,000); other cattle, 236,500, $12,061,000 (229,834, $10,-113,000); total cattle, 329,000, $19,276,000 (317,457, $15,545,000); sheep, 125,500, $1,162,000 (123,116, $1,090,000); hogs, 82,000, $1,550,000 (78,542, $1,237,000).

The total value of all these descriptions of farm live stock in 1942 amounted to $27,010,000, as compared with $22,533,000 in 1941, an increase of $4,477,000 or 19.8 per cent.

The total numbers and values of farm poultry in 1942 are estimated as follows, with the 1941 figures in brackets: Hens and chickens, 2,968,000, $2,820,-000 (2,777,591, $2,222,000); turkeys, 53,300, $165,000 (42,103, $116,000); geese, 7,000, $16,000 (6,828, $14,000); ducks, 18,600, $19,000 (19,610, $20,000).

The total value of all farm poultry in 1942 amounted to $3,020,000, as compared with $2,372,000 in 1941, an increase of $648,000 or 27.3 per cent.

As compared with 1941 the following increases are recorded in the numbers of farm live stock and poultry: Milk cows, 4,877; other cattle, 6,666; sheep, 2,384; hogs, 3,458; hens and chickens, 190,409; turkeys, 11,197.

The average farm values per head of live stock and poultry in 1942 are as follows, with the 1941 values in brackets: Horses, $81 ($75); milk cows, $78 ($62); other cattle, $51 ($44); all cattle, $59 ($49); sheep, $9.26 ($8.85); hogs, $18.90 ($15.75); hens and chickens, $0.95 ($0.80); turkeys, $3.10 ($2.75); geese, $2.30 ($2); ducks, $1.04 ($1).

The production of farm eggs in 1942 is estimated at 22,376,000 dozens, valued at $6,937,000, as compared with 20,848,000 dozens, valued at $5,108,000, in 1941; indicating an increase in quantity production of 1,528,000 dozens or 7.3 per cent.

MISCELLANEOUS.

Honey production in 1942 is estimated at 1,333,600 lb., of a value of $280,100, as compared with 1,169,040 lb., of a value of $210,427, in 1941; an increase of 164,560 lb. or 14 per cent.

The quantity of wool produced amounted to 507,000 lb., of a value of $130,000, as compared with the 1941 production of 459,000 lb., valued at $101,000.

Seasonal conditions were not at all favourable to the growth and development of the 1942 hop-crop and, as a result, yields were below normal. Hops yielded 1,202,700 lb. from 1,564 acres, as compared with 1,596,400 lb. from 1,506 acres in 1941; yields per acre of 769 lb. and 1,060 lb. respectively. The average value per pound of hops in 1942 is estimated at 55¼ cents, as compared with 35 cents in 1941.

The yield of tobacco in 1942 is estimated at 373,000 lb. from 360 acres, or 1,036 lb. per acre, as compared with 766,200 lb. from 640 acres, or 1,197 lb. per acre, in 1941.

Due to increased planting in 1942 and satisfactory harvesting weather the estimated value of seed production greatly exceeded that of the previous year.

The total value of flower, vegetable, and field-crop seed production for the year 1942 amounted to $901,515, as against $615,033 in 1941; an increase of $286,482 or 46.5 per cent.

The value of floricultural and ornamental nursery stock, etc., sold during 1942 amounted to $493,468, an increase of $160,974 over the year previous.

The revenue derived from fur-farming during the year is placed at $294,000, as compared with a value of $256,000 in 1941, an increase of $38,000 or 14.8 per cent.

G. H. STEWART,
Statistician.

November 25th, 1943.

PRODUCTION.

TABLE No. 1.—GROSS VALUE OF AGRICULTURAL PRODUCTION IN BRITISH COLUMBIA, YEARS 1941–42.

Description.	1941.		1942.	
	Quantity.	Value.	Quantity.	Value.
		$		$
Horses ..... No.	.....	154,000	.....	235,000
Cattle and calves ..... ,,	.....	4,239,000	.....	5,321,000
Sheep and lambs ..... ,,	.....	400,000	.....	386,000
Hogs ..... ,,	.....	2,473,000	.....	3,382,000
Total live stock	.....	7,266,000	.....	9,324,000
Poultry ..... lb.	.....	1,468,000	.....	1,869,000
Eggs ..... doz.	20,848,000	5,108,000	22,376,000	6,937,000
Total poultry and eggs	.....	6,576,000	.....	8,806,000
Butter (creamery) ..... lb.	6,062,442	2,085,068	5,357,027	1,896,075
Butter (dairy) ..... ,,	2,750,000	687,500	2,557,500	716,100
Cheese (factory) ..... ,,	719,528	148,892	879,787	179,730
Milk (as fresh) ..... gals.	21,865,000	7,652,750	23,525,000	8,704,250
Milk (evaporated) ..... cases	581,806	2,094,502	603,467	2,413,868
Ice-cream ..... gals.	1,240,410	1,411,343	1,306,274	1,497,743
Ice-cream mix ..... ,,	117,402	122,278	106,431	114,605
Miscellaneous (cottage and farm cheese, chocolate milk, whole-milk powder, skim-milk powder, condensed buttermilk, casein, buttermilk, etc.) ..... lb. fat	.....	2,007,400	.....	2,140,000
Total dairy products	.....	16,209,733	.....	17,662,371
Apples ..... lb.	192,466,000	4,580,999	250,032,000	7,789,710
Other tree-fruits ..... ,,	55,580,000	2,245,958	53,708,000	2,867,415
Small fruits ..... ,,	23,212,000	1,523,565	17,744,000	1,552,571
Vegetables ..... tons	76,359	3,431,554	84,265	4,476,393
Total fruits and vegetables	.....	11,782,076	.....	16,686,089
Grains ..... bu.	6,899,100	4,061,000	7,743,000	4,746,000
Hay and clover ..... tons	400,000	4,400,000	484,000	5,808,000
Other fodders ..... ,,	324,000	3,204,000	336,000	3,588,000
Potatoes ..... ,,	74,900	2,097,000	75,500	3,398,000
Turnips, etc. ..... ,,	34,650	416,000	39,800	597,000
Total field crops	.....	14,178,000	.....	18,137,000
Honey ..... lb.	1,169,040	210,427	1,333,600	280,100
Beeswax ..... ,,	17,535	7,014	20,000	9,600
Wool ..... ,,	459,000	101,000	507,000	130,000
Hops ..... ,,	1,596,400	558,900	1,202,700	664,492
Tobacco ..... ,,	766,200	140,200	373,000	74,600
Goat's milk ..... gals.	380,000	190,000	400,000	200,000
Rabbits ..... No.	.....	80,000	.....	85,000
Field, flower, and vegetable seeds ..... lb.	.....	615,033	.....	901,515
Floricultural and ornamental nursery stock, etc. ..... No.	.....	332,494	.....	493,468
Fur-farming ..... ,,	.....	256,000	.....	294,000
Total miscellaneous	.....	2,491,068	.....	3,132,775
Grand totals	.....	58,502,877	.....	73,748,235

TABLE No. 2.—AGRICULTURAL PRODUCTION AND IMPORTS, BRITISH COLUMBIA (VALUES ONLY), YEARS 1941–42.

Description.	Year.	Home Production.	Imports from other Canadian Provinces.	Imports from Foreign Points.	Total Imports.
		$	$	$	$
Live stock	1941	7,266,000	9,303,371	237,232	9,540,603
	1942	9,324,000	11,615,188	88,546	11,703,734
Poultry products	1941	6,576,000	512,503	9,704	522,207
	1942	8,806,000	871,247	4,000	875,247
Dairy products	1941	16,209,733	4,878,308	49,172	4,927,480
	1942	17,662,371	7,011,582	51,469	7,063,051
Fruits	1941	8,350,522	112,472	278,044	390,516
	1942	12,209,696	140,468	255,515	395,983
Vegetables	1941	3,431,554	289,865	616,975	906,840
	1942	4,476,393	619,356	725,117	1,344,473
Grains	1941	4,061,000	5,836,667	239,997	6,076,664
	1942	4,746,000	7,424,187	270,875	7,695,062
Fodders	1941	7,604,000	3,322	55	3,377
	1942	9,396,000	3,663	1,771	5,434
Potatoes and roots	1941	2,513,000	7,332	129,035	136,367
	1942	3,995,000	186,901	218,175	405,076
Miscellaneous products	1941	2,491,068	124,809	91,247	216,056
	1942	3,132,775	103,466	177,092	280,558
Totals	1941	58,502,877	21,068,649	1,651,461	22,720,110
	1942	73,748,235	27,976,058	1,792,560	29,768,618

TABLE No. 3.—AGRICULTURAL PRODUCTION, IMPORTS AND EXPORTS, BRITISH COLUMBIA (TOTAL VALUES), YEARS 1921–42.

Year.	Home Production.	Imports.	Exports.
	$	$	$
1921	43,527,586	20,970,422	.....
1922	41,408,566	17,143,322	.....
1923	44,496,600	19,018,131	5,886,372
1924	45,066,788	16,399,502	6,022,019
1925	48,951,514	19,575,516	6,731,709
1926	52,883,770	21,059,361	8,408,638
1927	53,265,915	21,241,787	10,025,735
1928	58,644,243	21,264,081	10,328,034
1929	62,632,890	22,044,070	9,834,585
1930	55,957,734	19,436,412	8,990,364
1931	40,107,635	13,419,699	6,197,005
1932	34,373,926	10,371,226	5,795,149
1933	36,647,007	10,286,232	6,436,754
1934	39,826,141	11,101,372	7,400,087
1935	42,419,992	12,777,111	7,588,777
1936	46,669,735	14,522,627	8,229,961
1937	49,972,542	16,979,774	9,336,641
1938	47,782,012	15,899,395	9,144,788
1939	49,402,011	17,210,304	9,962,776
1940	52,317,121	18,710,703	9,239,019
1941	58,502,877	22,720,110	11,648,588
1942	73,748,235	29,768,618	14,380,765

TABLE No. 4.—CROP AREAS, YIELDS AND VALUES, BRITISH COLUMBIA, YEARS 1941–42.

Crop.	Year.	Acres.	Average Yield.	Total Yield.	Average Price.	Total Value.
			Bu.	Bu.	$ cts.	$
Wheat	1941	84,800	25.00	2,120,000	0.75	1,590,000
	1942	90,500	28.50	2,579,000	.80	2,063,000
Oats	1941	81,500	45.70	3,725,000	.45	1,676,000
	1942	73,300	52.10	3,819,000	.44	1,680,000
Barley	1941	18,000	32.90	592,000	.60	355,000
	1942	22,900	37.30	854,000	.61	521,000
Rye	1941	4,800	21.00	101,000	.64	65,000
	1942	2,000	22.30	45,000	.63	28,000
Peas	1941	5,400	23.60	127,000	1.51	192,000
	1942	6,400	23.10	148,000	1.60	237,000
Beans	1941	1,000	24.10	24,100	1.80	43,000
	1942	600	24.20	15,000	1.90	29,000
Mixed grains	1941	4,700	37.50	176,000	.50	88,000
	1942	6,200	40.80	253,000	.52	132,000
Flax-seed	1941	2,700	12.50	34,000	1.53	52,000
	1942	2,200	13.70	30,000	1.85	56,000
Total grains	1941	202,900	.....	6,899,100	.....	4,061,000
	1942	204,100	.....	7,743,000	.....	4,746,000
			Tons.	Tons.	$ cts.	$
Hay and clover	1941	193,000	2.07	400,000	11.00	4,400,000
	1942	218,000	2.22	484,000	12.00	5,808,000
Alfalfa	1941	65,700	3.05	200,000	11.50	2,300,000
	1942	69,800	3.16	221,000	12.25	2,707,000
Fodder corn	1941	4,600	11.53	53,000	5.00	265,000
	1942	4,400	10.65	47,000	5.00	235,000
Grain-hay	1941	32,300	2.19	71,000	9.00	639,000
	1942	30,000	2.25	68,000	9.50	646,000
Total fodders	1941	295,600	.....	724,000	.....	7,604,000
	1942	322,200	.....	820,000	.....	9,396,000
Potatoes	1941	15,600	4.80	74,900	28.00	2,097,000
	1942	15,100	5.00	75,500	45.00	3,398,000
Turnips, mangels, etc.	1941	3,500	9.90	34,650	12.00	416,000
	1942	3,900	10.20	39,800	15.00	597,000
Total roots	1941	19,100	.....	109,550	.....	2,513,000
	1942	19,000	.....	115,300	.....	3,995,000
Rhubarb (field)	1941	.....	.....	1,107	36.37	40,262
	1942	.....	.....	1,160	48.38	56,121
Rhubarb (forced)	1941	.....	.....	495	60.61	30,002
	1942	.....	.....	443	100.30	44,433
Cucumbers (outdoor)	1941	.....	.....	1,317	52.17	68,708
	1942	.....	.....	1,333	77.84	103,761
Cucumbers (hothouse)	1941	.....	.....	310	117.36	36,382
	1942	.....	.....	306	147.83	45,236
Tomatoes (outdoor)	1941	.....	.....	23,626	29.81	704,291
	1942	.....	.....	23,564	38.84	915,226
Tomatoes (hothouse)	1941	.....	.....	2,087	218.76	456,552
	1942	.....	.....	1,944	273.65	531,976
Other garden vegetables	1941	.....	.....	47,417	44.19	2,095,357
	1942	.....	.....	55,515	50.07	2,779,640
Total vegetables	1941	.....	.....	76,359	.....	3,431,554
	1942	.....	.....	84,265	.....	4,476,393
			Lb.	Lb.	$ cts.	$
Hops	1941	1,506	1,060	1,596,400	0.35	558,900
	1942	1,564	769	1,202,700	.55¼	664,492
Tobacco	1941	640	1,197	766,200	.18³⁄₁₀	140,200
	1942	360	1,036	373,000	.20	74,600
Pasture (seeded)	1941	126,200	.....	.....	.....	.....
	1942	140,200	.....	.....	.....	.....
Fallow	1941	54,900	.....	.....	.....	.....
	1942	52,400	.....	.....	.....	.....
Total miscellaneous	1941	.....	.....	.....	.....	699,100
	1942	.....	.....	.....	.....	739,092

TABLE No. 5.—CARS OF FRUIT PRODUCED IN BRITISH COLUMBIA, YEARS 1940–42.

(*Basis.*—Minimum weight per car: Apples, crab-apples, and pears, 15 tons; balance, 10 tons.)

Kind.	Year.	Islands.	Lower Mainland.	Thompson Watershed.	Okanagan.	Boundary and Kootenay.	Total Cars.
Apples	1940	37.5	91.8	580.6	7,085.4	524.8	8,320.1
	1941	38.7	99.8	371.9	5,254.1	505.6	6,270.1
	1942	31.2	83.9	464.9	7,377.6	174.1	8,131.7
Crab-apples	1940	0.7	0.5	22.5	136.0	8.0	167.7
	1941	0.7	0.5	9.2	128.9	6.0	145.3
	1942	0.7	0.7	17.5	179.4	4.5	202.8
Pears	1940	12.5	27.1	11.3	395.9	37.0	483.8
	1941	6.6	34.3	10.9	463.6	38.7	554.1
	1942	7.2	31.2	7.8	451.1	34.6	531.9
Peaches	1940	.....	.....	0.2	571.3	4.4	575.9
	1941	.....	.....	0.3	690.6	7.8	698.7
	1942	.....	.....	0.3	951.7	5.8	957.8
Apricots	1940	.....	.....	0.1	168.5	0.5	169.1
	1941	.....	.....	0.1	189.2	0.6	189.9
	1942	.....	.....	0.5	242.6	0.7	243.8
Plums	1940	5.2	14.0	1.2	73.6	7.8	101.8
	1941	4.3	161.6	2.2	76.6	13.6	258.3
	1942	4.3	46.2	1.7	88.1	5.9	146.2
Prunes	1940	2.4	27.9	4.3	203.5	16.8	254.9
	1941	2.0	83.3	9.3	416.0	30.0	540.6
	1942	1.8	50.4	2.6	238.3	8.3	301.4
Cherries	1940	11.7	16.6	1.8	146.6	32.5	209.2
	1941	7.8	13.1	1.3	177.2	50.3	249.7
	1942	6.1	9.0	0.6	182.4	30.8	228.9
Total tree-fruits	1940	70.0	177.9	622.0	8,780.8	631.8	10,282.5
	1941	60.1	392.6	405.2	7,396.2	652.6	8,906.7
	1942	51.3	221.4	495.9	9,711.2	264.7	10,744.5
Strawberries	1940	35.3	533.1	6.3	.....	37.8	612.5
	1941	32.9	632.3	3.3	.....	27.7	696.2
	1942	22.4	325.1	3.2	.....	16.9	367.6
Raspberries	1940	5.3	182.7	2.9	11.5	18.3	220.7
	1941	4.5	146.1	2.5	8.5	14.9	176.5
	1942	4.3	169.9	2.6	5.4	17.7	199.9
Blackberries	1940	3.5	48.1	.....	.....	0.7	52.3
	1941	3.4	34.7	.....	.....	0.7	38.8
	1942	2.8	37.8	.....	.....	0.7	41.3
Loganberries	1940	48.5	70.4	0.2	.....	0.1	119.2
	1941	43.0	57.2	0.3	.....	0.1	100.6
	1942	38.0	59.3	0.1	.....	0.1	97.5
Bush-fruits	1940	8.1	65.9	1.2	114.4	3.9	193.5
	1941	5.4	48.6	1.0	88.7	4.4	148.1
	1942	6.2	42.4	0.8	127.6	3.9	180.9
Total small fruits	1940	100.7	900.2	10.6	125.9	60.8	1,198.2
	1941	89.2	918.9	7.1	97.2	47.8	1,160.2
	1942	73.7	634.5	6.7	133.0	39.3	887.2
Total all fruits	1940	170.7	1,078.1	632.6	8,906.7	692.6	11,480.7
	1941	149.3	1,311.5	412.3	7,493.4	700.4	10,066.9
	1942	125.0	855.9	502.6	9,844.2	304.0	11,631.7

For 1940 there must be added approximately 10.9 car-loads of fruit not otherwise provided for, making a total for the Province of 11,491.6 cars.

For 1941 there must be added approximately 10.6 car-loads of fruit not otherwise provided for, making a total for the Province of 10,077.5 cars.

For 1942 there must be added approximately 9.4 car-loads of fruit not otherwise provided for, making a total for the Province of 11,641.1 cars.

TABLE No. 6.—AVERAGE NET WEIGHTS PER PACKAGE, FRESH FRUITS AND VEGETABLES, YEARS 1939–42.

Description.	Package.	1939.	1940.	1941.	1942.
		Lb.	Lb.	Lb.	Lb.
Apples	Box	42	42	42	42
Crab-apples	,,	36	36	36	36
Pears	,,	42	42	42	42
Apricots	Crate	20	20	20	20
Cherries	,,	20	20	20	20
Peaches	,,	20	20	20	20
Plums	,,	20	20	20	20
Prunes	,,	17	17	17	17
Blackberries	,,	18	18	18	18
Loganberries	,,	18	18	18	18
Raspberries	,,	18	18	18	18
Strawberries	,,	18	18	18	18
Black currants	,,	18	18	18	18
Red currants	,,	16	16	16	16
Gooseberries	,,	18	18	18	18
Grapes	Basket	8	8	8	8
Rhubarb	Box	40	40	40	40
Tomatoes	Crate	20	20	20	20

AVERAGE TONS PER CAR-LOAD, YEARS 1939–42.

	Tons.
Potatoes	20
Field roots	20
Market-garden	12
Other vegetables	15
Rhubarb	12
Tomatoes	12

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939–42.

APPLES.

District.	Year.	Packages.		Manufactured.	
		Boxes.	Value.	Pounds.	Value.
			$		$
Islands	1939	28,708	21,531	239,816	1,799
	1940	25,798	20,638	40,213	302
	1941	26,420	26,420	51,034	383
	1942	20,878	26,098	60,000	600
Lower Mainland	1939	75,000	45,000	1,378,777	8,041
	1940	60,000	42,000	235,739	1,179
	1941	62,250	56,025	380,788	3,808
	1942	48,000	55,200	501,812	5,018
Thompson	1939	288,864	259,978	119,170	340
	1940	414,704	331,763	.....	.....
	1941	265,662	292,228	.....	.....
	1942	332,057	464,880	.....	.....
Okanagan	1939	4,867,099	4,380,389	21,701,816	71,939
	1940	4,557,236	3,645,789	21,157,108	45,204
	1941	3,324,867	3,657,354	17,979,376	66,487
	1942	4,812,863	6,738,008	19,187,259	191,873
Boundary and Kootenay	1939	386,229	361,871	179,573	525
	1940	369,957	328,104	205,882	671
	1941	356,403	380,884	198,565	598
	1942	123,237	155,522	46,263	185
Totals	1939	5,645,900	5,068,769	23,619,152	82,644
	1940	5,427,695	4,368,294	21,638,942	47,356
	1941	4,035,602	4,412,911	18,609,763	71,276
	1942	5,337,035	7,439,708	19,795,334	197,676

CRAB-APPLES.

			$		$
Islands	1939	677	508	.....	.....
	1940	602	452	.....	.....
	1941	595	536	.....	.....
	1942	587	587	.....	.....
Lower Mainland	1939	500	175	.....	.....
	1940	400	140	.....	.....
	1941	400	200	.....	.....
	1942	560	560	1,054	11
Thompson	1939	10,003	7,002	.....	.....
	1940	18,725	12,171	.....	.....
	1941	7,704	6,163	.....	.....
	1942	14,573	13,116	.....	.....
Okanagan	1939	113,164	79,215	168,472	1,228
	1940	108,653	70,624	170,730	1,297
	1941	104,885	83,908	91,618	1,832
	1942	146,868	132,181	94,485	1,890
Boundary and Kootenay	1939	4,938	3,671	2,525	11
	1940	6,471	4,495	5,910	24
	1941	5,009	4,173	.....	.....
	1942	3,691	3,976	900	5
Totals	1939	129,282	90,571	170,997	1,239
	1940	134,851	87,882	176,640	1,321
	1941	118,593	94,980	91,618	1,832
	1942	166,279	150,420	96,439	1,906

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939-42—*Continued.*

PEARS.

District.	Year.	Packages.		Manufactured.	
		Boxes.	Value.	Pounds.	Value.
			$		$
Islands	1939	3,258	3,747	108,980	2,180
	1940	3,472	3,993	228,527	4,571
	1941	3,571	5,357	46,974	1,292
	1942	3,115	5,451	85,125	2,128
Lower Mainland	1939	10,000	6,500	140,000	1,750
	1940	12,000	9,000	309,988	4,960
	1941	8,200	8,200	683,796	13,676
	1942	5,000	8,500	727,997	25,480
Thompson	1939	7,311	8,773	.....	.....
	1940	4,096	5,120	166,627	4,166
	1941	7,764	12,034	.....	.....
	1942	5,548	13,315	.....	.....
Okanagan	1939	293,803	352,564	451,401	9,240
	1940	277,770	347,213	211,914	4,886
	1941	288,102	446,558	1,807,267	45,182
	1942	248,919	597,406	3,078,876	105,640
Boundary and Kootenay	1939	24,436	27,831	.....	.....
	1940	26,403	31,394	.....	.....
	1941	27,631	38,898	2,202	33
	1942	24,711	51,117	150	3
Totals	1939	338,808	399,415	700,381	13,170
	1940	323,741	396,720	917,056	18,583
	1941	335,268	511,047	2,540,239	60,183
	1942	287,293	675,789	3,892,148	133,251

PLUMS.

		Crates.	$		$
Islands	1939	3,034	1,820	65,595	984
	1940	2,904	1,742	46,350	579
	1941	2,552	2,042	34,596	692
	1942	2,993	2,993	25,518	510
Lower Mainland	1939	3,500	1,750	1,656,966	15,965
	1940	2,500	1,500	229,134	3,154
	1941	2,800	1,820	3,175,290	63,506
	1942	4,000	4,800	843,394	29,519
Thompson	1939	1,306	914	.....	.....
	1940	1,179	766	.....	.....
	1941	1,953	1,465	5,669	113
	1942	1,777	1,777	.....	.....
Okanagan	1939	60,503	42,352	7,278	109
	1940	72,818	47,332	16,686	153
	1941	59,355	44,516	344,440	6,889
	1942	64,913	64,913	463,740	11,594
Boundary and Kootenay	1939	5,569	2,566	58,329	594
	1940	6,751	3,620	21,273	213
	1941	8,625	6,212	100,318	1,086
	1942	5,316	4,875	11,261	225
Totals	1939	73,912	49,402	1,788,168	17,652
	1940	86,152	54,960	313,443	4,099
	1941	75,285	56,055	3,660,313	72,286
	1942	78,999	79,358	1,343,913	41,848

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939-42—*Continued.*

PRUNES.

District.	Year.	Packages.		Manufactured.	
		Crates.	Value.	Pounds.	Value.
			$		$
Islands	1939	3,188	2,041	20,529	411
	1940	2,551	1,913	3,630	64
	1941	2,075	2,075	5,053	152
	1942	1,827	2,284	5,181	155
Lower Mainland	1939	11,765	4,000	1,508,709	19,510
	1940	10,000	7,500	387,990	7,354
	1941	6,000	3,300	1,564,303	35,197
	1942	14,000	10,500	769,273	26,925
Thompson	1939	6,081	2,432	.....	.....
	1940	5,101	2,806	.....	.....
	1941	8,055	5,639	49,419	1,235
	1942	3,045	2,741	.....	.....
Okanagan	1939	298,648	119,459	477,859	5,151
	1940	235,543	129,549	66,670	900
	1941	375,020	262,514	1,945,514	48,638
	1942	235,558	212,002	762,552	26,689
Boundary and Kootenay	1939	17,030	8,954	20,479	276
	1940	18,800	11,280	15,990	181
	1941	34,516	21,748	13,000	260
	1942	9,671	8,103	2,000	40
Totals	1939	336,712	136,886	2,027,576	25,348
	1940	271,995	153,048	474,280	8,499
	1941	425,666	295,276	3,577,289	85,482
	1942	264,101	235,630	1,539,006	53,809

PEACHES.

			$		$
Islands	1939	.....	.....	.....	.....
	1940	.....	.....	.....	.....
	1941	.....	.....	.....	.....
	1942	.....	.....	.....	.....
Lower Mainland	1939	.....	.....	.....	.....
	1940	.....	.....	.....	.....
	1941	.....	.....	.....	.....
	1942	.....	.....	.....	.....
Thompson	1939	20	14	.....	.....
	1940	186	130	.....	.....
	1941	273	246	.....	.....
	1942	309	294	.....	.....
Okanagan	1939	447,010	312,907	1,583,608	33,054
	1940	502,746	351,922	1,370,274	34,039
	1941	548,498	493,648	2,842,596	71,065
	1942	719,683	683,699	4,640,500	185,620
Boundary and Kootenay	1939	4,754	4,051	171	3
	1940	4,431	3,988	.....	.....
	1941	7,812	7,368	600	9
	1942	5,808	6,673	.....	.....
Totals	1939	451,784	316,972	1,583,779	33,057
	1940	507,363	356,040	1,370,274	34,039
	1941	556,583	501,262	2,843,196	71,074
	1942	725,800	690,666	4,640,500	185,620

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939-42—*Continued.*

APRICOTS.

District.	Year.	Packages.		Manufactured.	
		Crates.	Value.	Pounds.	Value.
			$		$
Islands	1939	.....	.....	.....	.....
	1940	.....	.....	.....	.....
	1941	.....	.....	.....	.....
	1942	.....	.....	.....	.....
Lower Mainland	1939	.....	.....	.....	.....
	1940	.....	.....	.....	.....
	1941	.....	.....	.....	.....
	1942	.....	.....	.....	.....
Thompson	1939	42	38	.....	.....
	1940	131	124	.....	.....
	1941	104	99	.....	.....
	1942	539	512	.....	.....
Okanagan	1939	154,737	139,263	435,076	9,899
	1940	124,069	117,866	889,360	29,486
	1941	129,518	123,042	1,193,788	29,845
	1942	142,223	135,112	2,007,869	90,249
Boundary and Kootenay	1939	555	500	1,237	28
	1940	484	484	400	6
	1941	615	615	400	6
	1942	664	863	400	8
Totals	1939	155,334	139,801	436,313	9,927
	1940	124,684	118,474	889,760	29,492
	1941	130,237	123,756	1,194,188	29,851
	1942	143,426	136,487	2,008,269	90,257

CHERRIES.

			$		$
Islands	1939	4,796	7,674	180,891	6,783
	1940	6,267	9,401	108,747	4,894
	1941	4,500	10,125	65,872	3,788
	1942	3,358	9,235	54,439	4,355
Lower Mainland	1939	2,500	2,375	349,392	15,242
	1940	1,500	1,440	301,713	12,488
	1941	750	1,050	246,036	19,683
	1942	1,500	3,000	150,207	14,270
Thompson	1939	1,351	1,756	.....	.....
	1940	1,829	3,475	.....	.....
	1941	1,287	2,574	.....	.....
	1942	597	1,672	.....	.....
Okanagan	1939	147,889	192,256	591,389	27,090
	1940	102,469	194,691	882,604	52,956
	1941	62,584	125,168	2,293,280	160,530
	1942	84,812	237,474	1,951,997	175,680
Boundary and Kootenay	1939	48,143	62,586	47,627	1,644
	1940	30,372	58,839	42,947	2,228
	1941	42,214	87,629	162,328	14,033
	1942	24,228	66,911	132,238	12,966
Totals	1939	204,679	266,647	1,169,299	50,759
	1940	142,437	267,846	1,336,011	72,566
	1941	111,335	226,546	2,767,516	198,034
	1942	114,495	318,292	2,288,881	207,271

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939-42—*Continued.*

STRAWBERRIES.

District.	Year.	Packages.		Manufactured.	
		Crates.	Value.	Pounds.	Value.
			$		$
Islands	1939	24,624	38,167	443,535	24,394
	1940	23,004	34,506	292,633	16,095
	1941	20,260	37,481	293,853	17,631
	1942	16,654	40,802	147,819	13,304
Lower Mainland	1939	280,000	336,400	7,476,790	386,052
	1940	237,185	288,511	6,392,936	335,471
	1941	247,500	350,400	8,190,888	470,976
	1942	62,761	158,028	5,373,008	429,841
Thompson	1939	7,657	8,423	.....	.....
	1940	6,944	8,680	.....	.....
	1941	3,676	6,249	.....	.....
	1942	3,570	6,783	.....	.....
Okanagan	1939	636	700	6,204	372
	1940	48	60	.....	.....
	1941	11	19	.....	.....
	1942	48	91	.....	.....
Boundary and Kootenay	1939	41,935	64,202	346,785	14,371
	1940	33,951	55,241	145,450	5,682
	1941	23,891	41,684	123,379	5,659
	1942	13,943	37,600	86,128	6,640
Totals	1939	354,852	447,892	8,273,314	425,189
	1940	301,132	386,998	6,831,019	357,248
	1941	295,338	435,833	8,608,120	494,266
	1942	96,976	243,304	5,606,955	449,785

RASPBERRIES.

			$		$
Islands	1939	4,275	5,985	33,761	2,701
	1940	4,563	6,845	24,760	1,981
	1941	4,259	9,583	13,329	1,333
	1942	4,247	11,042	8,727	916
Lower Mainland	1939	48,500	67,900	2,973,902	158,033
	1940	51,357	77,036	2,730,059	163,804
	1941	44,800	78,400	2,116,280	158,721
	1942	15,485	44,907	3,119,143	327,510
Thompson	1939	4,264	5,970	.....	.....
	1940	3,225	5,644	.....	.....
	1941	2,727	5,454	.....	.....
	1942	2,594	5,837	4,697	423
Okanagan	1939	12,467	17,454	29,727	1,525
	1940	2,770	4,848	180,000	9,000
	1941	2,998	5,996	116,800	5,840
	1942	890	2,003	92,491	8,324
Boundary and Kootenay	1939	14,565	23,180	76,529	2,714
	1940	18,225	29,892	37,568	1,399
	1941	13,396	25,029	57,562	3,127
	1942	11,633	27,747	145,310	12,726
Totals	1939	84,071	120,489	3,113,919	164,973
	1940	80,140	124,265	2,972,387	176,184
	1941	68,180	124,462	2,303,971	169,021
	1942	34,849	91,536	3,370,368	349,899

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939–42—*Continued.*

BLACKBERRIES.

District.	Year.	Packages.		Manufactured.	
		Crates.	Value.	Pounds.	Value.
			$		$
Islands	1939	1,388	1,388	27,360	958
	1940	1,439	1,439	43,392	1,736
	1941	1,822	2,278	35,986	1,799
	1942	1,856	2,784	22,846	1,485
Lower Mainland	1939	20,000	19,000	292,621	8,061
	1940	20,000	18,000	601,604	18,048
	1941	15,000	17,250	423,618	20,122
	1942	15,000	19,500	485,492	32,771
Thompson	1939	.....	.....	.....	.....
	1940	2	3	.....	.....
	1941	.....	.....	.....	.....
	1942	6	12	.....	.....
Okanagan	1939	10	11	.....	.....
	1940	.....	.....	.....	.....
	1941	.....	.....	.....	.....
	1942	.....	.....	.....	.....
Boundary and Kootenay	1939	647	994	269	10
	1940	785	1,054	324	10
	1941	563	959	4,571	182
	1942	471	1,037	5,318	366
Totals	1939	22,045	21,393	320,250	9,029
	1940	22,226	20,496	645,320	19,794
	1941	17,385	20,487	464,175	22,103
	1942	17,333	23,333	513,656	34,622

LOGANBERRIES.

			$		$
Islands	1939	1,853	2,224	904,650	42,971
	1940	3,509	4,211	906,713	45,336
	1941	4,914	6,272	772,528	38,659
	1942	6,408	12,044	644,494	48,507
Lower Mainland	1939	4,200	4,620	1,041,416	33,400
	1940	4,800	5,520	1,321,021	44,019
	1941	6,250	7,725	1,032,388	58,921
	1942	3,950	7,325	1,115,336	86,025
Thompson	1939	226	328	.....	.....
	1940	235	353	.....	.....
	1941	325	488	.....	.....
	1942	76	152	.....	.....
Okanagan	1939	25	36	.....	.....
	1940	24	36	.....	.....
	1941	2	3	.....	.....
	1942	.....	.....	.....	.....
Boundary and Kootenay	1939	86	134	29	1
	1940	83	139	43	2
	1941	93	178	104	5
	1942	77	212	52	3
Totals	1939	6,390	7,342	1,946,095	76,372
	1940	8,651	10,259	2,227,777	89,357
	1941	11,584	14,666	1,805,020	97,585
	1942	10,511	19,733	1,759,882	134,535

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939–42—*Continued.*

RED CURRANTS.

District.	Year.	Packages.		Manufactured.	
		Crates.	Value.	Pounds.	Value.
			$		$
Islands	1939	383	479	.....	.....
	1940	395	494	.....	.....
	1941	272	544	.....	.....
	1942	206	464	.....	.....
Lower Mainland	1939	800	800	102,528	3,383
	1940	800	800	51,619	1,807
	1941	800	1,000	51,239	3,074
	1942	800	1,400	74,146	5,932
Thompson	1939	34	46	.....	.....
	1940	11	14	.....	.....
	1941	52	65	.....	.....
	1942	48	62	.....	.....
Okanagan	1939	109	147	.....	.....
	1940	72	90	.....	.....
	1941	47	59	.....	.....
	1942	39	51	.....	.....
Boundary and Kootenay	1939	408	545	1,603	50
	1940	329	473	31	1
	1941	405	676	106	4
	1942	254	497	87	4
Totals	1939	1,734	2,017	104,131	3,433
	1940	1,607	1,871	51,650	1,808
	1941	1,576	2,344	51,345	3,078
	1942	1,347	2,474	74,233	5,936

BLACK CURRANTS.

			$		$
Islands	1939	778	1,167	30,276	2,573
	1940	863	1,295	18,820	1,694
	1941	773	1,739	11,253	1,125
	1942	620	1,550	13,519	1,487
Lower Mainland	1939	1,200	1,500	525,093	48,894
	1940	1,000	1,400	506,547	45,589
	1941	1,000	1,600	338,506	32,158
	1942	1,000	2,100	302,879	36,345
Thompson	1939	160	240	.....	.....
	1940	110	198	.....	.....
	1941	123	215	984	69
	1942	42	84	.....	.....
Okanagan	1939	406	609	67,501	4,050
	1940	383	689	65,532	4,275
	1941	82	144	49,101	3,437
	1942	57	114	27,016	2,431
Boundary and Kootenay	1939	1,262	1,738	48,425	2,851
	1940	1,155	1,733	28,949	1,642
	1941	692	1,095	51,892	3,791
	1942	1,201	2,428	36,558	3,793
Totals	1939	3,806	5,254	671,295	58,368
	1940	3,511	5,315	619,848	53,200
	1941	2,670	4,793	451,736	40,580
	1942	2,920	6,276	379,972	44,056

TABLE No. 7.—FRUIT PRODUCTION, VARIOUS DISTRICTS, BRITISH COLUMBIA, YEARS 1939–42—*Continued.*

GOOSEBERRIES.

District.	Year.	PACKAGES.		MANUFACTURED.	
		Crates.	Value.	Pounds.	Value.
			$		$
Islands	1939	1,256	1,256	2,557	102
	1940	1,355	1,355	1,822	73
	1941	1,192	1,490	1,670	84
	1942	978	1,467	.....	.....
Lower Mainland	1939	2,000	1,000	245,847	7,613
	1940	2,000	1,300	198,631	7,945
	1941	1,800	1,440	164,825	8,241
	1942	2,000	2,000	107,832	7,009
Thompson	1939	128	128	.....	.....
	1940	107	134	.....	.....
	1941	120	150	.....	.....
	1942	117	152	.....	.....
Okanagan	1939	110	110	.....	.....
	1940	81	101	.....	.....
	1941	36	45	.....	.....
	1942	51	66	.....	.....
Boundary and Kootenay	1939	725	847	13,256	396
	1940	659	884	5,486	169
	1941	367	472	5,717	221
	1942	455	830	4,679	185
Totals	1939	4,219	3,341	261,660	8,111
	1940	4,202	3,774	205,939	8,187
	1941	3,515	3,597	172,212	8,546
	1942	3,601	4,515	112,511	7,194

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		Baskets.	$		$
Islands	1939	4,238	1,526	24,819	745
	1940	9,478	3,033	18,509	463
	1941	6,383	2,042	5,000	125
	1942	7,927	3,171	15,791	474
Lower Mainland	1939	3,000	780	37,306	746
	1940	3,750	1,050	464,875	11,482
	1941	4,500	1,440	318,357	10,347
	1942	6,250	3,250	246,320	14,779
Thompson	1939	3,398	951	.....	.....
	1940	2,612	731	.....	.....
	1941	1,679	588	.....	.....
	1942	1,580	632	.....	.....
Okanagan	1939	147,967	41,431	264,253	7,953
	1940	224,348	62,817	417,619	10,275
	1941	142,477	49,867	582,515	17,475
	1942	205,584	82,234	877,703	30,720
Boundary and Kootenay	1939	85	34	.....	.....
	1940	588	206	.....	.....
	1941	640	320	.....	.....
	1942	252	113	.....	.....
Totals	1939	158,688	44,722	326,378	9,444
	1940	240,776	67,837	901,003	22,220
	1941	155,679	54,257	905,872	27,947
	1942	221,593	89,400	1,139,814	45,973

TABLE No. 8.—FRUIT PRODUCTION, BRITISH COLUMBIA (TONS AND VALUE), YEARS 1939–42.

Description.	Year.	Quantity.	Value.
		Tons.	$
Apples	1939	130,373	5,151,413
	1940	124,801	4,415,650
	1941	94,053	4,484,187
	1942	121,975	7,637,384
Crab-apples	1939	2,413	91,810
	1940	2,516	89,203
	1941	2,180	96,812
	1942	3,041	152,326
Pears	1939	7,465	412,585
	1940	7,257	415,303
	1941	8,311	571,230
	1942	7,979	809,040
Plums	1939	1,633	67,054
	1940	1,018	59,059
	1941	2,583	128,341
	1942	1,462	121,206
Prunes	1939	3,876	162,234
	1940	2,549	161,547
	1941	5,407	380,758
	1942	3,014	289,439
Peaches	1939	5,310	350,029
	1940	5,759	390,079
	1941	6,987	572,336
	1942	9,578	876,286
Apricots	1939	1,771	149,728
	1940	1,692	147,966
	1941	1,899	153,607
	1942	2,438	226,744
Cherries	1939	2,631	317,406
	1940	2,092	340,412
	1941	2,497	424,580
	1942	2,289	525,563
Strawberries	1939	7,330	873,081
	1940	6,126	744,246
	1941	6,962	930,099
	1942	3,676	693,089
Raspberries	1939	2,314	285,462
	1940	2,207	300,449
	1941	1,766	293,483
	1942	1,999	441,435
Blackberries	1939	359	30,422
	1940	523	40,290
	1941	389	42,590
	1942	413	57,955
Loganberries	1939	1,031	83,714
	1940	1,192	99,616
	1941	1,007	112,251
	1942	975	154,268
Bush-fruits	1939	1,403	134,690
	1940	1,935	164,212
	1941	1,482	145,142
	1942	1,809	205,824
Fruits from districts not otherwise provided for	1939	161	13,983
	1940	109	11,808
	1941	106	15,106
	1942	94	19,137
Totals	1939	168,070	8,123,611
	1940	159,776	7,379,840
	1941	135,629	8,350,522
	1942	160,742	12,209,696

TABLE No. 9.—APIARIES AND HONEY-CROP, BRITISH COLUMBIA, YEARS 1933–42.

District.	Year.	Apiaries.	Hives.	Crop.	Average Honey per Hive.
				Lb.	Lb.
Vancouver Island and Gulf Islands	1933	650	2,300	92,260	40.1
	1934	640	2,320	94,775	40.8
	1935	667	2,427	109,067	44.9
	1936	660	2,407	73,475	30.5
	1937	660	2,407	122,150	50.7
	1938	660	2,407	137,695	57.2
	1939	660	2,407	36,105	15.0
	1940	660	2,500	100,000	40.0
	1941	645	2,540	78,740	31.0
	1942	640	2,600	52,000	20.0
Greater Vancouver	1933	403	2,072	85,540	41.3
	1934	424	2,165	85,325	39.4
	1935	451	2,365	103,325	43.7
	1936	451	2,365	73,725	31.2
	1937	451	2,365	101,725	43.0
	1938	451	2,365	116,800	49.4
	1939	451	2,365	59,125	25.0
	1940	451	2,400	96,000	40.0
	1941	460	2,445	110,025	45.0
	1942	480	2,500	62,500	25.0
Lower Fraser	1933	732	6,450	339,850	52.7
	1934	752	6,520	400,100	61.3
	1935	765	6,620	342,350	51.7
	1936	765	6,620	213,725	32.3
	1937	765	6,620	385,225	58.2
	1938	765	6,620	418,775	63.2
	1939	756	6,620	198,600	30.0
	1940	756	6,550	393,000	60.0
	1941	776	6,650	299,250	45.0
	1942	780	7,000	280,000	40.0
Upper Fraser and Chilliwack	1933	323	2,730	99,050	36.2
	1934	339	2,760	120,300	43.6
	1935	357	2,825	135,800	48.0
	1936	357	2,825	102,600	36.3
	1937	357	2,825	193,225	68.4
	1938	357	2,825	202,550	71.7
	1939	357	2,825	84,750	30.0
	1940	357	2,825	141,250	50.0
	1941	380	2,940	147,000	50.0
	1942	380	2,900	43,500	15.0
Okanagan, Shuswap, and Thompson Valleys	1933	605	6,060	467,040	77.0
	1934	616	6,030	610,050	101.1
	1935	624	6,065	424,550	70.0
	1936	600	4,780	518,500	108.5
	1937	600	4,780	476,500	99.6
	1938	600	4,780	553,800	115.8
	1939	600	4,780	488,000	102.0
	1940	600	4,810	384,800	80.0
	1941	640	5,010	375,750	75.0
	1942	680	5,200	676,000	130.0
Kootenays	1933	222	2,097	145,140	69.2
	1934	228	2,145	185,525	86.5
	1935	232	2,135	159,100	74.5
	1936	213	1,710	129,100	75.5
	1937	213	1,710	125,400	73.3
	1938	213	1,710	131,800	77.0
	1939	213	1,710	119,700	70.0
	1940	213	1,700	119,000	70.0
	1941	240	1,735	112,775	65.0
	1942	250	1,730	164,350	95.0

TABLE No. 9.—APIARIES AND HONEY-CROP, BRITISH COLUMBIA, YEARS 1933–42 —*Continued.*

District.	Year.	Apiaries.	Hives.	Crop.	Average Honey per Hive.
				Lb.	Lb.
Central Interior	1933	30	300	12,000	40.0
	1934	32	320	16,000	50.0
	1935	33	310	17,050	55.0
	1936	33	310	18,600	60.0
	1937	33	310	23,250	75.0
	1938	33	310	21,700	70.0
	1939	33	310	18,600	60.0
	1940	33	500	30,000	60.0
	1941	100	700	45,500	65.0
	1942	150	850	55,250	65.0
Totals	1933	2,965	22,009	1,240,880	56.4
	1934	3,031	22,260	1,512,075	67.9
	1935	3,129	22,747	1,291,242	56.8
	1936	3,079	21,017	1,129,725	53.7
	1937	3,079	21,017	1,427,475	67.9
	1938	3,079	21,017	1,583,120	75.3
	1939	3,070	21,017	1,004,880	47.8
	1940	3,070	21,285	1,264,050	59.3
	1941	3,241	22,020	1,169,040	53.1
	1942	3,360	22,780	1,333,600	58.5

TABLE No. 10.—MANUFACTURED DAIRY PRODUCTS, BRITISH COLUMBIA, BY DISTRICTS, YEARS 1933–42.

Description.	Year.	Islands.		Lower Mainland.		Okanagan.		Kootenay, Boundary, and Columbia Valley.		Interior.		Grand Totals.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			$		$		$		$		$		$
Butter ..... lb.	1933	694,761	175,115	2,588,426	608,979	1,419,090	299,786	148,376	33,693	174,886	40,622	5,025,539	1,158,195
	1934	732,967	183,477	3,404,553	782,652	1,545,310	329,921	137,998	30,148	142,055	33,008	5,962,883	1,359,206
	1935	617,248	163,089	3,574,482	882,683	1,594,716	369,229	129,681	30,972	143,241	39,638	6,059,368	1,485,611
	1936	565,800	159,057	3,318,155	825,893	1,650,196	410,435	145,813	37,506	133,631	39,275	5,813,595	1,472,166
	1937	533,749	171,107	2,739,098	775,382	1,627,445	470,442	150,591	41,618	183,331	53,512	5,234,214	1,512,061
	1938	561,987	170,851	2,967,167	796,510	1,643,429	432,424	157,825	38,013	238,109	66,274	5,568,517	1,504,072
	1939	529,714	142,754	3,526,907	920,397	1,603,546	423,110	158,785	37,327	267,127	68,194	6,086,079	1,591,782
	1940	491,834	141,081	3,530,134	954,013	1,649,344	435,523	190,055	48,101	327,669	85,186	6,189,036	1,663,904
	1941	485,261	170,008	3,242,597	1,129,821	1,754,199	591,606	216,769	71,912	363,616	121,721	6,062,442	2,085,068
	1942	438,042	163,226	2,564,595	895,941	1,722,383	612,193	247,093	85,767	384,914	138,948	5,357,027	1,896,075
Cheese ..... ,,	1933	.....	.....	612,311	81,373	.....	.....	901	303	.....	.....	613,212	81,676
	1934	.....	.....	635,093	90,597	.....	.....	220	55	.....	.....	635,313	90,652
	1935	.....	.....	752,558	112,016	.....	.....	.....	.....	.....	.....	752,558	112,016
	1936	.....	.....	470,724	73,404	.....	.....	.....	.....	.....	.....	470,724	73,404
	1937	.....	.....	231,058	41,635	.....	.....	.....	.....	.....	.....	231,058	41,635
	1938	.....	.....	366,295	61,653	224,486	30,208	.....	.....	.....	.....	590,781	91,861
	1939	.....	.....	606,295	89,088	322,010	39,650	.....	.....	.....	.....	928,305	128,738
	1940	.....	.....	387,897	70,490	362,605	51,668	.....	.....	.....	.....	750,502	122,158
	1941	.....	.....	332,820	74,350	369,228	70,077	17,480	4,465	.....	.....	719,528	148,892
	1942	.....	.....	226,658	46,465	590,674	120,468	62,455	12,797	.....	.....	879,787	179,730
Ice-cream ..... gals.	1933	53,626	78,656	295,541	350,376	22,176	26,250	19,775	28,781	8,434	11,906	399,552	495,969
	1934	62,592	89,167	353,680	421,923	26,724	29,369	24,206	31,467	10,140	14,071	477,342	585,997
	1935	80,833	111,570	433,569	481,205	31,024	36,043	31,411	44,191	10,863	15,229	587,700	688,238
	1936	89,184	116,391	524,395	639,202	40,544	45,116	36,866	49,971	12,808	16,792	703,797	867,472
	1937	99,076	135,844	631,652	702,882	45,946	49,033	40,769	53,887	13,617	16,621	831,060	958,267
	1938	108,636	146,512	643,622	704,443	49,957	55,658	45,834	57,197	12,126	15,191	860,175	979,001
	1939	125,838	161,229	604,621	659,487	43,414	48,619	41,580	54,890	9,868	12,275	825,321	936,500
	1940	155,240	198,439	744,662	792,665	52,625	58,760	46,307	61,766	15,065	18,222	1,013,899	1,129,852
	1941	221,879	280,575	889,608	976,571	61,259	68,391	50,561	65,508	17,103	20,298	1,240,410	1,411,343
	1942	242,470	313,946	924,324	1,019,273	78,453	88,286	49,955	62,535	11,072	13,703	1,306,274	1,497,743
Ice-cream mix ..... gals.	1933	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1934	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1935	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1936	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1937	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1938	12,611	14,531	81,990	78,027	16,665	14,314	.....	.....	.....	.....	111,266	106,872
	1939	9,002	9,987	90,855	84,655	3,867	4,671	.....	.....	.....	.....	103,724	99,313
	1940	13,023	13,973	90,984	84,038	4,221	5,032	.....	.....	.....	.....	108,228	103,043
	1941	16,616	18,516	92,701	94,962	8,085	8,800	.....	.....	.....	.....	117,402	122,278
	1942	12,055	14,072	89,300	94,471	5,076	6,062	.....	.....	.....	.....	106,431	114,605
Milk (evaporated) ..... cases	1933	.....	.....	279,716	923,064	.....	.....	.....	.....	.....	.....	279,716	923,064
	1934	.....	.....	320,573	963,053	.....	.....	.....	.....	.....	.....	320,573	963,053
	1935	.....	.....	355,213	1,065,639	.....	.....	.....	.....	.....	.....	355,213	1,065,639
	1936	.....	.....	362,921	1,088,763	.....	.....	.....	.....	.....	.....	362,921	1,088,763
	1937	.....	.....	384,639	1,153,917	.....	.....	.....	.....	.....	.....	384,639	1,153,917
	1938	.....	.....	407,861	1,223,583	.....	.....	.....	.....	.....	.....	407,861	1,223,583
	1939	.....	.....	429,856	1,289,568	.....	.....	.....	.....	.....	.....	429,856	1,289,568
	1940	.....	.....	458,521	1,467,268	.....	.....	.....	.....	.....	.....	458,521	1,467,268
	1941	.....	.....	581,806	2,094,502	.....	.....	.....	.....	.....	.....	581,806	2,094,502
	1942	.....	.....	603,467	2,413,868	.....	.....	.....	.....	.....	.....	603,467	2,413,868
Miscellaneous (cottage cheese, farm cheese, chocolate milk, whole-milk powder, skim-milk powder, condensed buttermilk, casein, buttermilk, etc.)	1933	.....	64,706	.....	237,230	.....	6,703	.....	11,772	.....	2,803	.....	323,214
	1934	.....	65,719	.....	394,973	.....	3,302	.....	14,838	.....	1,108	.....	479,940
	1935	.....	68,774	.....	413,964	.....	3,658	.....	11,442	.....	6,659	.....	504,497
	1936	.....	75,346	.....	462,582	.....	5,633	.....	13,813	.....	2,930	.....	560,304
	1937	.....	75,784	.....	606,794	.....	11,418	.....	18,769	.....	6,516	.....	719,281
	1938	.....	88,006	.....	625,513	.....	5,855	.....	13,972	.....	5,281	.....	738,627
	1939	.....	73,709	.....	633,123	.....	2,441	.....	13,728	.....	4,334	.....	727,335
	1940	.....	71,976	.....	748,830	.....	8,600	.....	13,132	.....	5,846	.....	848,384
	1941	.....	101,613	.....	859,035	.....	16,473	.....	13,721	.....	7,490	.....	998,332
	1942	.....	118,890	.....	952,938	.....	23,297	.....	11,598	.....	6,847	.....	1,113,570
Totals	1933	.....	318,477	.....	2,201,022	.....	332,739	.....	74,549	.....	55,331	.....	2,982,118
	1934	.....	338,363	.....	2,653,198	.....	362,592	.....	76,508	.....	48,187	.....	3,478,848
	1935	.....	343,433	.....	2,955,507	.....	408,930	.....	86,605	.....	61,526	.....	3,856,001
	1936	.....	350,794	.....	3,089,844	.....	461,184	.....	101,290	.....	58,997	.....	4,062,109
	1937	.....	382,735	.....	3,280,610	.....	530,893	.....	114,274	.....	76,649	.....	4,385,161
	1938	.....	419,900	.....	3,489,729	.....	538,459	.....	109,182	.....	86,746	.....	4,644,016
	1939	.....	387,679	.....	3,676,318	.....	518,491	.....	105,945	.....	84,803	.....	4,773,236
	1940	.....	425,469	.....	4,117,304	.....	559,583	.....	122,999	.....	109,254	.....	5,334,609
	1941	.....	570,712	.....	5,229,241	.....	755,347	.....	155,606	.....	149,509	.....	6,860,415
	1942	.....	610,134	.....	5,422,956	.....	850,306	.....	172,697	.....	159,498	.....	7,215,591

EXPRESS SHIPMENTS.

TABLE No. 11.—EXPRESS SHIPMENTS, FRUITS AND VEGETABLES, BRITISH COLUMBIA, YEARS 1911–42.

Year.	Kootenay Section.		Northern Section.		Totals.		Increase in Weight or Decrease from Previous Year.
	Packages.	Weight.	Packages.	Weight.	Total Packages.	Total Weight.	
		Lb.		Lb.		Lb.	Per Cent.
1911	16,307	413,577	.....	.....	104,705	2,784,777	.....
1912	18,882	491,403	.....	.....	166,400	4,330,233	+55.50
1913	31,466	783,021	.....	.....	208,262	5,203,946	+20.10
1914	43,714	1,036,855	.....	.....	259,470	6,326,903	+29.20
1915	53,988	1,230,485	.....	.....	318,752	7,598,997	+20.10
1916	65,892	1,497,191	.....	.....	312,622	7,496,151	− 1.40
1917	50,986	1,131,741	.....	.....	429,319	10,526,784	+40.42
1918	72,084	1,815,158	.....	.....	532,259	14,072,820	+33.68
1919	103,223	2,622,187	.....	.....	657,809	16,954,554	+20.47
1920	72,988	1,957,590	.....	.....	623,365	16,973,696	+ 0.11
1921	87,021	2,224,724	.....	.....	780,100	18,850,144	+11.05
1922	91,236	2,153,194	513	55,546	682,425	16,241,421	−13.84
1923	97,860	2,476,784	465	16,472	674,191	16,164,930	− 0.48
1924	86,921	2,152,773	3,451	85,669	614,126	15,275,826	− 5.50
1925	97,217	2,374,997	3,431	79,283	498,832	12,516,742	−18.06
1926	102,505	2,466,075	4,627	135,039	649,166	16,330,170	+30.46
1927	92,706	2,205,023	2,486	62,022	572,081	14,456,879	−11.47
1928	109,240	2,369,141	2,041	57,053	550,657	13,729,185	− 5.03
1929	100,586	2,132,785	1,988	50,792	575,868	14,154,006	+ 3.09
1930	71,214	1,502,749	1,289	33,330	413,057	10,634,920	−24.86
1931	54,966	1,284,355	909	23,114	390,560	9,535,084	−10.34
1932	106,306	2,532,541	1,059	25,023	438,026	10,710,437	+12.32
1933	85,567	2,001,080	893	20,857	399,265	9,815,453	− 8.35
1934	99,392	2,392,198	412	13,177	539,870	12,954,098	+31.97
1935	112,331	2,707,696	637	16,258	457,523	11,027,252	−14.87
1936	72,669	1,896,049	578	16,275	372,309	9,356,706	−15.15
1937	141,752	4,735,306	1,194	25,513	455,929	12,371,288	+32.22
1938	154,589	4,882,664	414	12,244	560,067	14,766,473	+19.36
1939	142,372	4,281,931	529	13,070	522,447	13,449,481	− 8.91
1940	124,675	3,618,821	438	11,568	557,490	14,034,569	+ 4.35
1941	183,953	6,305,842	280	8,303	573,838	15,774,294	+12.39
1942	153,452	5,747,460	594	16,772	394,513	12,455,361	−21.04

Year.	Cascade and Thompson Sections, including Vancouver Island.		Shuswap and Okanagan Lake Points.	
	Packages.	Weight.	Packages.	Weight.
		Lb.		Lb.
1911	65,424	1,750,910	22,974	620,290
1912	64,704	1,801,967	82,814	2,036,863
1913	69,235	1,839,710	107,561	2,581,215
1914	94,620	2,332,022	121,136	2,958,026
1915	105,833	2,538,715	158,931	3,829,797
1916	123,716	2,859,177	123,014	3,139,783
1917	169,137	4,003,193	209,196	5,391,850
1918	179,077	5,194,824	281,098	7,062,838
1919	214,261	5,288,778	340,325	9,043,589
1920	158,879	4,270,019	391,498	10,746,087
1921	349,030	7,644,004	344,049	8,981,416
1922	288,635	6,706,563	302,041	7,326,113
1923	321,092	7,459,787	254,774	6,211,937
1924	335,024	7,916,431	188,730	5,120,953
1925	241,614	5,731,560	156,570	4,330,902
1926	283,822	7,078,386	258,212	6,650,670
1927	292,883	6,858,095	184,006	5,331,739
1928	247,579	6,174,882	191,797	5,128,109
1929	308,767	7,415,480	164,527	4,554,949
1930	207,354	5,081,097	133,200	4,017,744
1931	220,907	5,168,927	113,778	3,058,688
1932	238,161	5,530,219	92,500	2,622,654
1933	228,379	5,309,209	84,426	2,484,307
1934	341,195	7,785,080	98,871	2,763,643
1935	259,557	5,987,837	84,998	2,315,461
1936	213,439	5,078,188	85,623	2,366,194
1937	223,292	5,117,865	89,691	2,492,604
1938	322,807	7,407,021	82,257	2,464,544
1939	295,714	6,795,936	83,832	2,358,544
1940	315,537	7,273,266	116,840	3,130,914
1941	288,155	6,656,749	101,450	2,803,400
1942	119,280	3,428,225	121,187	3,262,904

Weight increase since 1911, 347.26 per cent.

TABLE No. 12.—RELATING TO QUANTITY OF FRUITS AND VEGETABLES FORWARDED BY EXPRESS, YEARS 1938–42.

CASCADE AND THOMPSON SECTIONS, INCLUDING VANCOUVER ISLAND.

Shipping-point.	1938.	1939.	1940.	1941.	1942.
	Lb.	Lb.	Lb.	Lb.	Lb.
Abbotsford	6,107	8,915	6,889	8,103	9,032
Agassiz	19,320	27,468	54,487	38,961	37,690
Ashcroft	2,215	813	1,557	1,918	1,101
Birch Island	540	715	79	754	8,543
Chilliwack	367,766	353,758	249,459	161,648	171,663
Clearwater	38,840	121,022	115,833	29,902	64,019
Coquitlam	39,951	28,793	21,439	28,033	14,792
Dewdney	53,632	74,443	47,525	61,728	30,062
Duncan	2,110	.....	2,397	4,032	5,201
Fort Langley	144,736	126,914	118,283	62,936	87,120
Hammond	258,075	224,815	192,802	462,412	42,689
Haney	1,652,502	1,638,095	1,462,342	1,522,940	481,723
Hatzic	263,089	168,113	111,823	73,990	.....
Kamloops	92,718	82,735	94,345	96,579	250,224
Ladysmith	5,680	.....	3,744	.....	.....
Lytton	2,297	1,063	1,445	9,610	1,520
Matsqui	1,268,927	996,585	1,194,022	1,273,475	206,710
Mission	1,833,959	1,680,026	1,666,367	1,351,740	679,836
New Westminster	642,251	472,662	936,812	743,003	100,397
Port Kells	2,714	.....	.....	.....	.....
Port Mann	.....	19,866	.....	.....	.....
Port Moody	11,455	17,482	26,412	.....	.....
Ruskin	624	6,208	4,455	2,628	.....
Savona	.....	30	.....	.....	.....
Vancouver	364,610	413,937	607,563	436,400	313,688
Victoria	299,569	289,306	338,855	259,059	885,669
Whonnock	16,490	9,044	2,608	5,444	26,791
Yale	1,479	1,113	1,038	610	2,222
Messenger Routes.					
Vancouver–Calgary	13,473	28,306	9,258	18,381	4,852
Vancouver–Nelson	1,892	3,709	1,427	2,463	2,681
Totals	7,407,021	6,795,936	7,273,266	6,656,749	3,428,225

TABLE No. 12.—RELATING TO QUANTITY OF FRUITS AND VEGETABLES FORWARDED BY EXPRESS, YEARS 1938-42—*Continued.*

SHUSWAP AND OKANAGAN AND OKANAGAN LAKE POINTS.

Shipping-point.	1938.	1939.	1940.	1941.	1942.
	Lb.	Lb.	Lb.	Lb.	Lb.
Armstrong	375,260	283,570	403,179	277,353	213,181
Canoe	2,919	4,442	4,718	4,107	1,342
Enderby	1,162	2,518	750	2,834	3,329
Haynes	.....	75,268	109,111	42,225	50,599
Kaleden	38,771	18,049	9,812	29,491	32,497
Kelowna	336,762	396,268	550,563	469,625	554,114
Naramata	39,664	33,536	20,751	45,294	50,474
Notch Hill	13,223	4,220	3,196	5,826	12,902
Okanagan Centre	10,220	8,091	6,837	9,340	27,721
Oliver	235,264	177,203	359,706	448,496	415,924
Osoyoos	93,790	144,946	98,710	113,776	207,293
Oyama	.....	7,650	.....	.....	.....
Peachland	50,794	42,727	32,751	26,892	43,045
Penticton	470,901	462,181	579,430	471,912	800,574
Princeton	.....	.....	.....	497	.....
Revelstoke	12,438	14,708	5,857	7,633	2,802
Rutland	.....	23	.....	.....	.....
Salmon Arm	173,857	154,794	246,598	184,530	212,982
Summerland	120,550	123,608	205,941	182,432	141,036
Vernon	375,702	303,206	366,468	356,048	385,166
Westbank	.....	1,932	3,350	5,877	12,652
West Summerland	102,635	90,167	121,835	100,110	70,103
Winfield	.....	67	.....	.....	.....
Messenger Routes.					
Kamloops–Kelowna	.....	44	.....	.....	.....
Penticton–Kelowna	4,988	.....	.....	.....	.....
Penticton–Sicamous	2,898	.....	.....	.....	.....
Sicamous–Vernon–Kelowna	2,746	9,326	1,351	19,102	24,923
Spences Bridge–Brookmere	.....	.....	.....	.....	245
Totals	2,464,544	2,358,544	3,130,914	2,803,400	3,262,904

TABLE No. 12.—RELATING TO QUANTITY OF FRUITS AND VEGETABLES FORWARDED BY EXPRESS, YEARS 1938-42—*Continued.*

KOOTENAY SECTION.

Shipping-point.	1938.	1939.	1940.	1941.	1942.
	Lb.	Lb.	Lb.	Lb.	Lb.
Arrowhead	.....	62	168	140	143
Brilliant	10,760	35,687	9,591	12,414	17,432
Castlegar	.....	.....	.....	32,904	13,156
Cranbrook	883	185	96	.....	.....
Creston	2,489,074	1,819,288	1,360,185	2,386,727	2,542,295
Erickson	423,440	404,523	373,657	2,035,710	2,210,913
Grand Forks	28,349	33,974	58,660	42,025	64,171
Kaslo	10,627	20,000	18,281	18,434	16,981
Nakusp	4,617	9,215	6,856	9,919	2,102
Nelson	124,616	264,385	369,681	457,674	169,596
Procter	36,294	74,935	90,445	50,279	16,595
Sirdar	239,417	247,025	212,076	179,396	93,500
Wynndel	495,310	340,109	246,714	261,887	189,660
Messenger Routes.					
Arrowhead–Robson	200,348	238,052	188,272	242,959	161,396
Nelson–Fernie	562,154	519,210	430,195	334,091	.....
Nelson–McConnell	.....	.....	.....	.....	155,610
Nelson–Medicine Hat	256,775	275,281	253,476	241,283	93,780
Trail–Nelson	.....	.....	468	.....	130
Totals	4,882,664	4,281,931	3,618,821	6,305,842	5,747,460

NORTHERN.

Prince George	.....	751	.....	.....	.....
Terrace	12,244	12,273	11,568	8,303	16,772
Messenger Routes.					
Prince Rupert–Endako	.....	46	.....	.....	.....
Totals	12,244	13,070	11,568	8,303	16,772
Grand totals	14,766,473	13,449,481	14,034,569	15,774,294	12,455,361
Total packages	560,067	522,447	557,490	573,838	394,513

LIVE STOCK.

TABLE No. 13.—AVERAGE FARM VALUES PER HEAD OF LIVE STOCK IN BRITISH COLUMBIA, AS ESTIMATED BY CROP CORRESPONDENTS, YEARS 1931–42.

Description.	1931.	1932.	1933.	1934.	1935.	1936.
Milk cows	$65.00	$51.00	$48.00	$48.00	$50.00	$51.00
Other cattle	33.00	27.00	28.00	25.00	26.00	28.00
All cattle	44.00	35.00	34.00	33.00	34.00	36.00
Sheep	7.00	5.00	5.03	5.00	5.82	5.90
Hogs	11.00	8.00	9.90	11.25	11.66	12.73
Horses	59.00	54.00	55.00	56.00	58.00	65.00

Description.	1937.	1938.	1939.	1940.	1941.	1942.
Milk cows	$51.00	$50.00	$51.00	$54.00	$62.00	$78.00
Other cattle	30.00	31.00	32.00	38.00	44.00	51.00
All cattle	38.00	38.00	40.00	43.00	49.00	59.00
Sheep	6.25	5.92	6.64	7.21	8.85	9.26
Hogs	12.84	13.12	14.73	14.50	15.75	18.90
Horses	70.00	73.00	75.00	76.00	75.00	81.00

TABLE No. 13A.—NUMBERS OF LIVE STOCK ON FARMS IN BRITISH COLUMBIA AT JUNE 1ST, AND FARM VALUES, YEARS 1940–42.

Description.	1940.	1941.	1942.	1940.	1941.	1942.
	No.	No.	No.	$	$	$
Milk cows	85,190	87,623	92,500	4,600,000	5,432,000	7,215,000
Other cattle	204,130	229,834	236,500	7,757,000	10,113,000	12,061,000
All cattle	289,320	317,457	329,000	12,357,000	15,545,000	19,276,000
Sheep	130,300	123,116	125,500	939,000	1,090,000	1,162,000
Hogs	74,000	78,542	82,000	1,073,000	1,237,000	1,550,000
Horses	61,460	62,145	62,000	4,671,000	4,661,000	5,022,000
Total values	.....	.....	.....	19,040,000	22,533,000	27,010,000

TABLE No. 13B.—NUMBERS OF POULTRY ON FARMS IN BRITISH COLUMBIA AT JUNE 1ST, AND FARM VALUES, YEARS 1940–42.

Description.	Year.	No.	Average Value per Head.	Total Value.
			$ cts.	$
Hens and chickens	1940	4,100,300	0.77	3,157,000
	1941	2,777,591	0.80	2,222,000
	1942	2,968,000	0.95	2,820,000
Turkeys	1940	44,800	2.61	117,000
	1941	42,103	2.75	116,000
	1942	53,300	3.10	165,000
Geese	1940	6,000	1.80	11,000
	1941	6,828	2.00	14,000
	1942	7,000	2.30	16,000
Ducks	1940	22,600	1.00	23,000
	1941	19,610	1.00	20,000
	1942	18,600	1.04	19,000
Totals	1940	4,173,700	.....	3,308,000
	1941	2,846,132	.....	2,372,000
	1942	3,046,900	.....	3,020,000

IMPORTS.

TABLE No. 14.—AGRICULTURAL PRODUCTS IMPORTED FROM OTHER PROVINCES IN CANADA INTO BRITISH COLUMBIA, YEARS 1940–42.

Description.	1940.		1941.		1942.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		$		$		$
Horses ..... No.	701	57,400	971	81,550	1,626	182,113
Beef cattle ..... ,,	41,458	2,528,957	41,868	3,174,945	42,111	3,788,636
Calves ..... ,,	20,640	320,336	19,197	411,325	14,305	378,467
Sheep ..... ,,	66,344	546,154	72,961	675,733	71,912	767,179
Hogs ..... ,,	118,997	1,997,912	133,631	2,606,188	101,322	2,456,250
Total live stock	.....	5,450,759	.....	6,949,741	.....	7,572,645
Beef and veal ..... lb.	5,392,796	619,183	6,254,209	785,396	8,498,757	1,370,879
Pork and pork products .. ,,	4,830,265	750,255	4,763,444	1,057,561	7,551,899	1,694,020
Mutton and lamb ..... ,,	746,413	117,812	675,431	119,153	828,356	163,745
Lard ..... ,,	397,557	25,612	1,383,706	120,313	2,386,576	252,450
Shortening ..... ,,	.....	.....	.....	.....	771,991	129,957
Meats (canned) ..... ,,	696,694	147,799	1,257,475	271,207	1,835,432	431,492
Total meats, etc.	.....	1,660,661	.....	2,353,630	.....	4,042,543
Poultry ..... lb.	1,702,936	379,667	1,915,200	486,034	2,431,500	709,277
Eggs ..... doz.	104,385	25,396	103,920	26,469	523,830	161,970
Total poultry products ..	.....	405,063	.....	512,503	.....	871,247
Butter ..... lb.	11,684,214	3,033,040	12,407,213	4,031,633	16,849,099	5,844,310
Cheese ..... ,,	1,109,519	214,972	1,209,606	295,627	1,439,458	378,091
Milk (condensed sweet) . cases	3,359	26,618	4,073	33,169	6,550	52,073
Milk (evaporated) ..... ,,	131,250	451,915	106,133	389,085	122,014	493,096
Milk (powdered) ..... lb.	766,656	119,285	769,752	128,794	898,079	244,012
Total dairy products	.....	3,845,830	.....	4,878,308	.....	7,011,582
Wheat ..... bu.	1,304,633	900,011	1,547,533	1,039,311	2,069,966	1,475,523
Oats ..... ,,	224,655	93,610	842,353	389,933	811,177	404,615
Barley ..... ,,	491,416	212,775	642,500	382,879	452,792	292,150
Rye ..... ,,	60,975	30,218	205,314	143,521	3,550	3,029
Malt ..... ,,	267,471	1,195,080	316,939	1,639,079	394,533	2,130,979
Mill stock-feed ..... tons	15,043	355,274	16,051	414,597	24,763	725,220
Flour ..... bbls.	344,533	1,774,806	364,740	1,827,347	481,205	2,392,671
Total grains, etc.	.....	4,561,774	.....	5,836,667	.....	7,424,187
Hay ..... tons	115	1,625	259	3,322	213	3,663
Potatoes ..... ,,	.....	.....	199	7,332	3,711	186,901
Canned vegetables ..... lb.	6,062,572	440,592	3,625,948	289,865	6,997,274	619,356
Canned fruits ..... ,,	810,973	76,038	994,155	112,472	1,117,677	140,468
Honey ..... ,,	693,745	82,113	937,661	124,809	703,136	103,466
Total miscellaneous	.....	600,368	.....	537,800	.....	1,053,854
Grand totals	.....	16,524,455	.....	21,068,649	.....	27,976,058

TABLE No. 15.—AGRICULTURAL PRODUCTS IMPORTED FROM FOREIGN POINTS INTO BRITISH COLUMBIA, YEARS 1940–42.

Description.	1940.		1941.		1942.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		$		$		$
Horses ..... No.	27	2,567	30	3,522	27	2,700
Cattle ..... ,,	8	1,729	4	566	2	860
Goats ..... ,,	1	17	1	44	.....	.....
Sheep ..... ,,	4	121	.....	.....	97	2,718
Total live stock	.....	4,434	.....	4,132	.....	6,278
Beef and veal ..... lb.	6,222	636	239,484	15,775	75,113	5,763
Pork and pork products ..... ,,	1,367,487	144,748	128,719	27,420	2,986	1,427
Mutton and lamb ..... ,,	45,974	3,137	195,644	15,972	132,971	11,096
Meats (canned) ..... ,,	2,780,614	191,031	1,887,972	160,026	737,556	57,138
Other meats ..... ,,	.....	55,259	.....	13,907	.....	6,844
Total meats	.....	394,811	.....	233,100	.....	82,268
Poultry (live and dressed) No.	.....	5,060	.....	4,359	.....	1,307
Eggs ..... doz.	10,199	4,148	10,842	5,345	2,454	2,693
Total poultry products	.....	9,208	.....	9,704	.....	4,000
Butter ..... lb.	577	225	56,270	14,244	17,332	8,665
Casein ..... ,,	322,688	29,601	107,678	10,090	44,100	5,896
Cheese ..... ,,	277,926	53,815	144,682	24,499	17,523	6,496
Milk (condensed) ..... ,,	250	52	.....	.....	250	58
Milk (powdered) ..... ,,	224	26	250	53	529,440	29,831
Milk and cream (fresh) gals.	422	285	694	286	477	523
Total dairy products	.....	84,004	.....	49,172	.....	51,469
Apples ..... lb.	107,982	4,586	3,528	175	1,244,754	55,505
Other tree-fruits ..... ,,	7,030,318	178,575	5,926,908	181,955	3,598,144	188,771
Small fruits ..... ,,	184,991	19,242	87,426	8,639	76,365	9,015
Canned fruits ..... ,,	1,201,120	85,390	1,286,660	87,275	32,937	2,224
Total fruits	.....	287,793	.....	278,044	.....	255,515
Potatoes ..... tons	3,830	110,120	3,126	90,267	4,519	154,369
Potatoes (sweet) ..... ,,	733	40,662	615	38,768	692	63,806
Other vegetables ..... ,,	10,988	576,505	10,941	592,525	11,889	723,854
Canned vegetables ..... lb.	2,362,652	142,857	365,740	24,450	9,043	1,263
Total vegetables	.....	870,144	.....	746,010	.....	943,292
Barley ..... bu.	173	166	14	16	.....	.....
Beans ..... ,,	10,255	30,517	13,089	32,591	12,373	47,461
Indian corn ..... ,,	363,357	198,666	358,329	131,722	208,055	184,672
Oats ..... ,,	118	47	140	66	10	18
Peas ..... ,,	16,667	31,834	7,630	23,650	6,579	31,810
Wheat ..... ,,	6,167	5,517	.....	.....	.....	.....
Mill stock-feed ..... cwt.	930	1,502	864	1,606	3,311	6,914
Rye flour ..... bbls.	212	810	210	840	.....	.....
Wheat flour ..... ,,	34,600	152,250	11,540	49,506	.....	.....
Hay ..... tons	15	200	4	55	68	1,771
Total grains, etc.	.....	421,509	.....	240,052	.....	272,646
Honey ..... lb.	49,616	3,487	120	16	132,192	9,308
Hops ..... ,,	51,218	13,338	94,577	21,781	66,326	52,103
Nursery stock, etc. ..... No.	.....	97,520	.....	69,450	.....	115,681
Total miscellaneous	.....	114,345	.....	91,247	.....	177,092
Grand totals	.....	2,186,248	.....	1,651,461	.....	1,792,560

TABLE No. 16.—IMPORTED FRUIT, VEGETABLES, ETC., INSPECTED, PORTS OF VANCOUVER AND VICTORIA, YEARS 1940–42.

Kind.	1940.		1941.		1942.	
	Packages.	Pounds.	Packages.	Pounds.	Packages.	Pounds.
Apples ..... boxes	1,316	50,084	75	2,676	18,444	779,929
Apricots ..... crates	31,982	636,824	17,971	456,782	38,092	742,953
Cherries ..... ,,	1,136	22,078	1,940	55,894	9,053	268,741
Nectarines ..... ,,	44	1,220	1	18	1	30
Peaches ..... ,,	36,460	816,626	52,135	1,142,269	28,196	564,237
Pears ..... boxes	13,200	515,813	21,105	916,251	5,406	223,608
Plums ..... crates	10,223	297,047	8,422	247,355	13,671	373,065
Prunes ..... ,,	19,043	630,818	19,222	784,905	4,859	128,650
Cranberries ..... boxes	6,692	166,360	3,874	97,225	4,963	138,186
Dates, green ..... ,,	204	3,500	28	1,570	23	1,610
Figs, green ..... ,,	104	886	100	675	157	2,464
Huckleberries ..... ,,	6	100	.....	.....	.....	.....
Bananas ..... bunches	215,453	13,061,133	148,526	10,210,546	48,947	3,655,874
Loquats ..... boxes	.....	.....	1	20	.....	.....
Mangoes ..... ,,	1	3	1	30	1	8
Olives, green ..... ,,	62	1,924	17	571	51	1,395
Papayas ..... ,,	212	7,690	.....	.....	.....	.....
Passion-fruit ..... ,,	58	1,084	8	144	.....	.....
Persimmons ..... ,,	352	8,021	761	16,180	282	5,532
Pineapples ..... crates	1,071	61,273	376	23,954	172	10,920
Pomegranates ..... boxes	373	10,700	700	17,525	1,280	32,290
Rhubarb ..... ,,	282	6,021	146	4,665	111	4,785
Yakamines ..... ,,	234	4,080	95	2,810	632	12,150
Artichokes ..... ,,	239	12,145	199	8,910	312	12,476
Asparagus ..... crates	12,194	413,472	9,375	283,289	4,596	149,742
Beans, green ..... ,,	1,082	54,153	1,268	65,838	363	18,629
Beets ..... ,,	213	18,590	150	9,240	980	48,837
Broccoli ..... ,,	197	9,849	144	7,265	224	11,604
Brussels sprouts ..... drums	3,679	90,897	716	26,597	1,373	45,698
Cabbages ..... crates	15,401	1,307,626	15,892	1,315,235	29,698	2,754,332
Carrots ..... ,,	27,436	2,612,192	31,043	2,949,800	51,339	3,905,854
Cauliflower ..... ,,	35,775	1,757,062	18,478	924,043	15,443	634,188
Celery ..... ,,	45,879	2,814,757	42,836	2,591,956	38,775	2,313,291
Chayotes ..... boxes	3	90	.....	.....	13	780
Chicory ..... crates	94	6,690	14	1,000	5	360
Corn on the cob ..... ,,	23	1,150	9	495	.....	.....
Cucumbers ..... ,,	200	3,257	248	7,104	143	3,445
Eggplant ..... boxes	354	9,947	257	9,505	45	1,403
Endives ..... crates	218	15,304	221	13,819	214	15,891
Garlic ..... ,,	29	2,010	15	606	4	200
Lentils ..... sacks	880	132,917	813	143,385	45	4,328
Lettuce ..... crates	51,161	4,863,925	55,980	5,033,574	52,228	3,927,959
Mint ..... ,,	5	295	.....	.....	.....	.....
Mustard, green ..... ,,	.....	.....	21	1,560	.....	.....
Onions ..... sacks	11,868	664,350	21,036	1,506,440	22,437	1,157,293
Parsley ..... crates	678	45,631	476	34,010	1,101	77,552
Parsnips ..... sacks	40	3,200	.....	.....	50	4,500
Peas, green ..... crates and sacks	9,190	416,606	9,725	412,302	10,863	424,330
Peppers ..... boxes	562	18,729	1,644	55,167	495	15,945
Radish ..... crates	247	18,860	307	24,280	256	23,040
Salsify ..... ,,	7	475	6	480	1	30
Spinach ..... ,,	34,818	1,085,990	44,820	1,476,778	35,861	1,058,572
Squash ..... ,,	814	60,706	806	66,182	557	41,220
Swiss chard ..... ,,	.....	.....	6	480	.....	.....
Tomatoes ..... ,,	51,928	1,546,259	59,772	2,858,932	57,971	1,777,158
Turnips ..... sacks	782	78,200	280	15,150	2,670	199,740

TABLE No. 17.—IMPORTED NURSERY STOCK INSPECTED, ALL PORTS OF ENTRY, BRITISH COLUMBIA, YEARS 1940–42.

Kind.		1940.	1941.	1942.
Assorted fruit-trees	No.	12,372	13,625	42,506
Assorted small fruits	,,	203,480	192,640	303,298
Assorted fruit seedlings	,,	138,741	120,267	138,744
Assorted ornamental seedlings	,,	10,470	16,480	4,610
Assorted grafts and scions	,,	1,868	8,817	976
Assorted bulbs	,,	754,165	322,899	1,334,056
Assorted ornamental trees and shrubs	,,	27,289	14,690	5,393
Assorted plants	,,	41,385	894,193	1,595,694
Assorted roots	,,	64,006	102,667	246,361
Assorted rose-bushes	,,	50,854	11,261	682

EXPORTS.

TABLE No. 18.—ESTIMATE OF AGRICULTURAL PRODUCTS EXPORTED FROM BRITISH COLUMBIA, YEARS 1941–42.

Description.		1941.		1942.	
		Quantity.	Value.	Quantity.	Value.
			$		$
Horses	No.	.....	15,000	.....	5,900
Cattle and calves*	,,	.....	327,927	.....	315,924
Sheep and lambs†	,,	.....	25,209	.....	21,333
Hogs‡	,,	.....	256,149	.....	200,966
Other animals	,,	.....	3,950	.....	2,450
Total live stock		.....	628,235	.....	546,573
Poultry§	No.	.....	128,046	.....	293,646
Eggs	doz.	2,027,970	527,272	1,546,186	510,242
Total poultry products		.....	655,318	.....	803,888
Butter	lb.	.....	40,446	.....	28,500
Cheese	,,	.....	2,468	.....	3,068
Milk (evaporated)	cases	.....	874,367	.....	1,010,526
Milk (powdered)	lb.	.....	211,863	.....	167,950
Casein	,,	.....	23,038	.....	15,050
Total dairy products		.....	1,152,182	.....	1,225,094
Apples	tons	77,179	4,042,688	94,730	6,315,337
Other fruits	,,	26,994	2,660,541	22,579	2,589,564
Vegetables	,,	28,174	1,322,625	26,243	1,429,150
Total fruits and vegetables		.....	8,025,854	.....	10,334,051
Honey	lb.	6,190	1,137	4,392	914
Hops	,,	1,352,223	460,939	988,620	505,055
Wool	,,	403,068	89,405	473,225	121,146
Tobacco	,,	720,000	129,600	352,000	72,160
Other products	,,	.....	505,918	.....	771,884
Total miscellaneous		.....	1,186,999	.....	1,471,159
Grand totals		.....	11,648,588	.....	14,380,765

* Including beef and veal.
† Including lamb and mutton.
‡ Including pork and pork products.
§ Including dressed poultry.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majes'y.
1943.

1,200-1143-6947

Ex 69

(REVISED 28-5-34)

L.S.B. Form No. C43
(*Sheet 1*)

Farm Appraisal Report

File No. DL 2503-A

Land Description Pt. 20 acs. of NE¼ of Sec.23, Tp.26, Map 22060-F, N.W.D.

Containing 20 acs. Acres

Settler's Name LEWIS, John Wesley Post Office Address Chilliwack, R.R.1

Nearest Rail Point Chilliwack, B.C. Distance 6¼ miles.

Market Town Chilliwack Distance "

Church (give denomination) ~~All denominations~~ Chilliwack United 1½ miles Distance "

Nearest School ~~East Chilliwack~~ Distance 1½ m.

State how property was identified: Fences, personal knowledge

Roads: State whether property has access to main road, the kind of road and its condition.

On good main gravelled cross road always in good condition.

Is this district a good one? Fair only- Peat land section.

Employment opportunities Seasonable farm labour only, locally.

Predominating Nationality and Religion: British but Central and northern Europeans are gaining quite a foothold.

Describe Fencing and its condition: Barb wire mostly poor Value $ withland

Water Supply: Municipal water piped to house and barn Value $ "

BUILDINGS ON FARM

MATERIAL	BUILDING	SIZE INCL. HGHT.	FOUNDATION	ROOF	AGE	REPAIR	PRESENT DAY VALUE
1½st. Frame	House	24x18x22	Cedar logs	Shingles	30	Poor)	600.
1 st. leanto	"	24x12x12	" " "	"	30	")	
	Barn						
2 st. frame	"	18x30x24	Cedar	"	20	Fair)	350.
Attached shed	"	16x24x12	"	"	30	Bad)	
Attached st. silo		10x24		None	3	Good)	
	Granary						
Frame piggery	"	16x26x16	Cedar	Shingle	30	Poor	70.
	Henhouse						
Frame	Henhouse	18x22x8	Cedar	"	20	Fair only	60.
Dairy	Hog-pen	6x6x8	Concrete	"	6	Good	15.
Frame	Implement	10x16x8	Posts	"	4	Good	15.
	Garage Shed	(Open both ends, no floor, cheap sheeting.					

Total present day value $ 1110.

Total Value Buildings add to farm $ 800.00

Describe repairs needed to make buildings serviceable and give approximate cost of same.

House foundations repaired, roof repaired, Barn leanto taken down and re-erected, Piggery straightened up and new roof or else rebuilt $200

$

Describe the basement and chimneys: No basement, Brick chimney on bracket.

No. rooms downstairs? 3 Upstairs? 2 How finished lumber

Are buildings painted? House was Condition of paint Done years ago

Distance from nearest bush None near.

Note: Particular care must be taken when examining and reporting on foundations, sills and roofs.

EXHIBIT No. Gen 69
DATE 1 Dec 1948
FILED BY J. W. Hunter

Cultivated Land

ACRES	LEVEL, UNDULATING, ROLLING OR HILLY	SOIL (State Depth)	SUB-SOIL	KIND AND QUALITY OF CROP	VALUE PER ACRE	TOTAL
20	Level	Peat 2-6'	Clay	Fair peat pasture & hay	60.	1200.

Area which can be cultivated without cost other than for breaking.

LEVEL, UNDULATING, ROLLING OR HILLY	SOIL (State Depth)	SUB-SOIL		VALUE PER ACRE

Area which can be cultivated after a reasonable amount of clearing timber, stones, drainage, etc.

LEVEL, UNDULATING, ROLLING OR HILLY	SOIL (State Depth)	SUB-SOIL	NATURE OF RECLAMATION NECESSARY	RECLAMATION COST PER ACRE	VALUE PER ACRE

Area Unsuitable for Cultivation.

CHARACTER OF LAND E. G. HILLY, SWAMPY, ROCKY.	NATURE OF TIMBER IF ANY AND WHETHER MARKETABLE	VALUE OF LAND PER ACRE

Total value of Land $1200.00

Total added by buildings to value of farm $ 800.00

Total fruit trees add to value of farm (for use in orchard districts only) $ nil.

Total value of farm $2000.00

Describe condition of farm commenting on tillage, length of time unoccupied or partly occupied:

Fairly continuously occupied but tillage leaves much to be desired the past year or more.

What is the average yield per acre of this farm? Under average for peat which yields crops with little substance for feed.

State most suitable type of agriculture for farm bearing in mind the district's limitations, if any.

Dairy and mixed.

Noxious weeds: Curled dock and very weedy with non-noxious weeds. Some couch gras

State type of family recommended for this property: Family who couldearn about $200 offthe fa each year.

How soon can a settler be reasonably expected to begin paying full annual instalments. When stocked

Give approximate detail and amount of all annual taxes and names of Taxing Authorities: Chilliwack Mun.- No dyking taxes.

Date: Jan. 24,1941
Place: Chilliwack, B.C.

I certify that the above report is based on a personal examination of the whole farm made on the 23d day of Jan. 19 41.

Inspector's Signature .....

Note: (Use L.S.B. C43 (Sheet 2) in connection with this form.)

SALES OF PARTS OF JAP LANDS

File No.	Municipality	Name	Date of Sale	Legal Description	Acreage	Cost to Director	Selling Price	Purchaser
BC/665-P	Mission	K. Senda	12/2/47	Prt.0.25 acs, Lot 1, of NE¼, Sec.28, Twp 17, Map 2184	0.25		150.00	Farmers Ass'n of North Mission .
BC/435-P	Richmond	S. Kumagai		Lot 5, of Frac.Secs.1 & 12, Blk 4N, Reg.4W, Map 3537	4.56		1200.00	B.C.E.R. Company Power-line.
BC/515-P	Surrey	Y. Fuju	17/12/47	Pt.3.997 acs.of Lot 2, Sec.27, Blk 5N, Rge.1W Map 1057	9.997	100.00	200.00	Surrey School Board
BC/535-P	Surrey	S. Kado	13/4/48	Lot 3,of Lots 2,3, & 4, Sec.32, Blk 5N, Rge 2W Map 4080	4.915	160.00	300.00	Municipality of Surrey

SALES OF JAPANESE LANDS TO PUBLIC BODIES OR CIVILIANS

File Number	Municipality	Name	Date OF Sale	Legal Description	Acreage	Cost to Director	Selling Price	Purchaser
BC/438P	Surrey	K. Okana	16/4/47	S½,Lot 7, E½,Blk 4, of E½, Sec.11, Twp. 1, Map 3403	.12	$516.00)		Municipality of Surrey Sewage Disposal
BC/479P	"	M. Tanizaki	"	3 acs, comprising 23 lots in Blks 3,4, & 13, Sec. 11 Twp. 1, Maps 1334 & 3403	3 ac.	982.00)	$2800.00	
BC/554P	"	E. Okana	"	Lots 21 & 20, Blk 3, E½, Sec. 11, Twp 1, Map 1334	.25	147.00)		
BC/525P	"	G. HONDA	"	Lot 19, Blk. 3, E½, Sec. 11, Twp. 1, Map 1334	Lot 33x124.8	565.00)		
BC/517P	"	S. FUJINAMI	25/3/46	Lot 9, SW¼, Sec. 31, Twp. 2, Map 2966	4.26	41.00	100.00	Corp. of Surrey Kennedy Community Hall Association
				VANCOUVER ISLAND				
BC/715P	Salt Spring Is.	K. Okano		Sec. 1, Rge. 1E, NSSI Cowichan District	100.00	245.00	2000.00	H.F. Hollings Fulford Harbour

SALES OF JAPANESE LANDS TO PUBLIC BODIES OR CIVILIANS

File Number	Municipality	Name	Date of Sale	Legal Description	Acreage	Cost to Director	Selling Price	Purchaser
BC/26P	Maple Ridge	S. Hamura	17/4/47	Lots 1 & 2 of NW¼, Sec.11, Tp.12, Map 1363	19.34	$ 292.00		Timber Sale to
BC/158P	" "	T. Sunada	17/4/47	Lot 3 of NW¼, Sec.11, Tp.12, Map 1363	9.68	95.00		Wm. Minty
				Lots 10 & 12, E½ NE¼, Sec.10, Tp.12, Map 2450	9.54	46.00	3,050.00	
						433		
BC/233P	Mission	E. Hashizume	12/6/46	Pt.8 acs.of SW¼, Sec.26, Tp.17, Sk.25946E	8.00			
				Pt. 4.25 acs.SW¼ Sec.26, Tp.17, Sk.6471	4.25	560.00		Westminster
BC/234P	"	" "	"	Pt.29.95 acs.L.S.7 & 8, Sec.27, Tp.17, Sk.2267, Ex. S.30' thereof	29.95	2284.00		Priory for
BC/235P	"	" "	"	Pt.5 acs.of L.S.8, Sec.27, Tp.17, Sk.7288.	5.00	118.00		Monastery & Seminary
BC/236P	"	" "	"	Lot "B" of NE¼, Sec.27, Tp.17, Map 987	31.77	1763.00	5,500.00	
						4725.00		
BC/662P	"	Y. Inouye	15/1/48	Pt.28.88 acs.of S½ of S½ of SE¼, Sec.19 & NE¼ Sec.18, Tp.17, Sk.4896, lettered "D", Ex.pt.shown Sk.4897	12.50	741.00	841.00	Province of B.C. Forestry Station

EXHIBIT No. Gen 6 8
DATE 1 Dec 1948
FILED BY R. J. McMaster

Ex 67

EXTRACTS FROM S.S.B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

replacement less deprec.

Comments re Houses	J.L. No.	Appraiser	P.D.V.	Value Added to Land	State of Repair
		P. V. Values $100 to $500			
Habitable	349	G.	150	150	Good
No house	4	Pa.	250	190	Good
Habitable	123	G.	140	50	Good
Habitable	344	G.	440	300	Very Fair
			980	690	
			100 :	70½	
No House	6	Pa.	125	100	Fair
Habitable	98	S.	100	100	Fair
Habitable	16	G.	300	300	Fair
Habitable	151	G.	110	100	Fair
Not Compl.	156	Pa.	220	150	Fair
Habitable	54	D.	315	300	Fair
Habitable	376	G.	400	300	Fair
Habitable	353	Pa.	400	300	Fair
Habitable	348	Pl.	400	300	Fair
Habitable	176	G.	150	150	Fair
No House	74	Pl.	275	200	Fair
Habitable	100	S.	500	500	Fair
Habitable	72	Pl.	350	275	Fair
Habitable	160	Pl.	250	200	Fair
Habitable	218	Pa.	430	300	Fair
Henhouse only	343	Pl.	400	200	(new-only fair)
Habitable	131	S.	400	200	Fair
Habitable	361	D.	300	250	Fair
Habitable	321	Pl.	500	375	Fair
Habitable	124	R.	195	125	Fair
Habitable	207	S.	500	500	Fair
Not Habitable	315	Pl.	300	225	Fair&Poor
Habitable	8	Pl.	400	300	Poor&Fair
Habitable	280	Pl.	350	275	Fair
Just Habitable	158	G.	150	100	Fair
Habitable	152	D.	410	350	Fair
Habitable	115	D.	300	300	Fair
Habitable	282	Pa.	330	330	Fair
Habitable	284	S.	250	250	Fair
Habitable	41	D.	300	300	Fair
Habitable	350	G.	225	100	Fair
			9635	7755	
			100 :	80½	

EXHIBIT No. Gen 67
DATE 1 Dec 1948
FILED BY R. J. McMaster

EXTRACTS FROM S.S.B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value Added to Land	State of Repair
		P. V. Values $100 to $500			
Habitable N.W.R.	106	G.	280	280	Poor
Habitable	246	Pl.	445	400	Poor
Habitable	261	S.	160	160	Poor
Habitable	42	Pa.	300	200	Only Fair
Habitable	247	S.	250	250	Poor
Habitable	163	D.	350	300	Poor
Habitable	351	G.	460	200	(Old unfurn.)
Habitable	311	Pl.	400	300	Poor
Habitable	275	Pa.	300	200	Poor
Habitable	155	Pa.	350	260	Only Fair
N.W.R.	307	Pa.	350	270	Poor
Hardly Habitable	379	G.	175	100	Poor
Shed only	273	Pa.	250	200	Only Fair
Dwelling makeshift	254	Pa.	400	300	Poor
Habitable	270	Pa.	300	270	Poor
Not Habitable	312	G.	300	300	Poor
Habitable	185	Pa.	500	350	Only Fair
Makeshift	214	Pa.	200	150	Poor
Habitable	264	D.	340	250	Poor
Barely Habitable	57	D.	330	300	Poor
Habitable	366	S.	125	125	Poor
Barely Habitable	309	D.	475	350	Poor
Not Habitable	161	Pl.	125	100	Poor
			7165	5615	
			100 :	80	

EXTRACTS FROM S.S.B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value added to Land	State of Repair.
GOOD	P. V. Values $500 to $1000				
Habitable	164	G.	600	500	Good
Habitable	305	D.	700	550	Good &Fair
Incomplete	276	G.	1000	750	New-unfin.
Habitable	378	G.	955	800	Very Fair
Habitable	133	Pl.	650	450	Fair&Good
			3905	3050	
			100	: 80	
FAIR					
Habitable	199	D.	600	600	Fair
Habitable	10	S.	950	500	Fair
Habitable	38	G.	670	600	Fair
Habitable	132	S.	550	500	Fair
Habitable	460	G.	530	400	Fair
Habitable	359	D.	875	450	Fair
Habitable	360	D.	675	300	Fair
Habitable	320	Pa.	750	600	Fair
Habitable	189	D.	950	900	Fair
Habitable	362	S.	800	500	Fair
Habitable	210	S.	835	600	Fair
Habitable	66	Pa.	600	520	Fair
Habitable	67	Pa.	1000	770	Fair
Habitable	188	S.	750	500	Fair
Habitable	35	D.	665	600	Fair
Habitable	187	S.	600	400	Fair
Habitable	154	Pa.	750	500	Fair
Not Habitable	162	Pl.	700	525	Fair
Habitable	175	S.	900	750	Fair
Habitable	166	S.	1000	800	Fair
Habitable	150	S.	650	500	Fair
Poor type dlg.	74	Pa.	600	450	Fair &Good
Not Habitable	209	Pl.	700	525	Fair
Habitable	308	S.	940	600	Fair
			18040	13390	
			100	: 74	
POOR					
Habitable	6	S.	550	400	Poor
Not Habitable	211	Pl.	700	525	Poor
Habitable (Hse.old)	102	Pa.	790	500	Only Fair
Not Habitable	62	Pl.	850	600	Poor
Habitable	346	D.	725	450	Poor
Habitable	130	D.	540	300	Poor
Habitable	356	S.	930	700	Poor
Not Habitable	374	Pl.	700	525	Poor
Habitable	153	S.	730	500	Poor
Not Habitable	193	Pl.	800	600	Poor & Fair
			7315	5100	
			100	: 70	

EXTRACTS FROM S.S.B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

Comments re Houses	J. L. No.	Appraiser	P. D. V.	Value added to Land	State of Repair
			P. V. Values $1,000 to $1,500		
GOOD					
Habitable	12	G.	1105	1100	Good
Habitable	127	G.	1050	1050	V.G. New
$500 to finish	73	Pl.	1300	975	New
Habitable	287	D.	1050	800	Good
Quite Habitable	11	G.	1050	1000	Good
Habitable	272	G.	1225	1000	Good
Habitable	341	Pa.	1200	900	Very Fair
Habitable	279	Pl.	1500	1100	Good
Habitable	149	D.	1180	1000	Good
Habitable	289	D.	1400	1075	Good
			12,060	10,000	
			100 :	83	
FAIR					
Habitable	213	D.	1420	985	Fair
Habitable	285	S.	1350	800	Fair
Habitable	40	S.	1150	600	Fair &Poor
Habitable	15	S.	1070	800	Fair
Habitable	52	Pa.	1300	800	Fair
Habitable	253	Pa.	1030	750	Fair
Habitable	392	Pa.	1400	1000	Fair
Habitable	99	S.	1250	900	Fair
Habitable	70	G.	1425	1000	Fair
Habitable	357	S.	1100	600	Fair
Habitable	304	Pl.	1200	900	Fair
Habitable	206	D.	1275	1085	Fair-Poor
Habitable	190	D.	1280	800	Fair-Poor
Habitable	68	Pa.	1050	825	Only Fair
Habitable	291	D.	1250	1040	Good-Poor
Habitable	316	Pa.	1250	900	Fair
Habitable	242	G.	1230	1000	Fair
Habitable	286	S.	1255	900	Poor-Good
Habitable	364	P.	1337	900	Fair
			23,622	16,585	
			100. :	70	
POOR					
Habitable	195	D.	1045	600	Poor
Habitable	365	D.	1085	800	Poor
Habitable	257	S.	1360	1000	Poor
			3490	2400	
			100 :	70	

EXTRACTS FROM S.S.B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value added to Land	State of Repair
GOOD		P. V. Values $1500 to $2000			
Habitable	217	D.	1620	1400	Good
Habitable	61	S.	1780	1000	Good
Habitable	256	S.	2000	1500	Good
Habitable	243	Pl.	1550	1240	Good
Habitable	58	Pl.	1600	1225	Good
Habitable	165	Pl.	1750	900	Good
Habitable	212	S.	1610	1200	Good
Habitable	159	D.	1745	1500	Fair
			13655	9965	
			100 :	73	
FAIR					
Habitable	278	Pl.	1600	1200	Fair
Habitable	9	Pl.	1775	1275	Fair
Habitable	281	Pl.	1800	1350	Fair
Habitable	314	D.	1950	1535	Fair&Good
Habitable	215	D.	1965	1060	Fair-Poor
Habitable	224	S.	1805	1000	Poor-Fair
Habitable	283	Pa.	1850	1410	Fair
			12745	8830	
			100 :	69	

EXTRACTS FROM S.S.B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value Added to ~~House~~ Land.	State of Repair
GOOD:	P. V. Values $2000 to $2500				
Habitable	42	D.	2170	2000	Good
Habitable	186	S.	2350	1500	Good
Habitable	290	D.	2405	1560	Good-New
Habitable	216	G.	2225	1700	Good
Habitable	263	D.	2200	1500	Good
			11350	8260	
			100 :	73	
FAIR:					
Habitable	7	D.	2325	1500	Fair
Habitable	391	Pa.	2200	1650	Fair
Habitable	104	Pl.	2050	1300	Fair
Habitable	322	S.	2010	1500	Fair&Good
Habitable	310	S.	2055	1700	Fair
			10640	7650	
			100 :	71	

EXTRACTS FROM S. S. B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

Comments re Houses?	J. L. No.	Appraiser	P.D.V.	Value Added to House	State of Repair
GOOD:		P. V. Values $2500 to $3000			
Habitable	56	G.	2550	1000	New
Habitable	248	G.	2585	2000	Good
Habitable	970	G.	2600	2600	Very Good
Habitable	352	G.	2655	1500	Good
Habitable	69	S.	2605	2000	Good
Habitable	318	Pa.	2700	2000	Good
Habitable	208	G.	2770	2000	Good
Habitable	354	S.	2845	1700	Good
			21,310	14,800	
			100 :	69½	

EXTRACTS FROM S. S. B. APPRAISALS OF PROPERTIES SITUATE IN MAPLE RIDGE

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value Added to ~~House~~ Land	State of Repair
GOOD:		P. V. Values $3000 & over.			
Habitable	682	Pl.	5700	2850	Fair&Good
Habitable	683	D.	4050	2400	Good
Habitable	43	Pl.	4725	2000	Very Good (A lovely home but its true value can't be shown as a $1500 house would do as well
Habitable	5	Pa.	4100	2600	Good
Habitable	273	G.	3185	1500	Very Good
Habitable	691	Pl.	6784	3390	Poor, Fair & Good
Habitable	686	Pa.	5300	2650	Fair-good
Habitable	105	D.	3140	2000	Good
Habitable	684	Pl.	6570	3285	Good
Habitable	685	Pa.	4430	2200	Good&Fair
Habitable	39	G.	3060	2000	Good
			51044	26875	
			100	: 52½	

EXTRACTS FROM S. S. B. APPRAISALS OF PROPERTIES SITUATE IN MISSION

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value Added to ~~House~~ Land
		P.V. Values $100 up to and incl.		$500.
No House	110	W.	110	100
Habitable	118	B.	200	200
Repairs req.	113	R.	420	175
Not Worth Rep.	76	W.	270	270
Doubt Worth Rep.	83	B.	100	100
Habitable	85	B.	400	400
Habitable	92	W.	445	400
Habitable	94	W.	305	305
Habitable	141	R.	190	150
Habitable	172	R.	210	100
No House	22	B.	250	250
Not. Hab. P.D.V. Hse.250)	28	R.	375	275
Shack P.D.V. 50	82	B.	150	150
Habitable	33	W.	410	400
Too Small	118	McK.	250	200
Habitable	64	B.	200	200
Not Habitable	24/12	McK.	225	100
Habitability Questionable	179	McK.	375	200
Habitable	168	B.	150	150
Habitable	84	B.	400	400
Habitable	27	R.	405	250
Not Worth Rep.	48	W.	270	200
No House	79	W.	170	150
House Very Old	114	R.	255	150
			6535	5275
			100%	80½%

EXTRACTS FROM S. S. B. APPRAISALS OF PROPERTIES SITUATE IN MISSION

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value Added to House
		P. V. Value $500 up to & incl. 1000		
Habitable	184	B.	725	500
Habitable	75	W.	720	600
Habitable	198	McK.	580	500
Habitable	117	B.	600	400
Habitable	170	R.	875	450
Habitable	20	B.	525	400
Habitable	45	B.	525	525
Habitable	49	W.	980	800
Habitable	77	B.	675	500
Habitable	142	R.	515	330
Habitable	129	B.	975	500
Habitable	24	B.	1000	900
Habitable	116	B.	750	630
Habitable	46	R.	840	700
Not Habitable	17	McK.	520	500
Habitable	23	B.	625	400
Habitable	8/18	R.	925	655
Habitable	34	B.	800	400
Habitable	30	W.	755	700
Habitable	86	B.	850	530
Habitable	135	McK.	745	745
Habitable	93	W.	580	500
Habitable	178	McK.	675	600
Habitable	173	W.	600	600
Habitable	119	B.	775	500
Habitable	144	W.	550	550
Habitable	196	McK.	550	500
Habitable	171	R.	520	350
			19755	15265
			100 :	77

EXTRACTS FROM S. S. B. APPRAISALS OF PROPERTIES SITUATE IN MISSION

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value Added to House
		P. V. Value $1001 to $1500.		
100	31	McK.	1200	700
Habitable	23/8	McK.	1275	1000
Habitable	25	B.	1125	500
Habitable	136	McK.	1380	1000
Habitable	94	W.	1375	900
Habitable	21	B.	1225	675
Habitable	22/12			
	22/9	McK.	1500	1200
Habitable	88	McK.	1295	800
			10375	6775
			100 :	65½

EXTRACTS FROM S. S. B. APPRAISALS OF PROPERTIES SITUATE IN MISSION

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value added to House
		P. V. Value $1501 to $2,000		
Habitable	107	R.	1875	1125
Habitable	18	McK//////	1945	1000
Habitable	23/13	McK//////	1945	1000
Habitable	12/8	McK.	1900	2000
Habitable	80	R.	1875	1250
Habitable	145	W.	1565	1200
Habitable	169	W.	1650	800
			12755	8375
			100 :	66

EXTRACTS FROM S. S. B. APPRAISALS OF PROPERTIES SITUATE IN MISSION

Comments re Houses	J. L. No.	Appraiser	P.D.V.	Value added to House
		P. V. Value $2,001 to $2500		
Habitable	111	W.	2310	1500
Habitable	180	McK.	2350	1200
Habitable	BC742P	W.	2200	1000
Habitable	141R	R.	2325	1300
			9185	5000
			100 :	54½
		P. V. Value $2,501 to $3,000		
Habitable	23	B.	2500	1500
Habitable	182	McK.	2650	1600
Habitable	2	R.	2570	1480
Habitable	143	R.	2780	1455
			10500	6035
			100 :	57½
		P. V. Value over $3,000		
Habitable	3	R.	6375	4000
Habitable	1	R.	4090	2100
Habitable	11-2	McK.	4020	1500
			14485	7600
			100 :	52½

Ex 76

CORPORATION OF THE TOWNSHIP OF LANGLEY

LANGLEY TAX SALE LAND SALE BY-LAW, 1943

No. 540.

WHEREAS by virtue of the "Municipal Act" being Chapter 199 of the Revised Statutes of British Columbia, 1936, it is provided that a Municipal Council may, by By-law passed by a three-fourths majority of all Members of the Council, dispose of lands acquired by the Municipality at Tax Sale:

THEREFORE BE IT ENACTED by the Municipal Council of the Corporation of the Township of Langley, that

1. The lands described as follows; situate in the District of New Westminster, and Province of British Columbia, which were acquired by the Corporation under Tax Sale proceedings and not redeemed, be sold at and for the prices following, that is to say:

Description	Price
Lot 12, D.L. 320, Map 1560	$ 50.00
Lot 13, D.L. 320, Map 1560	50.00
Lot 14, D.L. 320, Map 1560	50.00
Lot 15, D.L. 320, Map 1560	50.00
Lot 16, D.L. 320, Map 1560	50.00
Lot 24, D.L. 320, Map 1560	50.00
Lot 4, D.L. 327, Map 1560	60.00
Lot 13, D.L. 327, Map 1560	50.00
Lot 14, D.L. 327, Map 1560	50.00
Lot 8, D.L. 400, Map 2158	50.00
Lot 9, D.L. 400, Map 2158	50.00
Lot 10, D.L. 400, Map 2158	50.00
Lot 11, D.L. 400, Map 2158	50.00
Lot 12, D.L. 400, Map 2158	50.00
Lot 13, D.L. 400, Map 2158	50.00
Lot 14, D.L. 400, Map 2158	55.00
Lot 20, D.L. 400, Map 2158	50.00
Lot 21, D.L. 400, Map 2158	50.00
Lot 22, D.L. 400, Map 2158	50.00

"All Group 2"

EXHIBIT No. Gen 76
DATE 2 Dec 19 x 8
FILED BY J. W. S. Hunter.

D.L. 414, Group 2,	300.00
Lot 1, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 2, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 3, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 4, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 5, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 12, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 13, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 14, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 15, SW¼, Sec 1, Twp 7, Map 2063	50.00
Lot 16, SW¼, Sec 1, Twp 7, Map 2063	50.00
W½ of SE¼, Sec 15, Twp 7	400.00
S½ and NW¼, of SW¼, Sec 2, Twp 7	600.00
E½ of SW¼, Sec 12, Twp 7	800.00
Lot 4, SE¼, Sec 22, Twp 7, Map 1148	50.00
Lot 13, SE¼, Sec 22, Twp 7, Map 1148	25.00
Lot 9, NE¼, Sec 22, Twp 7, Map 1168	100.00
Lot 11, NE¼, Sec 22, Twp 7, Map 1168	100.00
Lot 11, S½, Sec 23, Twp 8, Map 1257	75.00
E½, NW¼, Sec 9, Twp 10	400.00
Pt. 19.83 acres NW¼, Sec 10, Twp 11, Sketch 1486	150.00
N½ of the S½ of the S½ and the E½ of S½ of S½ of S½ of NE¼, Sec 11, Twp 10	1,500.00
Lot 23, SE¼, Sec 11, Twp 11, Map 1618	50.00
Lot 12, NE¼, Sec 11, Twp 11, Map 1561	50.00
Lot 13, NE¼, Sec 11, Twp 11, Map 1561	50.00
S½ of N½ and N½ of S½ of NW¼, Sec 11, Twp 11	800.00
Lot 18, SE¼, Sec 13, Twp 11, Map 1279	115.00
Lot 19, SE¼, Sec 13, Twp 11, Map 1279	80.00
Lot 20, SE¼, Sec 13, Twp 11, Map 1279	80.00
Lot 1, Block 1, SW¼, Sec 13, Twp 11, Map 2031	50.00
NE¼, Sec 13, Twp 11, Save and Except S½ of SE¼ and N½ of the NE¼, thereof	900.00

Description	Price
Lot 14, NE¼, Sec 14, Twp 11, Map 1440	60.00
Lot 15, NE¼, Sec 14, Twp 11, Map 1440	65.00
Lot 16, NE¼, Sec 14, Twp 11, Map 1440	60.00
Lot 18, NE¼, Sec 14, Twp 11, Map 1440	65.00
N½ of Lot 2, NE¼, Sec 21, Twp 11, Map 3241	315.00
S½ of Lot 2, NE¼, Sec 21, Twp 11, Map 3241	315.00
SE¼, Sec 21, Twp 11, save and except pt. 2 acres Sketch 5389 and except pt. 6.51 acres Sketch 15398F and except pt. 42.77 acres Sketch 8645	650.00
Lot 2, SW¼, Sec 22, Twp 11, Map 2981	100.00
S½, NW¼, Sec 23, Twp 11	800.00
Lots 1 to 16, SW¼, Sec 24, Twp 11, Map 2262	100.00 each
Lot 1, SE¼, Sec 25, Twp 11, Map 1383	100.00
Lot 2, SE¼, Sec 25, Twp 11, Map 1383	100.00
Lot 16, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 17, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 18, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 19, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 20, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 21, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 22, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 23, SE¼, Sec 25, Twp 11, Map 1383	50.00
Lot 24, SE¼, Sec 25, Twp 11, Map 1383	100.00
Lots 1 to 16, NW¼, Sec 6, Twp 12, Map 2109	100.00 each
SW¼, Sec 7, Twp 12	800.00
Lot 13, NE¼, Sec 31, Twp 13, Map 2748	70.00
Lot 14, NE¼, Sec 31, Twp 13, Map 2748	70.00
Lot 1, NW¼, Sec 6, Twp 14, Map 2553	100.00
Lot 26, NW¼, Sec 7, Twp 14, Map 1638	55.00
Lot 10, S½, SW¼, Sec 7, Twp 14, Map 2492	50.00
Lot 5, Sec 18, Twp 14, Map 3337	100.00
Lot 11, Sec 18, Twp 14, Map 3337	100.00
Lot 16, Sec 18, Twp 14, Map 3337	200.00

Description	Price
Lot 17, Sec 18, Twp 14, Map 3337	200.00
Lot 18, Sec 18, Twp 14, Map 3337	200.00
Lot 19, Sec 18, Twp 14, Map 3337	180.00
Lot 20, Sec 18, Twp 14, Map 3337	160.00
Lot 21, Sec 18, Twp 14, Map 3337	120.00
Lot 27, Sec 18, Twp 14, Map 3337	190.00
Lot 39, Sec 18, Twp 14, Map 3337	130.00
E½ of S½ of SW¼, Sec 20, Twp 14	200.00

2. That the Reeve and Acting Clerk be, and they hereby are, authorized for and on behalf and in the name of the Corporation to execute and deliver to the purchaser of purchasers a Deed of Conveyance of the said lands as described, and to affix the Corporate Seal thereto.

3. This By-law may be cited for all purposes as the "LANGLEY TAX SALE LAND SALE BY-LAW, 1943" Numbered 540.

DONE and PASSED in Open Council on the twenty-sixth day of July, A.D. 1943.

RECONSIDERED and FINALLY PASSED by a three-fourths majority of all Members of the Council this sixteenth day of August, 1943, A.D.

"Alex C. Hope" REEVE

"E.A. Fountain" CLERK

(SEAL)

I HEREBY CERTIFY THIS IS AN EXACT COPY OF "LANGLEY TAX SALE LAND SALE BY-LAW, 1943." No. 540.

CLERK of the Municipality of Langley

Murrayville, B.C. July 26, 1943

"LANGLEY TAX SALE LAND SALE

BY-LAW, 1943."

No.540.

COMPARABLE SALES

PROPERTY	Value & Price	Date of Sale	Assessed Value	ACREAGE Total	Cult.	Bush	Water Supply	Proximity to Claimant's Ppty.	HOUSE Age	Size and Rooms	Foundation	Construction Type	Wiring	Plumbing	State of Repair	OTHER BUILDINGS Kind	Remarks
SALE ~~CLAIMANT~~ A. MASUHARA CUST.FILE 9053 J.L. 744	$1250.00	June 1942	1942 Land $1500. Imps 950.	93	House site	93	Shallow Well		1 yr.	20x24 4 rooms	Cedar posts and concrete piers.	Frame	Nil	Nil	Good	Non	House built into ground with poor ventilation. Generally light structure. Very poor wall shingles with too much exposue 9" on wide tiers.
COMPARISON No. 1 MUNICIPALITY OF LANGLEY TO WALTER DICKSON D.L. 414 GP. 2	$300.00	June 1944	1942 Land $700. Imps 500.	53	Nil	Nil	Nil	Cornering North Westerly corner.	Nil				Nil				Same Topography, Bush & soil.
COMPARISON No. 2																	
COMPARISON No. 3																	
COMPARISON No. 4																	
COMPARISON No. 5																	
COMPARISON No. 6																	

EXHIBIT No. Gen 77
DATE 2 Dec 1948
FILED BY J. W. J. Kennedy

I HEREBY CERTIFY that the paper writing hereto annexed is a true copy of an original document deposited and now in my custody in the Land Registry Office, in the City of New Westminster, B.C.

DATED this 30th day of November, 1948.

R. F. Marshall
Deputy Registrar.

EXHIBIT No. Gen 78
DATE 2 Dec 1948
FILED BY J W G Brunker

Compared by B.K.

145737E

"FGW"

10-9

No. 145737E

Sep 10 1941
10:30
Land Registry Office
New Westminster, B.C.

THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA

LAND REGISTRY ACT.

FORM A. *(Section 124.)*

Application for Registration of Fee-simple.

Date Sept 3rd, *19*41

I, Frank Prescott LaLande, solemnly declare that I am [~~or Solicitor for or~~ the duly authorized Agent of Akiyasu Masuhara, and that he is] entitled to be registered as the owner in fee-simple of the land hereunder described, and hereby make application under the provisions of the "Land Registry Act" and claim registration accordingly.

The full name, address, and occupation of the person so entitled to be registered as owner is

Akiyasu Masuhara Merchant of 3798 Hastings St. East

* Not applicable where the applicant is a corporation. Strike out words not applicable.

I am a British subject.* [*Or*]
~~I am not a British subject.* [*Or*]~~

I am informed by Akiyasu Masuhara, and
(Adapt to suit circumstances.)
verily believe, that the person so entitled to be registered as owner is a British subject [~~*or*~~] ~~is not a British subject *†~~.

† For use where the application is made by a solicitor or agent.

The fee-simple is registered in Vol. , Fol. , of the Register.

DESCRIPTION OF LAND.

Municipality or Assessment District.	Lot or Section.	Admeasurement or Acreage.
Langley B.C.	The Westerly Portion of Lot C, T-Ship 11, South West of old wagon road 93 acres, Sketch No. 2735, Save and except Westerly 33 feet of Block C & Part 1 acre of "C" Sk 8101 Tp. 11	

LIST OF INSTRUMENTS.

Date.	Parties.	Character of Deed.
Sept. 3rd.41	Alfred Rieboldt To Akiyasu Masuhara Tax Certificate herewith	Certificate Title in L.R.O. N. Westminster DRAFTED 11-9-41 WJMcK

Do not write outside the side-line. Space reserved for binding.

And I solemnly declare that I have investigated and ascertained the value of the said land, and that the market value thereof at the date of this application, including all buildings and improvements thereon erected, is 800.00 dollars, and that the title deeds mentioned hereon are all those in my custody, possession, or power, relating to the said land, [*in the case of a Solicitor or Agent, add*] and to the best of my belief there are no other title deeds in the custody, possession, or power of the owner, relating to the same; and I am duly authorized by the above-named owner to make this application, [*in the case of an Agent, add*] and I reside in the Province of British Columbia, and am of the full age of twenty-one years.

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

DECLARED before me this 5th day of Sept., 19 41, at New Westminster, British Columbia.

(Signature) "F. P. LaLande"

(Full Post-office address) 405½ W Pender St.
For mailing notices and documents.
Vancouver B.C.

"James I. Keary"
A Clerk in the Land Registry Office, New Westminster, B.C.

237717

0

Application	$		50
Registration of Fee-simple		1	00
Deposit of Deeds		1	00
⅛ of 1% on market value up to $5,000, and 1/10 of 1% thereafter	Concurrent		
And in addition for Indefeasible Title, 50c. up to $1,000; 75c. up to $2,500; $1 up to $5,000; $1.50 up to $10,000; $2 up to $20,000; and 50c. for each additional $10,000.			
Certificate of Indefeasible Title		1	00
	$	3	50

Cash $_____

SUMMARY OF FEES ON VARIOUS VALUES.

		$1,000	$2,000	$3,000	$4,000	$5,000	$6,000	$7,000	$8,000	$9,000	$10,000
		$6.00	$8.25	$10.50	$12.50	$14.50	$16.00	$17.00	$18.00	$19.00	$20.00
$100	$4.20	6.45	8.45	10.70	12.70	15.10	16.10	17.10	18.10	19.10	20.60
200	4.40	6.65	8.65	10.90	12.90	15.20	16.20	17.20	18.20	19.20	20.70
300	4.60	6.85	8.85	11.10	13.10	15.30	16.30	17.30	18.30	19.30	20.80
400	4.80	7.05	9.05	11.30	13.30	15.40	16.40	17.40	18.40	19.40	20.90
500	5.00	7.25	9.25	11.50	13.50	15.50	16.50	17.50	18.50	19.50	21.00
600	5.20	7.45	9.70	11.70	13.70	15.60	16.60	17.60	18.60	19.60	21.10
700	5.40	7.65	9.90	11.90	13.90	15.70	16.70	17.70	18.70	19.70	21.20
800	5.60	7.85	10.10	12.10	14.10	15.80	16.80	17.80	18.80	19.80	21.30
900	5.80	8.05	10.30	12.30	14.30	15.90	16.90	17.90	18.90	19.90	21.40
$11,000 and up.	$21.50	Add 10 cents for every additional $100, or $1 for every $1,000. Add 50 cents for every additional $10,000 or part thereof above $20,000.									

Horticultural Circular No. 58.

EXHIBIT No. Gen 79
DATE 3 Dec 1948
FILED BY
J. W. J. Hunter

PROVINCE OF BRITISH COLUMBIA.

DEPARTMENT OF AGRICULTURE
(HORTICULTURAL BRANCH).

STRAWBERRY CULTURE.

BY E. W. WHITE, DISTRICT HORTICULTURIST.

INTRODUCTION.

STRAWBERRIES have been grown in British Columbia for home use and in commercial quantities for a great many years. They are perhaps the most popular of all the small fruits, and in fact the strawberry might almost be put at the top of the list of all fruits from a utility standpoint.

The strawberry is almost the first fresh fruit to arrive on the market at the beginning of the season and is one of the most palatable when eaten in the fresh state. It is very extensively used in the home for preserving and jam purposes and commercially constitutes about 40 per cent. of the total jam-pack of the Province. The use of strawberries for canning has also been extended in the last few years.

Strawberries may be grown on a great variety of soils and in many different districts of the Province.

There has always been a constant demand for information on this subject, as is indicated by the fact that since 1904 the Department of Agriculture has had publications on this subject which have been kept up to date as far as possible.

It is the intention of this circular to deal principally with cultural methods which are in vogue on Vancouver Island and the Lower Mainland, where the principal production is centred, but it will be found that the circular also contains information on the other strawberry-growing districts of the Province which has been prepared by other officials of the Horticultural Branch.

STRAWBERRY DISTRICTS OF THE PROVINCE.

Vancouver Island and Gulf Islands.—The southern end of Vancouver Island, comprising the local districts of Gordon Head and Keating, adjacent to the City of Victoria, and situated on what is known as Saanich Peninsula, is one of the oldest and best-known strawberry districts in the Province. Strawberries have been successfully grown here in a commercial way since about 1890. The district is well served by co-operative shipping organizations. Disposition of the fruit is accomplished by local sale, by shipping in refrigerator-cars to the markets of the Prairie Provinces, and by sale to canneries and jam-factories. In recent years a considerable tonnage has been processed annually by the SO_2 (sulphur dioxide) method for export to the British market.



Fig. 1. Typical strawberry district, Keating, Saanich Peninsula.

During 1920 and 1921 fairly extensive plantings were made at various Island points north of Victoria. Owing to unsatisfactory marketing conditions the acreage has gradually been reduced in these areas, so that at the present time production is almost entirely disposed of by local sale and very few shipments are made to outside markets.

The areas referred to above comprise the Metchosin and Sooke Districts near Victoria, the local districts near the City of Duncan in the Cowichan District, the Ladysmith and Nanaimo Districts, the local districts in the neighbourhood of Parksville, and the Courtenay, Comox, and Merville Districts.

There is a small acreage at Ganges, Saltspring Island.

In the case of the Vancouver Island districts adjacent to Victoria it is necessary to ship car-load lots via the Esquimalt & Nanaimo Railway to Ladysmith and thence by barge service to Vancouver, where the fruit can be shipped east to Prairie points via the Canadian Pacific Railway, or to ship via Canadian National Railway barge service to Port Mann, from which point shipments go east over the same system.

Lower Mainland.—This district is usually considered as being that area of land contiguous to the Fraser River from its mouth on the west to the districts of Agassiz and Chilliwack on the east, and comprising such small-fruit areas as Burnaby, Hammond, Haney, Whonnock, Mission, Hatzic, Dewdney, and Agassiz on the north side of the Fraser River and the districts of Chilliwack, Abbotsford, Matsqui, Langley, Surrey, and Delta on the south side of the river.



Fig. 2. Three acres of strawberries, Gordon Head. Just past full bloom and before strawing.

These localities, especially those on the north side of the river, have grown strawberries for a great many years. They are more favourably situated as regards transportation facilities than the districts on Vancouver Island, being to a large extent located on the main line of the Canadian Pacific Railway. The districts on the south side of the river are served by the main line of the Canadian National Railway.

There are numerous co-operative and independent shipping organizations established in this district, which take care of the bulk of the shipments. There are also a number of growers who

ship privately from this district to Prairie points. Several precooling plants are also established in this district.

The City of Vancouver offers a good fresh-fruit market close at hand, and in addition L.C.L. and car-load lot shipments are made to Prairie points. A percentage of the crop is always disposed of to the canneries and jam-factories. Barrelling in SO_2 solution has been used extensively in recent years.

Salmon Arm and District.—The acreage in this district is not large and is not increasing rapidly, due perhaps to climatic conditions. The district is well served by transportation facilities, being on the main line of the Canadian Pacific Railway, 315 miles east of Vancouver. There is a well-organized co-



Fig. 3. First crop of strawberries on new clearing in the Fraser Valley. Note type of timber-growth.

operative association with precooling facilities operating in this district and no difficulty is experienced in marketing.

Okanagan Valley.—Strawberry-growing in this district is not extensive and centres principally around Armstrong, at the northern end of the valley. There are practically no strawberries produced in the southern districts. The Okanagan Valley is essentially an irrigated tree-fruit district. Transportation and marketing conditions are favourable.

West Kootenay.—Strawberries have been grown along Kootenay Lake and River in the vicinity of Nelson for a good many years with varying degrees of success. In recent years, however, the greatest development has taken place at Wynndel, Creston, the Procter-Harrop District, and in the Slocan Valley.

The centre of the industry at the present time is at Wynndel. This district is especially favourably located as regards transportation facilities, being on the Crowsnest line of the Canadian Pacific Railway and less than twenty-four hours distant from Calgary, and much closer to market centres in Southern Alberta. Strawberries ripen later in these districts than at the Coast and so do not come in direct competition with the Coast fruit on the Prairie markets.

Successful co-operative associations operate in these districts.

Terrace-Skeena River.—This is one of the newest strawberry districts in the Province to develop into commercial importance. This district is situated on the Canadian National Railway about



Fig. 4. Strawberry-growing at Wynndel, West Kootenay District, showing system of overhead irrigation.

95 miles east of Prince Rupert. On the opposite side of the Skeena River, about 8 miles west of Terrace, is another small district by the name of Remo.

These districts find a good market west at Prince Rupert and east along the Canadian National Railway into the Prairie markets.

PROSPECTS IN BRITISH COLUMBIA.

In the years before the war of 1914–18 the strawberry industry was established on a considerably smaller scale than exists to-day. The acreage was not large and returns averaged about 6 cents per pound for jam-berries and $1.50 to $1.75 for crate-berries.

During the war years the importation of jam from Eastern Canada and the Old Country largely ceased and local prices showed a gradual improvement. During this time also the car-lot shipment of strawberries to Prairie points began to develop and has continued to be an important factor in the distribution of a large portion of the crop.

The following table gives an indication of the range of prices from 1914 to 1939 on Vancouver Island as shown by the annual fruit-crop reports prepared by the Horticultural Branch:—

Year.	Average Price per Lb., Jam-berries, F.O.B. Victoria.	Average Price per Crate, No. 1 Crate-berries, F.O.B. Victoria.
1914	$0.06	$1.60
1915	.06½	1.95
1916	.07	1.92
1917	.07	2.00
1918	.10	2.90
1919	.16	3.80
1920	.20	4.25
1921	.07	1.60
1922	.10	2.10
1923	.07	1.88
1924	.07	2.08
1925	.10	3.10
1926	.11	2.50
1927	.08½	2.17
1928	.06½	1.75
1929	.07	1.88
1930	.09	2.63
1931	.06	1.75
1932	.05	1.33
1933	.04½	1.20
1934	.04½	1.19
1935	.08	1.67
1936	.07½	1.60
1937	.06¼	1.75
1938	.06	1.33
1939	.05½	1.55

These figures to a certain extent tell the ups and downs of the strawberry industry over a period of twenty-six years; periods of small acreage and large acreage, short seasons and long seasons, decreased production and increased production, poor demand and good demand, booms and depressions.

It will be noted that the first real increase took place in 1918, and that in 1920 prices reached a maximum which they had never attained before and which may never be equalled again.

In 1919 prices were influenced to a certain extent by competition from Eastern jam-manufacturers, and in 1920 there was a short crop due to a heavy freeze in December, 1919.

Following the war a great many returned men took up small farms and, encouraged by the high prices prevailing for strawberries, a large increase in acreage took place.

The year 1921 proved a disastrous one for strawberry-growers. At the time it was considered the worst season ever experienced. However, in view of what has happened since, conditions might have been worse.

From 1922 to 1927 prices were maintained at a fair average, and growers who were securing average or above average yields were rewarded by a fair measure of success.

By 1928, after a few years of fairly good returns, the acreage had increased very considerably and there was a large crop to handle. Large shipments were made to the Prairies and a large part of the crop was processed. Prices were lower than at any time since 1921.

There was another large crop in 1929, and it was evident at the time that the demand from the jam-factories and canneries would be limited. The Provincial Government was approached for a loan to finance the processing of the surplus crop. Satisfactory arrangements were made and the Berry Processors, Ltd., was organized to handle the deal. A large tonnage was put up both on Vancouver Island and the Lower Mainland. Prices were a little better than in 1928.

The 1930 crop was very much smaller than for some years, due to reduced acreage, continued drought conditions which had existed for six years, severe weather in January, and frosts early in May, when the plants were in full bloom. Prices were better than for some time.

By 1931 the industry was beginning to feel the effects of the world-wide depression, and although the crop was one of the smallest on record, there was also a decided decline in prices. In addition to other handicaps, there was an unprecedented rainfall of 4.33 inches in June, whereas the average is only 0.77 inch.

With the continuation of the depression during 1932 and 1933 and the lowered buying-power of the consumer, prices for strawberries fell to new low levels during those years. In 1932, 5 cents a pound and $1.33 per crate was considered the absolute bottom, but 1933 followed with 4½ cents a pound and $1.20 per crate.

In 1934 prices remained practically the same as in 1933 with the exception that crate-berries were 1 cent less. The bright point, however, was that all fruit was sold and orders were received which could not be filled. Surplus processed berries from the 1933 and 1932 crop were disposed of and growers were paid up in full.

Production costs and handling charges were reduced somewhat, but the strawberry industry was at a low ebb.

Marketing legislation passed by the Provincial Legislature and the Dominion Parliament gave promise of improving marketing conditions.

Early in 1935 a marketing scheme was voted on by the growers, but it was not proceeded with. However, an excellent market for strawberries in SO_2 solution developed in Great Britain and the prices for processed berries jumped from 4½ cents to 8 cents per lb. Only two car-loads of fresh fruit were shipped to the Prairies compared with 21½ cars in 1934, and the price per crate was $1.67 compared with $1.19 in 1934.

In 1936, car-lot shipments increased slightly and shipments to Great Britain were down. Prices declined slightly. In 1937 the weather during the picking season was very wet and car-lot shipments were reduced. There was a very great increase in the pack of processed berries and some stocks had to be carried over.

During 1938 and 1939 the price of berries for processing and crate shipment again went down. Late during the 1939 season prices in Great Britain advanced and all stocks were cleaned up.

The outbreak of war in 1939 resulted in the closing of the British market to any export of SO_2 strawberries from British Columbia in 1940. The season this year was very early and short. Production was reduced and prices remained about the same as 1939.

With the war in progress it is difficult to predict the conditions which will prevail in 1941. Acreage is just slightly reduced. With industrial conditions improved and consumer purchasing-power higher, it is possible consumption of fresh fruit, canned strawberries, and jam will show an increase.

PRODUCTION AND VALUES.

It is a difficult matter to arrive at actual production figures each year, but the following table, compiled from the Agricultural Statistics Bulletins published by the Provincial Department of Agriculture from 1914 to 1939, gives a fair indication of the total production and value during those years.

It will be noted that for the years 1914 to 1921 the total production is shown as crates, while from 1922 onward the fruit shipped in crates and the quantity used for manufacturing purposes is shown separately. For statistical purposes the Province is divided into five main districts. Salmon Arm and Clearwater are included in the Thompson District.

PRODUCTION AND VALUES.

District.	Year.	Packages.		Manufactured.	
		Crates.	Value.	Pounds.	Value.
Islands	1914	32,486	$51,978	.....	.....
	1915	47,769	93,150	.....	.....
	1916	42,374	81,358	.....	.....
	1917	38,137	76,274	.....	.....
	1918	37,977	88,712	.....	.....
	1919	64,957	191,697	.....	.....
	1920	46,932	173,144	.....	.....
	1921	98,623	141,071	.....	.....
	1922	32,321	67,874	827,583	$82,758
	1923	55,965	105,214	744,464	52,113
	1924	44,740	93,059	486,366	34,046
	1925	27,521	85,315	262,946	26,295
	1926	40,314	100,785	411,709	45,288
	1927	65,973	143,161	428,151	36,393
	1928	57,639	100,868	763,946	49,656
	1929	49,701	93,438	726,978	50,888
	1930	24,462	64,335	250,464	22,542
	1931	18,992	33,236	329,859	19,792
	1932	28,924	38,469	528,211	26,411
	1933	33,209	39,851	476,733	21,453
	1934	35,451	42,187	321,652	14,474
	1935	18,354	30,651	481,703	38,536
	1936	23,577	37,723	425,749	31,931
	1937	21,037	36,815	759,944	47,497
	1938	28,165	37,459	359,569	21,574
	1939	24,624	38,167	443,535	24,394
Lower Mainland	1914	11,155	19,298	.....	.....
	1915	20,962	37,522	.....	.....
	1916	33,261	56,211	.....	.....
	1917	37,666	75,332	.....	.....
	1918	62,986	153,317	.....	.....
	1919	72,560	250,434	.....	.....
	1920	51,357	199,837	.....	.....
	1921	266,225	476,687	.....	.....
	1922	84,606	156,521	1,749,441	174,944
	1923	112,225	184,049	1,335,332	93,473
	1924	75,787	128,838	1,149,739	89,097

PRODUCTION AND VALUES—*Continued.*

District.	Year.	PACKAGES.		MANUFACTURED.	
		Crates.	Value.	Pounds.	Value.
Lower Mainland	1925	22,508	$61,897	397,209	$40,634
	1926	44,890	94,269	1,340,792	149,495
	1927	95,703	191,406	2,343,461	205,357
	1928	87,250	148,225	2,646,270	217,357
	1929	125,059	193,841	1,719,748	122,458
	1930	102,476	204,952	1,948,880	179,391
	1931	174,047	252,368	1,384,260	89,977
	1932	114,264	137,117	1,578,939	76,627
	1933	166,941	200,329	1,874,361	84,346
	1934	257,584	270,463	2,541,995	117,342
	1935	249,617	349,464	4,315,165	256,237
	1936	154,182	269,819	1,284,361	95,195
	1937	163,763	258,215	3,853,777	225,571
	1938	289,000	320,215	4,491,339	207,189
	1939	280,000	336,400	7,476,790	386,052
Thompson	1914	2,145	4,569	.....	.....
	1915	850	1,360	.....	.....
	1916	500	990	.....	.....
	1917	1,100	2,475	.....	.....
	1918	2,253	8,098	.....	.....
	1919	2,200	9,350	.....	.....
	1920	1,250	6,250	.....	.....
	1921	1,106	2,489	.....	.....
	1922	4,022	10,216	.....	.....
	1923	8,472	11,988	.....	.....
	1924	4,721	8,167	.....	.....
	1925	1,869	3,738	.....	.....
	1926	1,400	3,150	.....	.....
	1927	7,836	15,045	.....	.....
	1928	7,607	14,453	.....	.....
	1929	4,406	7,931	.....	.....
	1930	1,461	3,726	.....	.....
	1931	2,932	5,571	.....	.....
	1932	838	1,467	.....	.....
	1933	2,578	4,512	.....	.....
	1934	3,858	6,752	.....	.....
	1935	7,587	12,139	.....	.....
	1936	4,440	7,548	.....	.....
	1937	5,393	8,629	39,200	2,352
	1938	3,412	5,459	.....	.....
	1939	7,657	8,423	.....	.....
Okanagan	1914	9,595	16,791	.....	.....
	1915	5,035	10,573	.....	.....
	1916	6,794	14,655	.....	.....
	1917	.....	.....	.....	.....

PRODUCTION AND VALUES—*Continued.*

District.	Year.	PACKAGES.		MANUFACTURED.	
		Crates.	Value.	Pounds.	Value.
Okanagan	1918	2,158	$6,436	.....	.....
	1919	3,382	16,910	.....	.....
	1920	2,426	10,398	.....	.....
	1921	6,164	13,878	.....	.....
	1922	5,879	18,148	14,054	$1,217
	1923	8,397	11,862	32,000	2,560
	1924	3,510	7,371	3,400	238
	1925	1,822	3,644	9,000	1,080
	1926	221	497	6,542	720
	1927	1,922	3,690	.....	.....
	1928	1,899	3,608	.....	.....
	1929	381	686	.....	.....
	1930	589	1,502	.....	.....
	1931	86	163	.....	.....
	1932	563	860	.....	.....
	1933	702	1,228	.....	.....
	1934	2,423	4,240	8,892	889
	1935	2,190	3,504	52,000	2,080
	1936	1,256	2,135	26,000	1,560
	1937	1,640	2,624	22,239	1,334
	1938	1,139	1,822	28,858	1,757
	1939	636	700	6,204	372
Boundary and Kootenay	1914	26,421	42,802	.....	.....
	1915	29,650	52,777	.....	.....
	1916	32,154	47,588	.....	.....
	1917	18,707	35,356	.....	.....
	1918	21,064	48,705	.....	.....
	1919	30,596	91,764	.....	.....
	1920	12,269	49,760	.....	.....
	1921	26,947	60,564	.....	.....
	1922	27,050	42,850	207,455	21,952
	1923	28,928	52,809	477,743	36,477
	1924	30,249	67,794	307,029	15,699
	1925	32,095	89,397	222,645	19,361
	1926	29,977	79,801	311,409	33,157
	1927	35,330	73,621	457,817	35,946
	1928	40,269	86,542	515,130	36,889
	1929	38,333	74,226	333,070	21,094
	1930	30,649	75,998	183,574	16,279
	1931	24,499	54,037	212,616	14,859
	1932	28,403	48,560	369,946	18,120
	1933	17,266	23,312	320,476	12,110
	1934	37,124	54,820	479,075	19,903
	1935	46,704	73,852	488,023	27,869
	1936	24,758	45,837	425,115	22,086

District.	Year.	Packages.		Manufactured.	
		Crates.	Value.	Pounds.	Value.
Boundary and Kootenay	1937	28,543	$48,563	409,456	$19,749
	1938	45,985	59,941	665,043	27,162
	1939	41,935	64,202	346,785	14,371
Totals	1914	81,802	$135,438	.....	.....
	1915	104,266	194,977	.....	.....
	1916	115,083	200,802	.....	.....
	1917	95,610	189,437	.....	.....
	1918	126,438	305,268	.....	.....
	1919	173,695	560,155	.....	.....
	1920	114,234	439,389	.....	.....
	1921	399,065	694,682	.....	.....
	1922	153,878	295,609	2,798,533	$280,871
	1923	213,987	365,922	2,589,539	184,623
	1924	159,007	305,229	1,946,534	139,080
	1925	85,185	243,991	891,800	87,370
	1926	116,802	278,502	2,070,452	228,660
	1927	206,764	426,923	3,229,429	277,696
	1928	194,664	353,696	3,925,346	303,902
	1929	217,880	370,122	2,779,796	194,440
	1930	159,637	350,513	2,382,918	218,212
	1931	220,556	345,375	1,926,735	124,628
	1932	172,992	226,473	2,477,096	121,158
	1933	220,696	269,232	2,671,570	117,909
	1934	336,440	378,462	3,351,614	152,608
	1935	324,452	469,610	5,336,891	324,722
	1936	208,213	363,062	2,161,225	150,772
	1937	220,376	354,846	5,084,616	296,503
	1938	367,701	424,896	5,544,809	257,682
	1939	354,852	447,892	8,273,314	425,189

It is interesting to note the car-lot movement of strawberries from Victoria to the Prairies. The first two car-loads were shipped to the Prairies about 1910 by the old Victoria Fruit Exchange. No further car-load shipments took place until 1915, when the Gordon Head Fruit-growers' Association was organized. A definite record of the shipments of 1915 and 1916 are not available, but since then the shipments have been as follows: 1917, 22 cars; 1918, 15 cars; 1919, 15 cars; 1920, 12 cars; 1921, 50 cars; 1922, 19 cars; 1923, 43 cars, 1 of which went to Vancouver; 1924, 31 cars; 1925, 16 cars; 1926, 31 cars; 1927, 57 cars, 10 of which went to canneries at Vancouver and New Westminster; 1928, 48 cars; 1929, 39 cars; 1930, 16 cars; 1931, 8 cars; 1932, 15 cars; 1933, 22 cars; 1934, 21½ cars; 1935, 2 cars; 1936, 6 cars; 1937, 4 cars; 1938, 12 cars; 1939, 9 cars; 1940, 4 cars.

ACREAGE.

In 1920 the Horticultural Branch instituted a system of making a biennial small-fruit survey of the Province. The following table shows the total acreage in strawberries in the various districts of the Province in each of the survey years of 1920, 1922, 1924, 1926, 1928, 1930, 1932, 1934, 1936, 1938, and 1940:—

Year.	Vancouver Island.	Lower Mainland.	Salmon Arm and Clearwater.	Okanagan.	Boundary and Kootenay.
	Acreage.	Acreage.	Acreage.	Acreage.	Acreage.
1920	381⅔	1,147⅔	19¾	50	247
1922	666¹¹⁄₁₂	1,807⅝	43¼	43½	324⅜
1924	567	1,273⅓	68¾	36	386
1926	483⅜	1,235⁹⁄₂₄	28⅛	21⅚	273⅓
1928	595½	1,880²³⁄₂₄	62⅝	24¹¹⁄₁₂	441⅚
1930	372¾	1,499¹³⁄₁₆	46¹⁄₁₆	13⅝	265½
1932	371⅝	1,416³⁄₁₆	42⁹⁄₁₆	27⅛	396½
1934	341¾	2,103¼	55⅝	53¼	390⅛
1936	347½	2,453¾	49	71½	390
1938	300⅝	2,466¼	79⅞	55⅜	435½
1940	221½	2,419¼	78⅛	24⅜	273

The total acreage in each of the survey years was as follows: 1920, 1,846¹⁄₁₂; 1922, 2,885⅔; 1924, 2,331½; 1926, 2,042¹⁄₂₄; 1928, 3,005⁵⁄₁₂; 1930, 2,197¾; 1932, 2,264; 1934, 2,944; 1936, 3,311¾; 1938, 3,337⅝; 1940, 3,291⅝.

ESSENTIALS FOR SUCCESS.

Soils.—Strawberries will thrive on a great variety of soils, but in the Coast districts they succeed best on a fertile, well-drained, moisture-holding sandy loam soil. As conditions vary from this ideal so may the grower expect to get varying results, other conditions being equal. In most cases the so-called bench or high land is more suitable for strawberry production than the low or valley lands.

Moisture-supply.—By analysis strawberries contain about 98 per cent. of water; therefore moisture is essential. It is a shallow-rooted plant and needs its moisture near the surface. In the Coast districts the rainfall is heaviest during the fall and winter months, dwindling to almost nothing in the spring and summer of an average year. It is necessary to conserve moisture by thorough tillage. In most years the moisture-supply is sufficient to mature the crop before the very dry weather is prevalent.

Irrigation.—In some seasons an irrigation-supply would be a decided advantage, but the practice is not generally in vogue in the Coast districts. In the Wynndel and Creston areas it is almost an essential for success to have some system of irrigation. From observation it would appear that the overhead system of irrigation will prove to be the most satisfactory. The upright sprinkler system has also been used to advantage.

Drainage.—While a plenteous moisture-supply is needed during the fruiting season especially, it is also an absolute necessity to provide perfect drainage for the strawberry plantation during the winter months. Strawberries will not stand " wet feet " during the dormant season, and there have been many disappointments from this cause.

Exposures.—It is not always possible for a grower to govern himself in this regard, but where it can be done there are certain advantages in selecting a north-east exposure. In most of the strawberry districts there is danger from late spring frosts while the plants are in bloom, and a plantation on a north-east exposure will not be quite so far advanced as one on a south-west or southern exposure. It may thus escape the effect of spring frosts. In the Coast districts also, temperatures usually reach their maximum about the height of the strawberry season—namely, the first week in July. Plantations on a north-east exposure are not subjected to the direct rays of the sun as are those on a south-west exposure. Cases have been noted where plants were caused to be completely wilted down from the effects of hot drying winds even though there was an abundant moisture-supply in the soil.

It is an advantage perhaps to have the rows running east and west to ensure more even ripening on both sides of the row, but this is a factor of minor importance and governed by the contour of the land.

Temperatures.—The greatest danger from low temperatures comes usually about May 24th, when the plants are in full bloom. A few degrees of frost at that time will cause " black eyes," which in reality is the destruction of the very delicate pistils or female portion of the blossom, and fertilization is impossible. If the pistils are only partially destroyed, deformed berries, sometimes called " nubbins," will develop. In districts where late spring frosts are prevalent, it may be advisable to mulch with a light covering of straw early in the spring in order to retard the growth of the plant, and it may thus escape the frosts.

During the winter months frost conditions may become severe enough to cause " heaving " of the plants. If this occurs it is advisable to tramp the soil firm around the roots of the plant as soon as possible.

Good growing weather in the spring is favourable to the development of the strawberry plantation. Cool nights tend to make the berry firmer and increase its shipping qualities.

Winds.—It is advisable not to plant in the track of strong prevailing winds, as the plants are not given conditions in which to make most satisfactory growth. As stated previously, hot drying winds while the plantation is in fruiting are very injurious.



Fig. 5. Gordon Head packing-shed, showing method of transportation from central depot to the refrigerator-car.

Accessibility of Markets.—It is obvious that it would be absurd for a grower to establish a commercial strawberry plantation even under the most ideal conditions if it was impossible for him to get his fruit to market. This matter needs serious consideration by the prospective producer.

Transportation Facilities.—This matter is closely linked up with the accessibility of markets. All the districts in British Columbia are well situated in this regard and have facilities for car-load shipments to distant markets. With the improvement of highways and the development of the motor-truck, strawberry districts are able to extend farther and farther from the shipping-point.

Labour-supply.—In the years previous to 1914 Chinese labour was largely used for such operations as hoeing, cutting runners and blossoms, and picking. During the war large numbers of girls and women from the schools, universities, and larger centres of population rendered most valuable service in harvesting the crop. In many cases this work was done more from patriotic impulses than for the remuneration received.

Following the war there was a lessened desire from these quarters to register for this class of work. In consequence growers were forced to turn again to Chinese labour to quite an extent. Indians were also used.

However, during the depression years there was a renewed desire among school-children and unemployed men and women from the cities to seek employment during strawberry-picking time. With another war in progress, the supply of suitable labour during 1940 was limited and the situation may become more acute in the future.

VARIETIES.

On Vancouver Island, the Lower Mainland, and to a lesser extent in the strawberry districts of the Interior the Magoon variety was grown extensively and successfully for a great many years. The Magoon has many good qualities and some which can be rightly criticized. It is a midseason berry, a vigorous grower, and a heavy yielder of good colour and fair-quality fruit. It stands up well under long-distance shipment, which was a decided advantage in the early days of car-load shipments. In the early part of the season the fruit has a tendency to be large and lacks uniformity. The plant is upright in its habit of growth. In recent years there has been severe criticism of this variety owing to the high percentage of malformed berries, and the statement has been made on numerous occasions that the variety was running out. Magoon is not grown to any extent at present.

The variety which is perhaps most extensively grown at the present time is the British Sovereign. This is a variety which, so far as is known, is of British Columbia origin. In 1920 a Japanese grower of Coghlan, B.C., purchased some Campbell strawberry-plants from Queensborough, Lulu Island. Six plants were noted to be different; they were allowed to produce runners and were kept separate from the main planting. In 1921 about 100 plants were set out. By 1923 the variety was beginning to attract attention. It was jokingly called " Bull's Tongue." This name was twisted by Japanese growers into " Gold Stone," and

then to " Golden White " and " Gordon White." Maple Ridge growers who secured the variety about 1926 gave it the name Victoria. Plantings did not increase very rapidly, but by 1928 production was sufficient to make Prairie shipments, and the berry attracted attention on the Prairie markets and also on the wholesale market in Vancouver.

In 1929 test-plots of this variety and also the Aroma, a variety from Missouri which was competing with British Columbia strawberries on the Prairie market, were planted out in various parts of the Province. It was at this time also that the name " British Sovereign " was definitely decided upon, " British " for British Columbia and " Sovereign " because the flavour and quality were sufficiently high to rate it with the Old Country variety Royal Sovereign. Actually, however, the variety has no relation to Royal Sovereign whatsoever.

Reports were so favourable in 1929 from the various markets that in the spring of 1930 sufficient plants were purchased by the various Fruit-growers' Associations on Vancouver Island to plant out quite a large acreage. Since that time the acreage planted to British Sovereign has increased to almost 100 per cent. and the Magoon acreage has practically disappeared.

The British Sovereign apparently thrives on a fairly wide range of soils, but seems to do best on the stronger soils. It has proved itself more capable of surviving winter conditions on the heavier and poorly drained soils. Under extreme heat conditions during the fruiting period it does not seem to stand up as well as Magoon.

The fruit is medium to large and very uniform in shape. It is medium to dark red in colour right to the core, mildly subacid, and with a rich flavour.

The British Sovereign has proved excellent for shipping and canning purposes, but at first was not so popular with the jam-manufacturers. However, during recent years, since it has been processed by the SO_2 method, it has been quite satisfactory.

The Marshall variety has been grown considerably as an early berry. The fruit is very high in quality and excellent for the local market, but does not stand up well for long-distance shipment. The plant requires a very rich soil to reach its maximum of perfection. It is not a very vigorous grower and does not produce runners very abundantly. The foliage is light in colour and usually turns bronze in the fall. The plant is medium upright in its growth, but somewhat recumbent during the first year.

Senator Dunlap and Early Bird are grown to quite an extent as early varieties on the Lower Mainland.

For a late variety to extend the season Paxton may be grown. This variety is a very prolific grower and producer of runners. The foliage is very dark green and the plant is quite recumbent in its habit of growth. The fruit is dark in colour and of rather a peculiar flavour which is not agreeable to some. It is a very heavy yielder where perfect pollination takes place, but being a pistillate or imperfect-flowered variety it will produce practically nothing if grown by itself. This variety is good for local sale, but is a very poor shipper. It is not favoured for jam-making owing to the very dark colour of the product. In the Hammond-Haney and other districts of the Lower Mainland this variety is



Fig. 6. A perfect or staminate flower, such as Magoon.



Fig. 7. An imperfect or pistillate flower, such as Paxton.

commonly called Campbell. As mentioned previously, it was from this variety that the original six plants of British Sovereign were selected.

Some of the newer U.S. Department of Agriculture varieties such as Blakemore, Dorsett, Fairfax, Red Heart, and Narcissa have been tried out, but have not proved altogether satisfactory. Growers and other interested parties are always on the lookout for promising varieties and several are being tested out at the present time.

It is incumbent upon the intending grower to make inquiries of the local fruit-shipping organization in his district and determine the most suitable variety to grow.

In connection with the question of varieties, it is important to mention the fact that the blossoms of strawberries are of two kinds—namely, perfect or staminate and imperfect or pistillate. That is to say, most varieties have a perfect blossom; that is one with both stamens, capable of producing pollen, and pistils which permit of self-pollination. Other varieties have an imperfect blossom; that is one in which the pistils are developed, but the stamens are only rudimentary and produce practically no pollen.

Unless a perfect-flowered variety is interplanted with imperfect ones the crop from the latter will be practically *nil*.



Fig. 8. Eleven rows of Paxtons in full bloom, with Magoons on either side just past the full-bloom period. Strawing should commence almost immediately.

One of the outstanding imperfect-flowered varieties grown on the Coast is the Paxton, or Campbell as it is sometimes called. If this variety is being grown it is customary to plant from four to six rows and then interplant with two rows of a perfect-



Fig. 9. Newly cleared land, ploughed, disked, and harrowed. When floated it will be ready for planting.

flowered variety. Most of the other commonly grown varieties, such as British Sovereign, Marshall, Senator Dunlap, and Early Bird have perfect blossoms and do not need cross-pollination.

PLANTING ON NEWLY CLEARED LAND.

This is a practice commonly adopted in the Coast districts and has proved in most cases entirely satisfactory. If this system is to be followed it is advisable to have the land cleared up in late fall or early winter and ploughed. If left in this rough condition during the winter months the soil will become aerated, and there will be a much better opportunity to work it down and put it in the best possible tilth before planting.



Fig. 10. The same piece of land as in Fig. 9 planted to strawberries. No fertilizer has been used.

In a great many cases no fertilizer has been used at all on this newly cleared land and the results have been satisfactory. If it is possible when preparing the land to dress the same with stable manure, seaweed, or some other organic matter, so much the better, but it is doubtful if it is advisable to make an application of chemical fertilizers before knowing what are the requirements of the soil. After the plants have started to grow, or even in the second year, areas may show up where the plants are not thrifty, due to the subsoil having been thrown up by blasting or from some other cause, and in these cases the judicial use of chemical fertilizers is probably warranted.

It has been found in Hood River, Ore., that seeding to clover first and then planting to strawberries has given better results

than planting on the raw land. This practice, however, might encourage the strawberry root-weevil, but with the advent of the use of weevil bait it offers more prospects.



Fig. 11. Essential tools in the preparation of land for strawberries—plough, disk, harrows, and float.

Most of our bench soils when cleared look too poor to produce a crop of any kind, but it is surprising how strawberries will succeed. The acid nature of the soil seems particularly adapted to them.



Fig. 12. Strawberry land showing one method of manuring during winter. The manure will be spread and ploughed in.

PREPARATION OF THE SOIL.

If newly cleared land is not used for planting it is advisable to select a piece of ground that has been in a hoed crop of some

kind the previous year, and if possible in clover the year before that.

The aim and object should be to have the soil in the best possible tilth before the strawberries are planted. Thorough working of the soil will pay big dividends in the crop years.

The land should be ploughed, cross-ploughed, double-disked, harrowed lengthways and crossways, and finally floated with a heavy wooden float to leave the land as level as possible and fairly compact.



Fig. 13. The same piece of land as in Fig. 12 all ploughed and disking commenced. When harrowed and floated it will be ready for planting.

Never plant on a piece of old sod land if it is possible to avoid it. The growth of grass and weeds will give endless trouble the first year, and there is always the danger of infestation from wireworms and June-bugs.

PROPAGATION AND CARE OF PLANTS.

Strawberry-plants are propagated by runners. Where a grower is propagating his own plants it is usually the practice to allocate a certain number of rows of his new plantings each year for this purpose. Runners are nearly always grown on what are called " maiden " plants; that is, plants set out in the spring are allowed to produce runners that season.

It is customary to cut the runners at least once and in some cases twice before they are allowed to grow from the plants set aside for this purpose. This is done to enable the newly set " maiden " plant to become established and make some growth before it is called upon to produce new plants. Also the first runners produced are not as stocky as the later ones.

In growing runners it is a good plan to adopt the system of taking the runners from each two rows and turning them into the centre, so that the space between each second row is left free for cultivation. If the runners are allowed to grow indiscriminately, it will be found that by the middle of the summer cultivation will be impossible.

By fall, if the production of runners has been fairly prolific, they will have formed practically a solid mat of plants between the two rows. In the spring these are easiest dug by using a digging-fork or a hook-fork.



Fig. 14. Propagation of new plants by runners. Showing method of turning the runners into the centre, leaving either side clean cultivated.

Some growers adopt the practice of growing a limited number of plants from each " maiden " plant. Usually the first plant only on each runner is selected. This results in larger and more uniform plants.

If plants are sold and shipped, the earth should be shaken from the root system and they should then be tied in bundles of about twenty or twenty-five. It has been found that they will ship excellently in sacks or slatted boxes. While strawberry-plants will stand considerable abuse, it should be borne in mind that the sooner the plant can be transferred from the propagating-bed to the permanent plantation the better it will be for everybody concerned.

In selecting the ideal type of plant it has been found that a medium-sized plant with a well-developed, clean, bright root system will in most cases give the best results. It is preferable

to have a small-crowned plant with a couple of leaves and a good root system than a great big plant with a large crown and lots of leaves but a small root system. It makes very little difference if the first plant on the runner or the sixth is selected, provided it is a good plant. Under favourable conditions each " maiden " plant should produce about twenty-five new plants.

If plants have been purchased and received but the land is not ready, they may remain in the sacks or boxes for a few days without serious results, providing they are kept moist in a cool place. If it is to be several days before they can be planted, they should be removed from the shipping receptacle and " heeled "



Fig. 15. In the fall of the year, a solid mat of young plants.

in. This can be most conveniently done by digging a trench, in which the root system is placed with the crown about level with the surface of the ground. The roots should then be covered and the soil packed firmly around them to prevent drying out.

Some growers adopt the practice of planting a special propagating-bed each year, as the growing of runners on a plant seriously affects its fruiting capabilities, especially the first year.

PLANT SELECTION.

In recent years considerable attention has been paid to the question of plant selection. An inspection of almost any strawberry plantation will show strong, healthy plants making excellent growth and development while other plants under apparently similar conditions are struggling for existence.

A reason for this condition is not always apparent, but a discussion of the question of plant selection may assist in eliminating some of the causes.

Strong, healthy plants produced from plants of known history is one of the first essentials. In the past, growers have not given this matter the attention it deserves and as a result disease, virus troubles, masked weaknesses, and in some cases insect pests have been prevalent in young plants when set out.

Healthy plants will respond to good cultural management and are able to utilize the essential elements in the soil for proper growth and development. Weak plants lacking in vigour and constitution will not thrive, even under the most favourable conditions.

The problem resolves itself into one of endeavouring to secure propagating stock from the healthiest and most productive plants. Some growers already have had marked success in plant selection work by eliminating weak, undesirable types and subsequently increasing production.

The usual method of procedure is to make a thorough inspection of a bearing plantation in the spring and observe the most outstanding and best type of plants. These are marked with small stakes. Subsequent inspections may result in some plants being discarded by pulling up the stakes. From a possible fifty plants marked at the beginning of the season only a half dozen or so may remain which are considered suitable for parent stock. These plants are designated by a number or letter so that the various strains may be kept separate, as at a later date it may be desirable to discard some strains.

In making the original selection, such characteristics as habit of growth, foliage, fruit stalks, size and strength of blossom, type of fruit, yields and freedom from disease are points which should be kept in mind.

Runners are removed and planted in a propagating-bed, preferably in soil which has not grown strawberries before. These runners should be marked with the same number or letter as the parent plant. It is possible to raise a considerable number of plants in a good potting soil in a cold frame by collecting the runners before they have rooted. About two inches of the stolon on the side nearest the mother plant is left attached to the young plant. This is pressed into the soil, leaving the base of the plant slightly embedded in the soil. With proper care a good root system will soon develop.

In districts where a disease of the crowns is prevalent it is advisable to spray with a copper spray such as Bordeaux mixture (4–4–40) early in the spring and again early in the fall. If red spider is present during the summer, a couple of dustings

with sulphur and lime dust (50–50) is advisable over the propagating area.

If every grower would carry on a system of plant selection or plant only specially selected plants the general health of the plantation and the yield per acre should increase very materially.

SYSTEMS OF PLANTING.

There are two general systems of planting adopted in British Columbia—namely, the hill system and the matted-row system. Of the two, the former is by far the most popular and satisfactory, especially under Coast conditions.

Hill System.—Under this system plants are set on the average 18 inches apart in the row, with the rows 3 feet apart. Some growers prefer to plant about 15 inches in the row, while others will plant as far as 20 inches apart in the row, with the rows from 3 feet 3 inches to 3 feet 6 inches apart. In this regard it will be necessary for the intending planter to govern himself by local conditions.

In the hill system all runners are removed regularly from the plant before they have a chance to root and the plant maintains its individuality. Under favourable conditions numerous new crowns will develop during the first year. By this system it is possible to keep the plantations much cleaner and freer from weeds. It is also possible by constant cultivation to conserve the moisture more efficiently, and this is a very important consideration in the Coast districts, where the precipitation is usually extremely light during June, July, and August.

Where the hill system is adopted strawing should always be practised in order to ensure fruit free from sand and grit. Strawing also makes it much more cleanly and easier for the pickers.

Under this system it is possible to take from two to five crops satisfactorily where the strawberry root-weevil is not a consideration, but not more than three crops is advised in Coast districts where weevil is present. All blossoms are removed the first year.

Matted Row.—This method of growing strawberries might be called the one-year cropping system, because usually by the second year the rows become so dirty from weeds and grass and the berries so small as to make the future culture of the plantation unprofitable.

In this system the plants are usually set 20 inches apart in the row and the rows 4 feet apart. The runners are allowed to

develop and form a matted row about 2 feet wide. Cultivation is carried on in the space which remains, which also gives room for the pickers to work during the fruiting season.

A matted row could also be grown on the system recommended for the propagation of runners, with the exception that the first runners which are produced should not be cut off, but allowed to produce new plants immediately. All blossoms are removed the first season.

This system is not generally recommended in British Columbia.

TIME AND METHODS OF PLANTING.

Time to Plant.—Spring planting is undoubtedly the most satisfactory and is recommended. The proper time will be governed by weather and soil conditions. It should be the aim to plant as soon as the soil can be worked up satisfactorily in the spring and when it is warm enough to start growth. Early planting is preferable to late planting, as the plants have a good opportunity to become well established before the dry summer months. However, under favourable circumstances, plantations have been set out as late as June and produced abundant crops the following seasons.

Fall planting is adopted to a limited extent, but more by home gardeners than commercial growers. One great objection to fall planting is the liability of the plants "heaving" out during a cold spell in the winter. The plants do not become firmly established and with a severe frost they will be almost completely forced out of the ground. If this happens the damage can be remedied to a certain extent by going over the patch and tramping the plants in again and firming the soil around them.

Methods of Planting.—One of the first considerations in setting out a plantation is to have the rows straight. This can be accomplished by marking out a base-line and having the strawberry-rows run at right angles to it. Some growers prefer to plant to a line, while others use a marker. In some cases where a marker is used the field is marked both ways and the plant set at the intersection.

There are various methods adopted when it comes to actually setting the plant in the ground, all of which are satisfactory under varying conditions.

The most commonly adopted method is what might be described as the two-man system. In this method A is the man with the shovel and B is the man who sets the plants. The most satisfactory shovel to use is a narrow-bladed ditching-shovel.

With the base-line marked out and the planting-line stretched taut, say from north to south, A takes his position on the west side of the planting-line and B on the east side at the north end. A spears the ground at an angle with a downward stroke of the shovel and then draws the handle of the shovel towards him, making an opening in the soil. B is ready with a plant and whips it into position and holds it until the shovel is withdrawn, and lets go just as A's left foot firms the soil around the plant. With two



A. B.

Fig. 16. Planting—two-man system, with line. A. Shovel inserted and drawn towards the man, making the opening for the plant. B. Shovel withdrawn and plant set in the ground. Note the uniformity of action and the different types of carriers used for plants. Individuals are the same in both photographs, but they were taken in different years.

experienced men this method can be made almost automatic and is very fast. A fair average number of plants to set by this system would be 500 an hour over a ten-hour day, but there have been occasions when 1,000 plants per hour have been set. When the row has been planted and A is changing his line for the next row, B fills his pail or carrier with a fresh supply of plants. With average-sized plants B is able to carry sufficient to plant about 300 feet of row.

Other methods of planting are principally one-man systems where a man works individually, using a trowel or dibble. By this method the planter makes the hole, sets the plant, and firms

the soil himself. From 150 to 300 plants per hour can be set in this way. The employment of a boy to drop the plants and assist in changing the line may materially speed up the work.

In planting, the important point to bear in mind is to set the plant at just the right depth and to firm the soil around the roots. If a plant is set too shallow and the soil is not in close contact with the root system, it will dry out and die. If planted too deeply, the crown will be covered and in all probability the plant will rot. Remember then to plant at the right time, at the right depth, and have the soil firmed around the roots in the right way.

The preparation of the land, especially newly cleared land, will receive the test at planting-time.



Fig. 17. Planted too deep.



Fig. 18. Planted too shallow.



Fig. 19. Planted just right.

CULTURAL PRACTICES—FIRST YEAR.

Cultivation.—This operation should commence as soon as the plantation is all set out and should be continued at least every two weeks during the growing season. A cultivation every week would do no harm, and it is especially advisable to cultivate as soon after each rain as the soil can be worked. One-horse cultivators are best adapted for use in strawberry plantations. In recent years some of the small garden gasoline tractors have been used for this purpose. Early in the spring and late in the fall a heavy cultivator may be used to advantage, but during the summer a light cultivator will give the best results.

The object of this tillage is to keep the soil in good tilth, to conserve moisture, and to keep down weeds.

Hoeing.—In addition to the horse cultivation it will be necessary to hand-hoe the plantation several times during the season. On new land especially the fern or bracken is apt to need constant attention with the hoe. However, the amount of hand-hoeing necessary will depend to a large extent on the preparation given the land previous to planting. An endeavour should be made to keep the patch absolutely free from weeds.

In the words of a well-known Gordon Head grower, " The time to cultivate and hoe is before you see any weeds." To realize the truth of that statement one only needs to be given the job of cleaning out a weedy strawberry-patch.

Hand-hoeing is also necessary to loosen the soil about the plant which is not reached by the cultivator.

Cutting Blossoms.—This is an operation which is essential, whether plants are grown on the hill system or the matted row. Each plant a few weeks after it is set will usually send up a flower stock. If this is allowed to remain and produce fruit it has a tendency to affect the growth and development of the young plant and the amount of fruit gathered is not extensive. For this reason all blossoms are usually removed before fruit develops. It will probably be necessary to make two cuttings with an interval of about a couple of weeks. Some growers, however, do fruit their patches the year of planting.

Cutting Runners.—One of the most important operations the first year when growing plants on the hill system is the cutting of the runners which develop during the season. It will be found that this is also one of the most tedious and back-breaking jobs on the calendar. In most cases it will be found necessary to cut the runners at least five times during the season, and if they are at all prolific in their growth it will take an exceptionally good man to cut an acre a day. An acre in two days would be nearer the average.

Different growers prefer different tools for this operation. The most commonly used tool, however, is an ordinary pair of hand grass-shears or sheep-shears. With a shear of this kind it is possible to gather up several runners and sever them with one cut.

Some growers prefer an ordinary jack-knife for this work, while some have even used a pair of scissors, but these are not satisfactory. It should be aimed to cut the runner at a point between the plant and the first bud.

CULTURAL PRACTICES—SECOND YEAR.

Protection from Spring Frosts.—In districts where late spring frosts are prevalent during the blooming period it may be profitable in some cases to try to alleviate this danger. One method which can be adopted is to mulch the plantation early in the spring with straw, in order to retard growth and the blooming period and thus perhaps avoid the critical time. This mulch should not be left on too long in the spring or injury may be done to the plant.

The damage from spring frosts is usually done in one or two nights, and it might even pay to prepare the nucleus of small bonfires at different points near the plantation which could be started within a few minutes if it was seen that the thermometer was nearing the danger-point. If these fires are made in the nature of a smudge, they will very considerably alter the temperature of the surrounding atmosphere and thus materially assist in preventing frost-injury.

Cultivation.—This should be started as early in the spring as possible and kept up at intervals until the plants are in full bloom. After the harvesting of the crop is over and the patch has been cleaned up, cultivation should be started again and kept up as late in the fall as possible.

Hoeing.—It will be necessary to give the plantation possibly four hoeings during the second year, which will be distributed fairly evenly before and after the crop.

Cutting Runners.—Occasionally it may be necessary to cut the runners once in the second year, but this really does not occur very often. Usually all the energy of the plant goes into the crop production. Sometimes, however, in a very vigorous plantation and with exceptionally moist spring weather conditions it may be advisable to cut the runners before the plantation is strawed.

Picking up Stones.—In certain patches which have been planted on rather stony ground considerable time will have to be spent going over the patch picking up the larger stones. This operation may have been postponed from the first year, but if so the work should certainly be done the second year before the patch is strawed.

In the Coast districts a good many of the bench soils which are suitable for strawberries are also more or less stony, and it is safe to say that hundreds of tons of stones have been picked up, moved, and piled in another location in the preparation of land for strawberry plantations.

Strawing.—This is a very essential operation which is not practised in some districts as thoroughly as it should be. The main object is to keep the berries clean and free from grit, which is a very important essential. If rain should fall while the crop is on, some berries are sure to come in contact with the soil or be splashed with soil-particles, providing the patch has not been strawed.

Strawing also assists materially in making the working conditions more cleanly for the pickers, especially in the sandy loam

soils, where the dust would be very disagreeable if straw was not used. It is impossible to keep up the cultivation of the patch during the cropping period and the straw mulch is of considerable help in conserving the moisture.

Most growers prefer oat-straw to wheat-straw, as it is usually longer, more pliable, and can be worked with greater ease around and under the plant. Some growers believe that ton for ton the oat-straw will go farther.



Fig. 20. Method of scattering straw between the rows. It is later placed by hand around the plants and under the fruit.

On the average an acre of strawberries will require from thirty to forty bales of straw, depending on the weight, or from 1½ to 2 tons.

The usual procedure is to deliver the bales of straw at convenient points near the patch. The straw is then scattered down the row and then later placed under and around the plants. If

one man is working single-handed it will take him the best part of two days to scatter and four days to place the straw on an acre of strawberries.

When strawing is completed the patch will be ready for harvesting operations, but this feature will be passed over for the present, and the attention which the patch needs after the crop has been harvested will be dealt with.

Clearing up after the Crop.—As soon as the last berry is picked preparations should be made to clean up the patch and put it in a position to make new growth for the following year. There is no advantage and some disadvantage in delaying this operation.



Fig. 21. Plantation of Magoons. All strawed and ready for the harvesting of the first crop.

Most growers use a small sickle for trimming down the old leaves, while others will use a pair of hand-shears or a large knife. There is a difference of opinion as to how close the plant should be trimmed; some growers prefer to leave a few of the old leaves to protect the crown from the hot July and August sun, while others prefer to cut down the plants very close to the ground. Different patches treated both ways have responded favourably and the grower will of necessity have to use his own judgment. In recent years horse-drawn mowers have been used in an effort to cut down expenses.

When the plants are trimmed down the leaves can be raked up with the straw into windrows and hauled off to the barn to be used for bedding down stock. This is a common practice.

However, some growers prefer to rake the leaves and straw up in rows parallel to the strawberry-rows, and then set fire to them and burn up all rubbish right on the field. Some growers burn over the patches without cutting down the tops or raking up the straw.

Whichever method is adopted, the field will be left fairly clean of straw and leaves and cultivation should be started immediately to bring the soil back into tilth and to start growth again in the plants.

CULTURAL PRACTICES—THIRD YEAR.

The cultural practices during the third year will be practically identical with those of the second year.

In a later paragraph the value of a rotation of crops will be dealt with and the two-year-cropping system for strawberries



Fig. 22. The last of a plantation, showing plants hooked out into windrows. They will be piled and burnt.

recommended as being of great assistance in helping to control the strawberry root-weevil, the most serious insect pest with which the strawberry-grower has to contend.

Mention of this is made at this time because in the economy of weevil-control the general practice of taking out an old plantation as soon as the crop has been harvested is not recommended.

If it is decided to remove a plantation the patch should not be touched after picking has ceased, but should be allowed to remain as it is until about August 15th to September 1st. This encourages any adult weevils present in the patch to remain and deposit their eggs around the old plants. When the plants are hooked

out and burnt, practically all the weevils are then in the larvæ form. Thorough cultivation for three or four weeks will destroy large numbers of these larvæ, due to the fact that they have no food and that they are turned up to the sun and air. The land may then be seeded to some fall grain-crop, or a crop of wheat and vetch, if it is planned to turn it under in the spring as a green manure crop.

PICKING, PACKING, AND MARKETING.

Picking.—All arrangements for harvesting the crop should be made before the berries actually begin to ripen. The grower should have a supply of crates and hallocks on hand. He should also go over his supply of carriers and make sure that he has



Fig. 23. A well-packed crate of strawberries early in the season. Berries a little large to make a perfect pack.

sufficient and that they are all in order. Permanent or temporary packing-sheds should be erected, where the fruit can be taken from the field and placed in the crates and these nailed up ready for shipment.

Proper arrangements should be made for the convenience of pickers, such as houses, tents, bunks, stoves, firewood, water, etc.

In regard to picking, one very strict rule is common to all shipping organizations and should be strictly observed by all members—namely, strawberries should never be picked or handled when they are wet, either from rain or heavy dews. The fruit and vines should be absolutely dry before picking

commences. This is particularly essential when picking crate-berries for Prairie shipments.

In the early part of the season it may only be necessary to pick every two days, but during the height of the season the patches should be gone over almost every day.

In the actual operation of picking great pains should be taken not to bruise the flesh of the berry. In picking crate-berries the hulls should be left on and also about ⅛ to ¼ of an inch of stem. The fruit should be severed from the vine with the thumb and forefinger. Pickers should avoid as far as possible holding a number of berries in the hand at one time. Most carriers are made to hold either six or eight hallocks, and it is customary to fill these loosely before attempting to face the hallock, as in this way a greater assortment of fruit is available.

Jam and canning berries are picked with the hulls off. Pails are sometimes used for handling jam-berries. On Vancouver Island the container used is a crate holding six 4-lb. tin-top baskets. Canning-berries are handled in a special flat canning crate containing 12 hallocks and holding 12 lb. of fruit.

An endeavour should always be made to keep the soft and overripe berries separate from the prime shipping stock.

It should be remembered that the green, unripe fruit or fruit with just a spot of colour is not wanted for car shipment to the Prairie markets, as it is just as objectionable as an overripe berry.

Fruit in prime condition when placed in refrigerator-cars will carry in almost the same condition until it reaches its destination, as there is very little ripening takes place in transit.

Packing.—In many cases this operation is carried on right in the field or packing-shed by the picker. As stated previously, the hallocks are first filled loosely and then faced. It should be remembered, however, that the Dominion " Fruit, Vegetables, and Honey Act " distinctly says that the top layer must not be a false representation of what is in the lower layer; in other words, overfacing is absolutely prohibited by law.

In the early part of the season, with some varieties, it is a difficult matter to make an even, uniform pack, but this can be largely overcome later in the season.

The fruit is usually packed in two layers 3 by 3, 4 by 4, or 5 by 5 as nearly as possible. The main thing to remember is that the hallocks should be well filled and up to the required weight.

The shipping-crate used for strawberries contains 24 deep pint hallocks and should contain approximately 18 lb. of fruit. The crate is divided into two compartments and each of these is again divided, separating each layer and allowing for proper ventilation. As mentioned before, the hallocks should be well filled and the top layer may come ⅜ of an inch above the top of the hallock without injury.

Some growers prefer to centralize the packing and have the work done by selected packers. This system has gained in favour in recent years.

In picking and packing a card or punch system should be adopted in order to keep a check on each picker. It is also a benefit sometimes to have the rows numbered and to allot certain pickers to certain rows. In this way a better check can be kept on the work which each individual picker is doing.

Marketing.—The co-operative marketing organization is the salvation of the small-fruit grower, and it is the duty of every grower to join and loyally support the co-operative fruit-growers' association in his district.

There are times when the individual member believes that he has serious complaints against the management, but he should consider what would be his lot supposing the organization went out of business and he was forced to market his own crop.

It is only through co-operation that Prairie shipments in car-lots can be undertaken, and without co-operation the price of jam-berries would be set entirely by the manufacturer.

In most cases the co-operative association makes all arrangements for the purchasing of crates, hallocks, straw, fertilizers, etc., and handles the selling and distribution of the crop. The grower's obligation is to deliver his crop in first-class condition at the central handling-station or any sub-station which may be brought into operation.

YIELDS.

Yields from strawberry plantations are as variable as are the types of soil on which a strawberry-plant may be grown. Individual growers at different times have made statements, which are deemed to be correct, that they have received total yields as high as 8 tons per acre, while in a light year the average yield may not be more than approximately 2 tons per acre.

In estimating the yield of a strawberry plantation it is only possible to deal in averages, and the following figures are given simply to indicate to the prospective grower what he might expect under average conditions. The grower who has been in

the business any length of time will have a good idea as to what his yields have been.

In any year a percentage of the crop will almost always be sold for some type of processing or manufacturing.

A yield of 250 crates and 3,000 lb. of berries for processing or manufacturing per acre would give a total production of approximately 3½ tons, and this is considered a very fair average. On a percentage basis this is practically 57 per cent. crate-berries and 43 per cent. berries for manufacturing.

COST OF PRODUCTION.

The following tables on the cost of growing an acre of strawberries, based on 1940 figures, are intended to give only an idea of what the probable expenditures will be. Cost of production will vary greatly on different farms and in different districts.

EXPENDITURES.

Particulars.	First Year.	Second Year.	Third Year.
Rent of land, 6 per cent. on $250	$15.00	$15.00	$15.00
Preparation of land, man and team, 20 hrs. at 75c.	15.00	.....	.....
Manure and fertilizers	25.00	12.50	12.50
Plants, 10,000 at $4	40.00	.....	.....
Planting, 2 men, 20 hrs. each at 25c.	10.00	.....	.....
Cultivation, man and horse, 30 hrs. at 50c.	15.00	10.00	10.00
Hoeing, 100 hrs. at 25c.	25.00	20.00	20.00
Cutting blossoms, 20 hrs. at 25c.	5.00	.....	.....
Cutting runners, 50 hrs. at 25c.	12.50	.....	.....
Weevil-bait, 100 lb. at $7 per cwt.	7.00	7.00	7.00
Straw, 2 tons at $9.50 per ton	.....	19.00	19.00
Scattering and setting straw, 60 hrs. at 25c.	.....	15.00	15.00
Crates, 250 at 25c.	.....	62.50	62.50
Picking, 250 crates at 30c.	.....	75.00	75.00
Nailing and hauling, 250 crates at 3c.	.....	7.50	7.50
Association charges, 250 crates at 15c.	.....	37.50	37.50
Picking, 3,000 lb. fruit for manufacturing at 1¼c.	.....	37.50	37.50
Handling and hauling, 120 packages at 3c.	.....	3.60	3.60
Association charges, 120 packages at 11c.	.....	13.20	13.20
Cutting off tops after crop, man, 20 hrs. at 25c.	.....	5.00	.....
Hauling off straw, 2 men and team, 3 hrs. at $1	.....	3.00	.....
	$169.50	$343.30	$335.30

Total expenditure, first year	$169.50
Total expenditure, second year	343.30
Total expenditure, third year	335.30
Grand total	$848.10

RECEIPTS.

First crop—		
250 crates at $1.50	$375.00	
3,000 lb. fruit for manufacturing at 5c.	150.00	
		$525.00
Second crop—		
250 crates at $1.50	$375.00	
3,000 lb. fruit for manufacturing at 5c.	150.00	
		525.00
Total receipts		$1,050.00
Total expenditures		848.10
Profits		$201.90

An average of $67.30 per acre per year for three years.

Considerable criticism will probably be offered in reference to the preceding figures on expenditures and receipts for an acre of strawberries over the three-year period. It is not presumed that they will agree with every grower's ideas on the subject. In some cases there will be additional expenses which cannot be avoided; in other cases certain economies may be practised which will reduce expenditures.

The figures are offered chiefly with the idea of placing before the prospective grower an estimate for his guidance and a summary of operations. Conditions might occur in any year which would change the net average return per acre very materially.

ROTATION OF CROPS.

Crop-rotation is the basis of any permanent system of productive agriculture where the farmer is endeavouring to build up his soil year by year, and is not simply a soil-miner caring nothing for those who may follow. Each district and each type of farming requires its own system of crop-rotation. In most of our small-fruit districts poultry also succeeds admirably and the two lines make an excellent combination.

The following rotation, the basis of which was first published by Professor Lionel Stevenson, former Superintendent of the Dominion Experimental Station, Saanichton, B.C., in the August, 1917, issue of the *Agricultural Journal*, is one which could be adapted to the needs of the strawberry-grower in a great many instances:—

SUGGESTED ROTATION.

Field No.	1940.	1941.	1942.	1943.	1944.	1945.
1	Strawberries set April, 1940	Strawberries, first-year crop	Strawberries, second-year crop	Wheat for poultry; seed to clover	Clover, manure if possible, plough in	Potatoes.
2	Strawberries, first-year crop	Strawberries, second-year crop	Wheat for poultry; seed to clover	Clover, manure if possible, plough in	Potatoes.....	Set strawberry-plants in spring.
3	Strawberries, second-year crop	Wheat for poultry; seed to clover	Clover, manure if possible, plough in	Potatoes.....	Set strawberry-plants in spring	Strawberries, first-year crop.
4	Wheat for poultry; seed to clover	Clover, manure if possible, plough in	Potatoes.....	Set strawberry-plants in spring	Strawberries, first-year crop	Strawberries, second-year crop.
5	Clover, manure if possible, plough in	Potatoes.....	Set strawberry-plants in spring	Strawberries, first-year crop	Strawberries, second-year crop	Wheat for poultry; seed to clover.
6	Potatoes.....	Set strawberry-plants in spring	Strawberries, first-year crop	Strawberries, second-year crop	Wheat for poultry; seed to clover	Clover, manure if possible, plough in.

In Professor Stevenson's original plan he suggested the planting of rye and vetch, after the potato-crop was harvested, as a soil-improvement crop, and the ploughing of this down before strawberries were set in the spring. It is felt that this might encourage the migration of adult strawberry-weevils to the field intended for strawberries and is therefore not recommended.

If each field is considered on an acre basis, it will be noted that each year there are 2 acres in bearing strawberries, one first crop and one second crop; 1 acre in new strawberry planting; 1 acre in wheat, which can either be cut for hay or allowed to ripen and threshed or fed in the sheaf to chickens; 1 acre in clover, which makes excellent hay for the cow; and 1 acre in potatoes, which if a standard variety should bring in a fair return.

Of necessity each grower must determine his own policy of cropping, but the above rotation is worthy of very serious consideration and adoption if at all feasible.

Another system which is being practised quite extensively in the Saanich District at the present time is as follows: After the bearing plantation has been removed in August the land is put in good tilth and then seeded to a crop of wheat and vetch. This crop becomes well established in the fall and makes rapid growth the next spring. The crop is allowed to develop until about June, when the whole mass of growth is ploughed under and the land allowed to remain fallow for the rest of the year. The following spring the land is worked up and planted to strawberries. This leaves the land out of strawberries for about twenty months, and during one growing season there is no crop return from the land.



Fig. 24. Prospects of a good crop ruined in the second year by the work of the strawberry root-weevil.

FERTILIZERS.

The use of commercial fertilizers is very largely governed by soil and climatic conditions and by the grower's own personal preference.

The following recommendations for fertilizing strawberries are taken from the publication issued in 1940 by the authority of the Minister of Agriculture for British Columbia, and entitled "Recommendations of the British Columbia Fertilizer Board":—

"Crops should be rotated from one area to another. Organic material should be supplied by barnyard manure or green crops. Where growth is unsatisfactory, apply from 500 to 750 lb. per acre of 3–10–8 or 6–10–10 fertilizer drilled in close to the newly planted row. About the middle of August apply along the rows a nitrogenous fertilizer or ammonium phosphate (16–20–0) at the rate of 100 lb. per acre. In subsequent years this fall application may be increased to 200 lb. per acre. Increased size and vigour of plants may be obtained by applying each spring, prior to blossom-time, from 500 to 750 lb. of a 3–10–8 mix. Organic fertilizers such as a 6–7–4 will supply available plant nutrients for a longer period than mixes such as are mentioned above."

EVERBEARING STRAWBERRIES.

The everbearing type of strawberries has been grown commercially in British Columbia for about 20 years. At first the acreage was small and production was confined to a few growers. A few years later more growers became interested and the acreage increased considerably. According to the small-fruit survey there was a total of 341 acres in 1936. In 1938 the acreage had been reduced to 322 acres and in 1940 there were 275 acres recorded. Practically all of this acreage is located in the Lower Mainland District and it represents approximately 8 per cent. of the total strawberry acreage of the Province.

During recent years there has been a market in British Columbia and on the Prairies for between 35,000 and 40,000 crates. In addition there has been a demand for a limited tonnage for the manufacture of jam. This tonnage is usually put up in barrels in SO_2 solution and used as required.

The so-called everbearing types of strawberries received that name due to the fact that they have the ability to produce a crop during the regular season and then after a short rest period will continue production up to late in the fall when frost checks further development. This type of strawberry has been popular with home gardeners and with those who wish to grow strawberries in districts where late spring frosts make the growing of the ordinary varieties unprofitable.

Cultural methods are much the same as those practised for the main season varieties, but more intensive cultivation and some modification of management is sometimes advisable.

Everbearing varieties require a particularly fertile, well-drained soil, and one with an abundance of humus so that it will be retentive of moisture during the dry summer period.

Planting usually takes place early in the spring, thus giving the young plants every opportunity of making strong root and crown development before summer fruit production begins. Plants are usually set 15 inches apart in the row and the rows 30 inches apart. Runners are not allowed to develop and blossoms are kept removed until about a month before the plantation is to come into bearing.

The crop may be grown as an annual one, or the plants may be carried through for the second year. During the second year the plants will bear almost continuously from spring to fall. Although it is an expensive procedure, some growers remove the fruit stalks in the spring of the second year so that the crop will not compete with the main season varieties. Removal of the

blossoms also encourages strong plant development for summer and fall bearing. It is possible to maintain a planting for three years.

In the first year yields may not be heavy, but the fruit is usually large and of good quality. The second season produces the maximum yield, but good management is necessary to keep up size and quality. The following is an estimate of the approximate yields per acre over a three-year period: First year, 125 to 160 crates; second year, 225 to 300 crates; and the third year, 150 to 200 crates.

Everbearing strawberries are not as a rule heavy runner producers and it is sometimes necessary to break up the one-year-old plants to single crowns and use these to set out a new plantation. Plants are usually higher in price than the ordinary varieties.

The use of commercial fertilizers in both the organic and chemical forms may be practised to advantage. Rates of application will vary according to soil and seasonal conditions. The organic fertilizers are usually applied at the time of planting and the chemical fertilizers used as side dressings later in the season.

A few years ago the two main varieties grown were Progressive and Superb and these are still planted to a certain extent. However, newer varieties such as Mastodon, Empire All Red, and Rockhill have been developed in recent years and have largely replaced the varieties grown earlier.

The Empire All Red originated in British Columbia and is now the variety most largely grown.

The fruit of Progressive is somewhat smaller than Superb, but in yield it is superior. Both varieties are deep red in colour, but the flesh of Progressive is lighter in colour. Both are subacid with good quality and flavour. The fruit of Mastodon is quite large with good appearance and quality. The plant is strong and vigorous. Empire All Red is reported to have the flavour and sweetness of Progressive, with the large size and productiveness of Mastodon. Rockhill is one of the most recent introductions and is reported to be the finest flavoured of all the everbearing kinds. If given good care and attention it should produce a satisfactory crop as to size and quantity. Rockhill produces very few runners and is usually increased by the division of the one-year-old plants.

INSECT PESTS.

By W. Downes, Dominion Entomological Branch.

The Strawberry Root-weevil (Brachyrhinus ovatus L.).—This is undoubtedly the most serious strawberry pest. The adult weevil is a small dark-brown beetle about ¼ inch in length. The damage is done by the grubs which result from eggs laid by the beetles in the summer. The grubs or larvæ over-winter in the soil among the strawberry-roots and in spring resume their feeding activities, rapidly destroying the root system. A large number of weevils also hibernate as adults, resuming egg-laying upon the advent of warm weather in the spring.

The cure for weevil lies mainly in prevention of attack. This depends first upon the observance of a correct rotation of crops in which a non-host crop, such as potatoes, precedes the strawberry-crop, and no attempt should be made to take more than two, or at the most three, crops of berries. This is for the double purpose of preventing an accumulation of weevils and other pests in the plantation and to prevent soil-exhaustion. Secondly, any weevils which appear should be destroyed by the application of a suitable poisoned bait. Two applications of bait should be made —the first in April to destroy the over-wintered adults, and the second in June just before picking-time to account for the summer brood of weevils which emerge from the soil about this time. This is the main poisoning operation and, if poisoned bait is used at all, should not be delayed, as it is desirable to destroy the weevils before they begin to lay eggs, which they commence to do in about fourteen days after their first appearance, if the weather is warm.

If a plot is infested with weevil the plants should be ploughed out in August and raked together and burned. On no account should they be ploughed under. The field should then be kept cultivated for at least four weeks, to starve out any young larvæ that may have hatched from eggs laid in the summer, before planting the next crop in the course of rotation that has been decided on.

The Black Vine-weevil (Brachyrhinus sulcatus Fab.).—This species is frequently associated with the preceding in strawberry-fields and works in the same manner. It is rather more than twice as large as the strawberry root-weevil and the grub is ⅓ inch in length. The same remedies as used for the strawberry root-weevil apply to this species.

The Strawberry Crown-miner (Aristotelia fragariæ Busck.).—The adult of this insect is a small grey moth. The larvæ are small pink-coloured caterpillars which burrow in the crown of the plant, allowing moisture to enter and causing crown-rots. It is not usually serious, but may become so if a plantation is too old. We have seen young plants that were produced by runners from a very old plot seriously injured by this pest. The remedy lies in not allowing land to remain in strawberries too long.

The Strawberry Crown-moth (Synanthedon bibionipennis Bav.).—This insect is also a moth and it is the larva again which is destructive. The latter is about ¾ inch in length and bores directly down the centre of the crown. Affected plants appear wilted or unthrifty and when pulled frequently break off, disclosing the larva within. The only remedy known at present is to dig up and destroy all infested plants.

The Western 10-lined June-beetle (Polyphylla perversa Csy.).—The larva of this insect, commonly called the "June-bug," is sometimes very destructive in a strawberry-field. The larva is large, about 2 inches in length when full-grown and as thick as the little finger. It lies in a half-curled position and with its powerful jaws nips off the roots below the ground, working its way from one plant to another. It is chiefly troublesome on light sandy soils, especially if the land has been previously in sod. The insect lives for three years in the ground as a larva, so that when land containing them is ploughed up they immediately attack the succeeding crop. Hand-picking may be resorted to at ploughing-time or chickens may be allowed to run on the land. When the work of the larvæ is seen in a plantation the only remedy is to search for them and dig them out.

Wireworms (Elateridæ).—There are various species of these. The adults are commonly called click-beetles and the larvæ occasionally do considerable damage to strawberry-plants. The larvæ of many species live for several years in the soil, and when strawberries are planted on land that has previously been in sod, damage to the crop by wireworm attack may result.

Wireworms are difficult pests to deal with and there is no remedy that is cheap. Care should be taken not to plant strawberries after sod or in any land liable to be infested with wireworms. A trap-crop of corn between the rows has been suggested, the young corn being treated later with a dose of calcium cyanide or carbon bisulphide placed in the soil at the roots to destroy the wireworms. Japanese growers clear the soil effectively of wireworms by using baits of rice-meal or shorts made

up into balls the size of an egg with a little water and buried a foot or two apart, a stick being put in to mark the place. After about a week the balls are dug up, usually full of wireworms, and can be fed to hogs or poultry.

Strawberry Leaf-rollers.—Two species of leaf-rollers (*Anacampsis fragariella* Busck and *Exartema olivaceanum* Fern) have been troublesome in the North Okanagan and in the Kootenays. Information regarding these insects is incomplete at present, but it has been suggested that control would be obtained by clipping the leaves and burning the clippings soon after the crop is picked and by the application of arsenate of lead sprays, 2 lb. to 40 gallons of water, in early summer.

DISEASES.

By W. R. Foster, Provincial Plant Pathological Branch.

LEAF DISEASES.

Leaf Diseases.—Leaf-spot, scorch, and mildew may be controlled by spraying or dusting. Usually, however, frequent renewal of strawberry-patches keeps these diseases in check. The losses from these diseases are usually not regular or severe enough to justify the expense of spraying.

Leaf-spot (Mycosphærella fragariæ (Schw.) Lind.).—The spots at first are a dark reddish or purple colour, but as they grow older the centre of each spot becomes greyish or almost white. Fully developed spots are usually not more than ⅛ inch in diameter, with a whitish centre and a distinct reddish border.

Control.—Spray with Bordeaux 3–3–40 as soon as growth is well started in the spring and repeat as often as necessary to keep the foliage well covered (underneath as well as on top of leaves), until the first berries are about one-third grown. It may be necessary to spray as often as every ten days. Another application of Bordeaux 4–4–40 before the first rains in the fall is also beneficial.

Scorch (Diplocarpon earliana (E. and E.)).—Scorch may be mistaken for leaf-spot in the early stages when the spots or blotches, usually purplish in colour, are irregular in outline and are quite small, about one-twentieth to one-fifth of an inch. The diseased areas gradually enlarge and many of them grow together. In several cases the whole leaf may become purplish or reddish in colour and later appears burned or scorched.

Control.—The same as for leaf-spot.

ROOT-ROTS.

Affected plants have an unhealthy appearance usually, lacking in greenness of the leaves, are sometimes dwarfed, and when most moisture is needed about fruiting-time the plants are liable to wilt, especially in sunlight. If a wilting plant is carefully removed from the soil and examined, the root system is almost devoid of finer rootlets and the larger roots are discoloured with brown to black lesions.

Control.—No effective means of control of root-rot have been evolved. A grower, however, can do many things to help prevent or remedy the situation, namely:—

(1.) Be careful in choice and selection of planting stock. A high initial vigour of plants is important. Plants about to be set out, which should be done as soon as possible after digging or delivery, should first be rinsed in water and the root system examined. Weaklings and all plants showing brownish discoloration of their roots should be discarded.
(2.) Good drainage is essential.
(3.) Plants should be given every advantage from the standpoint of their nutrient requirements. The District Horticulturist will supply this information and, if necessary, will tell you where to send soil samples.
(4.) Frequent rotation helps to reduce losses.
(5.) Plough under cover-crops.

FRUIT-ROT.

The grey-mould or *Botrytis* fruit-rot is the most important one in British Columbia. This disease affects both green and ripe berries. The rot usually starts in the part of the berry that is next to the ground or that touches another berry or leaf. The disease begins as a light brown soft spot and then spreads in all directions through the berry. The rotten fruit then begins to dry out and becomes firm and tough. The berries often become entirely covered by a grey powder or dusty appearing fungus growth.

Control.—The disease is very difficult to control during continued wet weather.

(1.) Select location with good air-circulation and water-drainage.
(2.) Precooling and the use of refrigerator-cars helps to reduce losses.
(3.) Cull out affected berries during picking and packing.

(4.) Every effort should be made to have strawberries pre-cooled as soon as possible after picking. Experiments have shown that berries picked in the early morning and not cooled until the afternoon or evening of the same day showed a decided loss in keeping quality.
(5.) Avoid leaving overripe and decaying fruit on plants.
(6.) Avoid picking when berries are wet.

VIRUS DISEASES.

Yellows.—The most conspicuous symptoms of yellows are (1) curling and cupping of the leaves, (2) yellowing of the leaves around the margin and between larger veins, and (3) dwarfing of the leaves and a general stunting of the growth of the entire plant.

Control.—This disease is transmitted through the runners; that is, every plant from a diseased mother plant will be diseased. Aphids also spread the disease. The elimination of the disease from planting stock is best brought about through the selection of outstanding, high yielding, healthy plants in plantings more than a year old. Runners from these are planted in an isolated propagation plot according to a plant unit system, in which all runner plants from one mother plant are planted together in a row and not mixed with those from other mother plants. In case yellows or any other virus disease occurs in any plant unit the whole unit should be destroyed.

Crinkle.—The symptoms of crinkle are mosaic-like, beginning as yellowish pin-point spots in the leaves. Such leaves soon become crinkled and unevenly streaked and spotted with yellowish tissue in contrast to smooth, deep green of healthy leaves. Crinkle is sometimes serious in the Marshall variety.

Control.—The same as for yellows.

STRAWBERRY CULTURE IN THE SALMON ARM DISTRICT.

By C. R. Barlow, District Field Inspector.

CULTURAL METHODS.

Spring planting is most commonly practised and is generally to be recommended. In this district, where soil-moisture is such an important factor in determining growth and yield, the hill system of planting is preferable to the "matted row," the latter

system being usually found to involve too heavy a demand for moisture and resulting in a heavy percentage of small berries. The most desirable spacing has been found to be 15 to 20 inches apart in the rows and the rows 3 feet apart.

Shallow cultivation should be continued up till blossoming-time, when the plantation should be mulched. After harvesting the crop the old tops are mowed off, raked between the rows, and burned.

So great is the diversity of the soils in this district that it is impracticable to make any general recommendation as to what fertilizers to use, and growers' views differ widely on this subject.

Some growers have obtained excellent results from barnyard manure in conjunction with a complete fertilizer; others have received good yields with a dressing of 350 to 450 lb. per acre of bone-meal applied in the fall and followed with 200 lb. of ammonium sulphate at blossoming-time; still others advocate the application of 100 lb. per acre of ammonium sulphate when the crop is off and the patch cleaned up, but the fertilizer problem is one which can best be solved by the individual grower by a little simple experimentation.

YIELDS.

In an average season, and under good cultural methods, a crop of 350 crates per acre could reasonably be expected, but during the unusually dry seasons which have been experienced recently, production has fallen considerably below that mark.

VARIETIES.

British Sovereign has proved to be the most satisfactory variety tried here so far, and is the only one planted commercially at the present time. The berries are of good quality and size, uniform in shape, firm in texture, and reach the market in good condition. Many other varieties have been tried, but all have been discarded owing to various undesirable characteristics. The same remarks are also applicable to the Clearwater district.

FUTURE DEVELOPMENT.

The Salmon Arm District cannot be recommended for the growing of strawberries on a large commercial scale, as the seasonal conditions are such as to render the growing of the crop too hazardous a venture, but on a small scale, where conditions are favourable, strawberry-growing is a valuable side-line, and an acre or so of berries will usually show a fair margin of profit.

The district is very favourably situated from a marketing standpoint and facilities for handling the berries are excellent. The local co-operative organization owns a well-equipped precooling plant.

Strawberry root-weevil is present in the district, but so far has not proved a menace to the crop, which is exceptionally free from the more serious pests and diseases affecting strawberries.

It is unlikely that the district will ever become a heavy producer of strawberries, but the output will probably increase as the number of individual growers with small acreages increases.

STRAWBERRY CULTURE IN THE NORTH OKANAGAN.

By H. H. Evans, District Field Inspector.

Strawberry production in this district has decreased considerably since the last revision of the bulletin in 1934, and is now only 47.2 per cent. of what it was at that time. The present acreage is less than 1 per cent. of the total for the Province and is insufficient to supply local needs.

For optimum results the strawberry requires reasonably high and uniform moisture conditions, with good soil of the loam or sandy loam types, carrying a high percentage of organic matter. In the non-irrigated sections these two factors appear difficult to maintain, especially in seasons of high summer temperatures and low precipitation. Even under irrigation it appears difficult to produce satisfactory yields when extreme heat periods occur during the fruiting season, as too frequently the percentage of " nubbins " or misshapen berries is so high as to adversely affect profitable production of the crop.

Extension of the strawberry acreage in this district to at least take care of local requirements appears possible, providing care is given to selection of suitable sites and soil types.

SOIL PREPARATION—PLANTING AND CULTURE.

The land for a strawberry-patch must be given the best preliminary preparation. Where barnyard manure is available, two annual applications of from 15 to 20 tons per acre, followed by hoed crops provides excellent humus conditions. Failing this, a good substitute is two years of clover followed by one hoed crop. The clover should not be cut for hay if this can be avoided. If it is felt some return is required from the land, only one crop should be removed and that in the first year of growth.

Prior to the time of planting, a thorough soil tilth should be prepared. Fall plough the land and leave rough for the winter. In the spring cross plough and follow with double disking and harrowing. If the use of fertilizer is considered necessary at this time, an application of ammonium phosphate 2–19–0 or a complete 4–10–10 at the rate of 400 lb. per acre may be applied broadcast prior to disking. On bearing patches an application of 200 lb. of ammonium sulphate per acre, broadcast on the last snow in early spring, gives the plants a quick, strong start and aids in setting and size of the berries. Owing to the diversity of soil conditions the profitable use of a general commercial fertilizer programme becomes an individual grower problem.

Spring planting is the usual procedure for this crop and the one generally recommended. In the area under irrigation, August planting has been carried out with quite good success; the long fall growing period proving very favourable to production of strong plants and winter snows giving the needed protection to prevent heaving. Soil, moisture, and climatic conditions should, however, be the guide to individual growers as to the most satisfactory period for planting.

Cultivation of the newly planted patch should be continuous in order to keep down weeds, maintain uniform moisture, and encourage rapid and strong growth. With patches in bearing cultivation should commence in the spring as soon as the soil is workable and continue at frequent intervals until the patch is in full bloom. After harvesting the crop and cleaning up the patch, cultivation should be again started and continued into the fall. Remembering the strawberry-plant as being shallow rooting, the first cultivations should be the deepest and become more shallow as the work proceeds. The single-horse cultivator, the hand-wheel cultivator, and the hand hoe are the principal tools required for this operation.

The system of planting and distances often appear to be a matter of individual preference. The hill system most certainly recommends itself against the matted row, both from point of yield and ease of handling. The most desirable planting distances are 15 to 20 inches between plants and 3 feet between rows for the hill system. For the matted row, 20 to 24 inches between plants and 4 feet between rows.

VARIETIES AND YIELDS.

A number of varieties have been tried out in this district and few have been found satisfactory under all conditions. The British Sovereign, so favoured in some areas, has, under our

Interior high temperature and low humidity conditions, proven satisfactory only under the highest cultural requirements in soil, moisture, and fertility. Where its cultural needs can be supplied its high quality and yielding ability recommend its continued production.

Other varieties which have proven satisfactory in supplying our local markets are the Glen Mary, Dr. Burrill, Paxton, Senator Dunlap, and Gibson. Of the newer varieties the Dorsett and Fairfax appear very promising and worthy of trial under the varied soil and climatic conditions of the North Okanagan. They appear to be berries of high quality, though their yielding abilities have not yet been established in this area.

FUTURE OF THE INDUSTRY.

Owing to the variable factors of production experiences in this area, it is doubtful if any great expansion of commercial acreage will occur. There is, however, still a need for increased acreage to supply local demands at present filled by imported berries.

This development would fit in nicely with the intensive farming methods required of the smaller acreages and as an addition to present farms where raspberries, currants, and other berries are being produced. Costs of production, yields, and returns vary from year to year and farm to farm. These factors make it difficult to present anything like definite figures. Production costs may vary from $1 to $1.75 per crate. Yields will vary from 200 to 400 crates per acre, and returns on local market sales from $1.50 to $2.75 per crate. Though not presenting large returns, these figures do indicate a reasonable profit being derived for producers willing to give the crop the attention it deserves.

STRAWBERRY CULTURE IN WEST KOOTENAY.

By E. C. Hunt, District Horticulturist.

Strawberry-growing in this district has not changed to any great extent during the past ten years, although the acreage to this crop has decreased to quite an extent since 1938, the peak acreage year for the district. The acreage still devoted to this crop is more than that of all other small fruits and is one of the main commercial fruit-crops in many parts of the district. The

following figures will give an idea of the acreage planted to this crop over a period of ten years: In 1930 the acreage to strawberries amounted to 265 acres; 1932, to 396 acres; 1934, to 390 acres; 1936, to 390 acres; 1938, to 435 acres; and 1940, to 275 acres. It may be said, however, that the plantings in most sections, with the exception of the Wynndel area, have been well below the average over the ten-year period.

Wynndel is the heavy-producing area of the district and the centre of the industry, with smaller areas at Alice Siding, Creston, Erickson, Canyon, and Arrow Creek. Other quite heavy-producing areas in the western portion of the district include the Slocan Valley, Thrums, Nelson-Granite Road area, and the Harrop-Procter section. The Doukhobor acreage scattered over the settlements at Shoreacres, Glade, and Brilliant is much less than for a number of years, due to the fact that the jam plant at Brilliant has not operated since 1938. Owing to the lack of daily transportation and the cost of same, there are no commercial plantings of strawberries in the Arrow Lakes section.

In nearly all parts of the West Kootenay District the moisture-supply for certain periods in the summer is below what is needed for the production of strawberries. For this reason strawberries can be grown with the best success commercially only where water for irrigation can be supplied when needed by the plants. At the present time practically all the area planted to strawberries is supplied with some system of irrigation. The most common system used in the district is that of the stand-pipe sprinkler. Some growers are using the overhead-pipe system, while others are irrigating their plantations by the open-ditch method.

The labour-supply, which was quite a problem in this district a few years ago, is not such a factor now in the growing of small fruits. Although mining and lumbering industries have picked up in the last few years in this district, farm-labour has been quite plentiful, and the strawberry-growers have been able to get help with the growing and harvesting of their crop at quite a reasonable rate of wages. The Doukhobors supply the largest proportion of the help in connection with the small-fruit industry of the district.

Lack of transportation, which was a serious factor in some sections in the production of strawberries, has been overcome in recent years by the operation of daily truck and bus lines. Practically all sections of the district growing strawberries now have good transportation either by truck or train.

SOIL.

This district has a variety of soils, most of which are suitable for the growing of strawberries when modified. The ideal soil for this fruit is a rich sandy loam. On sandy soils it is very important to add organic matter in the form of barnyard manure



Fig. 25. A 7-acre block of strawberries grown in the Slocan Valley.

or by turning in a green cover-crop, but whether the soil be sandy, clay, or any other type, the growing factors are fertility and moisture.

PLANTINGS.

Strawberry-planting in this district is usually done in the spring, although many of the Doukhobor growers fall plant. The single-row system is used practically altogether; the rows on an average are 3 feet apart and the plants 12 to 15 inches apart in the row. Varieties like Magoon, with long fruiting-stalks, when planted in good soil, should be set 40 inches between the rows and at least 15 inches in the rows. The Parson's Beauty and Gibson varieties will stand close planting, as they have very short fruiting-stalks and do not require so much room.

CULTIVATION.

The system of cultivation as carried on at Wynndel, after the plants have been in for one summer, is somewhat different from that usually recommended for strawberry-culture. After the first season's growth the plants are given only one thorough cultivation in the spring. They may be weeded or hoed once or

twice during the spring and early summer, but not cultivated. After the crop has been harvested the vines and tops are cut off with a scythe. This is usually done about the first week in August. All rubbish is then raked up in rows near the plants and the whole plantation is burnt over. Usually the soil is well irrigated just before the burning takes place. This will greatly lessen the injury to the plants from burning operations. This is followed by a thorough system of cultivation (and irrigation when required) up to the month of October. The plantations are mulched soon after the first good covering of snow comes in the early winter, the mulch being put on in this area at the rate of about 4 tons per acre. The Wynndel and Creston sections are very fortunate in being able to obtain cheap mulch for their strawberry-fields. Rushes from the Kootenay Flats are used for this purpose and the only expense in securing the mulch is the cutting and hauling. The mulch is growing right near the strawberry-fields and is free of any grass or weed seeds that will grow in cultivated land. The mulch is raked slightly from over the rows of strawberries about the first week in April, and in about ten to fifteen days later the plantations are given the first and only spring cultivation. Some growers at this time apply 75 to 100 lb. of nitrate of soda or sulphate of ammonia per acre to their plants, followed in some cases with another light application of nitrogen just about the time the first fruits begin to form. However, in recent years most growers are now using a complete fertilizer and this is applied to their plants in the late summer and after the fields have been cleaned up for the fall cultivation. Most of the strawberry-fields are picked every second day, and if the weather is very warm the fields are given an irrigation in the evening after each picking.

In other sections of the district spring cultivation is started as early as possible and kept up at intervals until the plants are in full bloom. After the crop has been taken off and the fields cleaned up in August, cultivation is started again and kept up well into fall. The patches are also hoed several times to keep the weeds out of the rows.

The average field of strawberries in most sections of the district is cropped three years, that is, three crops are taken off before the patch is ploughed up. In a few cases and under favourable conditions some growers are able to take four crops off before taking out their plants. Fall rye and vetch, as well as sweet clover and other varieties of clovers, along with a hoed

crop, enter into crop-rotation during the average two-year period that the land is being put in shape for replanting.

VARIETIES.

At the present time in most all sections of the district, the British Sovereign is planted more than any other single variety. In the Slocan Valley, Parson's Beauty and Gibson are still being planted to quite an extent, especially on the lighter soils and where water is not too plentiful for irrigation. However, in the last two or three years, a number of growers in this area are changing over to the British Sovereign. In the Harrop-Procter section at least 95 per cent. of the acreage is planted to British Sovereign, while in the Wynndel and Creston area about 70 per cent. is British Sovereign, 25 per cent. Van Sant, and



Fig. 26. A close-up of Fig. 25. Note excellent growth of vines and system of mulching.

5 per cent. other odd varieties. Some Early Bird, Dorsett, Fairfax, Wm. Belt, and a few Magoon are listed as varieties being grown in the district. The two leading everbearing varieties of strawberries grown in the district are the Gem and Mastodon. Both have proven quite good varieties of this kind for the district.

The strawberry root-weevil and June beetle are the two insects that cause considerable damage to the strawberry-crop from year to year. The root-weevil is being fairly well controlled by the use of the weevil poison-bait and crop-rotation. The June beetle has been very difficult to control and is found to do extensive damage to the strawberry-plants, especially in the light and sandy soils.

VICTORIA, B.C.:
Printed by CHARLES F. BANFIELD, Printer to the King's Most Excellent Majesty.
1940.

4M-1240-8339

Ex 80

16th November 1948.

THOMPSON & BINNINGTON LTD.

Auctioneers & Appraisers

AUCTION SHEET

January 27th, 1944. Cause: Radio Auction at 992 Powell Street for the custodian.

No.	Description	File No.			
1	G.M. Auto Radio	10824	$35	Cash	$21.00
2.	Radio (chassis only)	1180		Cash	6.00
3.	Westinghouse mantel	PB.7813	$60.	Cash	45.00
4.	R.C.A. Victor Comb.mantel	10847	~~$65.~~ 125	Cash	63.00
5.	G.E. mantel radio	13191	$35.	Cash	33.00
6.	Philco P.B. mantel	11234	$60	Cash	50.00
7.	Clarion Jr. mantel	3375	$30.	Cash	17.00
8.	Philco mantel	14922	$30.	Cash	29.00
9.	Philco mantel	5712	$40.	Robson Elect.	40.00
10.	Westinghouse mantel	7525	$35.	Herbert	26.00
11.	G.E. mantel	2896	$35.	Herbert	21.00
12.	Stromberg Carlson mantel	1107	$35.	Cash	36.00
13.	Philco mantel	4221	$35.	Cash	30.00
14.	- do -	604	$60.	Cash	$54.00
15.	Philco mantel P.B.	6270	$60.	Cash	55.00
16.	Phonola mantel	1201	$54.	Cash	54.00
17.	G.E. mantel (battery set)	3443	$35.	Cash	35.00
18.	G.E. mantel P.B.	11360	$60.	Cash	47.00
19.	Phonola mantel battery	Int.172	$40	Cash	36.00
20.	G.E. mantel	465	$35.	Herbert	36.00
21.	Marconi mantel P.B.	12508	$50	Cash	45.00
22.	Philco mantel	12742	$50	Cash	51.00
23.	Victor mantel	7824	$45	Cash	31.00
24.	Westinghouse mantel	9674	$30	Cash	27.00
25.	Victor mantel	12466	$40	Cash	30.00
26.	Westinghouse mantel	6907	$35	Cash	40.00
27.	Victor mantel	5052	$54	Robson Elect.	60.00

EXHIBIT No. Gen 80
DATE 1 Dec 1948
FILED BY R. J. McMaster.

28.	Philco mantel	3856	$30	Robson Elect.	$18.00
29.	Kadet mantel	12307	$35.	Cash	$27.00
30.	Victor mantel	10727	$40	Herberts	$40.00
31.	G.E. Mantel	In.784	$35.	Cash	$32.00
32.	Marconi mantel	7544	$40	Cash	$40.00
33.	G.E. Mantel	8507	$35	Cash	$23.00
34.	G.E. Mantel P.B.	1954	$50	Cash	$45.00
35.	Stewart Warner P.B.	5129	$45	Cash	$37.00
36	Stewart Warner mantel	10797	$35	Herberts	$41.00
37.	Westinghouse mantel	3919	$35	Robson Elect.	$36.00
38	Victor mantel	1376	$35	Cash	$26.00
39	Northern Electric	5129	$40	Robson	$40.00
40	Philco mantel	2615	$25	Cash	$26.00
41	Transitonemantel	7699	$25	Cash	$27.00
42	Rogers mantel	604	$25	Herbert	$26.00
43	Philco mantel	9934	$25	Robson	$30.00
44	Monarch mantel	4215	$25	Robson	$22.00
45	Philco mantel	4785	$25	Cash	$24.00
46	Philco mantel	11682	$25	Cash	$25.00
47	Premier mantel	6616	$25	Robson	$22.00
48	Marconi mantel	6595	$25	Robson	$30.00
49	Marconi mantel	4099	$30	Cash	$30.00
50	Comet mantel	14392	$25	Herberts	$23.00
51	Westinghouse mantel	5303	$40	Cash	$30.00
52	Rogers mantel	2064	$35	Cash	$36.00
53	G.E. mantel P.B.	12981	$40	Cash	$41.00
54	De Forrest mantel	11562	$35	Cash	$41.00
55	Philco mantel	878	$29	Robson	$21.00
56	Westinghouse mantel	6595	$29	Cash	$23.00
57	G.E. Mantel P.B.	Int.457	$45	Cash	$45.00
58	Victor mantel	14632	$40	Cash	$27.00
59	Victor mantel	5823	$40	Cash	$30.00
60	Victor mantel	6595	$40	Cash	$30.00
61	Sparton Con.Comb.	9390	$125	Walsh	$35.00
62	Victor Con.Comb.	1360	$125	B.C.E. Rep.	$42.00

63	G.E. Consol P.B.	7745	$80	Fontaine	$73.00
64	Marconi Consol	Int.1201	$64	Monson	$40.00
65	Victor consol	11338	$64	B.C.E.Rep.	$32.00
66	Philco Con.Comb.	11143	$125	B.Fredrickson	$74.00
67	Victor con.comb.	2086	$125	B.C.E.Rep.	$46.00
68	Victor consol.	7699	$40	Ross	$25.00
69	Marconi consol	3261	$70	Cooley	$21.00
70	Victor consol comb.	823	$125	Robson	$48.00
71	Victor consol	595	$45	Ennis	$47.00
72	Radiola consol comb.	4215	$60	Robson	$34.00
73	Kilster Consol P.B.	3057	$55	Cash	$10.00
74	Victor consol	553	$65	O'Reilly	$16.00
75	Stromberg Carlson Consol	9866	$54	Alexander	$61.00
76	- do -	1954	$79	A. Dahl	$42.50
76a	Philco comb.	2885	$125	B.C.E.rep.	$32.00
77	Majestic Consol P.B.	14392	$100	Torgason	$85.00
78	G.E. Consol Comb	10174	$125	B.C.E.rep.	$45.00
79	G.E. Consol	7342	$100	Gallagher	$51.00
80	Victor consol	15493	$100	B.C.E.rep.	$45.00
81	G.E. Consol	4140	$80	Aldridge	$21.00
82	Victor consol Comb.	1380	$125	Gendron	$50.00
83	Sparton consol P.B.	13991	$125	Lee	$66.00
84	G.E. Consol comb.	13958	$150	Bird	$76.00
85	Rogers Consol	3467	$79	B.C.E.rep.	$36.00
86	Templeton consol	3605	$45	McKay	$13.00
87	Sparton consol	13262	$79	Moore	$55.00
88	Marconi Consol P.B.	1866	$125	Ennis	$59.00
89	Radiola Consol comb.	1745	$125	Robson	$30.00
90	De Forrest Crossley consol.	11749	$150	Gendron	$37.00
91	Fada consol	11450	$50	Wainwright	$7.00
92	Westinghouse consol	2977	$79	Ennis	$85.00
93	Victor consol comb.	1114	$125	B.C.E.rep.	$37.00
94	Marconi Consol comb.	7857	$125	O'Reilly	$42.00
95	Victor consol comb.	11148	$125	Knowlton	$46.00
96	Brunswick consol comb.	14933	$125	Robson	$31.00

98	Box radio parts	11259	B.C.E.rep.	$12.00
97	Rogers chassis	14913	Aldridge	$6.00
99	Box radio parts	13837	Dawson	$18.00





APPENDIX # 1 VOLUME 15 PUBLIC ACCOUNTS COMMITTEE MINUTES

EXTRACTS FROM APPRAISALS

J. L.	P.D.V.	B. value added To land	OTHER IMPROVEMENTS	TOTAL APPR.
122	--	--	--	$818.00
73	$1300.00	$975.00	$150.00 (Pump)	1482.00
74	275.00	200.00	--	701.40
72	350.00	275.00	$ 50.00	676.60
248	2585.00	2000.00	--	3156.25
	$4510.00	$3450.00		
	200.00			
	$4710.00			
Less	75.00	Building sold off the land.		
	$4635.00			

EXHIBIT No. Gen 95
DATE 10 Dec 1948
FILED BY J. M. L. Hunter.

Ex 94.

EXHIBIT NO. Gen 94
DATE 10 Dec 1948
FILED BY J. W. G. Hunter.

VANCOUVER, B.C., June 3, 1942.

Mr. B.C.Wormworth,
Field Supervisor, S.S.of C.
Abbotsford, B.C.

Dear Sir: Re: Ken.Hayashi
7 Blocks in Mission

I have received your memorandum on the appraisal of a property within the limits of Mission Village registered in the name of the above. I believe we sold Mr.Goodman a parcel of land on Hatzic Island three or four years ago. Mr.Ramsay can verify this.

I rather expect that the Japanese you speak of is a young man I used to see at the hotel at Mission operated by the late J.Ross. He boarded there at that time. I am under the impression that he worked for the Co-operative. The chances are that Goodman sold him the land in question for $1000; gave him title, and took back a mortgage for $900. You can figure out the exact acreage in these lots from the Land Registry Office sketch as the plan showed the exact measurement of the lots in question. There is no question, therefore, as to the exact acreage.

Of course we cannot value road allowances. Furthermore, any piece of property that is subdivided into lots with road and lane allowances must be appraised on the basis that these roads will be used. As a matter of fact, unless the Municipal Council has rented these road allowances to the property owner, either you or I have a perfect right to pull down the fences and drive over the road allowances irrespective of whether or not they are in crop. The owner might object, but he has no more right to put a crop in on them than you or I have.

Even if the above named paid on the basis of $200 an acre for the property, this is by no means an unusual figure. In fact I venture to say that the majority of people in and around Mission would not even lift an eyebrow if they were told he paid $200 an acre. When one considers the matter from his point of view I am not so sure that it is not a fairly sensible investment. He has a good job, probably the year round and, in his own time and his own way, can gradually develop this land and eventually have it clear of debt. If for any reason he lost his job he would have another one to go to immediately, working this holding. Furthermore, no doubt when he has the necessary money he will build a house on it.

The taxes in Mission Village are modest, and much lower than is found in the majority of these small centres. In fact they are no heavier than is found in the average municipality. I mention this because high taxation often precludes the profitable operation of farm lands within the boundaries of villages and towns. I know of farm lands within a mile of my house, which lie within the City of Vancouver, are assessed at $500 an acre. Taxes are so high that it is difficult to operate the land with any profit. On the other hand it has no value yet from a residential point of view. If not operated as farm lands there is no income, but the taxes remain the same. You will thus see the problem that often confronts an owner of farm lands close to centres of population.

The situation, as I see it, which will prevail under the Veterans' Act (if passed as it is framed at present) is that the returned man, probably a school teacher in the village, the man who works on the railway section or probably the barber, would be living on acreage -

acreage within a village, such as Mission. Only one or two might intensively work their land, and make their whole livelihood from some type of farm operation. It is only natural to assume that many women will want to settle in areas where electric light and city water are available. These factors have a direct bearing on land values from a home point of view irrespective of the productive possibilities of the land in question. One has only to study the occupations followed by numerous tenants already renting these lands to see what may apply a few years hence under a Veterans' Scheme.

Someone commented at the conference that Japanese houses would not attract a white man and, although I did not reply, I did not agree with this. For instance I think Mr. McKay appraised a property within the bounds of the Village of Mission that is now rented by the Editor of the local paper. I have not been around Mission lately but I know that a year or so ago houses which were really habitable were difficult to obtain, and I do not think there will be any change for the better in the situation from the tenant's point of view at the moment.

If you went into the first twenty holdings of five or ten acres on almost any road in the Fraser Valley, and these people were prepared to tell you the source of fifty per cent of the money they took in, you would likely find that it was earned from some source other than farming. The idea of using small holdings for a man to live on, and make half or more of his living elsewhere, is nothing new so far as this Valley is concerned, and we can find thousands of examples of this today. Much of our most successful settlement, from a financial point of view, is among our settlers who derive some income from a source other than their properties.

Take for instance the case referred to above. The barber in a village might make $10 a week from his barber shop. With this revenue alone he could not support a family in a rented house. However, if he had an acre or two of ground, and knew how to use it, he might have a first class garden which would provide all the fruit and vegetables required in his home. In addition, when going to work, he might take a crate or two of strawberries or raspberries, picked by his family every day, and sell these to some business man in town, or wholesale, to the grocer store. There is nothing to prevent the same man using a rhubarb forcing-house and making a little money out of this as many of the Japanese farmers have done.

Another man who has a business in the village might never use his land at all, and probably tell you that he could buy the stuff cheaper than he could raise it. So far as I can read, and observe, human nature does not change a great deal. One family can live very comfortably, and prosper, where another family would starve to death rather than use the tools lying at their feet for their use, if they only had the ambition to do so.

Probably you are wondering what this has to do with appraisal work. To me it proves that the appraiser must weigh all the available factors and then try to strike a fair average. The productivity of soil is not the only factor by any means in arriving at the value of a small holding. The more you know of this Valley, its possibilities and its drawbacks, the better able you are to sense why people with a knowledge of local conditions will often pay twice as much in one location as they would in another. The outsider who comes in at certain seasons of the year, and pays a big price in a poor location, usually pays for his lack of local experience.

Yours truly,

ITB:B

District Superintendent.

509 Royal Bank Building,
Vancouver, B. C.
August 16th, 1944

564
Legal Department

EXHIBIT No. Gen 93
DATE 9 Dec 1948
FILED BY D. J. Blanchwood.

G. W. McPherson, Esq.,
Executive Assistant to the
Secretary of State of Canada,
Victoria Bldg., 7 O'Connor St.,
Ottawa, Ontario

Re: P/W A-702, HARA, Kiyoji and
Lots 5 and 6, of the North Half of the
South West Quarter of Section 1, Township 12, Map 2019

Dear Mr. McPherson:

We enclose herewith Deed of Land, in favour of Fred Disdero, for execution by the Assistant Deputy Custodian.

This property was sold by Kiyoji Hara to Fred Disdero, under an Agreement for Sale dated May 28th, 1942, for $1,250.00, payable $500.00 on execution of the Agreement, $375.00 on May 1st, 1943, and $375.00 on May 1st, 1944, plus interest at 7%.

On June 25th, 1942, Kiyoji Hara transferred title to the above noted property into the name of Pacific Co-operative Union, who acted as Trustee for the Japanese.

The final payment under the Agreement for Sale has been made to this office by Mr. Disdero. We have received a Deed from the Pacific Co-operative Union to the Secretary of State, therefore no Transmission is required.

We would call your attention to the alteration on the last page of the Deed, where the word "Assistant" is inserted before Deputy [redacted], and would request that this change be initialled. We would be pleased if you would so alter all documents forwarded to you earlier this week.

Your kind attention to this matter would be appreciated.

Yours truly,

K. W. WRIGHT
COUNSEL TO THE CUSTODIAN

KWW/JF
Encl.

EXHIBIT No. Gen 92
DATE 9 Dec 1948. 27 Sep 48.
FILED BY J. W. Hunter.

General Brief for Crown Counsel.

The following is a resume of my experience which I consider bears relation to my qualifications as a land appraiser.

My first experience was in 1913 which was the initial appraisal of lands in Rural Municipality 254 in Saskatchewan on the changeover from flat rate assessment to assessment on the basis of valuation. Subsequently I had some small experience in that Central Saskatchewan locality making appraisals for loaning purposes but that was limited.

After World War I and while on staff of the Soldier Settlement of Canada I acted in the capacity of field supervisor with appraisals of land for purchasing purposes and appraisal of undeveloped lands for establishment purposes and during 1920 and 1921 I was in charge of a staff of appraisers making appraisals of land in what is known as the Porcupine Forest Reserve and on which it was intended to establish veterans.

In 1923 I was sent from Prince Albert, Saskatchewan to Edmonton, Alberta and made windshield appraisal of all of the unoccupied lands within 15 miles of the Canadian National Railway in the areas contiguous to Vermillion, Vegreville, Islay, Ryley and Camrose. This was requested by the Canadian National Railways and I was detailed to it by the Western Inspector of the Soldier Settlement staff along with another official from the Department's office in Winnipeg, Manitoba.

In that same year I made classification of lands in the Saddle Lake Indian Reserve and the Frog Lake Indian Reserve in Northern Alberta relating to the subsequent use of these lands for settlement purposes and I am informed that they were used as such on the basis of my reports.

A year or two later, I forget exactly which year, I made reconnaissance of all of the lands then unoccupied in the Sturgeon Valley-Stoney Lake area in Northern Saskatchewan for settlement purposes and I am informed that on a basis of my reports the Saskatchewan Provincial Government carried out their migration policy during the drouth years of the 1930's, which involved the moving of farmers from the dried out areas to settlement on these lands in the north.

Other experience I have had has been that of appraisal for land revaluation under the Soldier Settlement Act, for the adjustment and composition of debts under the Farmers' Creditors Arrangement Act and for condemnation purposes under expropriation for railway rights of way and townsites and for landing fields in connection with what later became the Trans-Canada Airways.

These experiences were all in the Prairie Provinces. My only experience in British Columbia was a few appraisals for Departmental purposes and the Japanese Land appraisals with which we are now concerned. During the years 1940 and 41 and the beginning of 1942 I was employed on work relating to the Department of Pensions and National Health and also in connection with claims for Dependents' Allowances relating to veterans of World War II which to some extent involved investigations of farming operations in some cases and in nearly every case had something to do with agriculture and the production of foodstuffs.

In this way I did obtain considerable information with respect to the peculiarities of lands in the Fraser Valley and particularly relating to the types of agriculture that could be carried out in different localities where lands are affected by under-irrigation and under-drainage, by air flow involving the different currents of air as affected by the mountain peaks adjacent and the effect they have on production on individual properties

When entering into the appraisals and with the pre-knowledge above outlined I considered it my duty to investigate some recent sales in each area as I started to make appraisals in that area and will be able to advise you in a general way as to what these involved, but I cannot give you individual cases in any area as I kept no record of them. I will be able to verify these statements to some extent by reference to my diary during the period of 1942 involving these appraisals.

On May 4th, 1942 in company with the other appraisers with whom I was associated, I looked over the area of Mission and Dewdney, interviewed real estate agents regarding recent sales, did some checking on the rural municipality and looked over 5 or 6 1940 and 1941 sales by our own Department. On the 29th of May, 1942 the same was carried out in the Matsqui municipality. On the 23rd of June, 1942 the same, in Surrey Municipality. On the 17th of July, 1942 the same in the Delta Municipality, August 1st, 1942, interviews with real estate agents at Gibson's Landing and Sechelt, on the 19th of September, the same in North Burnaby, 25th of September, the same at Duncan on Vancouver Island, 3rd of October, the same in West Vancouver and on the 14th of October, the same at Courtenay on Vancouver Island.

I am not a member of the association of land appraisers and since the completion of the appraisal of Japanese lands I have done no further appraising, having been employed on other work. This work I believe you have already been advised involves the checking of the work of other appraisers and recommendation as to the purchase of lands for the establishment of veterans. I trust that this information will be of value to you if and when I may be called to the stand to give evidence.

B.C. Warnwork

B. C. Warnwork

COMPARABLE SALES

PROPERTY	Value & Price	Date of Sale	Assessed Value	ACREAGE Total	Cult.	Bush	Water Supply	Proximity to Claimant's Ppty.	HOUSE Age	Size and Rooms	Foundation	Construction Type	Wiring	Plumbing	State of Repair	OTHER BUILDINGS Kind	GENERAL Remarks
CLAIMANT J.L. 63 FUJISHIGE, Takeo	$1155.40	18/5/42	Land $500. Imps.1500.	5.645	4.60	1.04	Well		15yrs	28x38 1½ storey 5 rooms, upstairs unfinished.	Wood posts	Frame stained - poor	yes	nil	fair	Shed Garage	Poorly constructed unfinished dwelling with 2 poor out buildings one of which was pole and shake construction.
COMPARISON No. 1 Title No. 148447-E Dean & Selina KENNEY to Wm. E. & Elsie L. SMITH	$1500.00	20/1/42	Land $700. Imps 1400.	8.227	6.	2.27	Well	Across road to west.	Est. 15 yrs	26x32 6 rooms 1½ storey 4 down 2 up	Wood posts	Frame Wood lined. Outside siding.	yes	Kitchen sink	fair	Frame barn 22x32. Frame & shingle work shop & garage 18x26' Two small frame sheds.	This property is directly across a 20' lane from claimant's. Soil conditions similar. Finished 6 room dwelling and other buildings.
COMPARISON No. 2																	
COMPARISON No. 3	REMARKS Details of comparison were obtained from the purchaser as to the condition of the property as pertained in 1942																
COMPARISON No. 4																	
COMPARISON No. 5																	
COMPARISON No. 6																	

EXHIBIT No. Gen 91
DATE 9 Dec 1948
FILED BY D. J. Broadwood.

Ex 89. map.
90 Photo



J.L. 427 - COMPARISON #2

Carter house, opposite Pitt Meadows
Municipal Office.
Taken November 1948.

EXHIBIT No. Gen 90
DATE 9 Dec. 1948
FILED BY
D. J. Brandwood.

90

EXHIBIT No. Gen 90
DATE 9 Dec 1948
FILED BY
D. J. Brandwood.



J.L. 53 - COMPARISON #1

Marr house

(taken 1942)

EXHIBIT No. Gen 87
DATE 8 Dec 1948
FILED BY D.J. Brandwood

EXHIBIT No. Gen 87
DATE 8 Dec 1948
FILED BY D.J. Brandwood.

COMPARABLE SALES

PROPERTY	Value & Price	Date of Sale	Assessed Value	ACREAGE Total	Cult.	Bush	Water Supply	Proximity to Claimant's Ppty.	HOUSE Age	Size and Rooms	Foundation	Construction Type	Wiring	Plumbing	State of Repair	OTHER BUILDINGS Kind	Remarks
CLAIMANT K. Kusano J.L.55 File 9587	$4200.00	7th Dec. 1943	Land $600.00 Improvements $2700.00	6.415	6.415	--	Excellent well & electric pump	------	Re-built 1941	24 x 36 5 rooms down 3 rooms up	Full Base-ment. concrete	Two storey good frame	Electric light	Nil Cold water tap	V. good	Frame garage. New " woodshed. Poor " garage, old. Poor 2 bath houses. Poor 3 poultry houses. 1 fair. 2 poor.	
COMPARISON No. 1 K. Ito to W. Solodki	$3000.00	May 11 1942	Land $400.00 Improvements $2500.00	4.13	4.13	--	Good well electric pump	Less than ½ M. due west on Power Line Road	Built 1937	33 x 34 4 down & hall 3 up good wood 6x34 verandah. well painted	Full concrete basement cement side-walk front to rear	Two storey Frame Wide cedar siding	Electric light	Cold water tap in kitchen	V. good	Old garage 18 x 21 Old house 18 x 22 & 12 x 22	Outbuildings still useful. Frontage landscaped, flowers etc.
COMPARISON No. 2																	
COMPARISON No. 3																	
COMPARISON No. 4																	
COMPARISON No. 5																	
COMPARISON No. 6																	

EXHIBIT No. Gen 82
DATE 7 Dec 1948
FILED BY J. W. G. Kunkel

COMPARABLE SALES

PROPERTY	Value & Price	Date of Sale	Assessed Value	ACREAGE Total	Cult.	Bush	Water Supply	Proximity to Claimant's Ppty.	HOUSE Age	Size and Rooms	Foundation	Construction Type	Wiring	Plumbing	State of Repair	OTHER BUILDINGS Kind	Remarks
CLAIMANT J.L. File 273 S. Tanaka	$950.00	June 1942	Land 800.00 Impr.550.00 $1350.00	9.65	9.65	--	shallow well		3-4	18 x 22 2 rooms	wood posts	All wood frame	Nil	Nil	Fair	Rough lumber wood-shed with shake roof.	
COMPARISON No. 1 .H. & Ethel Rockwell to . & D.R. Harrison	$1800.00	June 5, 1943	Land 750.00 Impr.900.00 $1650.00	10.062	approx. 7	3.062 light clearing	2 wells	½ mile N.E. Lot 7 on 21st Ave.	Est. 20 yrs.	22 x 24 3 rooms	Wood posts	Frame. siding on exterior walls. Painted brick chimney to ground	Electric light in house	Nil	Fair	Brooder house Barn 2 poultry houses 16 x 40 each	23. Orchard trees Land all in hay. Outbuildings appear to have been well cared for.
COMPARISON No. 2 L. Neilson to C & H Berg Joint Tenants	$1500.00	May 21, 1943	Assessments Land 500.00 Impr.400.00 $900.00	7.72	approx. 4 ac.	3.72 light clearing	2 wells	¾ miles N.E.	Est. 20 yrs.	14 x 26 & 5x9 pantry 2 rooms	Stone	Frame. Painted, part basement. Brick chimney to ground.	Electric light in house	Nil	Fair	Root cellar Wood shed Work shop Hen house for 140 hens Barn	Was fairly well finished, mostly rail. Land all in crops. Hay & some fruits. Location pleasant & open.
COMPARISON No. 3 H. Berg to S. Lystang	$1500.00	May 4, 1943	Land 500.00 Impr.600.00 $1100.00	7.72	3	4.72 light clearing	well	¾ miles N.E.	Est. 20	22 x 24 4 rooms & pantry	Cedar posts	Frame, painted. Shingled walls, painted.	Light in House	Nil	Fair	Frame wood shed root cellar Barn Hen house for 200 birds	Building only fair construction. Location pleasant & open
COMPARISON No. 4																	
COMPARISON No. 5																	
COMPARISON No. 6																	

EXHIBIT No. Gen 84
DATE 7 Dec 1948
FILED BY J.W.S. Hunter

COMPARABLE SALES

PROPERTY 1942 Sale ~~CLAIMANT~~	File No.	Value & Price	Date of Sale	Assessed Value	ACREAGE Total	ACREAGE Cult.	ACREAGE Bush	Water Supply	Proximity to Claimant's Ppty.	HOUSE Age	HOUSE Size and Rooms	HOUSE Foundation	HOUSE Construction Type	HOUSE Wiring	HOUSE Plumbing	HOUSE State of Repair	OTHER BUILDINGS Kind	OTHER BUILDINGS Remarks
			and Price	1942														
NABUTO, K.& F.	JL 157	Land $366.35 Bldg 100.00 $466.35	21/8/42 $1000	Land $600 Imps. 600 $1200	10.27	4.50	5.77	Well & electric pump		30 yrs (Add'n 20 yrs.)	(18x24x10) (10x30x8 (3 rooms	Post & Pole	Log & Frame	Wired	Kitchen sink only	Poor	Barn shed	A poor property located on a dead-end side road and buildings of little value.
PRIVATE SALE **COMPARISON No. 1** By T.& K.Hidaka of Lot 2 of W½ of S½ of SW¼ Sec.1, Tp.12, Map 6620 NWD To: Walter Dirks in April 1942 for		$1000.00	23/4/42	Land $ 600 Imps. 875 $1475	10.00	5.00	5.00	Dug well	Adjacent at East	20 yrs.	20x60x10 6 rooms and pantry	Post	Frame	Wired	Nil	Fairly adequate	Barn Woodshed Bathhouse Small hen house	Well located cornering on No.3 Road & 25th Avenue. Fairly adequate and serviceable buildings.
COMPARISON No. 2																		
COMPARISON No. 3																		
COMPARISON No. 4																		
COMPARISON No. 5																		
COMPARISON No. 6																		

EXHIBIT No. Gen 85
DATE 8 Dec 1948
FILED BY D. J. Braidwood

COMPARABLE SALES

PROPERTY	Value & Price	Date of Sale	Assessed Value	ACREAGE Total	Cult.	Bush	Water Supply	Proximity to Claimant's Ppty.	HOUSE Age	Size and Rooms	Foundation	Construction Type	Wiring	Plumbing	State of Repair	OTHER BUILDINGS Kind	General Remarks
PRIVATE SALE ~~CLAIMANT~~ H. ARINOBU J.L. 53	Value $612.00	11/5/42		4.	1.8	2.2	Well		1 yr.	24x24 1½ storey rooms 4 down 1 up	Wood block	1½ storey Frame not finished inside or outside.	Yes	No	Fair. Estimate $500. to rough finish in 1942	None	This house was only a shell and workmanship was noticeably amateur. Only access to property by narrow dirt lane.
COMPARISON No. 1 NEWMAN TO MARR Title No. 151196-E	$1500.00	15/6/42	Land $460. Imps 500. $960.	4.6	.5	4.1	Well	3/4 miles N.E.	3yrs.	26x31 rooms 4	Wood Blocks	1 storey frame finished inside wood & paper. Outside 10" cedar siding painted.	Yes	No	Good. Has since been raised and put on cement foundation	Old shed only.	This was a finished home when purchased in 1942. The purchaser thought it too near the road and moved it onto cement foundation 150ft. south. Fronts on paved road.
COMPARISON No. 2 HIROTSU TO BURRELL Title No. 150482E	$1700.00	11/5/42	Land $500. Imps 1200. $1700.	5.	3.	2.	Well	3/4 Miles N.E.	Est. 15yrs	26x30 1½ storey rooms 7	Wood Blocks	1½ storey frame building, finished wood and paper Outside finished with drop siding and painted.	Yes	No	Good Finished building has been used unchanged by purchaser.	2 henhouses for 250 birds each. 2 brooder & work shop 2 cabins.	With the exception of the plumbing this was a completely finished home when purchased in 1942. Fronts on paved road.
COMPARISON No. 3																	
~~COMPARISON~~ No. 4	SOIL Claimants property - sandy loam over hard pan, low lying and required draining. Comparative Property - sandy loam over sand and clay, friable soil with natural drainage.																
~~COMPARISON~~ No. 5	REMARKS - Details of comparative properties were obtained from the purchasers as to the condition of the properties as they found them in 1942.																
COMPARISON No. 6																	

EXHIBIT No. Gen 86
DATE 8 Dec 1948
FILED BY D. J. Braidwood

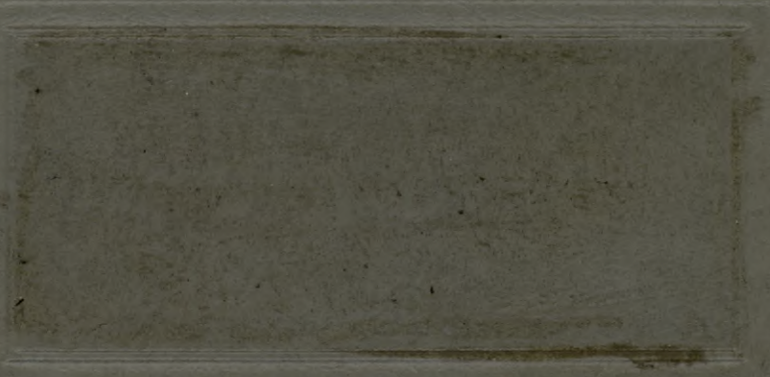
COMPARABLE SALES

PROPERTY	Value & Price	Date of Sale	Assessed Value	ACREAGE Total	ACREAGE Cult.	ACREAGE Bush	Water Supply	Proximity to Claimant's Ppty.	HOUSE Age	HOUSE Size and Rooms	HOUSE Foundation	HOUSE Construction Type	HOUSE Wiring	HOUSE Plumbing	HOUSE State of Repair	OTHER BUILDINGS Kind	OTHER BUILDINGS Remarks
PRIVATE SALE CLAIMANT N. NAGAMATSU J.L. 427	Value $550.75	Of Appraisal 1/7/42	Land $300. Imps 600. $900.	2.01	All in old sod 2.01		Well		1 yr.	26x28 Rooms 5 down 2 up	concrete	1½ storey. no floor in basement. Unfinished inside and out.	Yes	No	Unfinished Purchaser states it cost $1000 to finish house.	None	The purchaser E. Huula bought in 1943. Spent $1000. to finish home and sold it in 1945. On gravel side road.
COMPARISON No. 1 HARRIS ESTATE to M. & F. CAWS Title No. 151032-E	Price $1100.00	of sale 1/3/41	Land $600. Imps 800. $1400.	5.	1.5	3.2	Well	Approx. 500 ft. East	18 yrs	21x40 1storey Rooms 6	Concrete	1 storey frame buildings.	Yes	No	Reasonably good, lined & papered inside, drop siding & painted outside	Wood shed 14x42 frame & shake. Henhouse 12x24. Frame & shingle.	A comfortable finished house on paved highway.
COMPARISON No. 2 SMITH TO CARTER Title No. 141946-E	$700.00	5/6/42	Land $300. Imps 500. $800.	2.	2.	nil	Well	¼ mile north		30x30 1 storey rooms 4	Cement Blocks	Frame building main house 15x30 addition 15x30	Yes	No	Good, lined & papered inside. Outside finished with shingle and painted	Small wood shed only.	A good location facing Municipal Hall and fronting on paved highway.
COMPARISON No. 3																	
COMPARISON No. 4																	
~~COMPARISON~~ ~~No. 5~~																	
COMPARISON No. 6																	

REMARKS: Soil - Elevation and soil formation similar in all cases.
Condition - Details of comparative properties obtained from the purchasers as to the condition of acreage, buildings, etc. as they existed in 1942.

EXHIBIT No. Gen 88
DATE 8 Dec 1948
FILED BY D. J. Bradwood

Ex Gen 96



828 Rogers Building
VANCOUVER, B. C.

EXHIBIT No. Gen 96
DATE 31 Jan 1949
FILED BY R J McMaster

RURAL APPRAISALS AND FARM MANAGEMENT.
CORRELATED INFORMATION ON LAND AND LAND USE.

CLEMENT CONSULTING SERVICES LTD.

REGISTERED AGROLOGISTS

January 7, 1949.

REPORT

In accordance with instructions received from Messrs. Campbell, Brazier, Fisher & McMaster in the summer of 1948, we have conducted a survey of certain properties in the Fraser Valley. These properties are farm holdings appraised by the Soldier Settlement Board, formerly the property of Japanese persons. This report is based on certain documents supplied by Messrs. Campbell, Brazier, Fisher and McMaster which are purported to be photostatic copies of Soldier Settlement Board Farm Appraisal Reports on the said properties. We received a total of 351 of these photostats refering to properties in the Municipalities of Mission, Maple Ridge, Surrey, Matsqui and Pitt Meadows. We were instructed to examine and make a survey of these properties according to their description on the Soldier Settlement Board Reports with a view to determining their agricultural value of the respective dates on those reports.

The whole task has been difficult in that six years have gone by since the properties were appraised and considerable change has taken place in some of them. Amongst other things we noted are that some acreages shown on the Photostats as planted in small fruits or other crops are now being used for different purposes and different crops. A good many of the holdings have so changed that it is nearly impossible to recognise them from physical appearances and legal descriptions must be used. To the best of our knowledge we received all of the Appraisal Photostats which appeared to describe properties in use as agricultural units. In all cases we have relied upon the description of the properties in the Photostats as to their condition and the extent of cultivation on the day of appraisal by the Soldier Settlement Board. For the purpose of this survey we selected properties with respect to which we were able to obtain figures relating to production of small fruits in the years immediately preceeding 1942. From our examination of the Photostats, all of which we examined, we are satisfied that the properties dealt with herein fairly represent those holdings which were in 1942 operated primarily as small fruit farms or small mixed farms.

We have used two independent methods of arriving at the agricultural value of the holdings:

1. By direct appraisals made by F. M. Clement.
2. By application of the conclusions of statistical surveys on small fruit and poultry farms conducted by the University of British Columbia.

..... 2.

REFERENCES: THE ROYAL BANK OF CANADA. B. C. INSTITUTE OF AGROLOGISTS

529 Rogers Building
Bank of Nova Scotia Bldg.
VANCOUVER, B. C.

RURAL APPRAISALS AND FARM MANAGEMENT.
QUALIFIED INFORMATION ON LAND AND LAND USE.



CLEMENT CONSULTING SERVICES LTD.

REGISTERED AGROLOGISTS

January 7, 1949.

REPORT

In accordance with instructions received from Messrs. Campbell, Brazier, Fisher & McMaster in the summer of 1948, we have conducted a survey of certain properties in the Fraser Valley. These properties are farm holdings appraised by the Soldier Settlement Board, formerly the property of Japanese persons. This report is based on certain documents supplied by Messrs. Campbell, Brazier, Fisher and McMaster which are purported to be photostatic copies of Soldier Settlement Board Farm Appraisal Reports on the said properties. We received a total of 351 of these photostats refering to properties in the Municipalities of Mission, Maple Ridge, Surrey, Matsqui and Pitt Meadows. We were instructed to examine and make a survey of these properties according to their description on the Soldier Settlement Board Reports with a view to determining their agricultural value of the respective dates on those reports.

The whole task has been difficult in that six years have gone by since the properties were appraised and considerable change has taken place in some of them. Amongst other things we noted are that some acreages shown on the Photostats as planted in small fruits or other crops are now being used for different purposes and different crops. A good many of the holdings have so changed that it is nearly impossible to recognize them from physical appearances and legal descriptions must be used. To the best of our knowledge we received all of the Appraisal Photostats which appeared to describe properties in use as agricultural units. In all cases we have relied upon the description of the properties in the Photostats as to their condition and the extent of cultivation on the day of appraisal by the Soldier Settlement Board. For the purpose of this survey we selected properties with respect to which we were able to obtain figures relating to production of small fruits in the years immediately preceeding 1942. From our examination of the Photostats, all of which we examined, we are satisfied that the properties dealt with herein fairly represent those holdings which were in 1942 operated primarily as small fruit farms or small mixed farms.

We have used two independent methods of arriving at the agricultural value of the holdings:

1. By direct appraisals made by F. M. Clement.
2. By application of the conclusions of statistical surveys on small fruits and poultry farms conducted by the University of British Columbia.

.... 2.

In his direct appraisal Mr. F. M. Clement made use of and considered all readily available information. Each property listed in schedules to this report was carefully inspected and checked with the Soldier Settlement Board Farm Appraisal Report. In some cases soil borings were taken to examine soil conditions, buildings were checked for dimensions, surrounding property was viewed, water, electrical and road conditions were checked. Where two or three properties were close together tax ratings were compared and considered. Due allowance was made for cropping methods and existent plantings as shown on the Photostats.

The statistical calculations applied are those contained in two publications of the University of British Columbia, Exhibit 1, "An Economic Study of the Small Fruits Industry in British Columbia", and Exhibit 2, the summary sheet yields data on the relationship of capital investment and receipts for small fruit and mixed farms. It will be seen from the summary sheet that on 78 farms in the Fraser Valley an average investment of $5,650 exists on which an average return of $3,883 is received annually from the sale of small fruits. Other receipts "from other sources" bring the gross receipt to $5,044 on the average. Comparison of these figures shows that the relationship of Capital Investment to Small Fruits Receipts is as 1.4 is to 1 and that the relationship of Capital Investment to Gross Receipts is as 1.1 is to 1. In other words if the receipts on a small fruit farm are known the use of the proper conversion factor 1.1 or 1.4, whichever is applicable, will indicate the warranted capital investment from an agricultural point of view.

In some cases small fruits may be the only source of income on a property; the small fruit receipts then represent the gross income and the conversion factor 1.1 is applicable.

Exhibit #3, "Some Factors that Influence Poultry Farm Incomes" yields certain facts in connection with the operation of Poultry Farms. In Table IX on Page 15 appears the fact that an average investment of $2.05 is needed per bird for buildings. Note - Page 9, that "buildings" do not include the operators residence. Because of the somewhat inferior construction of the typical Japanese poultry house we have reduced this figure by approximately one-quarter to $1.55. The investment in dollars for housing poultry is therefore considered to be $1.55 multiplied by the number of birds that can be housed. We have used the well known rule that approximately four (4) square feet per bird is required for adequate housing facilities.

Where mixed usage of land occurs and we have been able to locate small fruit marketing figures we have determined the worth of a holding to be the small fruit receipts multiplied by 1.1 plus the worth of the poultry investment.

..... 3.

In determining the volume of production from the various properties we have used the following sources of information:

1. Mr. L. R. Wilson, Managing Director of the Fraser Valley Growers Ltd., Mission, B. C. Ledger records were made available indicating the dollar value of crop marketings through the organization for the years immediately preceeding 1942.

2. Mr. R. C. Lucas, Manager of the Pacific Co-Operative Union at Mission. Calculation figures were taken from the Share and Sinking Fund Register of P.C.U. contract members. This register contains records dating back to 1937 and yields figures which represent 3% of the gross dollar credit due each member for sinking fund and share issue purposes in each year. From this 3% figure a simple calculation yields the amount of money owing to the member for crop marketings.

3. The Custodian of Enemy Alien Property made available to us ledger records for 1939, 1940, and 1941 of the Maple Ridge Co-Operative Produce Exchange (Growers' Ledger Sheets.).

4. The "Growers' Statements" ledgers of the Surrey Berry Growers Co-Operative Association for 1939 and 1941 were made available by the Secretary of the Association. These ledgers contain records of purchases and sales by the various Japanese therein listed. The sheets of each member were carefully examined and the records of produce sales picked out. In one or two cases Japanese symbols and characters were uninterpretable. In no instance was there an entry of sufficient size to effect the figures obtained. Where the spelling of the members names in these ledgers did not correspond with the spelling on the appraisal photostats we excluded production figures appearing for them.

The calculation figures used were determined as follows:

1. From the Pacific Co-Operative Union, the average of the three years 1939, 1940 and 1941.

2. The Maple Ridge Growers Co-Operative, average taken for the three years 1939, 1940 and 1941.

3. From the Surrey Berry Growers Exchange the years 1939 and 1941 only were available. Reference to Exhibit 1, Table X (4), Page 20, indicates that the dollar value of crop marketings in the year 1939 was $873,081; 1940 was $744,246 and in 1941 was $930,099. We have estimated the production for 1940 as follows:

..... 4.

The total production of 1940 is determined to be 85.2% of 1939 and 80.0% of 1941. The known production figures for 1939 were reduced to 85.2% and the known production figures for 1941 were reduced to 80.0%. An average of the results of these last two calculations is estimated to be the production for 1940. Figures for the three years were then averaged.

We are indebted to Mr. R. D. Grant of the Soldier Settlement and Veterans Land Act Board for his kind assistance in helping us with the geographic location of some of the properties.

The tables attached hereto indicate our findings in each district.

MISSION MUNICIPALITY

There were fifteen properties in the Mission Municipality on which we were able to obtain production data. Of these T. Moriyama operated three pieces, K. Tatabe used two, and a father and son combination of S. & T. Sato marketed under the one name S. Sato.

With reference to Table 1. Columns numbered 9 and 10 indicate the calculated value from the application of the 1.4 and 1.1 factors. If we assume that the growers' sales through his Co-Operative were his total returns then we must accept the figures in Column 10. If we assume that Japanese growers sold as much other produce (i.e. not through the Co-Operative) as white farmser sold then the figures of Column 9 must be accepted as representing the agricultural value of the properties.

Column 9 is possibleya rather optimistic capitalized worth in that it is the highest value which could be assigned. On the other hand Column 10 represents a rather conservative valuation because it excludes the possibility of sales of other products.

Attention is called to the total of Column 4, the Direct Valuation and Column 10.

MAPLE RIDGE MUNICIPALITY

Marketing records were obtained for thirteen of the properties examined in Maple Ridge.

The holdings in this area were largely small fruit and poultry farms. Hogs and hops were also grown. Table No. 2 shows the adjustments made for special conditions on certain properties.

In calculating the capitalized value we have used the 1.1 factor where no products other than small fruits appear to have been marketed, and the 1.4 factor where from the appraisal photostat there was reason to believe that a volume of other products were sold. In these samples the Calculated Value, Column 8, is slightly under the Direct Valuation, Column 3.

..... 5.

my valuations - a bit low since I had overlooked influence of artesian wells.

SURREY MUNICIPALITY

Of the properties examined in this area we were able to obtain figures relating to production on ten of the properties.

Table No. 3 summarizes the findings in this municipality. The conversion factor 1.1 was used except in two cases. The ledgers indicated that H. Tsukishima (574-P) and G. Ikeda (526-P) both sold an appreciable quantity of vegetables and therefore the 1.4 factor was applied. Due allowance for poultry investments was made to S. Yasui (573-P) and S. Sano (470-P).

Column 8, the calculated value, represents a rather optimistic valuation in view of the conditions described in the Photostats on the day of appraisal.

MATSQUI MUNICIPALITY

Of the properties examined in this area we were able to obtain figures relating to production on five only in the ledger of the Pacific Co-Operative Union at Mission. One owner G. Noda (384-P) operated two of the holdings.

In the total group of farms examined there was no indication of any vegetable growing and on only one holding did we see a chicken house, that for only sixty birds. We therefore classed this group as "small fruit farms" and with respect to the sample, assume that the receipts from berry marketing at the P.C.U. represented the total return of monies to the producer. The 1.1 factor was therefore applied.

Table No. 4 summarizes our findings in this municipality.

PITT MEADOWS MUNICIPALITY

In Pitt Meadows we had considerable difficulty in physically locating some of the properties. We were able to identify production figures with properties in only three cases and in two of these small fruit production was carried on in connection with greenhouse operation. Statistical information on capitalized values is to our knowledge not available in relation to greenhouses.

GENERAL

Direct valuations were made on a number of other sample properties with respect to which inadequate or no production figures were obtained. These are set forth in Table No. 6.

With respect to the Farm Appraisal Report Photostats --

1. In very few cases was there any allowance made for trees, bushes or bearing plants. An acre of land has an agricultural value itself, but it is worth considerable more when it is planted to a producing crop. We have

..... 6.

tried to make allowance for the worth of plantings in the condition described on the Photostats.

2. A very striking feature of the Photostats was their consistency within any given area. In the Mission area, for example, cleared land was for the most part assigned a value of $60.00 per acre and varied from that figure with differences in quality, condition, etc.

The same general condition of consistency prevails in the Surrey Municipality where values of $50.00 to $70.00 were assigned per acre cleared with variations for quality and conditions.

In the Maple Ridge District values of $90.00 and $100.00 per acre cleared were assigned in the same consistent manner.

CONCLUSION

We consider from our survey outlined above that the sampling which we have taken represents a fair sampling of the small fruit and mixed farm units formerly the property of Japanese persons and appraised by the Soldier Settlement Board in 1942. We conclude on the basis thereof that the agricultural value of these properties at the time of appraisal by the Soldier Settlement Board lies between 182% and 184% of the value placed thereon. (Table 5).

With reference to Table 6 in which are listed the direct appraisals (properties on which we were unable to locate production figures). The agricultural value of these parcels exceeds the Soldier Settlement Board Appraisers value by 179.6% which is within approximately 3½% of the values obtained by the application of statistics and direct examination.

production value.

TABLE 1 -- MISSION MUNICIPALITY

NAME	1 NO.	2 ACRES	3 BOARD VALUE	4 CLEMENT DIRECT VALUE	5 6 7 GROSS PRODUCTION FROM CO-OP FIGURES 1939 1940 1941	8 $ AVERAGE 3 YEARS	9 VALUE ON PRODUCTION 1.4	10 VALUE ON SMALL FRUITS 1.1	
S. Sato	324P	4	130	400	1138 1447 1569	1385	1939	1524	* 1
T. Sato	281P	9.7	715	1800	— — —	—	—	—	
T. Moriyama	737P	6.12	890	2450	1371 1010 5887	2729	3820	3002	* 2
" "	737P	1.37	79	—	— — —	—	—	—	
" "	257P	7.5	500	—	— — —	—	—	—	
K. Ogawa	263P	10	970	1600	899 1927 3402	2076	2906	2284	
K. Tatabe	296P	8.5	760	1600)	3078 1755 5078	3303	4624	3633	* 3
" "	295P	10	1100	2650)					
K. Hayashi	232P	18.85	977	1000	229 178 1062	490	686	539	
K. Tsuji	674P	5.25	800	1800	608 346 655	536	750	590	
G. Hayashi	231P	10	550	1250	534 224 723	500	700	550	
Y Ito	315P	7.75	850	1350	1064 707 1553	1041	1457	1145	
S. Onizaki	272P	5	328	950	163 68 179	136	190	150	* 4
K. Oda	264P	10.5	1265	2000	1798 1248 2832	1958	2742	2153	
S. Fukawa	226P	9.27	1158	1800	1168. 1424. 2880.	1737	2432	1910	
			11072	20650			22246	17480	

* 1 Father and son combination marketing as S. Sato.
* 2 Operated three tracts of land, only one set of buildings, 40 fruit trees allowed $40.00.
* 3 Chicken houses used for rhubarb forcing.
* 4 Fruit trees allowed $5.00.

MAPLE RIDGE

NAME	1 P. NO.	2 BOARD VALUE	3 CLEMENT VALUE	4 CO-OP NO.	5 AVERAGE PRODUCTION	6 VALUE ON PRODUCTION	7 POULTRY INVESTMENT	8 TOTAL CALCULATED
G. Utsunomiya	194	$ 1,750.25	$ 2,400.00	91	$ 408.65	$ 449.51	$ 1,395.00	$ 1,844.51
S. Koga	62	1,516.80	2,600.00	58	1,732.03	2,424.84	---	2,424.84
Y. Yoshida	213	1,681.40	3,150.00	67	597.03	656.73	1,400.00	2,056.73
T. Koga	63	1,434.85	3,200.00	179	633.05	886.27	---	886.27
S. Kawamoto	58	1,770.85	2,650.00	61	891.23	980.35	500.00	1,980.35 [1]
R. Yongeyama	210	1,420.40	2,250.00	78	1,024.68	1,127.15	1,860.00	2,987.15
M. & Y. Tamura	175	2,130.60	3,900.00	57	259.72	285.69	2,200.00	3,335.69 [2]
M. Odamura	115	2,955.00	5,650.00	115	2,642.53	2,906.78	2,500.00	5,906.78 [3]
S. Shimoji	151	918.00	1,570.00	84	630.14	693.15	540.00	1,233.15
T. Matsuoka	78	1,445.50	2,500.00	54	291.75	320.92	670.00	990.92
Y. Isoshima	46	2,269.70	3,700.00	141	1,674.82	1,842.30	1,780.00	3,622.30
S. Mochizuki	91	2,074.60	4,550.00	106	2,268.70	2,495.57	1,000.00	3,495.57
K. Mukaida	96	2,796.15	5,500.00	131	3,048.28	4,267.59	---	5,517.59 [4]
		$24,162.10	$43,620.00			$19,336.85	$13,845.00	$36,281.85

1 Peas and Hops not through Co-Op. but included in Totals calculations.
2 Piggeries to handle 100 hogs allowed $850.00. do do
3 Better than average house allowed $500.00 do do
4 Very fine house allowed $1,250.00 do. do.

TABLE 3

S U R R E Y

NAME	P NO.	A/C NO.	PRODUCTION 1939	1940	1941	3 YEAR AVERAGE	CALC. VALUE	VEG. 1941	POULTRY	CALC. TOTAL	CLEMENT VALUE	BOARD VALUE
S. Shimoto	568	3	2,397.50	2,289.36	3,170.06	2,618.97	2,880.87	--	--	2,880.87	2,100	1,064
H. Tsukishima	574	27	2,634.14	2,291.79	2,924.11	2,616.68	3,663.35	423.70	--	3,663.35	1,550	816
S. Yasui	573	46	874.62	850.07	1,193.71	972.80	1,070.08	--	1,240.00	2,310.08	2,400	691
J. Nakamura	743	5	1,377.10	1,537.95	2,378.27	1,764.44	1,940.88	--	--	1,940.88	800	505 *
S. Shigehiro	567	4	2,712.72	3,084.02	4,821.02	3,539.25	3,893.17	--	--	3,893.17	2,200	1,115
G. Ikeda	526	20	1,232.49	1,382.62	2,143.95	1,586.35	2,220.89	234.41	--	2,220.89	1,100	308
T. Fukushima	450	43	2,437.84	2,663.74	4,063.05	3,054.88	3,360.37	--	--	3,360.37	1,750	1,113
S. Sano	470	52	506.04	408.64	482.71	465.80	512.38	--	1782.50	2,294.88	2,650	1,618
S. Kado	535	24	3,096.57	2,723.03	3,509.74	3,109.78	3,420.76	--	--	3,420.76	2,200	1,102
M. Takahashi	570	35	1,870.24	1,524.79	1,820.19	1,738.41	1,912.25	--	--	1,912.25	1,200	566
			19,139.26	18,756.01	26,506.81					27,897.50	17,950	8,898

* Two properties

M A T S Q U I

	1	2	3	4			5	6
NAME	NO.	BOARD. VALUATION	CLEMENT DIRECT VALUATION	CO-OP PRODUCTION FIGURES 1939	1940	1941	AVERAGE -	CALCULATED VALUE 1.1
K. Yasumatsu	409-P	$ 2,453.00	$ 4,063.00	4,308	1,581	7,222	4,370	$ 4,807.00
K. Sugiyama	396-P	1,849.00	3,594.00	2,850	1,132	5,839	3,274	3,601.40
G. Fujikawa	359-P	980.00	1,350.00	915	1,007	2,329	1,417	1,618.70 *
S. Kodama	371-P	2,114.00	3,500.00	1,562	1,273	2,937	1,924	2,116.40
S. Yanoshita	408-P	470.00	970.00	526	242	1,693	820	902.00
		$ 7,866.00	$13,477.00					$13,045.50

* $60.00 allowed for chicken investment.

TABLE 5

RECAPITULATION

MUNICIPALITY	NUMBER OF PROPERTIES	BOARD VALUE	CLEMENT DIRECT	CLEMENT CALCULATED
Mission	12	$11,072.00	$20,650.00	$17,480.00
Maple Ridge	13	24,162.00	43,620.00	36,281.85
Surrey	10	8,898.00	17,950.00	27,897.50
Matsqui	5	7,866.00	13,477.00	13,045.00
TOTALS	40	$51,998.00	$95,697.00	$94,704.35

TABLE 6

SCHEDULE OF DIRECT VALUES

NAME	P. NUMBER	BOARD VALUE	CLEMENT VALUE
MISSION			
U. Nakashima	321-P	$ 2,100.00	$ 3,830.00
MAPLE RIDGE			
Y. Fuji	9	1,218.50	2,400.00
C. Katsumo	55	1,870.40	3,200.00
Y. Horiuchi	34	878.65	1,650.00
K. Oike	121	3,454.00	5,500.00
J. Tamura	174	2,161.50	3,750.00
K. Ryoji	138	1,405.00	2,600.00
S. Oka	122	1,300.00	2,500.00
T. & M. Oka	123	1,900.00	3,750.00
M. Yoshida	212	2,765.00	4,220.00
M. & F. Moriwaka	93	1,577.50	2,600.00
H. & D. Kajuira	51	1,660.55	2,950.00
Y. Ohta	120	1,050.00	2,700.00
T. Yakashiro	199	1,514.15	3,050.00
SURREY			
K. Shinohara	569-P	1,588.00	2,550.00
M. Yamashita	576-P	1,617.00	3,000.00
MATSQUI			
K. Nishimoto	383-P	2,942.70	5,800.00
M. Haraga	361-P	1,246.60	1,900.00
Y. Kawana	369-P	2,094.80	3,180.00
M. Matsumoto	736-P	340.75	710.00
S. Katsura	368-P	1,251.03	3,050.00
S. Inouye	366-P	840.50	1,540.00
G. Noda	384-P	1,267.10	2,575.00
PITT MEADOWS			
S. Saito	508-P	775.00	1,700.00
S. &. T. Saito	507-P	1,163.00	2,375.00
K. Yamada	512-P	3,001.00	4,191.80
K. Osaki	439-P	852.00	1,700.00
S. Suski	425-P	1,238.00	1,965.00
		$45,072.73	$80,936.80

EXHIBIT 1.

AN ECONOMIC STUDY OF THE SMALL FRUITS INDUSTRY IN BRITISH COLUMBIA

-by-

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VANCOUVER, B.C.
May 30, 1947.

Made possible by funds from Safeway Stores Ltd.,
Empress Manufacturing Co., Vancouver, B.C.,
and Fraser Valley Growers of Mission, B.C.

AN ECONOMIC STUDY OF THE SMALL FRUITS INDUSTRY IN BRITISH COLUMBIA

Introduction

The purpose of this project, as outlined at its initiation in June, 1946, was to study the economics of Small Fruits production and marketing in the Province of British Columbia.

The term "Small Fruits" includes strawberries, raspberries, loganberries, boysenberries, blackberries and currants, etc. In addition, farms with plantings of rhubarb, grapes and asparagus were included in this study. Although many types of plants are represented, all are crops which tend to have somewhat similar climatic requirements, and all require large amounts of hand labour per acre. For these reasons, these crops are found in the same general districts and on the same type of farm, and, therefore, it has become customary to consider them under the inclusive heading of "Small Fruits" or "Berry Crops".

The areas studied were the principal berry-producing sections of the Province of British Columbia; namely, the Lower Fraser Valley, from Rosedale to the Delta, and the Saanich Peninsula of Vancouver Island.

The initial problem was to decide which sections of the general area studied produced most of the Small Fruits crop. Paralleling this question was that of explaining the shifts in production from one part of the Valley to another.

The next step was to secure a number of farm business records, from growers who were producing Small Fruits throughout the Fraser Valley and on Vancouver Island. Farm records supply data on returns per acre, costs per acre, and incomes to the grower. Such figures enable one to state, in terms of the general average, the economic conditions under which the berry farmer works, and to examine quantitatively the varying efficiencies of different farms.

The number of farm records taken in each section was in approximate proportion to the importance of that section as measured by its share of the total production.

The method of collecting data was to visit the growers, solicit their interest and co-operation in the study, and obtain detailed information on the farm business for the calendar year of 1945. The questionnaire used in these interviews provided for detailed records of production, cash receipts, expenses, inventory and inventory changes. Seventy-eight usable records were obtained.

The Areas Studied - The Fraser Valley and Southern Vancouver Island

The Lower Fraser Valley is that land area situated on either side of the Fraser River, north of the forty-ninth parallel of latitude and south of the Coast range of mountains, running from the Straits of Georgia, east to the Cascade range of mountains, a distance of slightly under one hundred miles. This area takes in a total of 545,000 acres, of which about 58 per cent is arable (1).

The climate is mild, the average temperature, in the month of January being thirty-six degrees Fahrenheit, and in July, sixty-three degrees Fahrenheit, the coldest and the hottest months, respectively. The rainfall is heaviest during the winter and averages from forty to seventy inches annually, depending on the locality.

The Saanich Peninsula, which is the principal berry-producing area on Vancouver Island, has a somewhat warmer and drier climate.

Both of these areas are possessed of a climate which is unique in Canada with respect to year-round warm temperatures. Crops may be grown here that cannot survive the winters elsewhere. The amount of agricultural land in Canada with such a favourable climate is distinctly limited. For this reason, most of the arable land in these areas is used in either of two ways. The land is used to raise products for local consumption in the coast cities, products which are highly perishable or products which are too bulky in relation to their value to absorb the costs of long-haul transportation; or the land is used to raise those products which cannot be grown easily in the other colder parts of Canada. Fluid milk and Small Fruits are, respectively, examples of these two kinds of product. This results in a considerable degree of competition between crops for the use of the land, and between produce for the local supply trade and produce for shipment out of the area. Consequently, an intensive form of agriculture has developed, and land values are high. The farms are generally relatively small in acreage and the farmer must stand ready to apply large proportions of labour and capital to the scarce factor, which is land.

Berry production enjoys a high priority for the use of the arable land in the Fraser Valley and the Saanich Peninsula. Small Fruits return a large sum of money, per acre, to the grower, and in this way provide a means of utilizing the climatic factor. This climate is a natural resource of limited abundance, and so products dependent upon this factor may be expected to command a high price in the market, over a period of years. It is felt that the fact should be emphasized that this kind of agriculture involving high-priced and very scarce land, is unusual in

Canada. In Canada, generally, land is the relatively plentiful factor in (agricultural) production, while labour and (to a lesser extent) capital are the scarce factors.

The Agricultural Economic Ecology within these Areas

Small Fruits enjoy a high priority for the use of the land in the Fraser Valley and the Saanich Peninsula, because they provide one of the best means of maximizing the farmer's monetary returns from his land. When Small Fruits are introduced into the cropping programme of a farm, they have the tendency to drive the other crops and livestock-raising projects off that farm. This comes about because a relatively small acreage in berries is capable of providing a farmer with an adequate income. The study of the seventy-eight farm records indicated that in 1945 the average gross returns from one acre of Small Fruits was over $1200.00, while about one-quarter of this was nett.

At the same time, the Small Fruits project on any farm will have a parallel tendency to absorb all of the available labour and capital. Thus the grower may find himself with an adequate income, with employment for all his labour force and for all his capital resources, but with an excess of land. This land, capable of producing a crop yielding a nett revenue of about $300.00 per acre, is valuable, and so finds a ready sale at a good price. When the land is sold, the transition from a large-acreage diversified farm to a small-acreage specialized berry farm is complete.

In this way, in response to the economic forces which are at work, large farms are being broken up into small holdings. This economic pressure is strongest at times like the present, when the demand for berries is great, and the price is high. It should also be noted that, as the larger farms are subdivided, each holding must be farmed intensively if it is to yield its owner a satisfactory income. In this way, Small Fruits not only drive other crops off the individual farm, but out of the district.

Economic Pressures and Soil Fertility Requirements

Such a trend would appear to be desirable in that it would ultimately lead to the most complete utilization of the land and climatic resources of these areas. However, it was observed that the final result of this trend towards more intensive land use through specialized berry production was often the development of numerous uneconomically small holdings. Some farms comprising only one or two acres, all planted to berries, were encountered. Such

enterprises can have no organized crop rotation programme, because the farmer with such a small total amount of land cannot afford to take some of it out of cash crops and seed it down to soil-improving crops. This situation is aggravated by the fact that livestock-raising is probably the first farm enterprise to be ousted by more intensive cropping practices, and so in many areas of the Fraser Valley there is practically no soil-fibre-supplying manure available for the land.

In time, such practices would seem to lead to a wearing out of the soils for berry-growing purposes. It was noted that, in the Saanich area, especially, many of the farmers stated that "new land" would have to be broken if production were to be sustained.

Over a period of years, the centres of production have shifted. For example, production on Vancouver Island has declined, while production on the Lower Mainland has increased. Within the Fraser Valley itself, the centres of production have moved from the western end to the middle and to the eastern end, and from the north side of the Fraser River to the south side. It may be that this has been caused by a wearing out of the soils in the older areas. When an entire area is broken up into uneconomically small units, it would be very difficult for the farms to be consolidated into larger, more economic units again.

It is felt that study should be devoted to the organization of Small Fruits farms on a sufficiently large scale to permit the culture of soil improvement crops and at the same time to provide sufficient acreage for enough cash crops to give the operator an adequate income. A more permanent type of farm organization would benefit the grower, for worn-out farms result in financial losses to individual owners.

This does not mean that self-sufficient farming is being recommended for the Fraser Valley or for the Saanich Peninsula, but rather that provision be made for sustained soil productivity, within the framework of specialized farming.

The Varieties of Small Fruits Grown - an Appraisal of Their Economic Possibilities

Strawberries:

Almost all of the strawberry growers who were interviewed during the survey, both in the Fraser Valley and on Vancouver Island, were growing the variety British Sovereign. This variety was generally reported to be satisfactory with regard to yield and quality, in the areas studied. The method of culture used, is the so-called

"hill system" with plants set 15" to 18" in the rows, with the rows generally 36" - 42" apart, or far enough apart to permit the use of a one-horse cultivator. The variety British Sovereign is well suited to this technique, while it is too vigorous for growing in "matted rows". (If left uncultivated, as in matted rows, it is said to grow very rankly.)

The only section of the areas studied where matted row culture was practised was Lulu Island, and here, apparently, the practice of setting plants individually in the "hill system" is superseding it. During the first year of growth, when the plants are grown in hills the runners must be removed. This is normally done by hand and is a tedious and expensive job. One grower interviewed, stated that he was going to experiment with discing attachments on his tractor for this operation. If such a technique is successful, production costs would presumably be lowered.

Mulching the berries with straw is practised almost universally on Vancouver Island farms but not in the Fraser Valley. This is probably explained by the fact that the Island growers concentrate to a greater extent on the fresh fruit market, and to the fact that due to drier conditions, they must use some such means as mulching to help conserve moisture. (At the same time, straw is more difficult to obtain on the mainland.)

The British Sovereign berry is subject to "red Stele" disease. This is a disease of the vascular tissues which can destroy the entire plant. Plant Pathologists feel that "red Stele" may be a serious menace to the industry, having the potentialities of wiping out large acreages. This disease is being fought in two ways. A plan involving a programme of certified stock production and inspection is underway, under the auspices of the Dominion and Provincial Departments of Agriculture. At the same time a long-range scheme of breeding strawberries for resistance to this disease is also being carried on.

Raspberries:

In the raspberry industry the situation is different. Here the market is dominated by the variety Newberg. Newberg is a hardy, vigorous, high-yielding raspberry which has not yet shown appreciable signs of disease or running out. Unfortunately the Newberg variety is not of high quality. It is sour and watery and the seeds are large and white in colour, making it relatively undesirable for either the fresh fruit market or for manufacturing purposes. It is probable that Newberg enjoys its popularity because of the large overseas demand for fruit products caused by war conditions.

Most of the preferred old raspberry varieties are now out of the picture. The Washington variety has been introduced from the United States; it is a sweet-flavoured variety of generally high quality but it does not seem to thrive on many of the Fraser Valley soils, having a tendency to die out in about one year's time.

Most of the new plantings of raspberries are Newbergs, so that an increased production of this variety can safely be anticipated. In this may lie a certain hazard to the industry. Strawberries are more readily saleable in Canada than are raspberries, and at times, buyers (for manufacturing purposes) have been put on a quota basis. This means that in order to procure a certain tonnage of strawberries, the purchaser must agree to take during the same calendar year, in the raspberry season, a certain tonnage of raspberries, proportionate to the amount of strawberries purchased earlier. If British Columbia strawberry production should decline, due to disease conditions, and the production of (poor quality) raspberries should increase, the sales prospects for the raspberry crop on what may become a buyers' market, might not be favourable.

Soil Conditions, Crop Rotations and Fertilizer Practices Observed

It was observed that the growers were abundantly supplied with information on fertilizers through the offices of the District Horticulturists and the Co-operatives. Almost all of the farmers visited applied commercial fertilizers to the berry land annually. Those growers who kept some livestock on their farms, generally used the manure on the fruit land, but very little manure was purchased, due to its scarcity. Undoubtedly much more manure would be spread on the land if it were available.

The crop rotation situation, by virtue of the fact that it is spread over a period of years is not easy to evaluate on a one-call survey. However, it was possible to make a few general observations. Apparently, many of the farms had no organized rotations; some were very small and all of the land, except the area on which the house and sheds stood, was planted to berries. In such cases, no crop rotation could be introduced without reducing the gross revenues of the farm. Others, however, especially those on certain upland soils had some unused or pastured lands, which had not yet been developed for berry growing. These acreages were being held in reserve for future planting, at which time the present berry patches could be seeded to soil-building crops.

On Vancouver Island, many growers expressed the opinion that the soils were wearing out for strawberry production, and that higher or sustained yields could only be secured

on new land. On the Island, June bug infestation was severe and apparently a certain contraction of the industry had been forced by this pest.

A REPORT ON THE FARM BUSINESS SURVEY OF 78 FARMS PRODUCING SMALL FRUITS IN THE FRASER VALLEY AND ON VANCOUVER ISLAND

Although the geographic and climatic background, the state of the soils and the regional comparative advantage of the area cannot be neglected in any study of an agricultural industry, it is felt that a detailed examination of farm incomes and costs is essential to an understanding of the overall production picture. For this reason, a detailed study was made of the economics of Small Fruits farming.

Methods of Collecting Data:

The method of collecting data was to visit each of the co-operating growers and obtain information regarding the farm business for the year 1945. It was necessary to secure details of one complete year's expenses and receipts in order to have a true picture; and, therefore, the operations for the past, rather than the current year, were studied. These interviews provided for a detailed record of production, income, inventory changes and expenditures. The berry-growers contacted co-operated wholeheartedly in making all the details of their businesses available to the University's representative.

Accounting Techniques and Methods of Analysis Used

A study of the records taken showed that the seventy-eight farms included in the study may be divided into two main types: specialized berry farms and diversified farms producing some berries. The more highly specialized group was made up of forty-nine farms all of which received more than 80 per cent of their gross cash receipts from the sale of Small Fruits, and which, on the average, derived 96 per cent of their income from this source.

For the purpose of computing the cost of the fruit produced on these farms, it was assumed that the products other than fruit were sold at cost. When calculated in this way, the cost of the fruit is influenced to some extent by the price and the cost of the other products of the farm. However, since such a small percentage of the income was from other sources, it was considered justifiable to regard Small Fruits as the item on which all costs and profits could be calculated (3).

The remaining twenty-nine farms, because of their greater diversification, were treated on a commodity basis. The cost of fruit was computed by adding together

the proportions of the various cost items which were chargeable to the berry enterprise.

Returns are expressed as Labour Income. This term is used to denote the amount left after all costs, including interest on the investment, depreciation of capital goods and unpaid family labour, but not including the labour of the operator, are deducted from the gross receipts. The cost per pound was calculated on a basis of all Small Fruits produced. Labour income represents the return which the farmer receives for his year's work, in the capacity of worker "and/or" manager, but does not include the money which accrues to the owner of the land equipment (usually the farmer himself).

Farm Incomes and Farm Costs in the Small Fruits Industry

Some of the results may be presented by first describing the average berry farm or Small Fruits enterprise in terms of total returns, costs, income secured, and size.

TABLE I.

Average Returns, Costs and Labour Income from Small Fruits for the 78 Farms Studied.

Total revenue per acre of Small Fruits	$1201.00
Total costs " " " " "	901.00
Labour Income " " " " "	300.00
Average Acreage in Small Fruits	4.18 acres
Average Labour Income	$1256.00

Production per farm averaged 22,781 pounds of Small Fruits of all kinds, and hence the farmer's nett income or profit, when all expenses direct and indirect, actual or imputed, were paid, was on the average 5-3/10 cents per pound.

TABLE II.

The Average Size of the Small Fruits Enterprises on the 78 Farms Studied

Total Capital invested per farm	$5,650.00
Total Capital in land per farm	4,370.00
Total Capital not in land per farm ...	1,280.00
Percentage of Capital not in land per farm	24.7%
Acreage of Small Fruits per farm	4.18 acres
Of these 4.18 acres, 0.6 acre was new planting, not producing a crop in 1945.	

At this point, it may be pointed out that the proprietor of a farm has sources of money from his farm business, in addition to the labour income, for limited periods of time. This means that the labour income may be negative, and yet a farmer can survive and his farm continue to produce. These sources of revenue, over and above the labour income figure, on which the individual farm operator may live, are the interest which is received on the capital investment of the farm, the labour charge (not paid out in cash) for work done on the farm by members of the farmer's own family, and finally the depreciation fund itself. Thus, farmers with low labour incomes are, in fact, living on the interest of their capital, exploiting their families or using up and wearing out the substance of their farms.

Different Types of Farm Organization Observed in the Sample

Very Small Enterprises (less than three acres in Small Fruits

Excluding, for the time being, six farms which were just being started, and which had not reached full production in 1945, it is found that the least successful group of Small Fruits enterprises, from the point of view of labour income, were those on diversified farms receiving less than 40 per cent of their income from berry crops. There were thirteen in this category and each had an average labour income of $123.00. Half of the thirteen sustained losses. The average acreage of these berry plantings was 1.82 acres.

This group of thirteen farms had an average labour income of $529.00 from all sources. Apparently the operators merely got a bare subsistence out of their farms for the year 1945.

There were also thirteen small acreage enterprises which received over 80 per cent of the total receipts from Small Fruits sales. These had an average labour income of $212.00, while the average acreage was 1.23 acres. The highest labour income for this group was $896.00, but the low average would seem to indicate that small plantings are not a very sure source of a good labour income. The growers on this type of farm have no other source of farm revenue as do the small acreage growers with mixed farms referred to above. In many cases, the farm revenues must have been insufficient to provide financial support for the year, and, with this thought in mind, certain general observations were made in the field on the subject of sources of outside income. Although no quantitative data are available, it is believed by people associated with the industry that the farmers on these very small holdings support themselves by money derived from "casual labour" off the farms during the off-season. This "casual labour" may range all the way from practising some trade, such as carpentering or truck driving which probably yields a fair income, to working spasmodically on neighbouring farms. Not many have steady jobs. Hop yards in the Sardis area play an important part in providing a source of revenue for small berry-growers, and may in part even carry their production in an economic sense. These growers are looking forward to expanding farm activity and, consequently, to less work off the farms. Their desire is to become full-time farmers.

There are also a certain number of retired people on these small holdings, living off invested incomes. At the same time, it is felt that a number of the growers on these small specialized berry farms do not succeed in augmenting their farm incomes sufficiently, and consequently are forced to accept a relatively low standard of living.

Average-sized Fruit Plantings (3-7 acres)

Of the seventy-eight farm records studied, twenty were specialized farms with over 80 per cent receipts from Small Fruits sales and with from three to seven acres in Small Fruits crops. These twenty farms averaged labour incomes of $1,841.00, and not one of them had a negative labour income figure. These farms also seemed to represent the most intensive type of land use of all the enterprises studied. The average labour income per acre was much greater than in any other group.

Similar sized Small Fruits plantations (average acreage 3.71 acres), on diversified farms with between 40 and 80 per cent of the total receipts from Small Fruits sales, had somewhat smaller labour incomes on the average. The average labour income for the sixteen berry enterprises in this classification was $991.00. From Table III it will be noted that associated with this lower labour income

TABLE III

Labour Income Per Acre by Groups

Gross Returns per Acre	No. of Farms	Average Acreage	% Receipts from Berries	Labour Income from Berries	Gross Costs per Acre	Labour Income per Acre
$1134.00	19	1.5	Over 80%	$212.00	$859.00	$267.00
1009.00	13	1.8	Under 40%	123.00	908.00	101.00
1387.00	16	3.7	40 - 80%	991.00	1073.00	293.00
1380.00	20	4.0	Over 80%	1841.00	921.00	460.00
1001.00	10	13.6	Over 80%	3988.00	707.00	271.00

there are slightly smaller acreages but higher costs per acre. It should be noted that the total labour incomes on these sixteen farms averaged $846.00 from all sources, or $75.00 less than the amount earned in the Small Fruits enterprise alone. This means that the farmer's income was earned by producing Small Fruits, and that the berries were carrying these farms financially. It would seem, therefore, that the other enterprises on these farms were absorbing "inputs" of labour, land, and capital, but were not producing revenue at as great a rate as were the berries. At the same time, this drain on the resources of the farmer was associated with a lower financial productivity in Small Fruits growing than on the similar-sized specialized berry farms. It will be noted that these sixteen farms netted practically the same gross returns per acre as did the twenty specialized farms with similar acreages of Small Fruits. However, the average gross cost per acre was over $150.00 on the diversified farms, which explains the difference in the incomes. This may be associated with a greater degree of mechanization on the specialized farms. The following table indicates the relative amounts of equipment, expressed in terms of percentage of capital invested in buildings and equipment, on the different types of farm.

TABLE IV.

Showing Percentage of Total Capital not in Land

No. of Farms	Average Acreage	Percentage Receipts from Berries	Percentage Capital not in Land
19	1.5	Over 80	22.5
13	1.8	Under 40	14.2
16	3.7	40-80	19.9
20	4.0	Over 80	28.2
10	13.6	Over 80	46.2

Most of the growers on diversified farms with over three acres of Small Fruits, when interviewed, indicated that their future programme called for a greater degree of specialization in Small Fruits production. This would seem to add emphasis to the cost and profit picture, obtained from their farm records.

Larger than Average-sized Small Fruits Farms

The remaining ten farms were all highly specialized in the Small Fruits business (over 80 per cent of the total receipts from the sale of Small Fruits products) and were of greater-than-average size. They averaged 13.63 acres

in berries and a total capital investment of $14,958.00.

This group of farms had an average labour income of $3,988.00, but the range was from minus $256.00 to plus $18,689.00. This is a higher degree of variation than was found in any of the other groups, especially as there is a smaller number of farms in this group. However, a wide range of income among larger producers is often found in Farm Management studies and it is attributed to the fact that large size and skillful management produce large-scale positive returns while large size and unskillful management produce negative returns on a similar scale. That is to say, generally large size has a tendency to amplify the direction in which the managerial policies lead the business.

Size as Related to Income

From the above discussion, it may be noted that specialized berry farms with more than three acres in Small Fruits appear to be more successful than those with less than three acres, from the point of view of total incomes earned by their operators. At first this might seem to be a more or less self-evident fact, that the greater the volume of production, the greater will be the profit. However, failure as indicated by a negative income occurred in 50 per cent of the enterprises (with over 80 per cent receipts from berry sales) having less than three acres in Small Fruits, while only one specialized farm with more than three acres had a negative labour income.

Size as Related to Efficiency in the Use of Land

The figures (Table III) on labour income per acre indicate a much greater degree of efficiency in the use of land on specialized farms with more than three acres than on the smaller scale enterprises. From this, the inference may be drawn that very small projects do not lend themselves to as efficient a programme of production as do the larger ones. The critical size would seem to be around three acres.

The same applies to the berry plantings on diversified farms. Where the plantation is very small, its total success and its efficiency are both low, while a larger scale project is apparently a better paying unit. The land is utilized in a more efficient manner.

In the case of the larger than average sized plantings there is again a falling off in the labour income per acre. It will be noted from Table III that these large farms achieve the lowest costs per acre and at the same time have the highest percentage of capital not in land (Table IV.). The proportion of capital equipment (that is, buildings and machinery) to land is high. While the returns per acre and labour income per acre decline as

the size increases, the larger volume of business more than compensates for this reduction in the efficiency in the use of land. The larger farmers use more land and do not depend upon as great a margin per unit.

Efficiency as Related to Specialization

The sixty-eight farms with less than seven acres in Small Fruits may be divided into two groups, on a basis of acreage. Each of these size groups may then be re-divided into two sub-groups, on a basis of percentage receipts from berries. Thus there are two sets of comparable groups of farm, specialized and diversified. This is shown in Table V.

TABLE V.

Comparing the Efficiencies of Specialized and Diversified Farms of Similar Size

Receipts from Berries Per cent	Labour Income per Acre of Berries	Average Acreage in Berries	Number of Farms
Under 40%	$101.00	1.8 acres	13
Over 80%	$267.00	1.5 acres	19
40% - 80%	$293.00	3.7 acres	16
Over 80%	$460.00	4.0 acres	20

From Table V. it may be noted that the more efficient farms, measuring efficiency by the Labour Income from one acre of Small Fruits, were the specialized farms. This appears to hold true for both the small and the large scale enterprises.

The larger than average-sized enterprises are not included in Table V. for all these were highly specialized, and so there was no basis for comparison.

Production by Size Groups

From the above table, it may be noted that 42 per cent of the farms studied had less than three acres of Small Fruits, and they produced only 13 per cent of the total tonnage. At the same time, the ten farms of over average size, making 12 per cent of the total number, produced

39 per cent of all the fruit. This means that the small farms, although they are very numerous, do not produce a proportionate amount of the Small Fruits crop.

At this point, the question arises as to whether the sample of 78 farms studied is representative with respect to size of farm, or whether it is weighted in favour of the larger enterprises. That is, does the proposition that two-thirds of the entire berry crop is produced by one-third of the farmers hold true for the entire industry, or does it apply merely to the seventy-eight farms studied?

In order to verify this question, a study was made of the volume of the shipments by individual growers to one of the organizations handling Small Fruits in the Fraser Valley. This organization handles fruit from all sections of the Fraser Valley. It has about 40 per cent of all the growers as members, and it handles about 30 per cent of the total tonnage produced in the Fraser Valley. Thus this group of growers is not recruited from those with larger than average-sized farms. It may also be stated that the officials of this organization believe that the members ship through them exclusively, and this was verified by field observations.

TABLE VI

Production by Size Groups

No. of farms	Average Acreage	Percentage Receipts from Berries	Production per Farm (lb.)	Percentage of Total Tonnage	Percentage of Total No. Farms	Percentage of Tonnage Cumulative	Percentage of Farms Cumulative
13	1.8	Under 40%	7,605	6%	17%	6%	17%
19	1.5	Over 80	6,198	7	25	13	42
16	3.7	40 - 80	22,489	20	21	33	63
20	4.0	Over 80	25,210	28	25	61	88
10	13.6	Over 80	69,985	39	12	100	100

TABLE VII

Breakdown of Tonnage shipped through the one Organization by Size Groups (1945)

Tonnage per Shipper	Percentage of Total Tonnage	Percentage of Total Number of Growers	Cumulative Percentage Tonnage	Cumulative Percentage Growers
Under 5,000 lb.	20.6%	61.1%	20.6%	61.1%
" 10,000	14.8	17.3	35.4	78.4
" 15,000	11.0	7.4	46.4	85.8
" 20,000	7.4	3.6	53.8	89.4
" 25,000	7.5	2.8	61.3	92.2
" 30,000	8.2	2.6	69.5	94.8
" 35,000	5.9	1.6	75.4	96.4
" 40,000	4.7	.8	80.1	97.2
" 45,000	1.4	.3	81.5	97.5
" 50,000	2.5	.6	84.0	98.1
" 55,000	.9	.1	84.9	98.2
" 60,000	1.9	.3	86.8	98.5
" 65,000	2.0	.3	88.8	98.8
" 80,000	6.4	.7	95.2	99.5
" 85,000	1.4	.1	96.6	99.6
" 105,000	3.4	.3	100.0	100.0

From the above table, it may be noted that 10 per cent of the growers shipping to this organization produce 50 per cent of the tonnage handled. Therefore, it would seem safe to accept the generalization that there is a large group of producers (90%) who produce a disproportionately small percentage of the total crop (actually only 20%).

Profit per Unit of Product by Size Groups

TABLE VIII.

Showing Weighted Average Profit per Pound on all Fruit Produced on the 78 Farms.

No. Farms	Average Acreage	% Rec'ts. from Fruit	Pdtn. lb/ Farm	% of Total Pdtn.	Weighted Average Profit/lb.	Average Labour Income
19	1.5	Over 80%	6198	6%	3.4¢	$ 212.00
13	1.8	Under 40	7605	7	1.7	123.00
16	3.71	40 - 80	22489	20	5.4	991.00
20	4.01	Over 80	25210	28	7.1	1841.00
10	13.63	Over 80	69985	39	5.7	3988.00

From Table VIII. it may be seen that those farms with less than three acres in berries (that is the small enterprises) produced fruit at a much lower margin of profit than did the larger farms.

TABLE IX.

Showing the Total Acreage and Number of Growers in Fraser Valley from 1940, 1944, and 1946.

Year	Total Acreage	Total No. of Growers
1940	4600	1853
1944	3106	1625
1946	4683	2661

The Probable Effects of Price Changes

The benefit to the individual farmer of a rise in price is weighted by his volume of production. In this way, a larger grower will derive a much greater benefit from a high price than a small grower will.

Conversely, if prices fall, the grower with a small profit margin will suffer more than the grower with a large profit margin. As long as the price line does not drop below the cost of production, the man with a large volume of production will realize a greater return than the man with a small volume.

Of the 78 farms studied, those with a small volume and those with small margin of profit were usually the same ones. Therefore, should prices fall, the small producers with a low margin of profit might be eliminated, while the larger producers with a wider margin of profit might be expected to continue. They could perhaps maintain their incomes by expanding production.

Possible Future Trends in the Small Fruits Industry

In the broad, general sense, it will be readily conceded that future prices will be governed, in the long run, by the forces of supply and demand. The question is, just where will the price-quantity equilibrium establish itself; can the industry look forward to continued high prices, or must production in the future, of necessity, be accompanied by lowered prices.

To answer this question in exact terms is not possible within the scope of this report. A study was made, however, of the past price-volume relationships in the hope of deriving certain general principles which would be useful in illuminating the present situation.

Strawberry Production and Marketing

In attempting to lay bare the underlying trends in the industry, it was necessary to simplify the material as much as possible. At the same time, adequate and complete data had to be available.

For these reasons, strawberry prices and production were studied alone, for the years 1914-1941, and subsequently, it is felt that using data on the strawberry crop, by itself, may be justified on the ground that the strawberry is the most rapidly maturing of all the Small Fruits. At the same time, a strawberry plantation can be ploughed out and the land put to some other use relatively readily. For these reasons, the strawberry may well be a sensitive barometer of economic conditions in the Small Fruits industry.

TABLE X.(4)

Annual Strawberry Production,
Price, and Total Value

Year	Total Value of Crop ($)	Production (lb.)	Price - Average Fresh & Processed
1914	135,438	1,472,436	7.4¢
1915	194,977	1,876,788	8.6
1916	200,802	2,071,494	8.8
1917	189,437	1,720,980	9.0
1918	305,268	2,275,884	13.1
1919	560,155	3,126,510	18.5
1920	439,389	2,056,212	21.8
1921	694,682	7,183,170	8.0
1922	576,480	5,568,337	10.8
1923	450,545	6,441,305	8.7
1924	444,309	4,808,660	9.3
1925	331,361	2,425,130	13.6
1926	507,162	4,172,888	12.4
1927	704,619	6,951,181	10.3
1928	657,598	7,429,298	8.1
1929	564,562	6,701,636	10.8
1930	568,725	5,256,384	9.4
1931	470,003	5,896,743	6.7
1932	347,631	5,590,952	6.2
1933	387,141	6,644,098	5.6
1934	531,070	9,407,534	5.6
1935	794,332	11,177,027	8.6
1936	513,834	5,909,059	8.2
1937	651,349	9,051,384	8.0
1938	682,578	12,163,427	6.7
1939	873,081	14,891,932	7.0
1940	744,246	12,251,395	6.9
1941	930,099	13,929,204	8.1
1942	693,089	7,352,523	11.3
1943	735,063	3,491,967	20.5
1944	701,803	4,356,781	18.4
1945			20. about.

From Table X., it may be pointed out that the trend in production has been steadily upward, from 1914 - 1941. At the same time, the total value of the crop has also been increasing.

TABLE XI.

The Values of all Strawberry Crops from 1914 to 1941 in Descending Order

Year	Total Value Adjusted(5) to Index of all Farm Products ($)	Quantity (lb.)	Price Adjusted to Index of all Farm Products(5)
1939	1,357,824	14,891,932	10.9
1941	1,306,319	13,924,204	11.4
1935	1,250,916	11,177,027	13.5
1940	1,109,159	12,251,395	10.2
1938	927,416	12,163,427	9.1
1934	900,119	9,407,534	9.5
1931	834,819	5,896,743	11.9
1933	759,100	6,644,098	11.0
1937	747,817	9,051,384	9.2
1936	740,395	5,909,059	11.8
1932	718,246	5,590,952	12.8
1930	691,039	5,256,384	11.4
1927	690,126	6,951,181	10.1
1921	669,896	7,183,170	7.7
1922	655,091	5,568,337	12.3
1928	653,027	7,429,298	8.0
1929	560,081	6,701,636	10.7
1923	552,816	6,441,305	10.7
1926	507,162	4,172,888	12.4
1924	504,323	4,808,660	10.6
1919	381,837	3,126,510	12.6
1925	328,080	2,425,130	13.5
1920	273,592	2,056,212	13.6
1915	250,291	1,876,788	11.0
1918	230,217	2,275,884	9.9
1916	223,610	2,071,494	9.8
1914	192,932	1,472,436	10.5
1917	147,422	1,720,980	7.0

From Table XI. it is apparent that a high value for the strawberry crop is more dependent upon a large volume than upon a high price. The most valuable crops are the heaviest crops. This means that a big crop is worth more than a small crop, even though the price unit of the latter may be greater.

In turn, this means that strawberries apparently enjoy a relatively elastic demand; that is, as the price falls, the amount consumed increases proportionately more rapidly.

TABLE XII.

The Various Quantities of Strawberries Consumed at Prices Adjusted to the Urban Cost of Living Index

Production (lb.)	Price Adjusted to Urban Living Costs (5) (¢)	Year
14,891,932	6.9	1939
13,924,204	7.2	1941
11,177,027	8.9	1935
12,251,395	6.5	1940
12,163,427	6.6	1938
9,407,534	5.8	1934
5,896,743	6.1	1931
6,644,098	5.9	1933
9,051,384	7.9	1937
5,909,059	8.4	1936
5,590,952	6.3	1932
5,256,384	7.8	1930
6,951,181	8.6	1927
7,183,170	6.0	1921
5,568,337	8.9	1922
7,429,298	6.7	1928
6,701,636	8.9	1929
6,441,305	7.1	1923
4,172,888	10.2	1926
4,808,660	7.8	1924
3,126,510	14.2	1919
2,425,130	11.3	1925
2,056,212	14.5	1920

Most of the larger crops were marketed in the later 1930's rather than in the 1920's. As time went on, apparently the market was expanded and when the price was lowered, new consumers (either of processed or fresh fruit) were attracted into the market, and it was possible to sell much greater quantities.

Application of the Demand Situation in the Industry to the Business of the Individual Grower

Generally speaking, the prosperity of the strawberry industry is more closely related to a large volume of sales

than to a high price. This will be true as long as it is sound to measure prosperity by the total value of the crop. This fact is an important one and would seem to be very favorable to future prosperity in the Small Fruits industry.

The individual grower can benefit from elastic nature of the demand situation, only if his production costs are below the prices received for his crop, creating a margin of profit, and if his volume of production is sufficient to convert this margin of profit per unit into a satisfactory income.

Fortunately, efficiency and average, or larger than average, size of enterprise seem to be linked, as pointed out earlier in this report. Therefore, it would seem that smaller producers should attempt to increase the scale of their operations, to compensate for reduced prices, by larger turnovers. Such a policy would, of course, result in an overall increase in production, but in view of the elastic nature of the demand for strawberries, this need not be viewed with alarm.

The Small Fruits Industry and Price-bolstering Programmes

Most of the conventional government sponsored price supporting schemes in Canada and elsewhere depend, essentially, upon higher prices secured through a reduction in the volume of produce being produced. The efficiency of such planning is dependent upon a short crop at a high price being worth more than a long crop at a low price. That is dependent upon the demand for the product being elastic. This is commonly the situation with the staple foods.

However, prosperity in the Small Fruits industry, if we can measure it by the value of the total crop, would seem to be adversely affected by such a programme. It would only be applicable with small crops, being marketed at prices which were very high, in the region of inelastic demand. Generally speaking, in the case of the strawberry industry, and likely in the whole Small Fruits industry, the large crop seems to be more desirable, even if the price is not as good as it is when production is not as great. The individual producer would fit into this scheme by emphasizing volume of production as well as efficiency.

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The co-operation of Mr. L.R. Wilson, Secretary of Federated Coast Growers, in supplying information on marketing small fruits is appreciated.

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(2)

Exhibit 22.

$\frac{60 \times 5650}{100} = \$3390$ → 1942 Val ≈ same place.

THE UNIVERSITY OF BRITISH COLUMBIA
Vancouver, Canada

SMALL FRUIT STUDY - 1946

NAME _____ DISTRICT _____

	Ave. for all farms	Ave. for Group	Your Farm
Number of farms	78		
Acres of Small Fruit	4.2		
Pounds of Small Fruit	22,781		
Acres of New Plantings only	.6		
Total Acreage	23.9		
% Investment in Land	(%) 75.3		
% Investment excluding Land	(%) 24.7		
Total Investment	$5,650.		
Receipts from Small Fruit	$3,883.		
% of Total Receipts from Small Fruit	(%) 77.06		
Receipts from Other Sources	$1,161.		
Total Farm Receipts	$5,044.		
Total Farm Outlay[1]	$2,935.		
Family Farm Income	$2,109.		
Value of Family Labour	$571.		
Operator's Farm Income	$1,538.		
Interest on Capital Investment at 5%	$282.		
Operator's Labour Income	$1,256.		
Hired Labour[2]	$1,522.		
% of Labour Hired	(%) 69.18		
Profit/# Small Fruit	5.6¢		
Profit/Acre Small Fruit	$285.		

[1] Outlay includes all farm expenses except family labour

[2] Hired Labour is included in total farm expenses

EXHIBIT 3.

PROVINCE OF BRITISH COLUMBIA

SOME FACTORS THAT INFLUENCE POULTRY-FARM INCOMES

A Study made on Forty-six Poultry-farms in Coastal British Columbia

1944-45

Prepared by Department of Agricultural Economics
in co-operation with Department of Poultry Husbandry
UNIVERSITY OF BRITISH COLUMBIA, Vancouver

E. D. WOODWARD
Assistant, Agricultural Economics

January, 1946

AN APPRECIATION.

The poultry-farmers who provided the data for this report have been very generous in their co-operation. They have taken extra care and trouble in submitting accurate statements and accounts of the regular farm business, as well as providing additional data on such topics as mortality and hours of labour.

The writer wishes to express his sincere appreciation of the courtesy and helpfulness extended to him by these operators and to acknowledge that without such co-operation the study could not have been carried out.

This investigation was carried out with financial aid from Safeway Stores, Limited, to whom grateful appreciation is here expressed.

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Some Factors that influence Poultry-farm Incomes.

A Study made on Forty-six Poultry-farms in Coastal British Columbia, 1944–45.

INTRODUCTION.

Under direction of the Department of Agricultural Economics of the University of British Columbia, in co-operation with the Department of Poultry Husbandry, a poultry-farm survey was undertaken in the Lower Fraser Valley and on Vancouver Island on April 1st, 1943.

A previous survey was conducted by the University of British Columbia during the years 1921 to 1929. A preliminary report, "A Report on Sixty-five Commercial Poultry Farms in the Lower Fraser Valley and Vancouver Island," by E. A. Lloyd, V. S. Asmundson, and R. J. Skelton, was published in 1922; an interim report, "A Survey of Poultry Farms in British Columbia," by W. J. Riley, E. A. Lloyd, and V. S. Asmundson, in 1927; and a further report, " Farm Survey Records and Flock Management Problems in British Columbia," by E. A. Lloyd and W. J. Riley, in 1930.

Poultry-farm surveys have been conducted at many institutions throughout the United States in the last twenty-five years, but since in most cases their conditions have differed in many ways from those in British Columbia, they have not, with one or two exceptions, been referred to in this report.

This survey was made possible by a gift of funds from Safeway Stores, Limited. The gift was made with no reservations as to the conduct of the survey or the use of the data obtained. The survey has been conducted entirely under the jurisdiction of the University, and information thereby secured is available to the public. It is hoped that the data obtained in this survey may be of some assistance to practical poultrymen in studying the management of their own particular farm businesses, and especially to men returning from the armed forces who may consider engaging in the poultry industry in the post-war period.

ECONOMIC IMPORTANCE OF THE POULTRY INDUSTRY.

Poultry products rank fourth in order of value of agricultural products in Canada, their value for the year 1943 being $166,905,000. It is now estimated that the figure for the current year will be approximately $200,000,000. As will be noted from Table I., in British Columbia poultry products are also fourth in order of value, being exceeded only by field crops, fruits and vegetables, and milk products. The poultry population of British Columbia in 1943 was estimated to be 3,626,700, and the value of poultry products $11,493,000. It is estimated that the value of poultry products in British Columbia for the current year will approach $14,000,000.

TABLE I.—GROSS VALUE OF FIVE LEADING AGRICULTURAL PRODUCTS IN BRITISH COLUMBIA, 1940–43.[2 6]

Product.	1940.	1941.	1942.	1943.
Field crops	$14,427,000	$14,178,000	$18,244,000	$22,256,000
Fruits and vegetables	11,226,000	12,388,000	15,230,000	16,575,000
Milk products	6,528,000	7,173,000	10,289,000	11,823,000
Poultry products	6,201,000	6,576,000	8,806,000	11,493,000
Farm animals	5,854,000	9,401,000	9,324,000	11,261,000

It is worthy of note that the greater part of the poultry products in Canada come from a large number of general farms where poultry is a side-line. The poultry industry in British Columbia tends to be specialized, many farmers deriving their entire incomes from the sale of poultry products, and some having flocks of several thousand birds. Even here, however, a considerable percentage of production is from units which do not occupy the full time of the operator, a surprisingly small percentage of the farms having flocks as large as 1,000 birds.

METHOD OF CONDUCTING SURVEY.

In order to obtain as reliable information as possible on the various factors affecting the business of poultry-farming, the following procedure for securing data was adopted. At the beginning of the year an inventory was taken, placing a value on land, buildings, equipment, supplies, and stock. The farmer was supplied with a book of record forms, one sheet from the book for each month of the year. These forms provided for a detailed record of the birds added to and removed from the laying flock, of production, of poultry income, and of expenditures.

These record forms were mailed by the poultrymen to the University each month during the year. The figures were checked and entered on permanent record-cards in the office at the University, so that each card at the end of the year would contain a complete record of all transactions taking place during the year for that particular farm. The original monthly records, when checked, were mailed back each month to the poultrymen for their own files.

At the end of the year an inventory of each farm was again taken, so that changes in inventory could be taken into consideration in computation of returns.

Because of the seriousness of the mortality problem[5], a special effort was made to account for all birds, so that an accurate record of adult mortality could be obtained. As expected, this proved to be a difficult undertaking. It was difficult because of the numbers of birds involved and the necessity of having the poultryman make an entry for each individual bird that died or was culled. A strict account was kept each month, and even then the inventory of birds at the end of the year was found in some cases to be slightly short.

Experience in accounting for mortality in this survey would suggest that the average farmer tends to overlook some of his losses, especially when careful records are not kept. The actual losses, therefore, are generally greater than the poultry-farmer realizes.

At the end of the first year over 90 farmers were co-operating in the survey, and 30 of these had completed their first year of record-keeping. The remainder had submitted monthly records for periods ranging from one to eleven months. A preliminary report[8] was compiled in June, 1944, giving a summary of the records of these thirty farms.

By the end of June, 1944, a total of 108 poultrymen were co-operating in the survey. New inventories were taken, and a new survey-year was begun. The year's record has now been completed by 50 of these farmers. From the data obtained in the records, an attempt is made to show the returns made from different farms, what factors affect these returns, and also the cost of producing eggs on the different farms.

Interest was charged against the eggs at the rate of 5 per cent. per annum on the capital investment. Depreciation on buildings was charged at the rate of 5 per cent., and on equipment, such as brooders and incubators, at the rate of 10 per cent. per annum.

WAR CONDITIONS.

The effects of war and the consequent demand for increased production of food have resulted in raising the price-level of real estate in this area to a very marked degree.

The influence of speculative gains in changing property values has been avoided as much as possible in computation of returns. For this reason, land valuation has been held as it was at the beginning of the survey, although the market value of land has risen considerably during the period.

In any case the average interest charge of 1.73 cents per dozen eggs is not a large part of the cost, and fluctuation in property value would, therefore, as far as interest on investment is concerned, have a relatively small effect on the cost of producing eggs.

Along with the higher prices of farm products and land, a noticeable increase has taken place in the rate of turnover, as evidenced by the change in ownership of many of the farms in the survey. Of the 108 farmers co-operating at the beginning of the survey year, 16 withdrew because they had sold their farms.

The most common reason given for withdrawal was that the poultryman could not spare the time to keep the records. Nineteen co-operators were unable to continue owing to pressure of work and insufficient help. In a number of cases this situation was a result of either hired help or members of the family leaving to join the armed forces. This was responsible for increasing the amount of labour for the operator himself to the point where he was unable to continue the extra work of keeping records. Nine of the number finished their year's record before the close of the survey-year and did not continue, considering that they "had done their share." An additional nine men continued record-keeping for the full year, but their figures were incomplete in some respect or were not received in time to be included in the report. Of the remainder, three poultrymen dropped out because of illness, two died, one went out of the poultry business, and three discontinued for other reasons.

The above withdrawals from the 108 poultrymen co-operating at the beginning of the survey-year left 46 farms on which the available records were satisfactorily completed. It is from the full year's records of these 46 farms that this report is compiled.

TABLE II.—NUMBER OF FARMS IN THE SURVEY.

	Number of Farms.	Percentage of Total.
Records used in compilation of report	46	42.6
Records kept but incomplete in some respect or not received in time	9	8.3
Finished a year's record before close of survey-year and considered that they "had done their share"	9	8.3
Unable to continue owing to pressure of work and help leaving to join the armed forces	19	17.6
Sold their farms	16	14.8
Unable to continue owing to illness	3	2.8
Discontinued owing to death	2	1.9
No longer in the poultry business	1	.9
Miscellaneous	3	2.8
Total	108	100.0

DEFINITIONS OF TERMS USED.

The number of birds at the beginning of survey is the number of birds in the laying-house at the beginning of the record-year.

A hen-day is one bird in the laying-house for one day.

The average number of birds is the number of hen-days divided by the number of days in the year

The pullet: hen ratio is the average number of pullets compared with the average number of hens, each expressed as a percentage of the average number of both hens and pullets for the year.

Per cent. mortality is the number of birds that died during the year expressed as a percentage of the average number in the flock for one year.

Per cent culled and sold is the number of birds removed for causes other than death expressed as a percentage of the average number in the flock for the year.

Total turnover of stock (per cent.) is the percentage of the average number in the flock which is removed during the year because of mortality and culling.

Rate of lay is obtained by dividing the total number of eggs laid by the total number of hen-days.

Fall egg-lay is the rate of lay for October, November, and December.

Egg production per bird is obtained by dividing the number of eggs produced during the year by the *average number* of birds for the year.

Investment per bird is obtained by dividing the amount of investment by the average number of birds for the year.

DEGREE OF SPECIALIZATION.

A study of the records shows that the gross poultry income of these farms is mainly from the sale of eggs. This is true to such an extent that the typical " poultry-farm " in this area might be termed an " egg-production plant," the small percentage of the income which is from cockerels being a by-product of the egg industry. Moreover, income from the sale of cull hens is in reality a salvage value received for a badly depreciated egg-producing machine.

The percentage of income from each source on the average farm is tabulated as follows:—

TABLE III.—SOURCES OF TOTAL INCOME.

	1943–44. Per Cent.	1944–45. Per Cent.
Eggs	86.03	81.27
Chickens	11.88	16.62
Sundry	2.09	2.11
	100.00	100.00

The specialization was even more pronounced during the first year of the survey, when poultry meats were not as readily sold from the farms, partly because existing killing-stations did not have adequate facilities and labour for killing and dressing the birds. During that year the percentage of receipts from sale of birds was 5 per cent. lower than it was this year, and the percentage from eggs 5 per cent. higher. This was in part due to the fact that producers received a higher average price for their eggs the first year, 1943–44, than the second, 1944–45 (35.8 cents as compared with 30.1 cents, including eggs sold for hatching). Another influential factor, however, was that during this year (1944–45) poultry meat moved more readily

from the farms. Cull hens had a greater salvage value, and what cockerels were raised brought a better return than in the previous year.

For the purpose of computing the cost of the eggs produced, it was assumed that the by-products were sold at cost. When computed in this way, the cost of eggs is influenced to some extent by the price and amount of the by-product. However, since such a small percentage of the income was from the by-product, it was considered justifiable to regard eggs as the item on which all costs and profits were calculated.

Returns are expressed as *labour income.* By this term is meant the amount left after all costs, including interest and depreciation, but not including the labour of the operator, are deducted from the gross receipts. Labour income per bird is the labour income divided by the average number of birds in the laying flock.

SIZE OF FARMS.

The poultry-farms in the survey are small in acreage. The range is from 0.25 to 13.5 acres used by poultry, and only seven of the forty-six farms have 5 acres or more. The most popular size in this sample is 2 acres, ten of the forty-six farms being of that size. The average amount of land used is 2.8 acres.

The average total investment per farm, exclusive of residence, is $3,300. It should be realized that the buildings on these farms are old in many cases, and that in view of present-day prices the valuation, moreover, is low. It would not be reasonable, therefore, to expect to develop a new farm for such a low figure at present cost prices of both land and buildings. In addition, as has already been stated, the valuation of the farm does not include the dwelling-house. This places the poultryman on a basis more nearly comparable with the average citizen whose living-quarters are not considered a part of his business. However, since it is customary for the dwelling to be sold with the farm, the value of the house would have to be included in an estimate of the capital required for entering the poultry business.

TABLE IV.—SIZE OF FARMS IN ACRES.

Size.	Number of Farms.	Per Cent. of Total Number.
0.25 acres	1	2.2
0.50 ,,	6	13.0
0.75 ,,	1	2.2
1.00 ,,	4	8.7
1.50 ,,	3	6.5
1.75 ,,	1	2.2
2.00 ,,	10	21.7
2.50 ,,	4	8.7
2.75 ,,	1	2.2
3.00 ,,	6	13.0
4.00 ,,	2	4.3
5.00 ,,	3	6.5
6.00 ,,	1	2.2
10.00 ,,	1	2.2
11.00 ,,	1	2.2
13.50 ,,	1	2.2
	46	100.0

TABLE V.—SIZE CLASSIFICATION IN ACRES AND NUMBER OF FARMS IN EACH CLASS.

Size.	Number of Farms.	Per Cent. of Total.
Less than 1 acre	8	17.4
1 acre but less than 2	8	17.4
2 acres but less than 3	15	32.6
3 acres but less than 5	8	17.4
5 acres but less than 10	4	8.7
10 acres but less than 14	3	6.5
	46	100.0

TABLE VI.—SIZE OF FLOCK, LABOUR INCOME, AND COST PER DOZEN EGGS.

Average Number of Birds.	Flock Labour Income.	Labour Income per Bird.	Cost per Dozen Eggs, exclusive of Labour.
	$	$	Cents.
1,556.3	838.90	.54	21.99
1,243.6	1,877.84	1.51	20.18
1,235.1	2,017.86	1.63	22.80
1,155.2	1,427.89	1.24	23.22
1,096.6	2,677.27	2.44	15.92
1,049.1	1,793.66	1.71	17.35
1,013.9	496.41	.49	29.98
988.2	2,103.83	2.13	15.51
986.1	2,263.17	2.29	16.57
945.4	489.31	.52	22.29
936.7	934.57	1.00	21.84
884.8	2,493.40	2.82	14.57
867.4	1,740.77	2.01	14.73
808.3	1,144.55	1.41	22.73
783.6	2,215.10	2.83	17.80
770.0	658.15	.85	21.20
746.7	818.29	1.10	19.06
737.2	1,004.93	1.36	16.89
734.5	1,561.97	2.13	16.82
727.0	1,105.21	1.52	19.62
704.8	—58.79	—.08	22.00
692.6	408.57	.59	22.43
685.3	1,011.63	1.48	18.84
684.0	1,715.65	2.51	12.80
660.6	1,629.94	2.47	13.89
593.0	152.31	.26	24.10
555.0	998.34	1.80	16.68
554.0	765.22	1.38	19.43
545.3	1,166.30	2.14	18.65
497.1	1,136.18	2.28	12.76
490.3	1,128.40	2.30	13.22
469.4	980.20	2.09	14.21
450.9	575.94	1.28	20.53
427.8	581.78	1.36	24.66
379.6	229.22	.60	24.65
376.8	988.03	2.62	14.61
348.4	350.97	1.01	20.31
291.3	586.32	2.01	15.52
254.2	194.49	.76	21.69
249.6	219.86	.88	20.80
198.5	431.25	2.17	15.21
194.7	461.97	2.37	10.26
194.7	155.33	.80	22.53
188.0	322.99	1.72	18.27
139.4	113.01	.81	32.08
105.0	198.67	1.90	17.10

SIZE OF FLOCKS.

A better measure of the size of a poultry-farm is the average number of birds kept in the laying-houses. These flocks range in size from 105 birds to 1,556 birds on a hen-day basis, with the average size being 656 birds.

The reliability of this average has been tested statistically, and it can be stated with confidence that the average flock size of all poultry-farms in the areas is between 553 birds and 759 birds.

In discussing factors that affect the cost of producing eggs, the question of what constitutes an "economic unit" is frequently raised. In this connection it is considered by some that costs will decrease as the size of the flock increases, or, in other words, that eggs cannot be produced economically from a small flock.

Examination of records from different sources does not seem to confirm this supposition. Furthermore, there seems to be considerable confusion in the minds of some as to the difference between labour income per bird and the total labour income of the farm. It is the labour income per bird that is important when discussing the cost of producing eggs, because these two figures (labour income per bird and cost of eggs per dozen) are interdependent.

In a poultry-record study of eighty-five Washington State farms it was stated that "size of the flock has very little effect on the profit per bird."[1]

It is reasonable to conclude that it is possible to obtain a larger total labour income from a large flock than from a small flock; and in a farm where poultry is the only source of income, a sufficient volume of business is necessary to provide the operator with a sufficient net labor income to constitute a living wage. In many cases, however, the poultry enterprise is only a part of the owner's occupation, and consequently only a proportion of his living is chargeable to poultry. Under these conditions there is no reason why eggs cannot be produced from small flocks, by men who devote only a part of their time to poultry, at a cost no higher than that of a commercial poultry-farm, where the owner devotes all his time to the business of egg production.

Table VI. shows the various flocks in descending order of size, their corresponding per-bird labour incomes and costs per dozen eggs, exclusive of labour. These figures, on the face of them, do not suggest any relationship between size of flock and labour income per bird; however, for a more critical analysis of the data, statistical tests were applied. The results indicate that by these methods no relationship can be established between flock size and labour income per bird.

Since at any given selling price the labour income per bird is directly dependent on cost per dozen eggs, it follows that within the limits of these flock sizes there is no relationship between the size of the flock and the cost of eggs per dozen. In other words, the cost of producing eggs in flocks of sizes within the limits of those in the survey cannot be lowered by merely enlarging the size of the laying flocks.

LABOUR.

Very little hired labour was employed for the care of the flocks in the survey, but the hours of labour spent by the flock-owners and their families were long. In order to obtain data on the amount of labour required to care for flocks of various sizes, estimates of the hours of work actually done during the year were obtained from poultrymen in the survey. According to figures obtained from these poultrymen, a flock of average size (656 birds) required 2,309 hours of work during the year, or 44.4 hours per week.

On the basis of returns actually made by these poultrymen and their estimates of hours worked, the average hourly wage was 47 cents.

According to the same estimates, a flock *averaging* 1,000 birds would require 9.8 hours of labour per day, 365 days in the year, or 70 hours of work per week.

If the working-week of the poultryman were 44 hours, as it is in many other industries, a flock averaging 1,000 birds would require 80 man-weeks of work during the year. In other words, it would be the work of 1.6 men to take care of a flock that size. In this connection it should be remembered that a flock *averaging* 1,000 birds would, in total numbers, be considerably larger than 1,000 birds.

It is interesting to note that on this same basis a flock requiring the labour of one man would have an average number of 625 birds, a figure closely approaching the 656 shown as the average number on the farms of the survey. For those who consider this a high estimate of labour requirement, it should again be emphasized that a flock averaging 625 laying birds *on a hen-day basis* would have considerably more birds at some times during the year and would almost certainly have more than 1,000 birds going through it during the year. In addition, if the flock is to be maintained, young birds must be reared, all of which is included in the hours of labour quoted.

As shown in Table VII., the labour income of the average poultry-farmer was $1,000.70 for the year, or $83.39 per month. This was his remuneration for the work and managerial ability required to look after an average number of 656 laying birds (hen-day basis), or a total number of 1,094 laying birds, and to rear the young stock necessary to keep his flock up to strength.

TABLE VII.—SUMMARY OF BUSINESS ON THE AVERAGE FARM.

Sales for year—			
Eggs		$2,866.30	
Chickens		586.29	
Sundry		74.34	
			$3,526.93
Inventory 1944—			
Feed	$22.81		
Litter	7.25		
		$30.06	
Feed purchased		1,773.12	
		$1,803.18	
Inventory 1945—			
Feed	$25.07		
Litter	6.66		
		31.73	
			1,771.45
			$1,755.48
Operating expenses—			
Hired labour		$77.23	
Electricity		24.23	
Fuel		8.57	
Litter		56.70	
Medicine and disinfectant		23.91	
Small tools		5.76	
Insurance and taxes		31.00	
Car or truck		38.08	
Other		26.32	
			291.80
			$1,463.68
Inventory live-stock adjustment—			
Birds on hand at beginning of year		$1,104.78	
Birds purchased		194.03	
		$1,298.81	
Birds on hand at end of year		1,086.52	
			212.29
Farm income			$1,251.39
Depreciation on buildings		$66.87	
Depreciation on equipment		18.80	
Interest on investment		165.02	
			250.69
Labour income			$1,000.70

Average number of birds, 656.

TABLE VIII.—COMPARISON OF AVERAGES OF ALL FARMS WITH THE HIGH-INCOME AND LOW-INCOME GROUPS.

Items.	Average of all Records summarized.	High-income Flocks.	Low-income Flocks.	Your Farm Record.
Number of birds at beginning of survey—				
Hens	276	211	475	
Pullets	307	341	209	
Flock	583	552	684	
Average number of birds during the year—*				
Hens	257	193	377	
Pullets	399	491	273	
Flock	656	684	650	
Total number of birds, including replacements	1,094	1,188	962	
Pullet-hen ratio (per cent.)—				
Pullets	60.9	71.7	42.0	
Hens	39.1	28.3	58.0	
Mortality (per cent.)—†				
Hens	27.57	23.55	39.98	
Pullets	23.06	20.11	41.20	
Flock	24.77	21.18	39.83	
Turnover due to culling (per cent.)—†				
Hens	105.34	183.72	55.05	
Pullets	40.46	46.44	36.30	
Flock	69.88	85.26	59.47	
Total turnover of stock (per cent.)†	94.65	106.44	99.30	
Rate of lay (per cent.)—†				
Hens	41.92	44.82	41.39	
Pullets	53.04	57.11	48.58	
Flock	48.85	53.64	38.77	
Fall egg-lay (October, November, December) (per cent.)—*				
Hens	25.54	23.00	26.78	
Pullets	48.03	53.56	42.14	
Flock	40.27	45.76	33.35	
Egg production per bird—*				
Hens (11,819) Eggs	153.00	163.61	151.06	
Pullets (18,377) ,,	193.58	208.45	177.33	
Flock (30,196) ,,	178.30	195.77	141.53	

* Hen-day basis.

† Based on the average number of birds.

TABLE IX.—COMPARISON OF INVESTMENT, COSTS AND RECEIPTS.

Items.	Average of all Records summarized.	High-income Flocks.	Low-income Flocks.	Your Farm Record.
Investment per bird—				
Land	$0.92	$0.70	$1.34	
Buildings	2.05	1.46	2.55	
Equipment	.28	.16	.19	
Birds	1.70	1.61	1.51	
Total	$4.95	$3.93	$5.59	
Costs and receipts per bird—				
Gross income	$5.38	$5.92	$4.54	
Total expenses	3.44	3.17	3.42	
Cost of feed for layers	2.21	2.29	2.28	
Total feed for layers and young stock	2.70	2.59	2.61	
Receipts above feed	2.68	3.33	1.93	
Farm income	1.91	2.33	1.00	
Labour income	1.52	2.53	.57	
Feed cost per dozen eggs—	Cents.	Cents.	Cents.	
Feed for layers only	14.87	14.04	19.34	
Total feed used on the farm	18.17	15.88	22.14	
Selling price per dozen eggs	30.14	30.76	30.94	
Operator's labour income per dozen eggs	10.52	15.67	4.35	
Cost without operator's labour	19.62	15.09	26.59	
Cost of hired labour	.81	.09	1.41	
Cost with no labour charge	18.81	15.00	25.18	

TABLE X.—COMPARISON OF 1944 AND 1945 SURVEYS.
(All computations on a hen-day basis.)

Items.	Average of all Records summarized, 1944.	Average of all Records summarized, 1945.
Number of birds at beginning of survey—		
Hens	248	276
Pullets	380	307
Flock	628	583
Average number of birds during the year—*		
Hens	251	257
Pullets	472	399
Flock	723	656
Total number of birds, including replacements	1,291	1,094
Pullet-hen ratio (per cent.)—		
Pullets	65.3	60.9
Hens	34.7	39.1
Mortality (per cent.)—†		
Hens	24.99	27.57
Pullets	23.92	23.06
Flock	24.30	24.77
Turnover due to culling (per cent.)—†		
Hens	80.84	105.34
Pullets	31.49	40.46
Flock	49.01	69.88
Total turnover of stock (per cent.)†	73.31	94.65
Rate of lay (per cent.)—†		
Hens	41.74	41.92
Pullets	53.99	53.04
Flock	49.41	48.85
Fall egg-lay (October, November, December) (per cent.)—*		
Hens	.....	25.54
Pullets	.....	48.03
Flock	43.22	40.27
Egg production per bird—*		
Hens ..... Eggs	153.90	153.00
Pullets ..... ,,	195.10	193.58
Flock ..... ,,	180.83	178.30

* Hen-day basis.
† Based on the average number of birds.

A STUDY OF FLOCKS.

The average size of the forty-six flocks was 656 birds, of which 60.9 per cent. were pullets and 39.1 per cent. were hens. The average production on a hen-day basis was 178 eggs.* The pullets averaged 40 eggs more than the hens, laying 193 eggs, while the hens averaged 153. The average mortality for the year was 24.77 per cent.—27.57 per cent. for hens and 23.06 per cent. for pullets. The average number of birds culled was 69.88 per cent. of the average number in the flock. As a result of mortality and culling, 94.6 per cent. of the average number of birds in the flock were removed during the year. It will be seen that this is an increase of 21 per cent. over last year's figure of 73 per cent. removed due to mortality and culling. Since the mortality figure is the same, the difference is due entirely to a larger percentage of culling. This figure is based on the average

* If the average production were computed on the basis of the total number of birds in the pen during the year, it would be 107 eggs. This figure, however, is unsatisfactory as a measure of production because the length of time a bird is in the pen is variable. The hen-day basis provides a measure by which comparisons can be made.

number of birds for the year, and because the average flock size decreased during the year, the percentage culled appears larger. The large percentage of culling is also due in part to the fact that at the beginning of the survey-year the flocks still contained a considerable number of birds which would have been removed earlier if the poultrymen had been able to dispose of them.

It might be pointed out that birds are culled for three main reasons. Some are removed because they are poor producers, and a considerable number simply to make room for pullets beginning to lay.

In addition to those in the above two groups, many are culled because they have become diseased and would, in all probability, die within a short time. Thus, a certain percentage of the birds listed as culls in many flocks would otherwise be included in mortality; a large number, on the other hand, have fully completed their laying-year.

COMPARISON OF RETURNS.

By comparing the two groups made up of the high-income and low-income, 20 per cent.* of the farms in order of labour income per bird, the following differences were observed: The high-income group had an average of 54 more eggs per bird, 12 per cent. higher fall egg-lay, 18.6 per cent. lower mortality, and 25.8 per cent. higher culling than the low-income group. It was found, too, that the high-income group had a 29.7-per-cent. higher pullet:hen ratio, having 71.72 per cent. pullets to 28.28 per cent. hens, while the low-income group had 41.98 per cent. only of pullets to 58.02 per cent. hens.

The average price received by the forty-six farms for all eggs, including hatching-eggs, during the period was 30.14 cents. The lowest average price was 26.72 cents and the highest 38.49 cents. The average cost per dozen without charge for labour was 18.8 cents, leaving an average labour income per dozen eggs of 10.52 cents.

* One farm was omitted because the reason for poor returns was theft of several hundred birds.

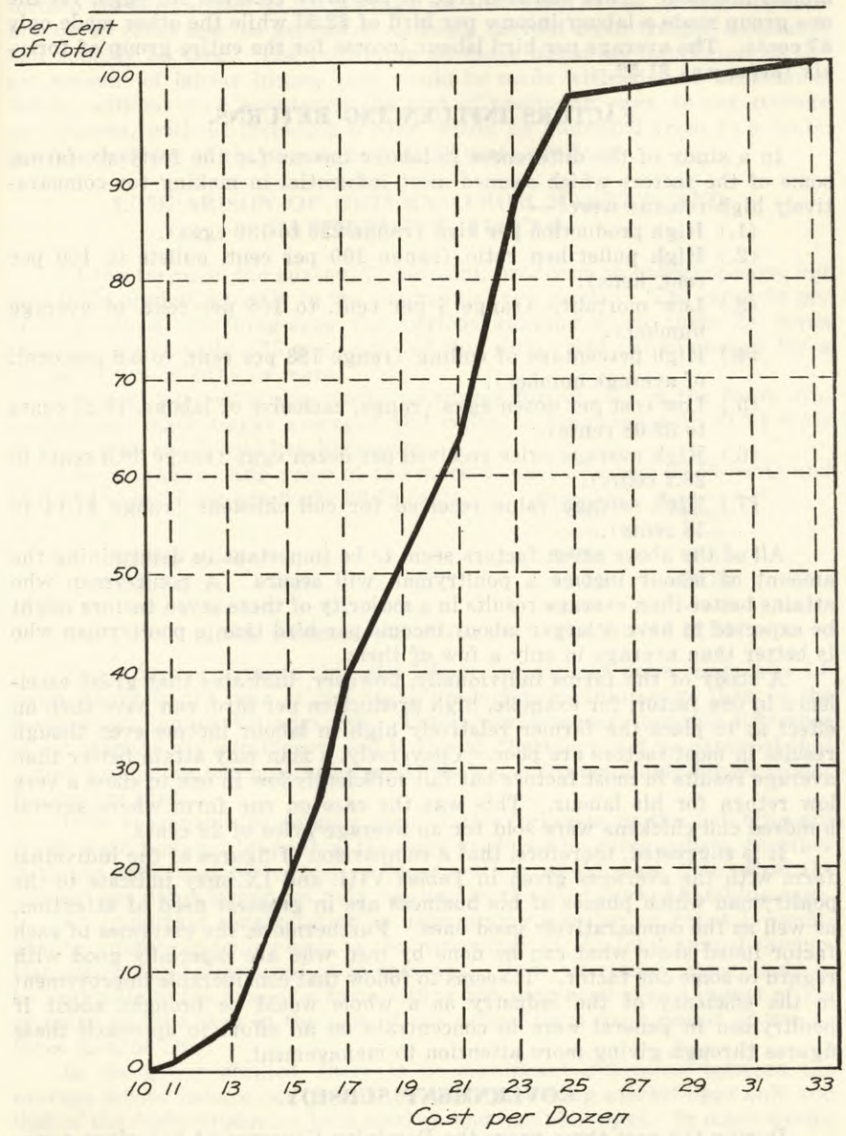
TABLE XI.—FLOCK SIZE, MORTALITY, AND CULLING.

Total Number of Birds.	Average Number of Birds.	Number that died.	Mortality (per Cent. of Average Number).	Number sold.	Birds sold (per Cent. of Average Number).
1,872	1,556.3	560	35.98	188	12.08
1,441	1,234.6	119	9.57	73	5.87
2,510	1,235.1	299	24.21	1,361	110.19
1,549	1,155.2	297	25.71	242	20.95
1,737	1,096.6	177	16.14	722	65.84
1,843	1,049.1	162	15.44	1,649	157.19
1,726	1,013.9	132	13.02	1,138	112.24
1,881	988.2	342	34.61	531	53.73
2,023	986.1	177	17.95	1,007	102.12
1,502	945.4	177	18.72	436	46.12
1,151	936.7	228	24.34	172	18.36
1,619	884.8	45	5.08	881	99.57
1,562	867.4	210	24.21	844	97.31
1,131	808.3	170	21.03	376	46.51
947	783.6	147	18.76	180	22.97
1,689	770.0	809	105.06	318	41.30
1,354	746.7	57	7.63	754	100.98
1,185	737.2	264	35.81	467	63.35
1,566	734.5	140	19.06	889	121.03
1,236	727.0	208	28.61	631	86.80
1,348	704.8	57	8.09	427	60.59
1,045	692.6	180	25.99	220	31.76
1,037	685.3	90	13.13	297	43.33
1,363	684.0	111	16.23	1,252	183.05
1,126	660.6	256	38.75	396	59.94
1,210	593.0	142	23.94	655	110.45
892	555.0	148	26.67	270	48.65
1,200	554.0	173	31.23	475	85.74
900	545.3	137	25.12	349	64.01
718	497.1	76	15.29	178	35.80
961	490.3	86	17.54	436	88.92
724	469.4	130	27.69	150	31.95
787	450.9	124	27.50	347	76.96
777	427.8	59	13.79	309	72.23
823	379.6	60	15.80	485	127.76
569	376.8	134	35.56	244	64.75
693	348.4	170	48.79	260	74.63
707	291.3	41	14.07	381	130.79
428	254.2	102	40.12	141	55.47
590	249.6	24	9.61	284	114.20
351	198.5	47	23.68	112	56.43
351	194.7	29	14.89	132	67.79
253	194.7	48	24.65	32	16.44
462	188.0	47	25.00	254	135.11
285	139.4	27	19.36	84	60.24
202	105.0	38	36.30	71	67.82
50,326	30,196.0	7,256		21,100	

COST OF FEED PER DOZEN EGGS.

The cost of feed for *layers* in the average flock was 14.87 cents per dozen eggs produced. The *total* feed cost per dozen eggs, however, was 18.17 cents in the average flock, as compared with 15.88 cents in the high-income group and 22.14 cents in the low-income group. Although the total feed costs per bird were almost identical in the high- and low-income groups ($2.59 as compared with $2.61), the low-income group, with an average egg production of 141.5 eggs per bird, had a 6.26-cent greater feed cost per dozen eggs or

FIG. 1.—CUMULATIVE DISTRIBUTION OF COST OF PRODUCING EGGS, SHOWING PERCENTAGE OF TOTAL PRODUCED AT LESS THAN STATED COST PER DOZEN.



39 per cent. more than the high-income group, with an average production of 195.8 eggs per bird.

Although egg and feed prices are important factors in their effect on the *average* profit, variation in returns is to a large extent affected by individual management. This may be illustrated by comparing the 20 per cent. of the farms showing highest labour income per bird with the 20 per cent. showing the lowest in the survey. The poultrymen operating these farms were

subject to the same feed prices and had the same markets for their eggs. In fact, the feed cost per bird in one group as compared with the other was almost identical. This was also true of the price received for eggs, yet the one group made a labour income per bird of $2.53 while the other made only 57 cents. The average per bird labour income for the entire group of forty-six farms was $1.52.

FACTORS INFLUENCING RETURNS.

In a study of the differences in labour income for the forty-six farms, some of the factors which seemed most influential in making for comparatively high returns were:—

(1.) High production per bird (range 228 to 139 eggs).
(2.) High pullet:hen ratio (range 100 per cent. pullets to 100 per cent. hens).
(3.) Low mortality (range 5 per cent. to 105 per cent. of average number).
(4.) High percentage of culling (range 183 per cent. to 5.9 per cent. of average number).
(5.) Low cost per dozen eggs (range, exclusive of labour, 10.26 cents to 32.08 cents).
(6.) High average price received per dozen eggs (range 38.5 cents to 26.7 cents).
(7.) High salvage value received for cull chickens (range $1.14 to 16 cents).

All of the above seven factors seem to be important in determining the amount of labour income a poultryman will secure. A poultryman who attains better than average results in a majority of these seven factors might be expected to have a larger labour income per bird than a poultryman who is better than average in only a few of them.

A study of the farms individually, however, indicates that great excellence in one factor, for example, high production per bird, can have such an effect as to place the farmer relatively high in labour income even though results in most factors are poor. Conversely, a man may attain better than average results in most factors but fall sufficiently low in one to show a very low return for his labour. This was the case on one farm where several hundred cull chickens were sold for an average price of 28 cents.

It is suggested, therefore, that a comparison of figures of the individual farm with the averages given in Tables VIII. and IX. may indicate to the poultryman which phases of his business are in greatest need of attention, as well as the comparatively good ones. Furthermore, the extremes of each factor listed show what can be done by men who are especially good with regard to some one factor. It seems to follow that considerable improvement in the efficiency of the industry as a whole would be brought about if poultrymen in general were to concentrate on an effort to approach these figures through giving more attention to management.

GOVERNMENT SUBSIDY.

During the past three years the Dominion Government has given assistance to the poultrymen by paying the freight on feed-grains and by an additional subsidy on wheat shipped from the Prairies. Since over 80 per cent. of the poultry ration is made up of grains, this assistance has an important effect on the cost of feed to the farmer. As far as the Lower Fraser Valley is concerned, this assistance now amounts to $14.33 per ton on wheat and $6 per ton on other grains. It is estimated that this lowers the poultryman's feed bill by 24 per cent. of the present figure, or $435 for a

flock the size of the average in the survey. In terms of cost per dozen eggs this amounts to approximately 4.5 cents. In other words, of the $1.52 labour income per bird shown as the average for the farms of the survey, approximately 66 cents may be estimated as being derived from freight assistance and subsidy on feed. The remaining 86 cents might be considered as the net amount of labour income that would be made without such assistance. Again, without such assistance, the cost of producing eggs, to the average poultryman, without including labour, would be increased from 18.8 cents, the figure shown in the survey, to over 23 cents per dozen.

COMPARISON OF RETURNS FROM MARKET- AND HATCHING-EGG FLOCKS.

Of the farms in the survey, 72 per cent. produced no hatching-eggs, but sold their product entirely in the commercial egg market. The other 28 per cent. produced hatching-eggs for periods ranging from three to seven months. A majority (75 per cent.) of this group sold hatching-eggs for a period of five months or more.

The cost per dozen eggs (with no charge for labour) in the flocks producing only market-eggs averaged 18.1 cents, as compared with 21.54 cents in the flocks which sold hatching-eggs.

The average selling price of the market-egg flocks was 28.55 cents and that of the hatching-egg flocks 33.79 cents.

	Market-egg Flocks. Cents.	Hatching-egg Flocks. Cents.
Selling price	28.55	33.79
Cost price	18.10	21.54
Labour income per dozen	10.45	12.25

These figures indicate that the labour income per dozen eggs was 1.8 cents larger in the case of the flocks producing hatching-eggs than in the flocks producing market-eggs only. Tests show, however, that this difference is not statistically significant, and it should, therefore, not be expected that a flock producing hatching-eggs would show a correspondingly larger labour income per bird.

It is reasonable to suppose that if the cockerels in the hatching-egg flocks were replaced by pullets, the eggs produced by these pullets, together with the additional costs, such as blood testing, would more than offset the 1.8-cent per dozen larger net gain received by the producers of hatching-eggs.

An important consideration in determining whether or not it is profitable to produce hatching-eggs is the percentage of the total annual production which can be disposed of in this way. It is, of course, more likely to be profitable in the case of a farm selling hatching-eggs over a period of six or seven months than in the case of one selling them for a period of two or three months only.

In the group studied, there is no significant difference between the average labour income per bird of the flocks producing market-eggs only and that of the flocks producing both market- and hatching-eggs. In other words, the price received for hatching-eggs just compensates for the additional expense but not for any extra labour entailed in their production.

SUMMARY.

A survey was conducted by the University of British Columbia to determine costs of egg production and factors affecting incomes from poultry-farms in the Fraser Valley and on Vancouver Island. In the inves-

tigation, detailed records were obtained of the production and returns of forty-six farms for the year ended June 30th, 1945.

The flocks ranged in size from an average number of 1,556 birds to an average number of 105 birds on a hen-day basis, the average size of the flocks being 656 birds. The average investment per bird was $4.88 and the average labour income per bird $1.52. The labour income of the average poultry-farmer was $1,000.70 for the year, or $83.39 per month on the average.

The birds in all flocks on the average were made up of 60.9 per cent. pullets and 39.1 per cent. hens. The average mortality on a hen-day basis was 24.77 per cent. of the flock, ranging from 5 per cent. to 105 per cent., and the average percentage culled was 69.9 per cent.

The egg production per bird on a hen-day basis was 178.3, the average for hens being 153 eggs and for pullets 193.6. The average production on the basis of hens housed would be very much lower.

The average price per dozen eggs sold was 30.14 cents for all eggs produced, including hatching-eggs. The average cost, exclusive of labour, was 18.81 cents. No relationship was found between flock size and cost of producing eggs, or labour income per bird.

The benfit enjoyed by the poultrymen through Government freight assistance and subsidy on Prairie grain amounted to $14.33 per ton on wheat and $6 per ton on other grains. Such assistance would be the approximate equivalent of a bonus of 4.5 cents per dozen on all eggs produced.

Out of all the poultry-farmers in the group, 72 per cent. produced market-eggs only, while the remaining 28 per cent. produced hatching-eggs as well, in periods ranging from two to seven months of the year. No statistically significant difference was found between the average per bird labour incomes of the group which produced hatching-eggs and the group which produced market-eggs only.

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VICTORIA, B.C.:
Printed by DON MCDIARMID, Printer to the King's Most Excellent Majesty.
1947.

2M-247-9844