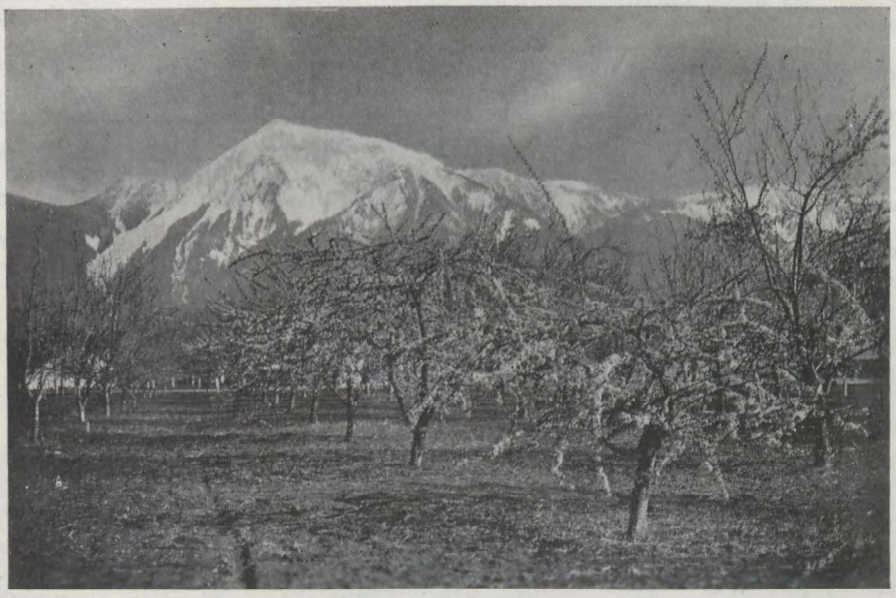
DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE
DOMINION EXPERIMENTAL FARMS

EXPERIMENTAL FARM
AGASSIZ, B.C.

REPORT OF THE SUPERINTENDENT

W. H. HICKS, B.S.A.

FOR THE YEAR 1927



Plum trees in bloom on the Agassiz Experimental Farm, April 19, 1927.
Mount Cheam in the distance.

Printed by authority of the Hon. W. R. Motherwell, Minister of Agriculture, Ottawa, 1928

TABLE OF CONTENTS

DOMINION EXPERIMENTAL FARM, AGASSIZ, B.C.

REPORT OF THE SUPERINTENDENT, W. H. HICKS, B.S.A.

SEASONAL NOTES

The year 1927 opened with practically normal weather conditions. The lowest temperature in January was 5 degrees on the 21st. As winter passed, cool, damp, dull weather prevailed and the season was from four to five weeks later than in 1926, although very little later than normal. Several light flurries of snow fell in March and the cool winds from the snow-capped mountains kept the air raw and chilly until April 11, when a maximum of 68 degrees was registered. This was really the first warm day of the year. May and June afforded weather conditions similar to those already experienced, with a minimum precipitation but a little rain falling almost continually. The week ending June 5 was the first rainless week following February 14. June, with 0.61 inch of precipitation, was the driest June ever recorded. From the middle of July to August 24 the weather was generally fine, but the rainy season then set in and continued almost unceasingly until the end of the year. There were only thirty-three days between August 24 and the close of the year which were rainless. The total sunshine was 202.9 hours less than the five-year average, and the total precipitation was only 54.27 inches, the lowest, except for last year, since 1911.

Weather conditions such as these were not conducive to heavy crop yields. Although work on the land was started early, seed was not sown till late, and then, due to cool, cloudy weather, growth was slow. The pasture and hay crops were good. Grain gave light yields, and except for a small percentage which was threshed early in August, was badly spoiled by growing in the stook. The corn crop got away to a bad start and did not mature well. Roots were an average crop, but had to be harvested under trying conditions. Early potatoes were injured by a heavy frost on April 19, and were harvested at intervals in the autumn. The fruit was poor, due to unfavourable weather in the fertilizing season and undesirable conditions at ripening time.

METEOROLOGICAL RECORDS AGASSIZ, B.C., 1927

—	Temperature				Precipitation				Sunshine	
	Maximum	Minimum	Mean	Mean 5 years average 1923-1927	Rain	Snow	Total	5 years average 1923-1927	Hours	5 years average 1923-1927
	F°	F°	F°	F°	inches	inches	inches	inches	hours	hours
January	49	5	33·03	36·17	4·18	0·90	5·08	9·46	44·4	39·4
February	56	20	39·07	40·04	3·61	0·20	3·81	7·55	89·6	58·4
March	62	28	41·61	44·21	4·85	0·55	5·40	4·25	84·6	114·3
April	68	28	47·17	50·81	3·15	0·10	3·25	3·42	121·9	133·2
May	73	36	53·25	56·48	3·05	.....	3·05	4·32	121·0	155·9
June	88	45	62·70	61·66	0·61	.....	0·61	1·48	148·8	175·4
July	97	46	66·40	65·63	1·10	.....	1·10	1·26	225·2	228·2
August	92	46	66·06	64·65	3·32	.....	3·32	2·04	190·7	184·3
September	88	40	58·78	59·11	6·29	.....	6·29	3·79	82·0	143·2
October	66	36	50·43	51·56	9·33	.....	9·33	6·41	50·5	92·2
November	55	27	39·80	43·01	5·76	1·20	6·96	6·98	12·9	55·1
December	51	12	31·37	36·10	2·57	3·50	6·07	10·06	48·4	43·3
Total	.....	.....	49·14	50·71	47·82	6·45	54·27	61·02	1,220·0	1,422·9

ANIMAL HUSBANDRY

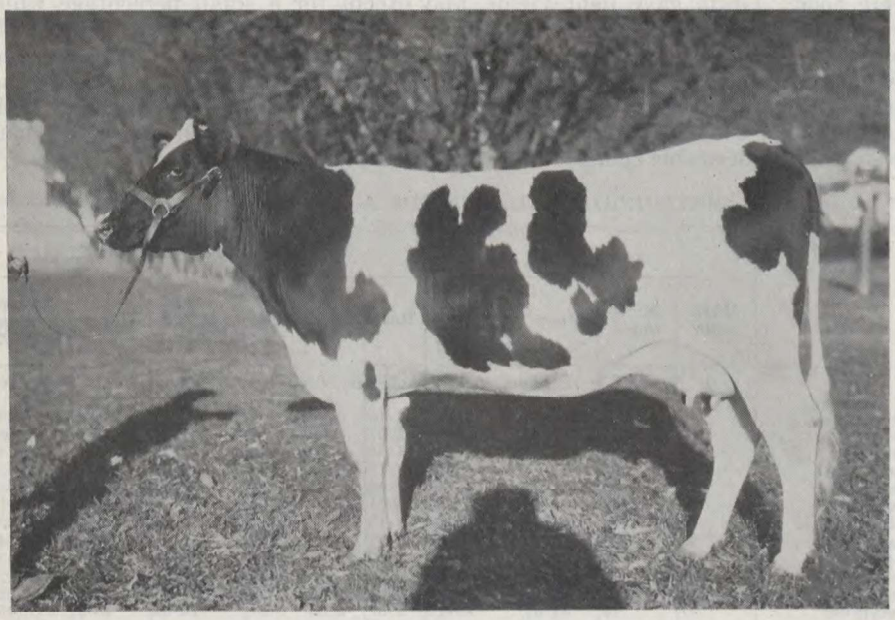
DAIRY CATTLE

On December 31, 1927, the dairy herd numbered seventy-three head of pure-bred Holstein-Friesian cattle; two mature bulls, one two-year-old bull, and three bull calves, thirty mature cows, two three-year-olds, seven two-year-olds, thirteen yearlings and fifteen heifer calves. One of the heifer calves is sired by Agassiz Champion Re-Echo, two by Tsussie Rajah and twelve by Sir Bess Ormsby Fobes 40th. During the year, five bull calves were sold for breeding purposes, three being from dams with over 800 pounds of fat in a year, and the dams of the other two having records of 572 and 458 pounds of fat as two-year-olds. Six females were sold for breeding purposes, nine were culled and sold for beef and nine calves were vealed.

Unfortunately cow No. 180 reacted in April to the opthalmic and intradermal tests for tuberculosis. Skin lesions only were found. It is exceedingly difficult to explain the presence of the disease in this animal, as she had not been off the farm for almost five years. The entire herd was tested again in sixty days and re-tested early in December without any suspects.

EXHIBITION WORK

Sixteen cattle were exhibited at New Westminster in September at one of the largest Holstein shows ever held in British Columbia. Seven full herds and several smaller lots were on exhibition, totalling about 130 head. The major winnings of this Farm were: aged bull, second; three-year-old cow, first; milking two-year-old, second; senior yearling, second; senior calf, third; calf herd, second; and progeny of cow, first.



Agassiz Queen Re-Echo 141902, third prize, senior yearling at the Toronto Royal Winter Fair, 1927. Sired by Agassiz Champion Re-Echo 54809, a son of the world's champion cow, Agassiz Segis May Echo.

Five Holsteins from this Farm were included in the Provincial exhibit to the Toronto Royal in November, where they made an excellent showing. Agassiz Priscilla Sylvia was sixth in a class of twenty-one mature cows in milk; Agassiz Walula DeKol was second in a class of ten dry three-year-olds; and Agassiz Queen Re-Echo stood third in a class of sixteen senior yearlings. The bull and heifer calves were not placed.

HERD RECORDS

(Projects A. 360 and A. 56)

The following list shows the performance of all cows finishing a lactation period during the year 1927. In this table feeds are charged at market value. Butter-fat is computed at 50 cents per pound and skim-milk at 25 cents per one hundred pounds. The thirty-five cows freshening during the year gave birth to thirty-eight calves, three having twins. From these, sixteen heifers were reared. The average milk production of the twenty-eight cows that finished a lactation period during the year was 12,385 pounds and the average fat production was 424·11 pounds. This is not as high an average as the four preceding years, but is creditable considering that the list includes seven two-year-old heifers, besides five cows over twelve years old. From the figures in the table, it is found that the average feed cost to produce one hundred pounds of milk was just over $1.04 and to produce a pound of butter-fat just over 30 cents.

MILKING RECORD—COWS WHICH HAVE COMPLETED LACTATION PERIOD DURING 1927

Cow No.	Number of period	Number of days in lactation period	Total amount of milk produced	Percentage of fat in milk	Total amount of fat in milk	Amount of butter (80%) produced	Amount of meal consumed	Amount of roots and silage consumed	Amount of hay consumed	Amount of beet pulp consumed	Pasture at $2.00 per month	Total cost of feed	Total value of product	Profit over feed
			lb.		lb.	lb.	lb.	lb.	lb.	lb.	$ cts.	$ cts.	$ cts.	$ cts.
145	5	384	21,589	3·2	690·8	863·5	4,251	22,067	1,205	401	9 00	156 95	393 97	237 02
135	5	365	20,047	3·26	654·0	817·5	4,689	23,275	1,400	658	6 66	185 81	372 11	186 30
180	2	388	13,543	3·8	514·6	643·25	2,880	17,705	690	.....	11 31	110 57	287 77	177 20
153	5	365	17,981	3·68	662·0	827·5	5,240	24,290	1,425	359	13 00	200 23	371 46	171 23
169	3	337	16,131	3·38	545·0	681·25	3,340	21,085	1,075	239	9 66	141 33	308 80	167 47
114	6	365	14,044	3·97	557·0	696·25	3,601	19,260	953	485	11 31	153 95	310 10	156 15
98	4	426	13,366	3·5	467·81	584·76	2,630	18,540	715	134	13 06	113 71	263 98	150 27
154	6	305	14,275	3·59	513·0	641·25	3,575	17,603	865	202	13 15	138 91	288 62	149 71
126	4	305	15,271	3·32	507·0	633·75	3,419	20,160	1,283	585	7 31	151 13	287 86	136 73
195	2	390	13,849	3·6	498·56	623·2	3,734	22,308	1,205	.....	13 40	147 03	280 44	133 41
207	1	365	13,530	3·92	530·0	662·5	4,224	21,290	1,380	371	7 70	162 71	295 44	132 73
77	9	353	13,968	3·0	419·04	523·8	2,911	16,465	727	.....	13 30	111 55	240 95	129 40
192	2	280	10,847	3·4	369·0	461·25	2,384	15,655	625	.....	11 31	98 25	208 91	110 66
215	1	417	11,138	3·3	367·5	459·37	2,663	17,680	715	6	14 75	110 39	208 81	98 42
95	7	377	13,413	3·1	415·8	519·75	3,568	23,200	1,260	100	11 65	147 08	238 08	91 00
143	6	321	11,417	2·9	331·0	413·75	2,744	16,845	710	.....	11 40	107 28	191 19	83 91
173	3	347	10,101	3·45	348·5	435·62	2,923	17,345	715	.....	13 06	114 25	196 98	82 73
206	1	305	9,008	3·97	358·0	447·5	2,667	15,485	760	419	9 66	116 87	199 28	82 41
178	2	380	9,570	3·55	340·0	425·0	2,503	20,780	798	.....	11 31	114 30	191 53	77 23
219	1	254	7,633	3·5	267·0	333·75	1,862	11,175	450	.....	9 50	74 21	150 67	76 46
46	10	431	14,855	2·8	415·94	519·93	4,023	28,385	1,382	.....	11 31	166 02	241 39	75 37
217	1	392	9,975	3·3	329·0	411·25	2,528	18,100	1,180	185	11 31	114 34	186 94	72 60
147	5	334	10,177	3·8	386·73	483·41	3,489	18,900	1,225	338	14 75	146 20	216 26	70 06
70	10	301	8,944	3·3	295·15	368·94	2,471	14,345	760	.....	10 30	97 65	167 70	70 05
216	1	387	9,005	3·5	315·0	393·75	2,517	17,985	1,180	187	11 31	113 91	177 76	63 85
202	2	393	8,678	3·3	286·37	357·96	2,675	20,385	1,005	.....	13 40	117 98	162 71	44 73
213	1	382	7,320	3·5	256·2	320·25	2,322	17,400	715	30	11 31	100 75	144 57	43 82
194	2	396	7,115	3·3	235·0	293·75	2,380	19,585	715	.....	12 13	107 55	133 51	25 96
Average.....		358·7	12,385·3	3·44	424·11	530·13	3,150	19,189	969	164	11 33	129 32	239 92	110 60

LIST OF RECORDS COMPLETED BY COWS IN THE CANADIAN RECORD OF PERFORMANCE DURING THE YEAR 1927

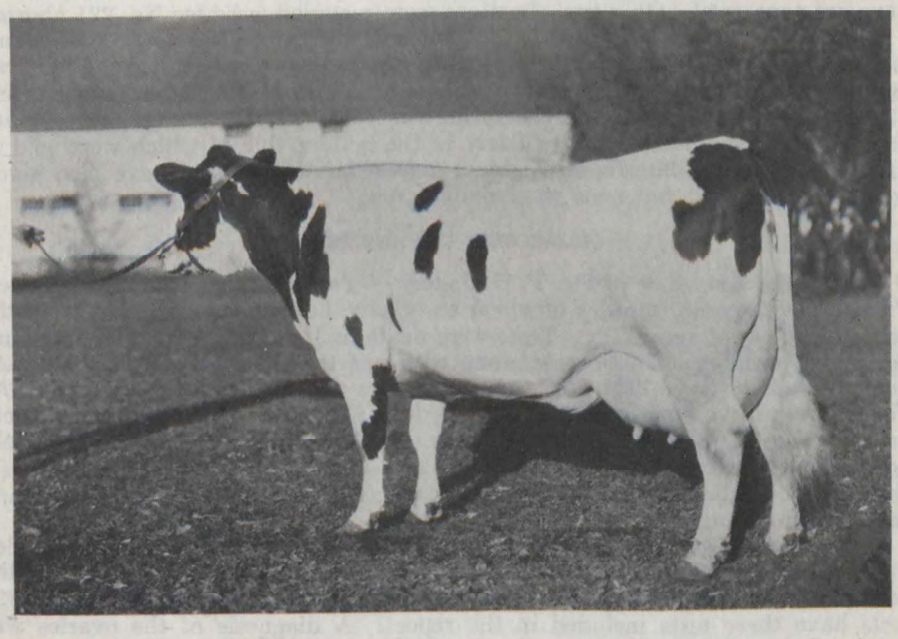
(Project A.58)

Name	Age at start of test	Month starting test	Duration of test	No. of times milked daily	Amount of milk	Amount of fat	Percentage of fat
	yrs. days		days		lb.	lb.	
Agassiz Aurora Sylvia	7 ..	April, 1926	365	4 times on 122 days 3 " 224 " 2 " 19 "	20,047	654	3·26
Agassiz Pietje Canary	7 ..	Nov., 1926	365	4 " 337 " 3 " 28 "	17,981	662	3·68
Agassiz Pietje Sylvia De Kol	5 ..	Mar., 1926	337	4 " 60 " 3 " 224 " 2 " 53 "	16,131	545	3·38
Agassiz Walula Sylvia	8 ..	Mar., 1926	305	4 " 30 " 2 " 275 "	15,271	507	3·32
Agassiz Pietje Canary Queen	7 ..	Nov., 1926	305	4 " 279 " 3 " 26 "	14,275	513	3·59
Agassiz Faforit Canary	8 ..	Jan., 1926	365	3 " 30 " 2 " 335 "	14,044	557	3·97
Agassiz Walula Ke Kol	3 8	Aug., 1926	365	4 " 257 " 3 " 105 "	13,530	530	3·92
Agassiz Pietje Posch	2 263	April, 1926	305	4 " 17 " 3 " 224 " 2 " 61 "	9,008	358	3·97

PROGRESS IN BREEDING HOLSTEIN CATTLE

(Project A. 502)

Pietje Priscilla Mechthilde 14123, the last of the original foundation cows, after freshening on August 31 was unable to recover her strength, and was destroyed October 4, at the ripe old age of eighteen years and two months. She afforded a wonderful example of what could be raised in the way of a pure-bred herd from one foundation cow. Four heifer calves were added to this



Agassiz Walula de Kol 113024, second prize dry three-year old at the Toronto Royal Winter Fair, 1927.

family and seven females disposed of during the year, leaving twenty-one on hand. A grand-daughter, Agassiz Pietje Canary, made the highest R.O.P. butter-fat record in the herd this year, with 662 pounds. Two other members of this family were selected to represent the herd at the Royal show, where they won third and sixth places in very strong competition. (For further particulars of this family see 1924 report of this Farm, page 7).

One member of the Aurora family was sold and no heifer calves were reared so there are now ten members. Agassiz Aurora Sylvia produced 20,047 pounds of milk in R.O.P. thus making the eighth twenty-thousand pound cow in the herd.

The Lina family was increased from fourteen to twenty head by the addition of seven heifer calves, one of which was later sold. This family is now almost as large as the Pietje family, and is another example of breeding a herd from one foundation cow.

The Lady Lyons family was increased to three head by the addition of a heifer calf.

Agassiz Walula De Kol, a member of the Walula family, was first prize three-year-old at New Westminster exhibition, and second prize dry three-year-old at the Royal. She produced 530 pounds of fat as a junior three-year-old in R.O.P. Four females were sold from this family.

Three of the five bull calves sold for breeding purposes were members of the Faforit family. Breeders were especially interested in these bulls owing to the high testing dams. Three females were sold and two calves reared, leaving eight in this group.

CONTAGIOUS ABORTION

(Project A. 94)

Satisfactory improvement has taken place in the herd as far as actual abortions are concerned. Only two abortions were recorded, a heifer No. 221 aborted a mummified calf at nine months in January, and No. 142 a four months calf in November. With two abortions from thirty-five cows freshening, the percentage is lower than at any time for eight years. The absence of retained afterbirths was particularly noticeable during the year. Cystic ovaries and sterility are still very troublesome, particularly in the heifers, five of which were sold to the butcher as non-breeders. Eight or ten of the older cows have also given trouble of this kind, but none were slaughtered.

BLOOD TEST FOR ABORTION

With the assistance of Dr. T. H. Jagger of Vancouver, and Dr. E. A. Bruce, Pathologist, Agassiz, a series of blood tests have been made of all cattle in the herd regardless of age or sex. Tests were made in January, April, June, September and November. These tests along with one taken in September, 1920, and another in February, 1924, give some valuable and interesting data. In 1920, 27 gave a positive reaction out of 57 tested, or 47·37 per cent. In 1924, 25 were positive out of 61 tested, or 41 per cent. In November of this year, 20 were positive out of 66 tested, or just over 30 per cent. Eighteen of the twenty positives in November were over four years old, the other two being very young calves from reacting cows.

In order to facilitate the study of the results secured, the animals are divided into several groups. It is well to remember that the lower the number of the cow, the older she is, and also that cows born previous to the 1920 and 1924 tests have these tests included in the report. A diagnosis of the ovaries was made semi-monthly throughout the year by Dr. Jagger.

COWS WHICH HAVE FRESHENED AT LEAST ONCE AND ALWAYS GIVEN A POSITIVE REACTION

Cow No.	Age	Number of living calves	Dam No.	Ovaries	History
46	April 10, 1913..	9	75	Good.....	Aborted Feb., 1921, Jan., 1922, otherwise regular breeder.
56	Feb. 11, 1914..	9	61	Some cysts.	Aborted Oct., 1919, Aug., 1926, otherwise regular breeder.
70	Dec. 2, 1914..	6	87	Bad.....	Aborted Sept., 1919, July, 1920, Sept., 1923, Oct., 1926.
77	May 2, 1915..	9	43	Good.....	Never aborted, a regular breeder.
95	Feb. 9, 1916..	5	87	Good.....	Aborted Aug., 1921, Feb., 1924, hard to get in calf.
98	Mar. 10, 1916..	3	90	Very bad...	Aborted May, 1920, Mar., 1926, irregular breeder.
126	Jan. 14, 1918..	2	86	Bad.....	Aborted May, 1920, Nov., 1921, April, 1923, raised calf Mar., 1926 and April, 1927.
135	April 16, 1928..	6	61	Fair.....	Aborted Sept., 1921, hard to get in calf.
147	Jan. 11, 1919..	4	105	Very bad...	Aborted first two calves, good breeder since.
169	Sept. 21, 1920..	4	139	Fair.....	Never aborted, fairly regular breeder.
173	Feb. 9, 1921..	4	75	Few cysts..	Never aborted, fairly regular breeder.

Three cows in this group have never aborted and have been regular breeders. This is not what would be expected from a group of positive cows.

COWS WHICH HAVE FRESHENED AT LEAST ONCE, GAVE A NEGATIVE REACTION SEPTEMBER, 1920, AND ALWAYS POSITIVE SINCE

Cow No.	Age	Number of living calves	Dam No.	Ovaries	History
81	Aug. 27, 1915..	7	75	Fair.....	Aborted Jan., 1921, April, 1924.
142	Sept. 6, 1918..	2	70	Bad.....	Aborted Jan., 1922, June, 1923, July, 1924, Mar., 1927.
145	Nov. 6, 1918..	4	87	Bad.....	Aborted first two calves. Good since.
153	June 8, 1919..	4	52	Fair.....	Aborted first two calves. Good since.
154	July 24, 1919..	6	113	Good.....	Aborted second calf, Aug., 1922. Good since.
157	Nov. 10, 1919..	3	90	Fair.....	Never known to abort. Very hard to get in calf.

These six cows although they were negative in September, 1920, have become infected since. Cow No. 81 aborted January, 1921, although she was negative four months earlier.

COWS WHICH HAVE FRESHENED AT LEAST ONCE AND ALWAYS GIVEN A NEGATIVE REACTION

Cow No.	Age	Number of living calves	Dam No.	Ovaries	History
93	Jan. 3, 1916..	8	91	Fair.....	Aborted Mar., 1920, otherwise regular breeder.
114	Feb. 26, 1917..	7	91	Bad.....	Aborted June, 1919, otherwise regular breeder.
176	June 16, 1921..	4	93	Very cystic.	Very difficult to get in calf.
178	July 29, 1921..	3	70	Very cystic.	Very difficult to get in calf.
180	Oct. 17, 1921..	2	154	Very cystic.	Very difficult to get in calf. Slaughtered April, 1927.
188	April 1, 1922..	3	86	Fair.....	Never aborted, regular breeder.
190	July 9, 1922..	2	93	Fair.....	Aborted Dec., 1925, otherwise good breeder.
195	Dec. 3, 1922..	3	143	Good.....	Excellent.
202	May 18, 1923..	2	135	Good.....	Excellent.
206	July 15, 1923..	2	93	Fair.....	Good; difficult to get in calf first time.
207	Aug. 7, 1923..	2	151	Fair.....	Good; difficult to get in calf first time.
213	Jan. 23, 1924..	0	147	Bad.....	Two calves killed during birth.
215	Mar. 17, 1924..	2	127	Good.....	Excellent.
216	Mar. 19, 1924..	2	168	Good.....	Excellent.
219	July 17, 1924..	1	77	Good.....	Difficult to get in calf second time.
222	Jan. 1, 1925..	1	190	Good.....	Good.
225	Mar. 24, 1925..	1	145	Some cysts.	Good.
226	Mar. 30, 1925..	1	153	Some cysts.	Difficult to get in calf second time.
230	Oct. 21, 1925..	1	154	Good.....	Good.

The results of the blood test in this group are not very conclusive as we find three negative cows actually credited with an abortion. No. 93 aborted March 29, 1920, and was negative September 23, 1920. Several of these cows were troubled with cystic ovaries and were irregular breeders.

COWS NOT INCLUDED IN OTHER GROUPS AND WHICH HAVE GIVEN INCONSISTENT REACTIONS

No. 87.—Born July 24, 1909, gave birth to four healthy calves and then aborted October 29, 1917. Healthy calf November 6, 1918, aborted July 7, 1919, healthy calf July 18, 1920. Negative reaction August 20, 1920. Healthy calf July 31, 1921, aborted August 31, 1922, difficult to get in calf. Positive reaction February 1, 1924, healthy calf September 8, 1924. Healthy calf September 30, 1924. Aborted July 22, 1926. Negative reaction January, April and June, 1927. Positive September, 1927. Calved a dead calf a week over time August 31, 1927. Destroyed October 4, 1927.

No. 127.—Born January 16, 1918. A very regular breeder. Never aborted. Reared seven healthy calves in as many years. Positive August 27, 1920, and February 1, 1924. Negative all tests in 1927.

No. 143.—Born September 9, 1918. A very regular breeder. Never aborted. Reared seven calves in as many years. Negative 1920-1924, and April, June and November, 1927, but positive January and September, 1927.

No. 192.—Born August 8, 1922. Three healthy calves in as many years. Never aborted. Since last calf, April 13, 1927, ovaries very cystic. Negative 1924 and all 1927 tests, except November, when she was positive.

No. 210.—Born August 25, 1923. Healthy calf April 10, 1926. Aborted November 3, 1926. Negative January, April, June and September, 1927. Healthy calf October 13, 1927. Positive November 25, 1927.

No. 227.—Born June 8, 1925. Healthy calf July 9, 1927. In calf to first breeding September 11, 1927. Negative January, April, June and November. Positive September, 1927.

Probably the most inconsistent results in this group are found in cow No. 210. Why she should be negative in January, 1927, two months after having aborted and then, on November 25, 1927, be positive six weeks after giving birth to a healthy calf, is difficult to explain.

HEIFERS WHICH HAVE NEVER FRESHENED

No.	Age	No. of Dam	Dam's reaction	Reaction, 1927					Remarks
				Jan.	April	June	Sept.	Nov.	
228	Sept. 17, 1925	77	P	N	N	N	N	.....	In calf.
229	Sept. 30, 1925	87	Both	N	N	N	N	N	Could not get in calf.
232	Jan. 6, 1926	114	N	N	N	N	N	N	Could not get in calf.
233	Jan. 14, 1926	151	Both	N	N	N	N	N	Could not get in calf.
234	Feb. 7, 1926	178	N	N	N	N	N	N	Could not get in calf.
237	Mar. 4, 1926	169	P	N	N	N	N	N	In calf.
238	Mar. 10, 1926	189	.....	N	N	N	N	N	In calf.
239	April 1, 1926	217	N	N	N	N	N	N	In calf.
240	April 10, 1926	210	Both	N	N	N	N	N	Could not get in calf.
241	April 22, 1926	215	N	N	N	N	N	N	Not bred.
242	May 22, 1926	127	Both	N	N	N	N	N	
243	Oct. 14, 1926	147	P	P	N	N	N	N	
244	Nov. 12, 1926	77	P	P	N	N	N	N	
245	Nov. 16, 1926	154	P	P	N	N	N	N	
246	Nov. 22, 1926	195	N	N	N	N	N	N	
247	Dec. 11, 1926	143	Both	N	N	N	N	N	
248	Dec. 17, 1926	95	P	P	P	P	N	N	
249	Mar. 8, 1927	188	N	.....	N	N	N	N	
250	April 6, 1927	126	P	.....	P	P	N	N	
251	April 11, 1927	206	N	.....	N	N	N	N	
252	May 28, 1927	46	P	.....	.....	P	N	N	
253	May 28, 1927	225	N	.....	.....	N	N	N	
254	June 6, 1927	216	N	.....	.....	N	N	N	
255	June 10, 1927	81	P	.....	.....	N	N	N	
256	June 20, 1927	222	N	.....	.....	N	N	N	
257	July 9, 1927	227	Both	.....	.....	.....	N	N	
258	July 11, 1927	127	Both	.....	.....	.....	N	N	
259	Aug. 3, 1927	215	N	.....	.....	.....	N	N	
260	Aug. 7, 1927	157	P	.....	.....	.....	P	N	
261	Aug. 19, 1927	173	P	.....	.....	.....	P	P	
262	Oct. 13, 1927	210	Both	.....	.....	.....	.....	P	

The testing of the heifers from birth to two years of age has given consistent results. In nearly all cases where a cow is positive near freshening time, the calf is the same at birth, and vice versa. In every instance whether the calf is positive or negative at birth, it later becomes negative, the positive period lasting only a few days, or prolonged to six months. Apparently, there is a time in the life of all heifers when they give a negative reaction. If such is true, a healthy herd can be built up from infected breeding cows. In this connection, it is interesting to note that practically all cows tested this year, born since June 16, 1921, gave negative reactions after they passed the calf period. There was only one exception. On the other hand, all cows older than that gave positive reactions except three.

There appears to be little connection between cystic ovaries and the blood test. Five heifers were sold for sterility during the year, all of which gave negative reactions. If there is a relationship between abortion and cystic ovaries, the blood test is not accurate. On the other hand, if the blood test is correct, there is no connection between abortion and cystic ovaries. Also, if it is perfect, this data proves that cows may become infected and clean up rapidly, and that negative cows may be in close contact with positive cows without changing their reaction.

Every time the herd sires have been tested, they have been negative. Bull calves give similar reactions to the heifer calves, eventually becoming negative.

DAIRY WORK

CHEESEMAKING

With the assistance and co-operation of the Dairy Department of the University of British Columbia, a new undertaking was started in the cheese room this year, with the manufacture of Kingston cheese. This is a small cheese weighing exactly one pound, put up in cylindrical form and covered with a cheesecloth bandage which is waxed. In flavour the cheese is mild, in texture it is soft enough to spread like butter, but not so soft as cream cheese, and there is practically no rind. Kingston is best made with a milk of 3.8 per cent to 4.2 per cent because, on account of the process of manufacture and its small size, it may otherwise become too dry, and the characteristic texture will be lost.

The actual making process takes from three to four hours, during which time it must be watched constantly.

After that, on subsequent days, it is scraped, bandaged and finally, about the fourteenth or sixteenth day, it is waxed, after which it is ready for market.

While maturing, it should be kept at a temperature of 60° F. in a well-ventilated room to avoid mould growth. When once matured and waxed, if it cannot immediately be shipped, it may be kept in a cooler room for a short time, but should not be held over very long.

The quantity of milk used for one Stilton—160 pounds—will make fifteen Kingston cheeses, but the labour involved in the latter is considerably greater, and it requires more equipment. It retails at 45 cents for the individual cheese of one pound, while Stilton sells at 50 cents per pound. The market for Kingston, however, when once established appears to be constant, while that of Stilton is intermittent.

Some difficulty has been experienced in the manufacture of Kingston here, and it is felt that more work must be done before the process is perfected.

The manufacture of Stilton, Cheshire, and cream cheese has been continued; the latter throughout the year, and the other two periodically.

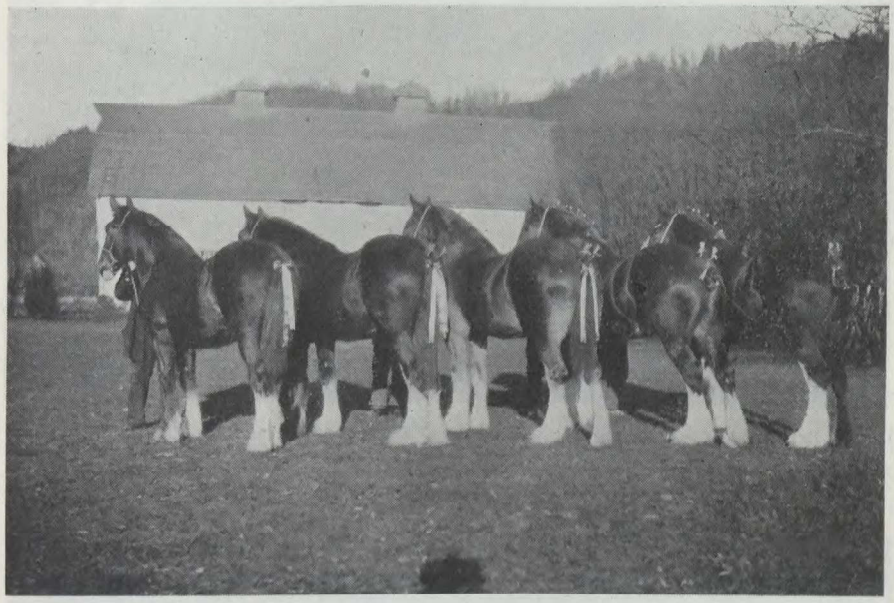
A short article published in the press on the manufacture of Pont l'Eveque cheese for home use elicited a number of interested inquiries. Several of the correspondents expressed themselves as gratified at being able to obtain instructions for making this cheese.

Milk testing of the cows in the Experimental Farm herd has been continued throughout the year, and farmers have availed themselves to some extent of this service.

HORSES

The horses on December 31, 1927, totalled eighteen head, all pure-bred Clydesdales excepting one gelding and a pony, and all bred on the farm except four foundation mares and the pony. A gelding was sold in January for logging purposes, another was sold to a milk firm in the city in September, and two

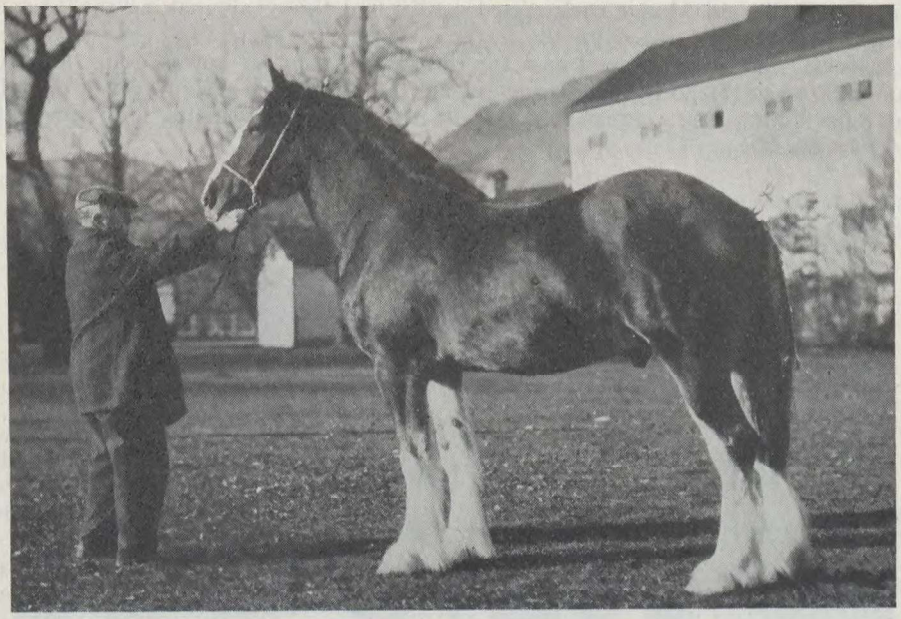
geldings were disposed of during the winter fair at Vancouver in December. Heather, Bell, and Madge each raised a filly foal this year, making the seventh foal in seven years raised by the latter. Five mares were bred, but only Bell is in foal. The average feed cost for the year of the six horses doing most of the work was $112.35 for an average of 2,170 hours' work accomplished, or 5.18 cents per hour. The average feed cost of maintaining a yearling and two-year-old was $61.20.



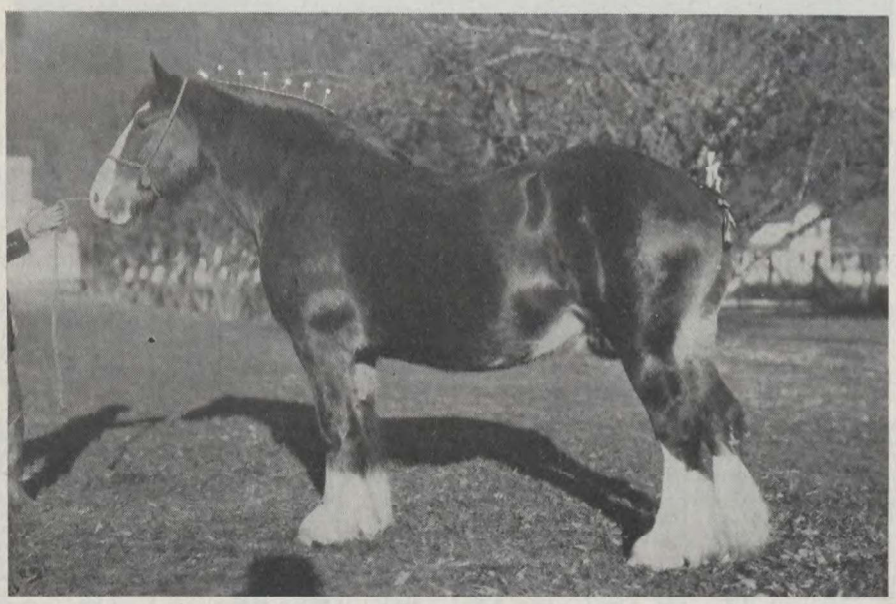
A group of young horses bred and owned by the Agassiz Experimental Farm and shown at the Vancouver Winter Fair, 1927. From left to right—Belle of Music Hall 53358, first prize foal; Heather Bell 52420, first prize yearling; Harry, first prize two-year-old gelding; Glen, second prize three-year-old draft gelding; Mac, first prize three-year-old gelding.

HORSE-RECORDS OF FEED AND LABOUR FROM JANUARY 1, 1927, TO DECEMBER 31 1927

Name	Date of birth	Oats consumed	Bran consumed	Hay consumed	Roots consumed	Pasture at $2.00 per month	Total cost of feed	Hours labour	Weight Dec. 31, 1926	Weight Dec. 31, 1927
		lb.	lb.	lb.	lb.	$ cts.	$ cts.		lb.	lb.
Scotty	May, 1920	3,889	525	6,090	623	.....	117 90	2,252	1,750	1,750
Diana	May, 1918	3,829	485	5,824	661	.....	114 37	2,500	1,646	1,660
Bob	May, 1923	3,440	485	5,754	545	.....	107 31	1,845	1,770	1,740
Pat	May, 1923	1,959	452	2,231	494	14 00	70 53	280	1,480	1,550
Mike	April, 1922	3,706	478	5,824	608	.....	112 16	2,326	1,585	1,610
Glen	April, 1924	3,315	485	4,661	496	4 00	102 38	963	1,550	1,690
Nellie	April, 1923	3,477	487	5,763	566	.....	108 06	2,077	1,585	1,560
Mac	April, 1924	3,310	482	4,731	524	4 00	102 68	929	1,600	1,720
Backlyvie	June, 1921	3,776	485	5,936	643	.....	114 32	2,022	1,570	1,520
Topline Bute	April, 1924	2,672	485	4,262	374	8 00	91 78	749	1,450	1,505
Heather	June, 1918	2,191	523	2,968	590	14 00	81 48	.....	1,830	1,600
Madge	June, 1915	2,037	586	2,646	590	12 00	78 13	112	1,675	1,630
Bell	June, 1916	2,037	596	3,024	590	14 00	80 29	.....	1,850	1,920
Harry	May, 1925	1,693	371	1,958	266	14 00	63 17	.....	1,260	1,630
Heather Bell	Feb., 1926	1,582	371	1,674	266	14 00	59 22	.....	980	1,380



Harry, first prize two-year-old gelding at the Vancouver Winter Fair, 1927. Sire, Bute Crown 23733. Dam, Hartland's Madge 36027.



Madge of Bellfield 38590, one of the foundation mares on the Agassiz Experimental Farm. Her foal by Music Hall was first at the Vancouver Winter Fair, 1927.

Eight horses, all of which were bred on the farm, were shown at the Vancouver Winter Fair in December. In very strong competition, they did exceptionally well, winning five first, four second, one third, and three fourth prizes. In the Clydesdale breeding classes, Heather Bell won the yearling class, while Belle of Music Hall and Carillon Chimes stood first and second respectively in the foal class, and the latter, along with the yearling, was placed second in the progeny class. Pat and Mike were fourth and fifth in the Agricultural Gelding class on the halter and later were second as a team in harness. Harry was first in the two-year-old draught gelding class. Mac and Glen were first and second three-year-old draught geldings, and fourth draught team. Mac was fourth in the "Five Hundred Dollars Stake", five geldings were first in the "Dominion Government Special", and five of the horses won third in the "Grand Display".

SHEEP

The sheep on hand December 31, 1927, totalled sixty-one head, consisting of one ram, forty-eight ewes, and a dozen shearlings. Of the forty-one ewes on hand at the close of the year 1926, one was not in lamb and the forty others gave birth to sixty-five lambs and raised fifty-eight, or 130 per cent.

EASTER LAMB PRODUCTION

(Project A. 408)

On April 13, twenty lambs were ready for the Easter market with an average weight of 65.9 pounds. The best price quoted was 15 cents per pound live weight, which was the lowest offered for the past ten years. It was refused. Two, however, were slaughtered and sold locally; the remainder, weighing 1,160 pounds and valued at $174, were held over. On May 3, two were sold alive for $30. On May 4, nine were dressed and returned $112.37 and on July 14, the remaining seven were disposed of alive for $70, making a total of $212.37 for the eighteen that would have sold for $174 at Easter time. Although these eighteen lambs only returned $38.37 more by holding them over, they cost very little extra to feed, as the ewes were making use of grass which would otherwise have been wasted.

CO-OPERATIVE WOOL SELLING

(Project A. 342)

Owing to the fact that the returns for the 1926 wool crop were not received until April, 1927, the report of the two crops follows:—

Wool Clip of 1926

Number of fleeces, 47. Net weight, 392 pounds. Average weight per fleece, 8.34 pounds.

Grade	Pounds	Value	Amount
		cts.	$ cts.
Medium staple (¾ blood staple), Bright	43	25	10 75
Low medium staple (¾ blood staple), Bright	317	24	76 08
Low medium staple (¾ blood staple), Semi-Bright	20	21½	4 30
Low staple (Low ¾ blood staple), Bright	6	23	1 38
Low staple (Low ¾ blood staple), Semi-Bright	6	20	1 20
Total	392	.....	93 71

It cost $28.89 for grading, selling, freight, sacks, etc., leaving $64.82 for 392 pounds of wool, or just over 16½ cents per pound or just under $1.38 per sheep.

Wool Clip of 1927

Number of fleeces, 55. Net weight, 472 pounds. Average weight per fleece, 8.58 pounds.

Grade	Pounds	Value	Amount
		cts.	$ cts.
Medium staple (¾ blood staple), Semi-Bright	25	25	6 25
Low medium staple (½ blood staple), Bright	378	26	98 28
Low staple (Low ¼ blood staple), Bright	69	24	16 56
Total	472	.....	121 09

It cost $28.29 for grading, freight, etc., leaving $92.80 for 472 pounds of wool, just under 20 cents per pound or almost $1.69 per sheep.

SWINE

The swine on hand December 31, 1927, totalled thirty-eight head, all pure-bred Yorkshires, consisting of the old imported boar, Rogerfield Masterpeace, a yearling boar, Ottawa Warrior 33, eleven pure-bred sows, and twenty-five feeders. During the year, fifty-three market hogs, forty-four weaners, seven young registered sows, and ten young boars were sold. Between February 19 and March 12, twelve sows farrowed and reared ninety-five pigs. From these litters, fifty very uniform feeders were selected for the fish meal versus skim-milk experiment. Owing to the difficulty in getting the sows bred for fall litters, the farrowing results were very unsatisfactory. Some of the sows farrowed in November in bad weather and many of the young pigs were chilled and contracted scours.

SKIM-MILK VERSUS FISH MEAL FOR MARKET HOGS

(Project A. 571)

Continuing some experimental work conducted last year, another comparison was made between edible fish meal and skim-milk as a supplement to the grain ration for fattening hogs. Fifty uniform pure-bred Yorkshire sows and barrows were divided into ten pens of five hogs each. Lots 1 and 5 were fed a similar ration which consisted of one part bran, two parts ground barley, three parts ground oats, four parts shorts, and seven per cent fish meal. This ration was fed as a wet slop; the hogs were given what they would consume. The cost was 2·1056 cents per pound. Lots 6 to 10 were fed a similar basic grain ration to that received by the other five lots, except that no fish meal was included, and the cost was 1·973 cents per pound. They were given in addition, however, six pounds of skim-milk per pig per day, the milk being charged at 25 cents per 100 pounds. Three days at the close of the test milk was not available, and was not fed or charged to these groups. The trial, conducted in quintuplicate, lasted for fifty-eight days and was a direct comparison between skim-milk and fish meal. All the hogs fed made good gains. Fish meal was charged at $70 per ton, skim-milk at 25 cents per 100 pounds, and grain valued at market price.

SKIM-MILK VERSUS FISH MEAL

Lot	Initial weight July 8	Weight Aug. 13	Final weight Sept. 3	Total gain	Total value of gain at 10½ cents	Amount of meal (fish meal included) consumed	Value of meal (fish meal included)	Amount of milk consumed	Total cost of feed	Difference in value of gain and feed cost
	lb.	lb.	lb.	lb.	$ cts.	lb.	$ cts.	lb.	$ cts.	$ cts.
1	430	665	835	405	43 54	1,526	32 13	.....	32 13	11 41
2	460	685	840	380	40 85	1,516	31 92	.....	31 92	8 93
3	450	695	860	410	44 08	1,637	34 47	.....	34 47	9 61
4	460	710	855	395	42 46	1,526	32 13	.....	32 13	10 33
5	440	700	880	440	47 30	1,526	32 13	.....	32 13	15 17
Total	2,240	3,455	4,270	2,030	218 23	7,731	162 78	.....	162 78	55 45
6	480	800	965	485	52 14	1,570	30 98	1,650	35 10	17 04
7	440	770	965	525	56 44	1,540	30 38	1,650	34 51	21 93
8	440	710	860	420	45 15	1,344	26 52	1,650	30 64	14 51
9	440	720	915	475	51 06	1,483	29 26	1,650	33 38	17 68
10	440	715	910	470	50 52	1,514	29 87	1,650	34 00	16 52
Total	2,240	3,715	4,615	2,375	255 31	7,451	147 01	8,250	167 63	87 68

The results secured are in favour of skim-milk, not only as a gain producer, but also in producing cheaper pork. Only one lot, No. 5, in the fish-meal group, made greater gains than the poorest lot, No. 8, in the milk-fed group. The total gain of the milk-fed group was 345 pounds more than that of the other. The fishmeal-fed group consumed 280 pounds more grain than the milk-fed group, and taking the cost of the milk into consideration, the total feed cost of the latter was only $4.85 greater. This difference was more than made up by the extra gains as, when figured at $10.75 per 100 pounds, the value of the gains in the milk group was $255.31 as compared to $218.23 for the other group. The difference in the feed cost and the value of the gain was decidedly in favour of the skim-milk.

As far as cheapening the production goes, these results are in line with the previous experiment, but last year fishmeal-fed hogs made greater gains than those fed milk.

QUALITY AND FLAVOUR OF THE PORK

Forty-seven of the pigs were sold from the pens for $10.75 per 100 pounds live weight. No premiums or dockages were made from any of these pigs. The remaining three were handled differently. One pig from the milk-fed group was carried on for two weeks longer on its same ration, one of the fishmeal-fed group was carried for two weeks on its same ration, while another fishmeal-fed pig was finished for two weeks on grain and milk, without fish meal. These three hogs were then slaughtered and shipped to a meat merchant in Vancouver. He paid 18 cents per pound for the hog that had not received fish meal, as he was able to distinguish it from the other carcasses due to its firmer and less oily appearing meat. For the others the price was 16 and 17 cents respectively. Hams from these hogs were then put into cure and when finished were all valued alike. Samples from them were tested in five different homes to see if a fish flavour could be detected. The reports from the five different sources were so conflicting that it must be admitted, for all practical purposes, these hams were uniform, although possibly a connoisseur could pick out the ham of the milk-fed hog.

FIELD HUSBANDRY

The month of April, 1927, was cool, cloudy, and wet. This unsettled weather continued throughout May. These weather conditions produced slow-growing crops, and weeds made rank, rapid growth and were very difficult to control. The precipitation in June during haying was light, but the atmosphere was so damp that most of the clover crop was made into ensilage. The weather continued unsettled on through a late harvest, when a large percentage of the grain in the entire Fraser Valley was destroyed in the stook. Potatoes also suffered badly, and the harvesting of corn and roots was made very difficult.

The four-year rotation, now in existence at this Farm for a number of years, was continued on the same general plan as formerly. It consists of: first year, hoed crop; second year, grain seeded down; third year, hay; fourth year, pasture. (Project F. 20.)

HOED CROPS

The crops grown in this section were corn and mangels. The area assigned to mangels had been ploughed in the fall and again in the spring. The corn area was ploughed in the spring only. The entire field received an application of barnyard manure broadcast at the rate of 12 tons per acre and ploughed under. The portion reserved for mangels also received at time of seeding an application of commercial fertilizer in the proportion of one part of nitrate of soda, two parts of superphosphate of lime, and one part of muriate of potash, at the rate of 500 pounds per acre.

The mangel seed was sown at the rate of 10 pounds per acre in drills set up 30 inches apart with a double mould-board plough. The varieties grown were Danish Sludstrup and Half Sugar White. The total mangel crop amounted to 152 tons 1,800 pounds from six acres.

The corn was sown in hills three feet apart each way. The weather during the entire season was most unfavourable for the growing of corn for ensilage. The varieties grown were Golden Glow and Longfellow, and from 28 acres there were 307 tons harvested.

GRAIN

The grain (oats) was grown on land that had been in hoed crop the previous year. The area was ploughed in the spring. Seeding was late owing to wet weather and threshing was completed under adverse conditions on September 19. The grass and clover mixture used for seeding down consisted of 9 pounds red clover, 3 pounds alsike clover, 2 pounds White Dutch clover, 2 pounds Italian rye grass, and 2 pounds orchard grass per acre. The total crop of grain harvested amounted to 16 tons 500 pounds from 19 acres.

HAY

An excellent crop of clover was harvested from 38 acres. The first cutting, which commenced early in June, produced 337 tons 1,000 pounds of clover silage. The second cutting, which commenced early in August, yielded 73 tons 1,200 pounds of hay.

PASTURE

The pasture season was very good, due largely to moist weather conditions. Excellent feed was produced and the stock did well on pasture.

SUMMARY OF YIELDS, VALUE, AND PROFIT AND LOSS, AGASSIZ, FOUR-YEAR-ROTATION

Rotation year	Crop	Yield per acre, 1927	Value of crop, 1927	Cost of production, 1927	Profit or loss per acre, 1927
			$ cts.	$ cts.	$ cts.
1	Mangels	25½ tons	85 45	101 76	−16 31
	Corn	11 tons	73 15	70 30	2 85
2	Grain (oats)	50 bush	35 00	54 04	−19 04
3	Hay	3 tons	60 00	41 68	18 32
4	Pasture		8 40	29 89	−21 49

COST OF PRODUCTION

The following table shows the cost prices and return values used in determining the cost of producing the various crops of the four-year rotation:—

Cost Prices

Rent including taxes	$24 00 per acre
Manure—	
The cost of the manure is distributed as follows: 40 per cent to the first crop of the rotation, 30 per cent to the second, 20 per cent to the third and 10 per cent to the fourth.	
Manual labour	0 27½ per hour
Teamster labour	0 30 "
Horse labour	0 15 "
Machinery	2 85 per acre
Twine	0 20 per pound
Threshing	0 04½ per bushel
Oats	0 85 "
Corn	0 08 per pound
Mangel seed	0 50 "
Red clover	0 33 "
Alsike clover	0 33 "
White Dutch clover	0 49 "
Italian rye grass	0 12 "
Orchard grass	0 22 "

Return Values

Oats	$ 0 50 per bushel
Hay	20 00 per ton
Oat straw	10 00 "
Corn ensilage	6 65 "
Roots	3 35 "

The following tables show the details of the cost per acre for producing mangels, ensilage corn, oats and hay and the profit obtained or loss incurred:—

COST PER ACRE OF PRODUCING MANGELS

Item	1927	Average 1924–1927
	$ cts.	$ cts.
Rent and taxes	24 00	24 00
Manure	17 16	21 36
Seed	5 00	5 00
Machinery	2 85	2 96
Manual labour	45 25	50 19
Horse labour	7 50	9 10
Total cost per acre	101 76	112 61
Yield per acre (tons)	25½	20
Value per acre ($)	85 45	61 19
Loss per acre ($)	16 31	51 42

COST PER ACRE OF PRODUCING ENSILAGE CORN

Item	1927	Average 1924–1927
	$ cts.	$ cts.
Rent and taxes	24 00	24 00
Manure	9 60	9 60
Seed	1 60	1 60
Machinery	2 85	2 96
Manual labour	22 75	22 14
Horse labour	8 70	10 05
Twine	0 80	0 80
Total cost per acre	70 30	71 15
Yield per acre ... tons	11	11
Value per acre ... $	73 15	88 52
Profit per acre ... $	2 85	17 36

COST PER ACRE OF PRODUCING OATS

Item	1927	Average 1924–1927
	$ cts.	$ cts.
Rent and taxes	24 00	24 00
Manure	11 32	8 23
Seed	2 55	2 55
Machinery	2 85	2 96
Twine	0 60	0 60
Manual labour	6 70	6 85
Horse labour	3 90	3 35
Threshing	2 12	2 35
Total cost per acre	54 04	50 89
Yield per acre: Grain ... bush.	50	53
Straw ... tons	1	1¼
Value per acre: Grain ... $	25 00	25 12
Straw ... $	10 00	9 00
Total Value ... $	35 00	34 12
Loss per acre ... $	19 04	16 76
Cost per bushel (considering value of straw) ... $	0 77	0 80

COST PER ACRE OF PRODUCING HAY

Item	1927	Average 1924–1927
	$ cts.	$ cts.
Rent and taxes	24 00	24 00
Manure	6 18	6 86
Seed	2 80	2 66
Machinery	2 85	2 96
Manual labour	4 05	4 02
Horse labour	1 80	1 60
Total cost per acre	41 68	42 10
Yield per acre ... tons	3	2½
Value per acre ... $	60 00	54 43
Profit per acre ... $	18 32	12 34

HORTICULTURE

Weather conditions during the growing season of 1927 were not favourable to the best results with horticultural work. From records taken of different dates of flowering of fruit trees it was seen that on an average flowering dates were one month later than in 1926. The spring was dull and cool, the summer very short, and fall rains commenced on August 24 and continued throughout September and October.

The most injurious diseases were brown rot of stone fruits, apple and pear scab and late blight of potatoes. Flea-beetles, cabbage root maggot and strawberry root weevil were effectively controlled with nicotine dust, bichloride of mercury and strawberry root weevil bait.

Work was commenced on the production of foundation stock seed with Scarlet Runners, Daisy peas and Early Flat Egyptian beet. Numerous strains of each kind were grown and the best plants were selected from which seed was saved for future work along the same line. It was observed that bumble bees extensively worked the Scarlet Runners, showing that these insects may be a factor in crossing closely planted varieties and strains. To these kinds of vegetables for similar work there will be added in 1928 Masterpiece beans, Copenhagen Market cabbage, Danvers Half Long carrot, New York lettuce, China Rose radish and Green Trailing vegetable marrow.

As in past years, small quantities of seed were saved from different vegetables and annual flowers. Due to the wet fall considerable difficulty was experienced in gathering seed, especially from the later maturing annuals; most kinds grown, however, produced considerable quantities and in past years this has always proved very satisfactory seed.

Eighty three-pound samples of potatoes of different varieties were sent out to growers who were desirous to try out new varieties in their districts.

VEGETABLES

BUSH BEANS

VARIETY TEST.—Nineteen varieties and strains of beans were grown. Seed was planted on May 5 and the earlier varieties were ready for use on July 11. Early Red Valentine, Hodson Long Pod, Canadian Wonder and Refugee were the latest to mature, the last three being two weeks later than most other varieties. Masterpiece, Best of All, a variety not previously grown, Canadian Wonder and Bountiful were all high yielding green varieties. Davis White Wax and Round Pod Kidney were the two best wax varieties. (Project H. 61.)

DISTANCE APART OF PLANTING.—This experiment has been run since 1923, using two varieties, Round Pod Kidney Wax and Stringless Green Pod, and planting three 30-foot rows of each variety with seeds two, four and six inches apart. Although results have not been uniformly regular in each year sufficient evidence is available to recommend the closer plantings.

The following table gives the yearly and total results obtained:—

BEANS—DISTANCE APART OF PLANTING SEED

Variety	Distance apart of planting	Yield in pounds					Total yield
		1923	1924	1925	1926	1927	
Round Pot Kidney	2 inches	30¾	16	17¾	14	22½	101
" "	4 "	15½	10	19	13	12½	69¾
" "	6 "	14¼	7½	12½	12	10½	56¾
Stringless Green Pod	2 "	23½	19	18½	12½	15½	88¾
" "	4 "	22¼	14	11	10¾	9¾	67¼
" "	6 "	7½	8	9¼	12¾	5½	43

This project will be discontinued.

BEETS

VARIETY TEST.—Eighteen varieties and strains of beets were grown. Seed was planted on April 19 and small sized roots were ready for use on July 23. The following were the heaviest yielding varieties: Cardinal Globe, Exhibition, Eclipse, Globe and Detroit Dark Red. (Project H. 68.)

DIFFERENT DATES OF SEEDING.—This experiment was commenced in 1923 to determine the relative merits of different seeding dates at ten-day intervals. Early sowings can be made in April any time weather will permit. From this planting small roots will be ready for use in eight to ten weeks, depending upon the season. Such plants left until the fall will become overgrown and woody and for this reason successive sowings are advised. The later the sowing the less thinning was required. Approximate dates of seeding for good roots for fall use and storage are from May 10 to May 25.

This project will be discontinued.

BRUSSELS SPROUTS

VARIETY TEST.—Four varieties of this vegetable were grown. The best yields were obtained from Paris Market and Matchless. Successive pickings should be made to get the most from plants, taking off first the lower leaves and the first-formed sprouts. This will induce a continuation of top growth with the formation of new sprouts. (Project H. 70.)

CABBAGE

VARIETY TEST.—Twenty-two varieties and strains of cabbage were grown. For production of early cabbage, six varieties were sown in a hotbed on March 17 and transplanted to the open on April 22. The earliest variety, Golden Acre, was ready for use July 7. Dala, the highest yielding variety, matured ten days later. For the main crop seed was planted in a cold frame and plants set out on June 7. Copenhagen Market, Glory of Enkhuizen, Danish Ballhead and Brunswick yielded heaviest in the order given. Winnigstadt was the best conical headed variety grown. (Project H. 77.)

DIFFERENT DATES OF SEEDING FOR STORAGE.—Six successive plantings were made of Copenhagen Market and Danish Ballhead, from April 21 to June 14, in cold frames. Considering yield and condition for storage best results were obtained from plantings of May 2 and 12 for Danish Ballhead and from May 12 and 23 for Copenhagen Market. (Project H. 72.)

CARROTS

VARIETY TEST.—Six varieties of carrots were grown. Market Garden and Chantenay were the two highest yielding. Nantes, though not as high yielding as the above two varieties, is of excellent quality. Market Garden tends to be coarse. (Project H. 83.)

DIFFERENT DATES OF SEEDING.—This experiment has been conducted since 1923. Six successive dates of sowings have been made each year at ten-day intervals, dates of seeding varying from March 27 to June 14. Results show that early April sowings give the earliest and highest yield, but that these roots, if allowed to grow until fall, become coarse and are not of good quality. It is recommended, therefore, to make successive plantings with approximate date of sowing for fall storage from May 10 to 20. Late seedings do not require as much thinning as the earlier ones. (Project H. 79.)

This project will be discontinued.

CAULIFLOWER

VARIETY TEST.—Seven varieties of cauliflower were grown during the past season. The highest yielding varieties were Fordhook, Improved Snowball, Veitch Autumn Giant, late, and Danish Perfection. (Project H. 88.)

HOTBED VERSUS SOWN IN OPEN.—Three varieties were sown in hotbed and compared with the same varieties sown in a cold frame. The Fordhook variety sown in the hotbed gave a heavier yield than when started in a cold frame; the other varieties yielded lighter from the hotbed-sown seed. (Project H. 84.)

CELERY

VARIETY TEST.—Golden Self Blanching and Easy Blanching have proved to be the two best varieties here, excelling in quality but somewhat lighter in yield than the later green varieties. There was a high percentage of pithy stocks in all varieties.

DIFFERENT METHODS OF BLANCHING.—Blanching with boards and paper gave stocks freer from rust than blanching with soil. Rows planted in trenches and gradually hilled up gave the highest yields with rows planted on the level and hilled up next.

CORN

VARIETY TEST.—Fifteen varieties of corn were grown during the past season. The first variety to mature was Pickaninny. This is an early variety of good quality but lighter in yield than some of the later producing kinds. Sixty Day Golden, tested for the first time, is a promising variety. It produced ten days earlier than Golden Bantam, yielded well and was of good quality. Groff's Golden did well. It is of good quality and ranked third in yield. (Project H. 102.)

REMOVING SUCKERS.—Two varieties were grown: Golden Bantam and Early Malcolm. Suckers were cut off on July 14, leaving a row of each variety for a check. With Golden Bantam both rows yielded the same but suckered plants matured a crop three days earlier. With Early Malcolm, the crops matured at the same time, but unsuckered plants yielded $3\frac{3}{4}$ pounds more than the suckered ones. (Project H. 101.)

CUCUMBER

VARIETY TEST.—Davis Perfect and White Spine can be considered the most satisfactory varieties here. Fordhook Pickling also does very well. Gherkins yielded satisfactorily during the past season. (Project H. 106.)

KOHL RABI

VARIETY TEST.—Only one variety, White Vienna, was grown. This did well and where turnips will not succeed, Kohl Rabi may well be tried out. It is more immune from the attacks of maggots and flea-beetles than turnips. Quality is good. (Project H. 110.)

LETTUCE

VARIETY TEST.—Six varieties of head lettuce were grown. The earliest maturing variety was Early Paris Market. In this variety heads are small and run to seed quickly after reaching a marketable size. Three very good varieties are: New York, Boston, and Iceberg. (Project H. 116.)

ONIONS

VARIETY TEST.—The leading varieties grown during the past season were Southport Yellow Globe, Ailsa Craig, Connecticut Globe, and Yellow Globe Danvers. Onions have been grown on the same land for three successive years, the land being manured and ploughed in the fall. In 1925 one-half of the plot was limed. The yield from the limed plot during three years has totalled 1,014¾ pounds and from the unlimed plot 758¼ pounds. (Project H. 138.)

SOWN IN HOTBED VERSUS SOWN IN OPEN.—Three varieties were sown in a hotbed on February 2 and transplanted to the open on April 16. These were compared with the same three varieties sown in the open on April 12. The three hotbed-sown varieties gave a total yield of 112 pounds, compared with 79¾ pounds for the varieties seeded in the open. (Project H. 137.)

PARSNIPS

DIFFERENT DATES OF SEEDING.—This experiment has been conducted for five years. Each year there have been six seeding dates at ten-day intervals, commencing early in April. Results have shown that April seedings give the highest yield and that quality at digging time is not affected by the dates of planting. (Project H. 142.) This project will be discontinued.

PEAS

VARIETY TEST.—Twenty-one varieties and strains of peas were grown during the season. The tall varieties up to seven feet are the highest yielders. The dwarf and intermediate varieties produce the earliest crops. All varieties were planted on April 20. Alaska and Six Weeks were ready for use on June 28, and Thomas Laxton, Gradus, English Wonder, and Little Marvel on July 4. The highest yielding tall variety was Duke of Albany; intermediate variety, Thomas Laxton; and dwarf, Stratagem. (Project H. 153.)

DIFFERENT DISTANCES OF PLANTING.—This experiment has been conducted since 1923, sowing seed in 30-foot rows at one, two, and three inches apart. There has been no appreciable difference in earliness of maturity for different sowings, the advantage, if any, being in favour of the closer plantings.

The following table gives the record of yields:—

PEAS—DISTANCE APART OF PLANTING SEED

Variety	Distance apart of planting	Yield in pounds					Total yield
		1923	1924	1925	1926	1927	
English Wonder	1 inch	7	19	20½	19	18	83½
"	2 inches	4½	17½	23½	14½	9½	69½
"	3 "	3	16½	19¼	10¼	7½	57¼
Stratagem	1 "	4½	.....	.....	15	14¾	34
"	2 "	4¾	.....	.....	10½	17¾	32¾
"	3 "	5¾	.....	.....	10	14½	29⅝
Thomas Laxton	1 "	11½	19¾	18¾	.....	16½	66½
"	2 "	10½	9	14½	.....	23	57⅜
"	3 "	4¾	10½	10¼	.....	12¾	38½

This project will be discontinued. (Project H. 148).

PEPPERS

VARIETY TEST.—Peppers are grown successfully in this district. Hamilton Market seed grown at Agassiz was the highest producing variety. Of the varieties grown, Ruby King produced the largest fruits.

POTATOES

EARLY VARIETIES.—Results with early potatoes this season were not successful. Spring was late, cool and dull, the months of March, April and May having 75·9 hours of sunshine less than the five-year average, with an average temperature of 47·34° Fahr. as compared to the five-year average of 50·5° Fahr. On April 19 there was a heavy frost which killed a high percentage of the growth causing a serious set back. Seed was put out to sprout on January 13, planted on March 16 and harvested on June 24. Potatoes were small at time of digging and brought only two cents per pound. Six 30-foot rows of each variety were grown, distributed evenly in three ranges. Early Saint George, Bermuda and Vick Extra Early were the highest yielding varieties in the order named. The yield on an acre basis from all varieties was 4 tons 797 pounds.

VARIETY TEST.—Thirty-nine varieties of potatoes were grown. There was one 30 foot row of each variety in each of three ranges. Rows were two and one-half feet apart and sets fourteen inches apart in the rows. The land had previously been in sod. It was ploughed and manured in the fall and fertilized immediately after planting at the rate of 710 pounds per acre made up of 260 pounds nitrate of soda, 300 pounds superphosphate and 150 pounds muriate of potash. Seed was planted on May 21. Late blight killed down all tops by September 27 and in some varieties a high percentage of tubers were unmarketable due to this disease. October was a wet month and consequently digging could only be done at irregular intervals. The average yield per acre for all varieties was 10 tons 1,535 pounds. Varieties were all planted in groups and under this classification the group known as Green Mountain of which Green Mountain, Gold Coin and Wee McGregor are the leading varieties, gave the highest average yield. The Up-to-Date group, which included Dalmeny Beauty, Table Talk, Eureka, Up-to-Date, Jones White and U.B.C., did not average as high a yield as would be expected from their past performances. All rows were uniformly low in range one. This was likely due to a soil condition in that particular part of the field and consequently caused a reduction in the average yield for the group. Two new varieties, Carmacks and Sourdough, were tested out in small lots. These varieties are seedlings of the Early Rose and were received from Carmacks, Yukon Territory. The Sourdough is rose-coloured and Carmack white, and both did well and will be given further trials.

RADISH

VARIETY TEST.—The leading varieties under this test were French Breakfast, Scarlet Oval and Scarlet White Tip. **(Project H.192.)**

SPINACH

VARIETY TEST.—Ten varieties and strains of spinach were tested. The best varieties were Princess Juliana, King of Denmark and Noble Gaudry. Seeds should be sown in early spring in order to mature the crop before hot weather. Spinach is one of the most palatable of greens and does well in its proper season. (Project H.199.)

TOMATOES

VARIETY TEST.—Twenty-nine varieties and strains of tomatoes were grown. Seed was planted on March 18 in hotbeds and transplanted to the open on May 18. Plants were pruned to two main stems and tied to stakes. The first picking of fruit was made on August 10 and the last on October 5. Records of yield were kept and totalled up on five different dates throughout the picking season. The yield of fruit was divided into classes, of ripe fruit, marketable and unmarketable and green fruit. A Central Experimental Farm cross of

Alacrity x Earlibell was the outstanding variety for the season. It produced the highest total of marketable fruit and was the earliest variety grown. Victoria Whole Salad, a small smooth round tomato, was next highest in yield but is rather a late variety. Best of All is another variety which has done well during recent years. (Project H.211.)

TURNIPS

VARIETY TEST.—Early Snowball and Early Purple Top Milan are both good varieties. The former yielded most while the latter variety was ready for use eight days earlier. (Project H.214.)

PUMPKINS

Pumpkins can be depended upon to produce a satisfactory crop. Sweet or Sugar is a good variety and due to its small size is very suitable for making pies.

SQUASH

The hubbard squash is very popular both for its quality and due to the fact that it will keep well into winter. During the past season Green Warted was a more prolific yielder than Golden.

A small variety, Perfect Green Cream, was grown during the past season. The fruits are dark cream, smooth and distinctly ribbed, and the flesh whitish and of excellent quality. It does not yield as heavily as the hubbard but has a distinct value in that the fruits are small, averaging about one pound in weight.

VEGETABLE MARROW

The Long Green and Long White Trailing varieties both yield well. The quality of both is good but in appearance the Long White is preferable. Where space is a limiting factor the bush type can be grown, both green and white. Plants of this type yield less than the trailing varieties but are compact in growth. Vegetable Marrows mature earlier than the hubbard squash.

MUSK MELON

Of the different varieties of musk melon tested, Emerald Gem has proved the most satisfactory. It crops well and matures fruit earlier than most other varieties tested.

SOIL COVERING WITH THERMOGEN PAPER

The material used is similar to ordinary building paper. The soil on one 30-foot row of cabbage was covered with the paper, and one row of the same variety received ordinary cultivation. The paper in strips 18 inches wide was laid on the ground and the edges covered with soil. The young cabbage plants were dibbled in through the paper. The row so treated gave matured heads eleven days earlier and yielded 23½ pounds more than the row reciving ordinary cultivation.

ARTICHOKES

At the request of the Field and Crop Branch, Provincial Department of Agriculture, there was planted a 30-foot row of the Mammoth French Artichoke. This crop is used both as a vegetable and for stock food. For the latter purpose both the roots and tops are used. Tubers were planted on May 16 and harvested on October 31. The yield obtained was 65¾ pounds of tops and 120 pounds of tubers. For storage purposes it is better to allow the tubers to remain in the ground until wanted as in above-ground storage they are given to shrinking. Freezing temperatures are not injurious.

TREE FRUITS

The spring of 1927 was unfavourable for a good crop of fruit. To a very large extent the weather was cool, showery and dull during the blossom season. The bloom was heavy but the per cent which set was small. Stone fruits were particularly hard hit with brown rot. The orchard was cleanly cultivated and the trees sprayed three times, twice with lime sulphur and once with Bordeaux mixture. The latter spray kept anthracnose well in check. Practically all the young trees planted in the spring of 1926 made good growth.

APPLES

There are only four varieties bearing at the present time: Northern Spy, King, Delicious, and Transcendent Crab. The crop of each variety was light, only the Delicious and one Northern Spy giving a fair yield. One of the Snows planted in 1924 bore a few fruits.

PEARS

The following varieties of pears are of bearing age:—

Bosc	Clairgeau	Anjou
Boussock	Emile de Heyst	Dr. Jules Guyot
Louise Bonne	Bartlett	Clapp Favourite
Princess	Easter Beurre	Doyenne de Comice

The *Bosc* has so far proved to be a good variety. The trees are vigorous, yield well, and the fruit is large and comparatively clean. It is of deep russet colour, and of good quality. Season, early winter.

Boussock trees are vigorous and yield well, giving large-sized and clean fruit, but the quality is below medium. In season this variety follows the Bartlett and, like the Bartlett, is a poor keeper.

Louise Bonne.—Trees are vigorous. During the past season this variety scabbed badly, there being no marketable fruit and only a light crop.

Princess.—Trees are vigorous. To date this variety has yielded practically no fruit. The fruit is large, yellow when ripe and of good quality.

Clairgeau.—Tree is an upright grower and compact, fruit large, clean and russeted. Medium crops are borne on this variety, but the fruit is given very much to falling before reaching maturity.

Emile de Heyst.—Tree is a small grower. Fruit is of good quality but poorly shaped and pitted.

Bartlett.—Trees are moderately vigorous. This is the standard by which early pears are judged and is the variety mostly in demand for canning. Where pears are grown the Bartlett should be included.

Easter Beurre.—Tree is a small grower. Fruit is most susceptible to scab of any variety grown here and so far has produced nothing which could be marketed.

Anjou.—As the Bartlett is amongst early varieties so the Anjou is amongst the late ones. Trees are of medium vigour, bear moderately well, giving clean large-sized fruits.

Dr. Jules Guyot.—Tree is a small grower and yields well. Season about the same as Bartlett and for this reason cannot be recommended.

Clapp Favourite.—Tree a large vigorous grower. To date has only yielded light crops. Quality of fruit is good, season early fall.

Doyenne de Comice.—Tree is a small grower. Yielded a small amount of fruit last season for first time. Fruit is large, clean, of good quality; season early winter.

PLUMS

The season was most unfavourable for the plum crop. The crop averaged light in most varieties and brown rot affected a high percentage of fruit as it neared maturity.

The following varieties are being grown:—

Grand Duke.—This variety so far has yielded practically no fruit. It blossoms well but the blossoms are largely killed by brown rot.

Damson.—This variety does well and is reasonably immune to brown rot.

Bradshaw.—Trees yield medium crops of good quality fruit but is susceptible to brown rot.

Burbank.—One of the best varieties grown here. Fruit is of good quality, red in colour and fairly resistant to brown rot.

Peach Plum.—This is the earliest variety grown. Fruit is red, of good quality, comparatively resistant to brown rot. Trees bear light crops.

Black Diamond.—Trees bear good crops, comparatively resistant to brown rot but of very inferior quality.

Washington.—This variety has not yielded a crop during the past four years, though previous to that time had done quite well.

Green Gage.—This variety has not done well, being susceptible to brown rot and poor in quality.

Yellow Eggs.—This variety yields well but is very susceptible to brown rot and spotting.

Italian Prune.—This is a good variety; bears moderately good crops and is comparatively resistant to brown rot.

Coes Golden Drop. A late plum of good quality, moderately resistant to brown rot and yields comparatively light crops.

Mallard.—One of the best varieties grown here. Trees yield well, fruit is of good quality and comparatively resistant to brown rot.

Victoria.—This variety sets good crops of fruit but is very badly affected by brown rot.

Pond Seedling.—Trees bear large sized good quality fruits but not sufficiently resistant to brown rot.

CHERRIES

The cherry crop was greatly reduced by rain during the blossoming period and again just previous to and during the picking season. The fruit of most varieties was affected by brown rot. Of the sweet varieties grown, Bing, Lambert, Royal Anne, Black Tartarian and Windsor, the Bings yielded the only harvestable crop. Of the sour cherries, Morello, Olivet and Montmorency are all good varieties.

SMALL FRUITS

STRAWBERRIES

A new patch of strawberries for variety test work was planted in the spring. The previous patch was severely infested with strawberry root weevil and no fair comparison of varieties could be made. Strawberry root weevil bait was scattered around the crowns of the plants and from the number of dead beetles counted later this bait should prove to be an effective means of control. Counts made on two different plants revealed twenty-seven dead beetles around one and thirty-five around the other.

CURRANTS

During the past five-year period the following varieties of black currants have been the highest yielders: Kerry, Victoria, Buddenborg, and Boskoop Giant. Black Naples and Clipper have proved to be inferior yielders.

Among red currants during the same period Pomona, Perfection, Fay Prolific and Wilder have been the best yielders. Cherry has proved to be an inferior variety.

RASPBERRIES

Three varieties planted in 1924, Count, Viking and Brighton have not succeeded as well here as the Cuthbert or Herbert varieties. Count, during the past two years, has yielded the heaviest crop while Brighton has produced the largest and best quality berries.

MANURE VERSUS COMMERCIAL FERTILIZER

Since 1922, the year in which young plants were set out, 100 feet of rows of Cuthbert raspberries has been given an application of ten tons of barnyard manure per acre while a second 100 feet has been treated with commercial fertilizer at the rate of 630 pounds per acre made up of 200 pounds of nitrate of soda, 300 pounds superphosphate, and 130 pounds of muriate of potash. The total yields to date have been 776¼ pounds for the plot receiving manure and 625 pounds for the plot receiving commercial fertilizer.

FLOWERS

ROSES

Roses bloomed well during the past season. The best mass of bloom was from June 6 to 20. Many of the hybrid teas gave a few flowers throughout the summer. On November 5, the following varieties were still in flower: Lillian Moore, Mrs. Charles Russell, British Queen, Gruss an Teplitz, Orphelia, Madame Jules Grolez, Gloire de Dijon, and Margaret Molyneux. The following varieties were added to the collection: Los Angeles, K.A. Victoria, Ophelia, General McArthur, Mrs. Darlington, and Mrs. Wemyss Quinn.

No new perennials or bulbs were added to the varieties already listed and referred to in previous reports. There were forty-two varieties of annuals in the collection last summer, the majority of which bloomed well.

CEREALS

LAND AND TREATMENT

The land on which the cereal plots were located is a sandy loam. This area had been in mangels the previous year. Before sowing, all cereal grains were treated with formalin as a smut preventive. Seeding commenced on May 6 and harvesting of barley commenced on July 25.

OATS—VARIETIES OR STRAINS

Fifteen varieties of oats were sown in quadruplicate plots. In point of yield Victor came first with Banner second, followed by Prolific. Alaska, as usual, was the earliest.

OATS—TEST OF VARIETIES OR STRAINS

Name of Variety	Date of ripening	Number of days maturing	Average length of straw, including head	Strength of straw on scale of 10 points	Yield of grain per acre	Weight per measured bushel after cleaning
			inch.		lb.	lb.
Alaska	Aug. 9	95	47	8	2,980	38
Banner (Ott. 49)	" 15	101	45	9	3,160	34
Columbian (Ott. 78)	" 15	101	44	8	2,940	33
Gerlach (Sask.)	" 15	101	44	8	2,660	34
Gold Rain (Swedish)	" 15	101	47	8	3,030	36
Irish Victor P. (Ott. Sel)	" 15	101	46	9	2,635	34
Laurel (Ott. 477) Hulless	" 12	98	41	8	1,450	46
Longfellow (Ott. 478)	" 12	98	46	8	2,120	34
Legacy (Ott. 678)	" 12	98	38	8	2,240	33
Leader A (Ott. Sel.)	" 12	98	37	8	1,670	30
Leader B (Ott. Sel.)	" 13	99	40	8	1,280	30
Liberty (Ott. 480) Hulless	" 13	99	36	8	1,480	50
Lincoln	" 13	99	48	9	2,230	34
Prolific	" 16	102	47	10	3,040	37
Victory	" 16	102	49	10	3,430	37

BARLEY—VARIETIES OR STRAINS

Fourteen varieties of barley were sown on May 7 and under the same conditions as the oats. O.A.C. No. 21 gave the highest yield.

BARLEY—TEST OF VARIETIES OR STRAINS

Name of Variety	Date of ripening	Number of days maturing	Average length of straw, including head	Strength of straw on scale of 10 points	Yield of grain per acre	Weight per measured bushel after cleaning
			inch.		lb.	lb.
Albert (Ott. 541) (6)	Aug. 2	87	41	6	2,540	49
Barks (Don. Barks) (6)	" 8	93	40	7	2,831	49
Bearer (Ott. 475) (6)	" 8	93	54	7	2,963	49
Charlottetown 80 (Charlottetown) (2)	" 8	93	51	7	3,024	56
Chinese (Ott. 60) (6)	" 6	91	48	8	3,145	47
Duckbill (Ott. 57) (2)	" 6	91	48	8	2,163	55
Early Chevalier (Ott. 51) (2)	" 5	90	50	7	2,947	51
Feeder (Ott. 561) (6)	" 3	88	41	8	1,563	49
French Chevalier (2)	" 8	93	53	7	3,067	56
Gold (Swedish) (2)	" 8	93	47	8	2,984	57
Hannchen (Sask. 229) (2)	" 8	93	43	6	2,678	54
Himalayan (Ott. 59) Hulless (6)	" 6	91	31	7	2,917	62
O. A. C. 21 (O. A. C.) (6)	" 8	93	49	8	3,264	49
Success	July 29	83	41	7	2,765	47

SPRING WHEAT—VARIETIES OR STRAINS

Seven varieties of spring wheat were sown on May 6 under the same conditions as the oats and barley. The yields were poor. Early Red Fife gave the highest yield.

WHEAT—TEST OF VARIETIES OR STRAINS

Name of Variety	Date of ripening	Number of days maturing	Average length of straw, including head	Strength of straw on scale of 10 points	Yield of grain per acre	Weight per measured bushel after cleaning
			inch.		lb.	lb.
Crown	Aug. 18	104	35	8	950	60
Early Red Fife	" 18	104	41	8	1,630	57
Garnet	" 18	104	33	7	1,510	61
Huron	" 18	104	36	8	946	58
Red Fife	" 19	105	37	8	635	57
Reward	" 18	104	33	7	946	61
Marquis	" 17	103	40	8	566	60

PEAS—VARIETIES OR STRAINS

Four varieties of field peas were tested. Of these Chancellor gave the highest yield.

PEAS—TEST OF VARIETIES

Name of Variety	Number of days maturing	Average length of plant	Average length of pod	Actual yield of seed per acre	Per cent stand	Per cent loss from any cause which did not affect the stand	Weight per measured bushel after cleaning
		inch.	inch.	lb.			lb.
Arthur	88	48	3	1,416	100	nil	61
Chancellor	88	39	2	1,630	100	nil	62
Golden Vine	88	36	2	1,316	100	nil	60
Solo	88	42	3	1,510	100	nil	61

BEANS—VARIETIES OR STRAINS

Six varieties of beans were tested. Navy ranked first.

BEANS—TEST OF VARIETIES

Name of Variety	Date of sowing	Date of ripening	Number of days maturing	Average length of plant	Average length of pod	Actual Yield of seed per acre	Per cent stand	Weight per measured bushel after cleaning
				inch.	inch.	lb.		lb.
Beauty	May 16	Aug. 29	105	23	5	1,830	96	60
Carleton	" 11	" 29	105	24	3	1,421	97	60
Large White	" 11	" 29	105	25	4	1,954	98	61
Navy	" 11	" 29	105	24	4	1,962	98	59
Norwegian	" 11	" 29	105	27	5	1,949	99	62
White Marrowfat	" 11	" 29	105	27	3	1,937	98	60

FORAGE CROPS

During the entire season the weather conditions generally were so unfavourable that all forage crops were below average in yield.

Variety tests were carried on with corn, sunflowers, mangels, sugar beets, Swede turnips, and annual hays such as oats and millets. The turnip crop was an entire failure owing to the ravages of the flea-beetle. Several of the annual hays were also failures.

From all plots green-weight samples were taken in order to calculate from them the yield of dry matter per acre.

SOIL AND TREATMENT

The area apportioned to forage crops had been ploughed the previous fall and reploughed in the spring and well worked. Previous to seeding, commercial fertilizer was applied at the rate of 500 pounds per acre.

CORN FOR ENSILAGE

The corn, of which there were nineteen varieties, was sown in hills three feet apart each way. It was a most unfavourable year for corn. Most of the crop was harvested before attaining the best stage for ensilage. The advancing season made this necessary.

The following table gives, in order of yield per acre dry matter, the results of corn varieties tested (Project A. 1.)

CORN—TEST OF VARIETIES

—	Yield per acre green weight		Yield per acre dry matter	
	tons	lb.	tons	lb.
Burr Leaming (Carter)	16	1,100	2	577
Compton's Early (Duke)	12	200	1	1,727
Northwestern Dent (South Dakota grown, McKenzie)	11	1,950	1	1,647
Wisconsin No. 7 (Duke)	13	1,150	1	1,543
Longfellow (Dakota Imp. Seed Co.)	12	1,750	1	1,378
Hybrid (Wimple)	12	100	1	1,275
Northwestern Dent (Dakota Imp. Seed Co.)	11	400	1	1,080
Ninety-Day White Dent (Dakota Imp. Seed Co.)	12	.....	1	971
Whitecap Yellow Dent (Steele Briggs)	9	600	1	659
Golden Glow (Duke)	9	250	1	637
Longfellow (Duke)	10	650	1	597
Golden Glow (Duke)	8	1,650	1	440
North Dakota	8	1,200	1	330
Longfellow (Duke)	7	1,400	1	9
Amber Flint (Wimple)	5	1,800	..	1,484
Northwestern Dent (Crookston Strain, McKenzie)	4	1,950	..	1,418
Quebec 28 (Dr. Todd)	6	150	..	1,394
Northwestern Dent (Brandon)	3	1,350	..	976
Twitchell's Pride (Fredericton)	4	.....	..	903

SUNFLOWERS FOR ENSILAGE

Four varieties of sunflowers were grown in hills three feet apart each way. Mammoth Russian gave the highest yield as may be noted on the accompanying table. (Ag. 76.)

SUNFLOWERS—TEST OF VARIETIES

——	Yield per acre green weight		Yield per acre dry matter	
	tons	lb.	tons	lb.
Mammoth Russian (K. McDonald)	23	1,750	2	1,725
Giant Russian (Dakota Imp. Seed Co.)	18	1,750	1	1,952
Ottawa 76 (C. E. F.)	10	850	1	182
Rosthern	7	450	..	1,631

MANGELS

Sixteen varieties of mangels were sown on May 17 in drills 30 inches apart and harvested on October 13. (Project Ag. 16.)

MANGELS—TEST OF VARIETIES

——	Yield per acre green weight		Yield per acre dry matter	
	tons	lb.	tons	lb.
Yellow Intermediate (C. E. F.)	18	1,338	1	1,076
Long Red Mammoth (Ewing)	19	1,827	1	863
Red Top Half Sugar	17	1,471	1	827
Fjerritslen Barres (Hartmann)	21	1,561	1	587
Danish Sludstrup (McDonald)	16	359	1	401
Long Yellow (Ewing)	13	1,381	1	86
Giant White Feeding Sugar (Steele Briggs)	20	1,694	1	38
White Intermediate (Steves)	15	1,115	..	1,982
Giant Yellow Globe (Ewing)	18	1,338	..	1,967
Giant Yellow Globe (Rennie)	17	226	..	1,913
Barres Oval (Gen. Swedish Co.)	14	....	..	1,763
Danish Sludstrup (Steves)	13	136	..	1,664
Yellow Eckendorffer (Gen. Swedish Co.)	16	981	..	1,662
Rosted Barres (Hartmann)	14	625	..	1,577
Barnes (Lake Hill)	10	1,158	..	1,552
Red Eckendorffer (Gen. Swedish Co.)	14	....	..	1,324

CARROTS

Nine varieties of carrots were sown in drills 30 inches apart on May 17 and harvested on October 19. The following table shows that the carrots yielded fairly well. (Project Ag. 36.)

CARROTS—TEST OF VARIETIES

——	Yield per acre green weight		Yield per acre dry matter	
	tons	lb.	tons	lb.
Mammoth Short White (Rennie)	28	1,251	2	753
Large White Belgian (Rennie)	32	1,341	2	724
New Yellow Ontario (Ewing)	32	96	2	230
White Belgian (Hartmann)	28	....	2	185
White Belgian (Ewing)	28	1,251	2	99
Yellow Belgian (Ewing)	22	1,497	1	1,571
Improved Intermediate White (Ewing)	23	672	1	1,444
Danish Champion (Ottawa)	23	672	1	1,425
White Intermediate (Summerland)	22	805	1	800

SUGAR BEETS

Five varieties of sugar beets were grown. The yields were light. Analyses were made by the Chemistry Division. (Project Ag. 66.)

SUGAR BEETS—TEST OF VARIETIES

——	Yield per acre green weight		Yield per acre dry matter	
	tons	lb.	tons	lb.
Horning	10	1,432	1	1,600
Home Grown	9	1,115	1	1,486
Bellingham	9	1,263	1	1,420
Schreiber & Sons	8	802	1	1,209
Dieppe	7	935	1	1,209

SUGAR BEETS—TEST OF VARIETIES

——	Co-efficient of purity	Sugar in juice	Average weight of one root	
	per cent	per cent	lb.	oz.
Horning	83·66	14·61	..	15
Home Grown	86·28	15·75	1	..
Bellingham	85·88	14·57	..	15
Schreiber & Sons	85·51	15·88	..	15
Dieppe	84·53	15·54	..	12

ANNUAL HAY CROPS

To determine their relative value as annual hays several varieties of oats, millets and other grasses were grown in $\frac{1}{100}$ acre plots. The accompanying table gives the results per acre. (Project Ag. 241.)

ANNUAL HAY CROPS—TESTS OF OATS AND GRASSES

——	Yield per acre (green weight)		Yield per acre (dry matter)		Yield per acre (cured hay)	
	tons	lb.	tons	lb.	tons	lb.
Japanese Millet	9	1,170	2	773	2	1,615
Siberian Millet	6	780	2	418	2	1,197
Golden Millet	5	650	1	1,650	2	294
Alaska Oats	4	1,230	1	1,136	1	1,689
Teff Grass	3	390	1	895	1	1,405
Hungarian Millet	3	1,810	1	768	1	1,256
Kursk Millet	3	1,810	1	669	1	1,140
Banner Oats	4	1,230	1	659	1	1,128
Victory Oats	3	1,100	1	329	1	740
Prolific Oats	3	1,810	1	234	1	628
Lincoln Oats	3	1,100	1	66	1	430

The following varieties turned out complete failures: Hog Millet, Early Fortune Millet, Feterita, Subterranean Clover (Festing), Sudan Grass, Common Millet, Early Amber Sugar Cane, Kaffir Corn.

TOBACCO

Three varieties of tobacco were grown, Belge, Station Standup Burley and Connecticut Havana 38. All varieties made good growth but due to continuous wet weather in the fall, harvesting was made difficult and delayed. As a result the tobacco was overripe and considerable damage was done to the leaves by wind. A number of tests have to be made by tobacco experts before definite information can be given as to quality. Yields may be high in certain districts but the quality inferior. The quality of the leaf is tested at the Central Experimental Farm, Ottawa. Tobacco must be harvested when ripe otherwise quality will be reduced. Other conditions which reduce quality are heavy rains just previous to harvesting, leaves torn and damaged by wind and poor ventilation in the curing barn.

The following table gives the analysis of the 1926 crop as published in the 1926 report of the Tobacco Division:—

VARIETAL TESTS AT AGASSIZ, B.C., 1926

Variety	Yield cured leaf per acre	General quality	Remarks
	lb.		
Connecticut Havana 38	2,338	Poor	Coarse veins, body thick, texture woody, colour uneven, greenish cast.
Belge 3007	1,722	Fair	Medium heavy veins, body thick, texture leathery, colour greenish red with green back.
Station Standup Burley	2,411	Fair	Veins fine, body medium, too thin for the variety, texture good, colours light red to muddy red brown. Some mould damage in curing.

The above table shows that Station Standup Burley gave the best results. This was to be expected as it was in better condition when harvested, the other varieties being overmature. Both the Connecticut Havana 38 and Belge 3007 varieties are earlier and for this reason have an advantage over Burley which, due to lateness of maturity, is more likely to run into fall rains and winds.

FERTILIZERS

EPHOS BASIC PHOSPHATE EXPERIMENT

An experiment was conducted to ascertain the fertilizing value of Ephos basic phosphate as compared with superphosphate and basic slag when applied in conjunction with nitrate of soda and muriate of potash. Mangels were the crop used and the fertilizing ingredients were applied as shown in the following table:—

RESULTS OF EPHOS BASIC PHOSPHATE EXPERIMENT WITH MANGELS

Plot No.	Treatment in pounds per acre	Yield per acre	
		tons	lb.
1	Ephos basic phosphate 292, nitrate of soda 200, muriate of potash 100	25	400
2	Superphosphate 500, nitrate of soda 200, muriate of potash 100	20	1,400
3	Basic slag 500, nitrate of soda 200, muriate of potash 100	20	230
5	Nitrate of soda 200 and muriate of potash 100	19	700
4	Check plot—no fertilizer	11	680

POULTRY

The Farm flock, consisting entirely of Barred Plymouth Rocks, totalled December 31, 1927, five hundred and eighty-eight birds, including three cocks, 108 cockerels, 192 hens and 290 pullets. The three cock birds were D194, the sire of F397, a 321-egg hen, E72 a full brother to F400, a 326-egg hen, and Agassiz 13D a registered son of Agassiz IC—E332—a 325-egg hen. These males and hens along with sons and daughters and other high record hens, combine to make up a very excellent flock of high producing Barred Plymouth Rocks.

An exhibit was made at the World's Poultry Congress, consisting of two dozen registered birds or young stock eligible for registration. Some remunerative sales were made, and some excellent advertising resulted from this display.

The following is a list of aristocrats of the poultry world, bred on the Agassiz Experimental Farm, that have laid over 270 eggs each, up to December 31, 1927.

LIST OF HIGH PRODUCING HENS ON THE AGASSIZ FARM

Hen No.	Year hatched	Number of eggs	Sire	Dam
D155	1919	282	B113	.....
B5518	1921	277	736	D75
B5533	1921	278	Unpedigreed	
B5549	1921	277	308K	D155
B201	1921	299	308K	D160
B208	1921	277	308K	D155
B210	1921	274	736	D145
B5526	1921	272	736	D142
B204	1921	286	308K	D87
C13	1922	278	E82	D138
C17	1922	284	E82	D79
G185	1922	276	Unpedigreed	
G197	1922	272	E82	D161
H8	1923	278	Unpedigreed	
D354	1923	273	E83	B204
E332	1924	325	H102	C19
E335	1924	287	H238	B206
15	1924	292	H238	B206
I48	1924	276	H216	B5526
C294	1925	288	D493	C20
F392	1925	311	I14	G154
F397	1925	321	D494	D353
F399	1925	282	D493	C16
F400	1925	326	D495	B204
J2	1925	271	120	H46
J31	1925	291	H238	H83
J58	1925	298	I14	G154
J101	1925	300	121	B202
J272	1925	299	H238	H83
K272	1926	305	E74	H8
K34	1926	291	I48	I54
K80	1926	281	Unpedigreed	
D264	1926	273	E72	B201

SALE OF HATCHING EGGS AND COCKERELS

As usual the demand for hatching eggs and breeding stock was much greater than the supply. Eighty-eight settings, or one thousand three hundred and twenty eggs were sold for hatching. Thirty-nine cockerels hatched in 1926 were sold for breeding purposes.

INCUBATION

The first hatch, a small one, was taken off March 1 and the last one, also small, was taken off June 10. During this time, 1,455 chicks were hatched, 156 being from registered hens and 1,299 from the balance of the breeders. All

chicks were pedigreed. The 1,200-egg Candee incubator was taken out, leaving two 500-egg Reliables, one Jubilee the same size, and another 100-egg incubator of the latter make. Of the total 3,167 eggs set, 2,604 were fertile or 82·22 per cent, and of the fertile eggs 55·4 per cent hatched and 87·56 per cent of the chicks hatched were reared.

In comparing results of hatches by the month, the following data is available, showing April to be the most satisfactory month.

HATCHING RESULTS

Month of hatch	Total eggs set	Per cent fertile	Per cent of fertile eggs hatched
March	692	66·62	51·42
April	1,334	87·63	62·44
May	1,012	85·57	50·23
June	129	81·40	50·50

HATCHABILITY OF EGGS OF HIGH PRODUCERS VERSUS EGGS OF LOW PRODUCERS

The following is an interesting comparison in hatching results between seven Barred Plymouth Rock hens with egg-production over 290, and seven of the lowest hens mated, with production below 180 eggs.

HATCHING RESULTS OF EGGS FROM HIGH AND LOW PRODUCING HENS

High Producers					Low Producers				
Hen No.	Egg production	Eggs set	Infertile	Hatched	Hen No.	Egg production	Eggs set	Infertile	Hatched
J31	291	71	1	53	J254	150	17	1	13
J58	298	37	22	2	J69	164	22	3	15
J272	299	62	1	31	J257	166	5	.....	4
J101	300	34	12	8	J194	169	27	.....	19
F397	321	72	6	36	VIC291	174	30	9	7
E332	325	33	18	8	VIC298	174	22	2	17
F400	326	29	7	12	I223	179	22	.....	14
Total	.....	338	67	150	Total	.....	145	15	89
Per cent total eggs hatched				44·38	Per cent total eggs hatched				61·38
Per cent fertile eggs hatched				55·35	Per cent fertile eggs hatched				68·46

These results show 17 per cent more total eggs and 13·11 per cent more fertile eggs hatched from the low production birds. E332 was hatched in 1924, and was badly broken down. Had she been a poor producer, she would have been discarded as unfit for mating. The first two hatches from most of the high hens were taken off before eggs from the other group were set, thus giving an added advantage to the low producers.

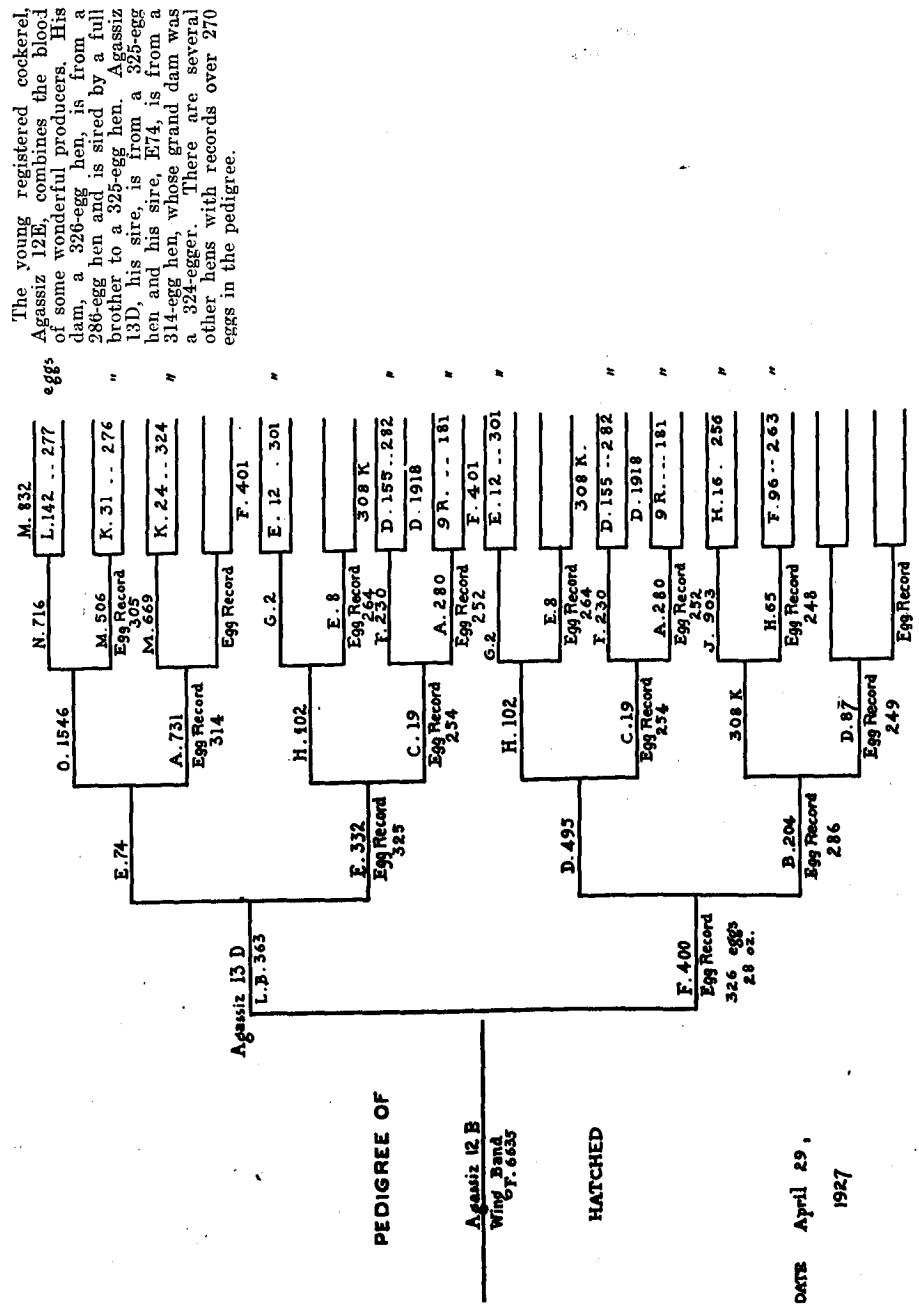
HATCHING RESULTS OF F400, THE HIGHEST SCORING HEN IN CANADA UNDER THE POINT SYSTEM IN VOGUE IN CANADIAN CONTESTS

F400 finished her Contest record of 326 eggs and 409 points on October 30, 1926. She then rested and laid an egg on each of the following dates: November 5, January 26 and 30, and February 1. On March 1 she commenced to lay regularly and continued throughout the breeding season. The six eggs laid from January to March 4 did not hatch, but from then on, the results were satisfactory.

HATCHING RECORD OF F400

Date, 1927		Eggs set	Infertile	Blood rings	Dead germs	Died in shell	Hatched
Set	Hatched						
Feb. 8	Mar. 1	3	2	.....	.....	1	.....
Mar. 5	" 27	3	.....	.....	.....	3	.....
" 12	April 2	4	.....	.....	.....	.....	4
April 7	" 29	6	.....	1	.....	.....	5
" 23	May 14	5	.....	2	.....	1	2
May 6	" 28	4	3	1	.....	.....	.....
" 19	June 10	4	2	1	.....	.....	1
Total	.....	29	7	5	.....	5	12

This chart does not show eight eggs set March 29, all of which were fertile, but were accidentally broken on the tray just before hatching. Of the dozen chicks reared five were pullets and seven were males. One of each died, four pullets are in the laying pens, two cockerels are kept for breeding purposes and three cockerels were sold. The following is the extended pedigree of a cockerel from this hen, chosen to head pen No. 2 for the 1928 breeding season. This bird represents a wonderful array of high-producing Barred Plymouth Rock blood.



(Graph) Pedigree of Barred Plymouth Rock cockerel, Agassiz 12E.

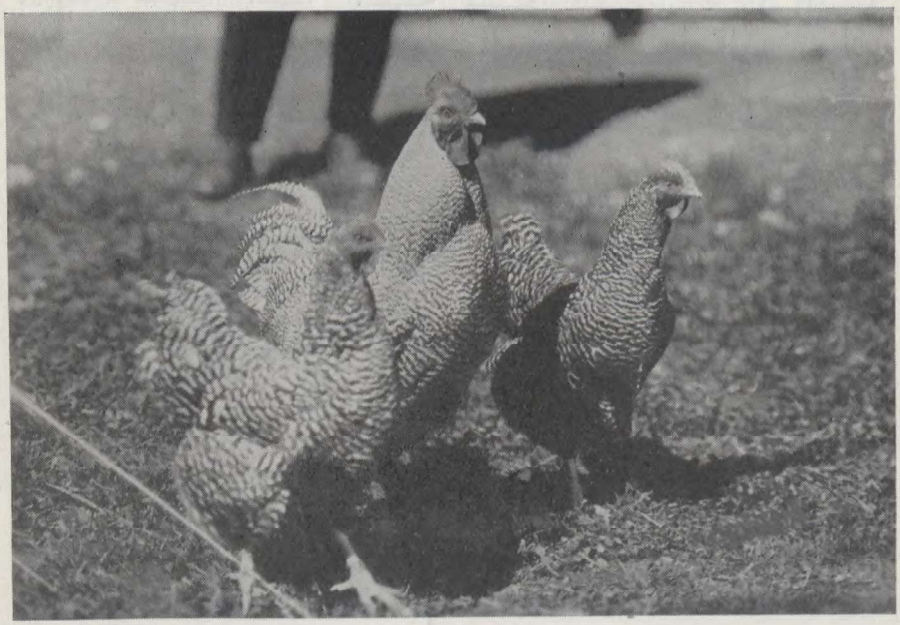
HATCHING RESULTS OF F397, A REGISTERED BARRED PLYMOUTH ROCK HEN WITH 321-EGG PRODUCTION

F397 stopped laying as she was taken from the Contest pen October 30, 1926. She rested till the middle of January when she laid six eggs. These eggs were set February 8, five were infertile and none hatched. She produced fourteen in February, and totalled 171 in her second year.

HATCHING RECORD OF F397

Date, 1927		Eggs set	Infertile	Blood rings	Dead germs	Died in shell	Hatched	Died in 3 weeks
Set	Hatched							
Feb. 8	Mar. 1	6	5	1				
Mar. 5	" 27	8		2	1	2	3	1
" 12	April 2	5				1	4	
" 29	" 21	11		1			10	4
April 7	" 29	8		3	1	2	2	
" 23	May 14	11				1	10	1
May 6	" 28	12	1	4	2	4	1	
" 19	June 10	11		3		2	6	1
Total		72	6	14	4	12	36	7

The results shown are satisfactory, considering the fact that this hen produced 321 eggs and then went right along and laid 72 during the hatching season, only six of which were infertile, and fifty per cent hatched. Of the twenty-nine chicks left after the three-week period, six died, four were culled,



A Barred Plymouth Rock trio of high producers, all registered. Left—F400, 326 eggs averaging 28 ounces per dozen, the highest scoring hen in all Canadian contests. Centre —Agassiz 13D, a son of a 325 egg hen. Right—F397, 321 eggs averaging 26 ounces per dozen.

HATCHING RESULTS OF TWENTY-SIX HENS WITH BACILLARY WHITE DIARRHOEA

Hen No.	Number of hatches	Number of eggs set	Number of eggs infertile	Blood ring or dead germs	Dead in shell	Number hatched	Number died in 1st 3 weeks	Number chicks positive		Number chicks negative		Number pullets put in laying-house	Total eggs of pullets to Dec. 31
								P.	C.	P.	C.		
H4	2	10			1	9	3			5	1	3	119
J5	4	27	5	6	9	7	1	1		2	3	2	60
C11	3	7	2		1	4	2		1	1			
C16	2	9	6			3	1				2		
VIC296	2	10	1	2	3	4				2	2		
D368	2	9		2	5	2				1	1		
D369	3	12	1	1	4	6	1	2		2	1		
F392	4	23	18	1	3	1				1			
J14	2	9	9										
J16	2	13	13										
J18	2	11	9			2					2		
I49	3	7	3	1		3	2				1		
I51	1	6		1	1	4	2		1	1			
J82	2	8	8										
I88	2	13	4	1	4	4	1			1	2		
J102	2	7	7										
I218	2	12	3	2	2	5	3			2		1	86
J111	3	12	1		5	6	3	2		1			
J150	3	25	7	1	3	14	1	1	1	8	3	4	131
J158	2	12	1	1	5	5	3			1	1		
J165	2	11			2	9	2	2		2	3	1	13
J168	2	13	5		7	1				1		1	20
J177	3	19	2	1	3	13	1	3	1	4	4	2	38
J185	3	20		3	9	8				2	6	1	27
J226	2	8		1	4	3	1			1	1		
J247	2	10	10										
Total		323	115	24	71	113	27	15		71			

one pullet and six cockerels were sold, nine pullets are in the laying pens and three cockerels are reserved for breeding purposes. This hen was mated to the same male as F400; i.e., Agassiz 13D, Leg Band 363, a son of E332, a 325-egg hen. This is exceedingly high production for utility fowl, and everything considered, the results are satisfactory.

BACILLUS PULLORUM—PROJECT P. 191

In January, 1927, all the birds in the flock except the pullets were tested for *bacillus pullorum*. None of the pullets were mated. The fifty-seven males tested came through one hundred per cent clean. Of the 168 hens tested fifty-eight reacted, or 34·5 per cent. Twenty-eight of the reactors were slaughtered, but thirty of the best were divided into three pens and bred with the object of collecting some data on this disease. After the hatching season, all were disposed of. Four of the thirty reactors did not lay an egg during hatching season, and by referring to the table on page 41 it will be noted that five others did not lay a fertile egg. In comparing this with the balance of the breeding flock of 102 birds, there were five that did not lay, none that were one hundred per cent infertile, although there were three hens that only laid a total of four eggs, none of which hatched due to dead germs, or dying in the shell.

If the five hens J14, J16, J82, J102 and J247 were eliminated due to infertility, the showing would not be so bad. In fact, the first four mentioned were in the same pen and the male bird may have been at fault in mating. Discarding forty-seven eggs produced by these five hens, leaves a total of 276 set, 68 infertile, 113 hatched and 86 chicks reared, or 54·3 per cent of fertile eggs hatched and 76·1 per cent of the chicks hatched lived. The results from the ninety-four hens left in the clean flock, after the eight non-hatchers were discarded, shows, 2,840 eggs set, 448 infertile, 1,342 hatched and 1,188 chicks reared, or 56·1 per cent of fertile eggs hatched and 87·8 per cent of the chicks lived.

Only fifteen chicks reacted out of eighty-six reared from the reacting hens. They were disposed of. The chicks were tested June 13, when averaging about two months old. Those on hand will be tested again when about a year old.

FEEDING LAYING PULLETS

Commencing November 1, 1926 a series of feeding experiments was started. There were eleven pens involved, final results being worked out on the basis of one bird.

The following outline describes the various experiments and the rations used in each:—

Pen 1. (Project P. 81.) Mash composed by weight of 4 parts ground wheat, 1 cornmeal, ¼ soybean meal, ¼ beef scrap, ¼ oil-cake meal, 2 per cent charcoal; scratch grain consisting of equal parts by weight of wheat, oats and cracked corn; skim-milk, green feed, grit and shell also available.

Prices per 100 pounds: grain, $2.38, mash, $3.25; green feed, 25 cents; skim-milk, 25 cents; grit, $1.50; shell, $2.

Pen 2. (Project P. 82.) Mash composed by weight of equal parts of bran, shorts, cornmeal, crushed oats, 2 per cent charcoal; scratch grain, same as pen 1; skim-milk, green feed, grit, shell.

Prices: mash $1.95; remainder same as pen 1.

Pen 3. (Project P. 82.) Same as pen 2 except that 1 part beef scrap is added to mash and no skim-milk fed.

Prices: mash $2.78; remainder same as pen 1.

Pen 4. (Project P. 87.) Same as pen 3 except that fish meal replaced beef scrap.

Prices: mash $2.25; remainder same as pen 1.

Pen 5 (Project P. 87.) Same as pen 4 except that 10 per cent beef scrap plus 10 per cent fish meal replace the beef scrap in the mash of pen 4.
Prices: mash $2.52; remainder same as pen 1.

Pen 6. (Project P. 95.) Scratch grain same as pen 1; mash composed by weight of 1 part bran, 1 shorts, 1 crushed oats, 1 cornmeal, ¼ beef scrap, 2 per cent charcoal and 10 per cent alfalfa leaves and blossoms; skim-milk, grit and shell being available.
Prices: mash $4.32; remainder same as Pen 1.

Pen 7. (Project P. 90.) Same as Pen 6 except that alfalfa leaves and blossoms were replaced by green feed such as mangels, clover or kale in season.
Prices: mash $2.72; remainder same as pen 1.

Pen 8. (Project P. 95.) Same as pen 7 except that Epsom salts replaced green feed.
Prices: mash $2.72; remainder same as pen 1.

Pen 9. (Project P. 107.) Same as pen 7 but both grain and mash fed in open hoppers.
Prices: mash $2.72; remainder same as pen 1.

Pen 10. (Project P. 107.) Same as pen 9 only grain fed in litter.
Prices: mash $2.72; remainder same as pen 1.
Also Pen 10. (Project P. 162.) Beef scrap supplying the animal protein.
Prices: mash $2.72; remainder same as pen 1.

Pen 11. (Project P. 162.) Same as pen 10 with the elimination of beef scrap, vegetable protein being supplied in the mash by 1 part soybean meal, ¼ oil-cake meal, and ¼ alfalfa leaves and blossoms.
Prices: mash $2.45; remainder same as pen 1.

EXPERIMENTS IN FEEDING—RESULTS FROM LAYING PERIOD NOV. 1, 1926, TO AUG. 31, 1927

Pen No.	Eggs per bird	Value of eggs per bird	Cost of feed per bird	Profit over cost of feed per bird
		$ cts.	$ cts.	$ cts.
1	166	4 42	2 57	1 85
2	178	4 76	2 18	2 58
3	184	4 91	2 60	2 31
4	135	3 60	1 77	1 83
5	122	3 26	2 00	1 26
6	159	4 25	3 27	0 98
7	141	3 77	2 28	1 49
8	102	2 72	1 81	0 91
9	137	3 66	1 64	2 02
10	132	3 52	2 11	1 41
11	127	3 38	2 00	1 38

EGG-LAYING CONTEST

The seventh British Columbia Egg-Laying Contest conducted at Agassiz terminated October 30, 1927. The Contest contained forty-five pens of ten pullets each and two spares were sent in with each original pen, thus making the greatest number of birds actually in a contest in this Province. Due to chicken pox, bronchitis and bad colds, accentuated by the dull, damp weather, especially during the first part of the contest year, the results were less satisfactory than in the two contests immediately preceding. Mortality was heavy, and the introducing of numerous spares to keep the pens up to full strength was necessary. This, along with sickness, kept production down, but even with these handicaps, 195 birds registered, four birds produced over three hundred eggs, and the average was 207.

SUMMARY OF RESULTS—BRITISH COLUMBIA EGG-LAYING CONTEST, 1926-27

Total number of eggs	93,147
Average number of eggs per bird	207
Winning pen (by points), J. C. Diederichs (W. L.)	2,803·6
Winning bird (by points; also registered), No. 3. J. H. Mufford & Sons (W. L.)	389
Highest pen according to Egg-Production:—	
J. C. Diederichs, New Westminster (W. L.) eggs	2,632
Average number of eggs per bird in Diederich's pen	263·2
Highest bird, No. 3, pen 19 (Diederichs), according to egg production (also registered) eggs	315
2nd highest bird, 2nd spare, pen 27. (Kennedy Bros.) eggs	310
Number of birds laying 200 to 225 eggs	110
Number of birds laying 225 to 250 eggs	96
Number of birds laying 250 to 275 eggs	56
Number of birds laying 275 to 300 eggs	24
Number of birds laying 300 and over	4

A load of birds on their way to the Agassiz egg-laying contest, October 31, 1927.

In the 1926 Contest, the point system of scoring was first introduced, and F. W. Appleby of Mission won the contest with 3,057·5 points for 2,556 eggs. The highest individual hen was B.C.L.C-F400, owned by the Agassiz Experimental Farm with 326 eggs scoring 409·1 points. The 1927 contest was won by the pen laying the most eggs; i.e., J. C. Diederichs' with 2,803·6 points for 2,632 eggs, the highest hen for points was owned by J. A. Mufford and Sons, with 389·0 points for 301 eggs.

SUMMARY OF SEVEN EGG-LAYING CONTESTS AT AGASSIZ, B.C.

Year	Ending Oct. 30	Number of pens	Leading pen	Leading hen	Egg average	Number of hens registered	Remarks
1	1921	26	W. Leghorn 2,247 eggs. R. H. Grahame.	W. Leghorn 283 eggs. R. H. Grahame.	183·61	Not in affect.	
2	1922	29	Barred P. Rock 2,601 eggs. Exp. Farm, Agassiz.	W. Wyandotte 307 eggs. Reade and King.	181·21	40	First year of registration. High pen's score was World's Record.
3	1923	36	Barred P. Rock 2,383 eggs. Exp. Farm, Agassiz.	W. Wyandotte 306 eggs. T. Bridge.	199·85	108	
4	1924	36	W. Leghorn 2,420 eggs. University of B.C.	W. Leghorn 308 eggs. C. P. Metcalfe.	206·78	107	Vancouver Island Contest. Pens entered from Mainland only.
5	1925	45	W. Leghorn 2,683 eggs. J. H. Mufford & Sons.	W. Leghorn 332 eggs. Exp. Farm, Agassiz.	215·00	165	15 birds laid over 300 eggs.
6	1926	46	W. Leghorn 3,057·5 points. 2,556 eggs. F. W. Appleby.	Barred P. Rock 409·1 points. 326 eggs. Exp. Farm, Agassiz.	231·00	266	36 birds laid over 300 eggs. Several World's Records broken.
7	1927	45	W. Leghorn 2,803·6 points. 2,632 eggs. J. C. Diederichs.	W. Leghorn 389·0 points. 301 eggs. J. H. Mufford & Sons.	207·00	195	4 birds laid over 300 eggs.

BEES

No experimental work was done with the bees during 1927 due to the fact that the beeman was away for the greater part of the season and that it was decided to increase the number of colonies. This result was obtained in two ways: ten hives were added in the form of package bees and by making fifteen increases from old established colonies. The package bees did well with the exception of one colony. That colony became established and the queen layed eggs and the brood was capped but later the hive was deserted, leaving the capped brood behind.

In the fall two weak colonies were united, making a total of thirty-five hives to go into winter in three types of cases, quadruple, double and Kootenay cases. The quadruple case is being tested out for the first time.

The season generally was not favourable for bees. During the spring and at fruit blossom time and during June, the weather was dull and cool with many light showers which affected the flow of nectar and prevented the bees from getting out. From August 24 and all through the fall the weather was dull with many wet days and during this period the bees were to a great extent prevented from flying and consumed considerable quantities of stores.

FIBRE PLANTS

Experimental work as to the suitability of this district for growing flax and hemp for fibre was carried on. Three varieties of flax were grown and two varieties of hemp. Plots were one-sixtieth-acre in size and were in triplicate.

FLAX—TEST OF VARIETIES

Of the three varieties tested, J. W. S., Riga Blue and Pure Line 6, J. W. S. gave the highest yield of total crop per acre with the others following in the order named. Results were below average. (Project E 3.)

VARIETY TEST

Variety	Dry straw per acre
	lb.
J. W. S.	2,900
Riga Blue	2,760
Pure Line No. 6	2,400

FLAX—DATES OF SEEDING

In order to determine the most satisfactory date to sow flax four different sowings of Riga Blue were made. (Project E 7.)

DATES OF SEEDING FLAX

Date sown	Dry straw per acre
	lb.
1st seeding, May 7	2,760
2nd seeding, May 14	3,100
3rd seeding, May 21	3,680
4th seeding, May 28	5,400

HEMP—TEST OF VARIETIES

One variety of hemp, Kentucky, was grown. Owing to the long continued wet spell after the hemp was cut it was never possible to have the crop sufficiently dried for shipment so that in effect results were a failure. (Project E 4.)

HEMP—DATES OF SEEDING

The Kentucky variety of hemp was sown on four different dates and the results were as unsuccessful as in the variety test. (Project E 8.)

HEMP FOR SEED

Seed of Kentucky hemp was sown in hills five feet apart each way for the purpose of finding out the possibilities of growing hemp for seed in this district. Results were similar to those of last year in that the crop did not ripen up into a stage of maturity early enough to allow of harvesting the seed.

GENERAL NOTES

Several agricultural and daily newspapers in British Columbia and elsewhere have continued unstintingly to give space in their publications to matters concerning the work of this Farm. Egg-Laying-Contest reports, news items, photos and experimental results appeared repeatedly throughout the year in many papers. The work of the press in placing these results before the public, cannot be measured, and this opportunity is taken to express appreciation for the valuable assistance given in this regard. The attention of an increased number of farmers was attracted to the work of this Farm by an enlarged distribution of the annual report. The exhibiting of twenty-four Barred Plymouth Rock chickens at the World's Poultry Congress at Ottawa, the exhibiting of sixteen Holstein cattle at New Westminster and five at the Toronto Royal, and the showing of eight Clydesdale horses at the Vancouver Winter Fair all assisted materially in keeping the Agassiz Experimental Farm before the public.

Under the auspices of the Chilliwack Board of Trade, a small delegation of prairie business men visited the farm on June 15. The World's Poultry Congress special train stopped at Agassiz three hours, August 19, while the distinguished passengers took the opportunity to visit the Laying Contest, to view the live stock on parade and in the barns, and to inquire into many phases of experimental work being carried on. Owing to improved ferry facilities and the opening of the motor road on the north side of the Fraser river to the coast, an increased number of farmers called to discuss their problems. The superintendent, besides attending the exhibitions where the stock and poultry were shown, judged Holstein cattle at Edmonton, swine at Victoria and sheep at the Calgary fall show. Considerable time was given to directorate work of the Provincial Holstein, Stock Breeders', Dairymen and Seed Growers' Associations. Two export shipments of pure-bred breeding hogs to New Zealand were supervised. The superintendent and assistants judged at some of the smaller flower, fruit and live stock shows, addressed many institute meetings, and attended the annual meetings of the Canadian Seed Growers' Association and the Canadian Society of Technical Agriculturists.

The headquarters of the Supervisor of Illustration Stations for British Columbia was transferred to this Farm in June, 1927. Due to the increased number of registered poultry in this province, the Registration Inspector, whose headquarters are also here, had an assistant appointed in September. Thus the increased activities centering around this institution, supplemented to a very marked degree the routine work, accounting, record-keeping and correspondence in the office and gave the different officers added scope and responsibilities.

OTTAWA: Printed by F. A. ACLAND, Printer to the King's Most Excellent Majesty, 1928.