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 1925

Nine daughters of Inka Sylvia Beets Posch. They averaged 2,723 pounds of milk and 84.3 pounds of butter more than their dam.

Printed by authority of the Hon. W. R. Motherwell, Minister of Agriculture, Ottawa, 1926

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SEASONAL NOTES

Preceded by the lowest December temperature ever recorded at Agassiz, the year 1925 produced peculiar weather conditions. January, with a precipitation of 14.15 inches, was the wettest in the history of the Farm with the exception of January, 1920; February was the wettest February with the exception of 1923, while the same holds true of March except for the years 1916 and 1918. It is not surprising then that after a precipitation of 32.30 inches for the first three months the balance of the year should be one of the driest ever recorded. The total for the year was 61.49 inches, as compared with 70.982 inches, the average for fifteen years. For the six growing months from April to September inclusive the precipitation was only 10.94 inches, as compared with 21.77 inches, the average for this same period during the preceding ten years. June with only 0.79 of an inch recorded was the driest June in the history of the Farm. From March 23 to October 15 no frost was recorded, while from January 27 to the end of the year the lowest temperature was 30 degrees.

Weather conditions such as these did not produce outstanding crops; in fact the reverse was the result. Clovers, strawberries, and roses were so severely winter-killed by the cold spell at the close of 1924 that these crops were almost a failure. The hay crop was very light, due not only to the winter-killing but also the later drought. More annual hay crops were grown than usual, but due to the shortage of moisture they did not yield well. Roots and pastures gave poor results. Corn did well and cereals yielded about average as the harvesting season was early and drought conditions did not affect the grain so soon. Some very fine early potatoes were marketed in Vancouver late in May but owing to Texas potatoes being on sale at that time, the price obtained was only six cents per pound net.

METEOROLOGICAL RECORDS AT AGASSIZ, B.C., 1925

Month	Temperature F.			Precipitation			Sunshine
	Mean	Highest	Lowest	Rain	Snow	Total	
	F.°	F.°	F.°	Ins.	Ins.	Ins.	Hours
January	36·96	51	21	13·45	7·0	14·15	20·7
February	43·17	58	32	9·97	.....	9·97	34·1
March	43·35	57	32	8·18	.....	8·18	93·0
April	51·46	77	34	3·61	.....	3·61	114·0
May	60·72	90	40	3·23	.....	3·23	222·1
June	61·48	97	39	0·79	.....	0·79	204·1
July	66·06	88	47	0·66	.....	0·66	241·6
August	63·69	93	43	2·22	.....	2·22	147·7
September	59·89	81	42	0·43	.....	0·43	153·0
October	48·72	72	32	3·26	0·05	3·31	104·6
November	42·43	55	30	5·94	.....	5·94	62·9
December	44·07	56	32	9·00	.....	9·00	43·3
Totals	.....	.....	.....	60·74	7·05	61·49	1,441·1

PRECIPITATION AT AGASSIZ FOR FIFTEEN YEARS.

—	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches	Inches
1911	4·98	3·56	2·76	2·62	6·75	1·65	1·12	2·97	4·91	3·57	10·50	7·69	53·08
1912	4·31	10·66	2·18	4·26	3·99	5·95	5·09	7·84	2·5	6·99	13·82	10·09	77·68
1913	20·11	5·12	7·65	4·72	6·08	7·33	3·71	2·71	7·68	8·84	12·29	3·36	89·60
1914	13·96	4·06	3·12	2·94	3·55	5·18	0·15	0·60	6·29	7·53	14·72	0·53	62·63
1915	7·17	5·67	2·45	5·37	5·2	2·36	1·62	0·07	1·26	11·26	7·75	15·39	65·57
1916	2·89	4·93	13·78	6·3	4·98	2·68	4·67	0·98	1·68	1·76	7·83	6·72	59·20
1917	10·1	4·92	5·6	9·84	2·22	4·30	0·59	1·1	3·44	6·84	8·71	14·79	72·45
1918	9·76	7·02	10·66	1·38	4·64	1·74	2·28	7·94	0·26	14·85	9·06	13·39	82·98
1919	11·01	6·98	5·07	6·26	4·71	2·68	0·66	0·45	6·7	5·9	15·61	9·63	75·66
1920	15·08	2·04	6·44	9·95	4·56	8·39	1·21	1·67	12·42	11·35	4·8	8·46	86·37
1921	9·83	9·82	5·21	5·58	3·58	5·2	2·18	1·81	7·67	12·79	11·34	9·52	84·53
1922	5·06	4·01	6·98	4·80	4·74	1·23	·02	3·62	5·07	10·41	2·23	7·59	55·76
1923	12·40	3·80	3·57	2·76	7·68	2·89	1·87	·29	4·68	3·63	7·42	12·54	63·53
1924	9·69	14·92	2·13	3·93	1·03	2·20	2·48	1·24	4·63	9·23	9·58	13·17	74·23
1925	14·15	9·97	8·18	3·61	3·23	0·79	0·66	2·22	·43	3·31	5·94	9·0	61·49
Total	150·5	97·48	85·78	74·32	66·94	54·57	28·31	35·51	69·62	118·26	141·60	141·87	1,064·76
Average	10·03	6·5	5·72	4·95	4·46	3·64	1·89	2·37	4·64	7·88	9·44	9·46	70·982

ANIMAL HUSBANDRY

DAIRY CATTLE

On December 31, 1925, the dairy herd numbered sixty-seven head of pure-bred Holstein-Friesian cattle as follows: one mature bull, one three-year-old, one two-year-old, one yearling and three bull calves, thirty-one mature cows, six three-year-olds, five two-year-olds, eight yearlings and ten heifer calves. During the year one of the senior herd sires, Sir Canary Pietje, injured his stifle so seriously that it necessitated butchering him. Five bull calves were sold for breeding purposes, two were transferred to other Experimental Farms and ten were sold for veal. Two heifers and a cow were culled and sold for beef, while five two-year-olds in calf heifers were sold to China. It is hoped that these will assist in opening a market for Canadian Holsteins.

ACCREDITED HERD.—The entire herd successfully passed another annual double test for tuberculosis and continues to hold certificate No. 11.

FARM OR PREFIX NAME.—The name "Agassiz" has been registered with the Holstein-Friesian Association of Canada as the first name for cattle-registration

HERD SIRES

At the present time three bulls are in use in the herd, all being XX sires. Although gradual improvement has been accomplished in the offspring the need of having really outstanding sires has been felt for some time and during the year steps were taken to improve in this respect, attention being paid particularly to type.

Sir Bess Ormsby Fobes 40th —64569—

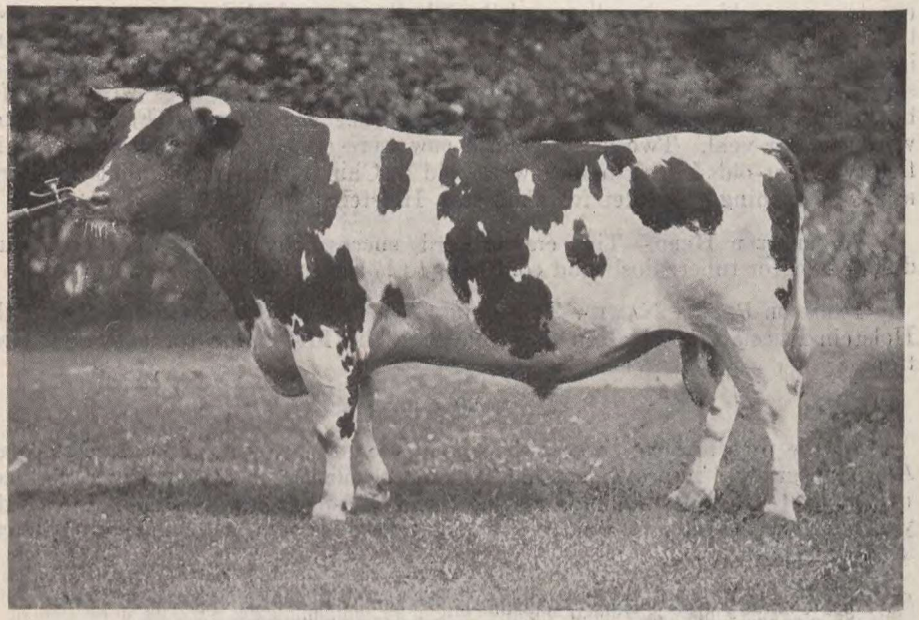
After considerable study and inspection a young calf was selected for a junior herd sire bred by the Hollyhock Farms of Dousman, Wis. This calf born January 24, 1925, is very nicely bred and at a year old promises well. His ancestors are big cattle with straight square rumps and excellent producers. His sire, Sir Bess Ormsby Fobes, has a splendid list of good producing daughters, and is a son of the well-known cow Wisconsin Fobes with a record of 24,535 pounds of milk and 1,153 pounds of butter. She is the only 1,100-pound cow in the United States with three 1,000-pound daughters. Two of these are probably the most famous full sisters of the breed and they are full sisters to Sir Bess Ormsby Fobes, one of them being designated the largest dairy cow in the world. The sire of the sire of this young bull is Sir Pieterje Ormsby Mercedes 37th, the youngest bull with twelve 1,000-pounds daughters. He is a bull with four 1,200-pound daughters and is a full brother to the only three times 40-pound cow. The dam of Sir Bess Ormsby Fobes 40th —64569— made 23,731 pounds of milk and 1,022 pounds of butter as a four-year-old and her grandsire is a full brother to Glen Canary DeKol 2nd, with 1,323 pounds of butter in a year, as a four-year-old.

Agassiz Champion Re-Echo —54809—

This bull is a son of Agassiz Segis May Echo, the first cow in the world to make 1,600 pounds of butter in a year. His sire is by the same bull as May Echo Sylvia, the world's champion short-time-record milk-producer. This bull is related to many females in the herd and can only be used to a limited extent. His first two daughters are due to freshen shortly.

Tsussie Rajah —28017—

This bull is nine years old and has a unique show-ring record. He has been Grand Champion at British Columbia Class A fairs fourteen times and has never been defeated. He scored 95.5 points for Advanced Registry. He is big, straight, deep, and an outstanding bull. His dam has a fair R.O.P. record and his tested daughters have done well under ordinary conditions.



Tsussie Rajah 28017. Born May 19, 1916. Senior herd sire at Agassiz, and a grand champion bull fourteen times.

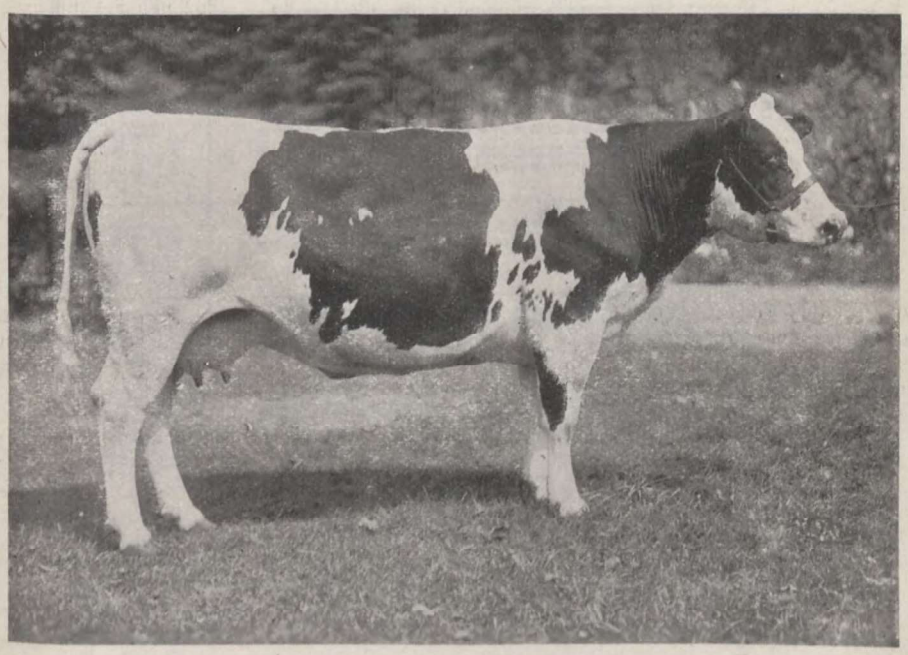
EXHIBITION WORK—PROJECT A 207

Sixteen head of Holsteins exhibited at Vancouver Exhibition in August made an excellent showing, the following placings being the most important won: mature bull, first and grand champion; senior bull calf, first and junior champion; junior bull calf, second; mature cow open class, second and third; cow with yearly record, second; mature cow dry, first and reserve grand champion; cow three years milking, first; cow two years dry, second; cow two years milking, second; senior yearling heifer, first and reserve junior champion; exhibitor's herd, second; produce of cow, second; produce of cow with a record, first. In the $500 sweepstake, second, third and seventh places were won. At New Westminster Exhibition in September some changes were made in the placings. The senior bull calf only won second, the cows in the open class, the three-year-old, the two-year-old and the yearlings all got lower placings, while the junior heifer calf got first; the exhibitor's herd, first; and the young herd, calf herd and get of sire each got second.

HERD RECORDS—PROJECT A. 360

The following list shows the performance of all cows finishing a lactation period during the year 1925. In this table feeds are charged at market value. Butterfat is computed at 50 cents per pound and skim-milk at 25 cents per one hundred pounds. The twenty-eight cows freshening during 1925 gave birth

Agassiz Faforit Posch 39321. Produced 20,130 pounds of milk and 1,100 pounds of butter in 305 days as a mature cow, making third place in Canada in this class.



Agassiz Priscilla Sylvia 60784, a daughter of Inka Sylvia Beets Posch 5563. As a junior two-year-old she produced 16,010 pounds of milk and 596.25 pounds of butter. She was reserve grand champion at Vancouver and New Westminster in 1925.

to thirty calves, exactly fifty per cent being heifers. The average production of the twenty-five cows that finished lactations in the year was 12,543 pounds of milk and 435 pounds of fat for an average lactation period of 361 days. This is not as high production as last year but is good in view of the fact that seven two-year-old heifers are in the list. The most sensational record reported is that of No. 93, Agassiz Faforit Posch, with 20,130 pounds of milk and 1,100 pounds of butter in 305 days as a mature cow. This gives her third place in Canada in this class. She is the dam of the high-producing heifer of last year.

From the figures in the table it is found that the average feed cost to produce one hundred pounds of milk is $1.27, and the average feed cost to produce one pound of eighty per cent butter is twenty-nine cents.

MILKING RECORD—COWS WHICH HAVE COMPLETED LACTATION PERIOD DURING 1925

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 and Molasses consumed	Months on pasture at $2.00 per mth.	Total Cost of Feed	Total Value of Product	Profit over Feed
			lb.		lb.	lb.	lb.	lb.	lb.	lb.	$ cts.	$ cts.	$ cts.	$ cts.
93	7	305	20,130	4·37	880·0	1,100·0	4,039	14,507	2,702	2,540	.....	232 23	485 29	253 06
153	3	338	13,880	3·4	471·92	589·9	4,096	18,195	700	.....	8 15	120 07	267 19	147 12
179	1	365	15,663	3·68	576·0	720·0	4,189	18,490	1,845	1,425	.....	188 85	323 24	134 34
194	1	365	15,659	3·55	556·0	695·0	3,069	18,735	2,350	1,511	.....	185 03	313 23	128 20
147	3	365	14,289	4·03	576·0	720·0	4,276	23,523	1,710	1,351	.....	195 92	320 15	124 23
190	1	365	14,175	4·04	572·0	715·0	3,671	20,125	2,142	1,496	.....	195 93	317 89	121 96
139	5	365	14,284	3·64	519·0	648·75	3,915	24,765	1,060	646	3 00	173 78	291 56	117 78
155	3	294	10,463	3·5	366·2	457·75	3,125	14,190	720	.....	8 63	94 08	206 64	112 56
173	1	365	14,684	3·66	537·0	671·25	4,192	21,630	1,875	1,304	0 40	194 35	301 54	107 19
114	5	398	12,198	3·49	425·7	532·12	4,194	23,886	1,090	240	2 16	134 85	240 29	105 44
143	4	427	17,207	3·1	534·0	667·5	5,122	30,846	1,535	.....	3 19	212 55	305 72	93 17
81	7	495	12,554	3·2	401·7	502·12	3,928	24,465	920	.....	7 77	138 66	229 10	90 44
118	6	334	9,668	3·5	338·4	423·0	3,286	22,350	641	.....	.....	111 20	190 95	79 75
46	9	375	12,571	2·9	364·5	455·6	3,627	24,305	855	.....	5 70	139 50	210 53	71 03
127	4	308	10,684	3·2	341·9	427·33	3,708	19,420	615	.....	8 15	125 03	194 99	69 96
180	1	365	9,996	3·95	395·0	493·75	3,984	16,925	1,465	912	2 87	155 18	219 99	64 81
154	4	311	10,768	3·26	351·0	438·75	3,381	20,221	1,060	1,120	4 55	135 48	199 73	64 25
178	1	365	10,666	3·79	404·0	505·0	3,498	21,800	1,735	830	.....	162 27	226 00	63 73
145	3	366	12,825	3·0	384·7	480·87	4,401	24,378	755	.....	19 35	163 49	221 21	57 72
188	1	365	12,400	3·41	423·0	528·75	3,680	22,835	1,050	1,406	.....	189 60	236 90	47 30
77	7	362	12,385	3·0	371·5	464·43	4,008	22,826	1,520	620	0 13	170 04	213 62	43 58
70	8	325	10,722	3·34	358·1	447·62	4,178	23,840	1,203	499	.....	161 72	203 17	41 45
137	5	291	7,147	3·15	225·13	281·41	2,768	20,355	585	.....	.....	109 69	128 64	18 95
151	4	397	8,045	3·1	249·4	311·75	3,278	23,430	875	.....	9 21	132 77	142 80	10 03
56	8	432	10,542	3·41	259·5	324·37	4,003	27,415	895	.....	4 32	152 84	153 47	0 63
Average	.....	361	12,542·76	3·47	435·26	544·00	3,824·64	21,738·28	1,276·12	1,128·57	5 83	159 00	245 75	86 75

LIST OF RECORDS COMPLETED IN THE HERD IN RECORD OF MERIT DURING THE YEAR 1925. Project A. 57

Name of Cow	Duration of test	Age of cow	Milk	Fat	Butter 80%
	days	y. m. d.	lb.	lb.	lb.
Agassiz Pietje Inka Sylvia	7	6 4 18	719·4	22·48	28·10
Agassiz Faforit Posch	7	8 11 20	527·9	21·00	26·25
Agassiz Walula Canary Inka	7	2 7 21	367·4	11·16	13·96
Agassiz Inka Lina DeKol	7	2 8 ..	339·9	9·54	11·93

LIST OF RECORDS COMPLETED BY COWS IN THE CANADIAN RECORD OF PERFORMANCE DURING THE YEAR 1925. Project A. 57

Name	Age at start of test	Month starting test	Duration of test	Amount of milk	Amount of fat	Percentage of fat
	years days		days	lbs.	lbs.	
Agassiz Faforit Posch	8 —	Dec., 1924	305	20,130	880	4·37
Agassiz Pietje Mechthilde	2 182	Jan., 1924	365	15,663	576	3·68
Agassiz Lina Lulu Sylvia	5 —	Jan., 1924	365	14,289	576	4·03
Agassiz Lina Lulu DeKol	3 61	Apr., 1924	365	14,684	537	3·66
Agassiz DeKol Faforit	2 177	Jan., 1925	365	14,175	572	4·04
Agassiz Priscilla Inka	2 108	Jan., 1925	365	15,659	556	3·55
Agassiz Pietje Sylvia	6 —	Aug., 1924	365	14,248	519	3·64
Agassiz Walula Inka	2 188	Oct., 1924	365	12,400	423	3·41
Agassiz Sylvia DeKol	2 263	Apr., 1924	365	10,666	404	3·79
Agassiz Queen DeKol	2 132	Feb., 1924	365	9,996	395	3·95

PEA AND OAT SILAGE VERSUS CLOVER SILAGE—PROJECT A. 215

This experiment was conducted during February and March. The six cows were fed sixty-four pounds of grain per day throughout the experiment, the mixture being three parts crushed oats, three parts bran and one part oilmeal, costing 1.8 cents per pound. Each cow was fed ten pounds of alfalfa hay and what ensilage they would eat.

PEA AND OAT SILAGE VERSUS CLOVER SILAGE

—		Peas and Oats	Clover
		Silage	Silage
Number of cows in experiment		6	6
Total milk produced by all cows	lbs.	1,299·55	1,352·1
Amount of milk produced per cow per day	"	30·942	32·193
Percentage of fat in milk produced	"	3·3	3·333
Amount of fat produced per cow per day	"	1·0146	1·07
Grain mixture consumed per 100 pounds milk produced	"	36·09	33·13
Grain mixture consumed per 1 pound fat produced	"	10·51	9·97
Pea and oat silage consumed per 100 pounds milk produced	"	193·9	.....
Pea and oat silage consumed per 1 pound fat produced	"	59·13	.....
Clover silage consumed per 100 pounds milk produced	"	.....	186·38
Clover silage consumed per 1 pound fat produced	"	.....	56·51
Alfalfa hay consumed per 100 pounds milk produced	"	32·32	31·09
Alfalfa hay consumed per 1 pound fat produced	"	9·959	9·344
Total cost of feed consumed	$	19·61	19·61
Feed cost to produce 100 pounds of milk	$	1·51	1·45
Feed cost to produce 1 pound of fat	$	·4501	·441

The results obtained are decidedly in favour of the clover silage as the cows produced more milk at a lower cost during the clover silage period.

GLUTEN-MEAL VERSUS GROUND OATS—PROJECT A. 380

Gluten-meal is a by-product from the starch factory and is high in protein content. It is a valuable feed for dairy cattle when it can be purchased at a reasonable price. It cost delivered $64 per ton, as compared to crushed oats at half that price. The cows were fed a grain ration composed of four parts bran, three parts ground oats, and one part oilmeal, and compared to this ration was a similar one except that two parts gluten-meal was substituted for two parts oats. For roughage each cow was fed five pounds of alfalfa hay. twenty pounds of roots and sixty pounds of silage per day.

GLUTEN-MEAL VERSUS GROUND OATS

—		Gluten Meal	Oats
Number of cows on trial		10	10
Total milk produced by all cows	lbs.	2,417·3	2,236·9
Amount of milk produced per cow per day	"	34·53	31·96
Per cent of fat in milk produced	"	3·371	3·384
Amount of fat produced per cow per day	"	1·16423	1·08143
Grain consumed per 100 pounds milk produced	"	31·853	34·422
Grain consumed per pound fat produced	"	9·48	10·171
Silage consumed per 100 pounds milk produced	"	173·33	187·74
Silage consumed per pound of fat produced	"	51·53	55·63
Mangels consumed per 100 pounds milk produced	"	57·91	62·59
Mangels consumed per pound fat produced	"	17·18	18·5
Alfalfa hay consumed per 100 pounds milk produced	"	14·48	15·64
Alfalfa hay consumed per pound fat produced	"	4·29	4·623
Total cost of feed	$	34·55	31·47
Feed cost to produce 100 pounds of milk	$	1·39	1·40
Feed cost to produce 1 pound of butter fat	cts.	42·394	41·572
Feed cost to produce 1 pound of butter	"	33·915	33·2576

When fed the ration containing the gluten-meal the cows averaged 2.57 pounds more milk per cow per day than when the gluten-meal was withheld from the ration. They consumed exactly the same quantity of feed during the entire trial but due to the greater cost of the gluten mixture the cost of one pound of butter was slightly less when the grain ration was minus the gluten.

CONTAGIOUS ABORTION, CONTROL—PROJECT A. 94

Considerable improvement has taken place in the herd during the year as far as actual abortions are concerned. Of the twenty-eight cows calving during 1925 five aborted, or approximately eighteen per cent. The plan followed has been to isolate cows showing discharge or aborters until thoroughly clean before placing them again in the herd. The condition known as cystic ovaries has been responsible for much difficulty in breeding operations, this condition being much more pronounced in heifers than in older cows. Dr. T. H. Jagger, of Vancouver, a specialist in the treatment of abortion and sterility has paid semi-monthly visits to the herd since October 1924 and during that time has been responsible for getting many cows and heifers to breed which otherwise would have gone to the butcher. His work consisted of examining the ovaries of all open females over a year old; when cysts were present they were broken and when the ovaries were otherwise than normal they were massaged and where possible brought back to normal functioning condition. Cows showing discharge after freshening were douched with Lugols or saline solution. Examinations were regularly made for pregnancy, this being a very useful part of the periodic examinations.

Two of the most noteworthy cases where these methods were responsible for a return to breeding condition are the former world's champion butter pro-

ducer, Agassiz Segis May Echo, and the junior two-year-old champion of Canada, Agassiz Faforit DeKol. May Echo gave birth to a calf June 15, 1923. She has had ovary trouble ever since but finally responded to treatment, was bred, conceived and at the time of writing is pregnant and due to freshen April 24, 1926. Faforit gave birth to her first calf September 10, 1923, as a junior two-year-old. Since then she was bred regularly but failed to settle. After ovary treatment for some time she was bred, is safely in calf and due February 8, 1926. Another cow, Agassiz Queen DeKol, the junior champion female at Vancouver 1922, after calving February 24, 1924, was about to be butchered on account of sterility. However, after continued treatment and breeding she finally conceived and is due to freshen April 7, 1926. This particular cow is not a heavy producer but gave 9,996 pounds of milk as a junior two-year-old.

PROGRESS IN BREEDING HOLSTEIN CATTLE—PROJECT A. 502

The female herd of sixty cows as it is found December 31, 1925, with the exception of one foundation cow, have all been born on the farm, and all bred there except three. The fifty-nine head are the product of six foundation cows. Three of these were purchased in 1912 for $1,200 from J. M. Steves of Stevesston, B.C.; all young cows at that time and all by Sir Canary Mechthilde. They were Pietje Priscilla Mechthilde, Lina of Lulu 2nd and Aurora Mechthilde and they formed the foundation of the Piejte, Lina and Aurora families. In October, 1915, two two-year-old in calf heifers were purchased from a consignment shipped from Ontario; Lady Lyons Faforit for $200 (she becoming the foundation cow of the Lady Lyons family), and Elmcrest Faforit Mercena for $165 (she starting the Faforit family). About the same time Walula Artis was purchased as a calf for $50, from F. J. Bishop, of Westholme, B.C., she being the sixth foundation cow and starting the Walula family. Thus the actual cash outlay for the six foundation cows was $1,615, and of the six, only Pietje Priscilla Mechthilde remains. True, a few other females were purchased to help increase the size of the herd in its early stages but these with their offspring have since been sold. Ottille DeKol Artis was purchased for the same price and at the same time as Walulu Artis. But she was not a producer and the family was dispersed, the last one going in April, 1924. The cash received for the family at different times, for bulls, veal and females totalled $647.

Pietje Family.

This is the largest family, consisting of twenty-two members. The foundation cow gave birth to six heifers all but one of which have made much better records than their dam; the sixth as yet is only a calf. This family has produced grand champions and junior champions at the largest fairs in British Columbia, a grand daughter being reserve grand champion at Vancouver and New Westminster this year (1925). (For further particulars of this family see 1924 report of this Farm, page 7.) Since the 1924 report was printed four other members of this family have finished R. O. P. records (see milk records of numbers 139, 178, 180 and 194 elsewhere in this report). The three heifers, numbers 198, 209 and 211, were sold to China and five heifer calves were born during the year.

Aurora Family.

The foundation cow of this family, Aurora Mechthilde, was a beautiful cow, with plenty of size, type and capacity. In individuality she was the best of the foundation cows. She was grand champion over all breeds at Vancouver in 1918 when eleven years old. The same year she made her best record 19,271 pounds of milk and 818.75 pounds of butter in 325 days, her best day's production being 97.3 pounds. In spite of the good qualities of this cow she is not in the same class with Pietje Priscilla Mechthilde as a breeder. She gave birth

to four daughters only one of which has a better record than herself. The family numbers at the present time eleven head, six being mature cows, two heifers on R. O. P., and three not yet freshened. Six females have been sold from this family for breeding and five for slaughter. Not one show animal has been produced in the family to equal the old cow. The highest honour won was junior championship on a grandson at Vancouver this year. Aurora died in 1920 several months after giving birth to twin bull calves.

AURORA MECHTHILDE

R. O. P., Mature 19,271 pounds of milk, 818·75 pounds of butter.

Daughters	Age at start of test	Milk	Butter
	years	lbs.	lbs.
43	2	8,003	363·
56	4	13,428	595·
97	failed to	qualify	
135	5	19,492	857·5

Grand-daughters	Dam Number	Age at start of test	Milk	Butter
		years	lb.	lb.
77	43	2	9,904	387·5
137	43	3	13,712	597·5
118	56	Mature	10,310	453·65 (Private record)
143	56	2	14,435	607·5

Lina Family.

The foundation cow of this family, Lina of Lulu 2nd, was a smaller cow than either of her half-sisters. She was, if anything, too fine in quality and produced offspring of this type. She was a good show-cow standing third in a strong class at Vancouver in 1918, but like Aurora has not produced any outstanding show or producing offspring although the second-generation heifers show satisfactory improvement over the first in production. She contracted udder trouble when young and only made a seven-day record of 433 pounds of milk and 20.9 pounds of butter as a three-year-old. She produced four daughters, three of them by the same sire as the first three daughters of Pietje Priscilla Mechthilde, but none of them as good. All four have fair R. O. P. records. The family at present numbers eleven head, six mature animals and five heifers not yet freshened. Four females have been sold from this family for breeding purposes and four for slaughter, including the old cow in 1923 after she had become sterile.

LINA OF LULU 2ND

R. O. M., 3 years, 7 days, 389.64 lbs. milk, 29.0 lbs. butter.

Daughters	Age at start of test	Milk	Butter
	years	lb.	lb.
No. 46	6	19,060	730·0
No. 81	2	9,923	433·75
No. 105	2	8,399	388·0
No. 173	3	14,684	671·25

Grand-daughters	Dam Number	Age at start of test	Milk	Butter
		years	lb.	lb.
No. 159	46	2	16,644	715
No. 127	81	2	14,803	650
No. 147	105	5	14,289	720

Walula Family.

The foundation cow of this family, Walula Artis, was of different type to any of the others. She was almost all white in colour, a short, thick, low-set cow, somewhat thick on the shoulder, straight in the hind quarters, with a good udder. She produced 21,071 pounds of milk and 858.75 pounds of butter in a year in mature form. She won first prize in the record class at Vancouver in 1922. She raised three daughters, all of which made better two-year-old records than herself. Her second daughter gave birth to two heifers, one of which was reserve junior champion at Vancouver this year. This is a good family and although the daughters have not been tested as mature cows, they are excellent producers and good individuals. Walula was sold to the butcher December, 1924, as her breeding usefulness was over. The family at the present time consists of three mature daughters and two grand daughters.

WALULA ARTIS

R. O. P.; 2 years, 12,257 lb. milk, 470 lb. butter.
R. O. P.; 6 years, 21,071 lb. milk, 858·75 lb. butter.

Daughters	Age at start of test	Milk	Butter
	years	lb.	lb.
No. 126	2	16,575	670·0
No. 151	2 (305-day)	14,016	577·0
No. 188	2	12,400	528·75

Faforit Family.

The foundation cow of this family, Elmcrest Faforit Mercena, was a cow very spotted as to markings and this characteristic was inherited by many of her offspring. She gave a suspicious reaction to the tuberculin test in 1917 and was slaughtered when four years old, having given birth to two heifers and a bull calf. She left, particularly through her older daughter, an excellent group of producing cows noted for milk high in butterfat content. The first daughter, Agassiz Faforit Posch, a cow very similar in appearance to her dam, has just completed a 305-day test in mature form of 20,130 pounds of milk and 1,100 pounds of butter. This gives her third place in her class for Canada. Her third daughter in turn as a junior two-year-old produced 21,343 pounds of milk and 1,001 pounds of butter, thus winning the Canadian championship in this class. Agassiz Faforit Posch has given birth to five daughters, four of which have been tested and all have made better records than their dam and granddam as two-year-olds. This very excellent family numbers nine head to date, and improvement has been shown with each generation. A daughter of Agassiz Faforit Posch was first-prize dry two-year-old at Vancouver and New Westminster in 1924, also first-prize three-year-old at Vancouver this year (1925), while her daughter in turn won first as a junior calf at New Westminster this year.

ELMCREST FAFORIT MERCENA

R. O. P.; 2 yrs., 10,281 lb. milk, 436 lb. butter.

Daughters	Age at start of test	Milk	Butter
	years	lb.	lb.
No. 93	2	8,821	402·5
No. 93	8 (305-day)	20,130	1,100·0
No. 114	3	12,085	569·0

Grand-daughters	Dams Number	Age at start of test	Milk	Butter
		years	lb.	lb.
No. 138	93	2	13,381	550·
No. 155	93	3 (305-day)	15,082	707·5
No. 176	93	2	21,343	1,001·
No. 190	93	2	14,175	715·
No. 169	14	2	11,452	531·25

Lady Lyons Family.

Lady Lyons Fafarit, the foundation cow of this family, was in calf to the service of May Echo Champion when purchased as a two-year-old in 1915. From this service she gave birth to Agassiz Segis May Echo, the first cow in the world to produce 1,600 pounds of butter. From this family has accrued more of advertising value to the Agassiz herd than from any other and the sale of one member has given a cash return of more than the entire foundation cows cost. Lady Lyons herself made two good records, one when two years old and the other when six. She gave birth to three daughters all of which made better two-year-old records than herself. She became useless for breeding and was slaughtered when seven years old. Her second daughter died of septicemia after dropping her second calf and as both daughters from Agassiz Segis May Echo were sold, one to the United States and the other to Japan, there remain only two female members in the family. The bull Agassiz Champion Re-Echo is a member of this group and he has six daughters in the herd through which it is hoped to perpetuate to some extent this line of breeding.

LADY LYONS FAFORIT

R. O. P.; 2 years, 14,520 lb. milk, 585 lb. butter.
R. O. P.; 6 years, 18,829 lb. milk, 801 lb. butter.

Daughters	Age at start of test	Milk	Butter
	years	lb.	lb.
No. 98	2	19,302	842·50
No. 98	5	30,886	1,681·25
No. 115	2	14,375	666·0
No. 157	2	13,673	631·0
No. 157	5	16,282	762·5

VALUE OF SIRES USED TO DATE IN THE HOLSTEIN HERD

With thirteen years of breeding work completed, some interesting results are available regarding the value of the different sires used. All females of sufficient

age in the herd at the present time have R.O.P. records except Nos. 154 and 118. Five out of the six foundation cows made R.O.P. records and practically all females raised, except those sold while young, were tested also. Such being the case, the records form a fair basis from which to draw comparisons. Private records are substituted where R.O.P. figures are lacking. The age difference is another factor which must be taken into consideration in making comparisons. Most of the cows were tested in two-year-old form in which cases the figures for this class are reported.

The following is a list of bulls with daughters in the herd, all of which daughters were bred on the Farm except the first three:—

BULLS AND NUMBER OF DAUGHTERS IN THE AGASSIZ HERD

Sir Canary Mechthilde	1	Inka Sylvia Beets Posch	9
Schuiling Mercena Posch	1	Agassiz Aurora Canary	5
May Echo Champion	1	Agassiz Sir Inka Sylvia	4
Sir Natoye Korndyke	5	Maplecrest DeKol Henry	14
Colony Sena Korndyke	1	Sir Canary Pietje	10
B. C. Korndyke Choice	1	Agassiz Henry Pietje	1
Leo Canary	1	Agassiz Champion Re-Echo	6

One daughter of Agassiz Sir Inka Sylvia, eight daughters of Maplecrest DeKol Henry, and all the daughters from the last three bulls on the list are too young to have made records. This leaves only five bulls with more than one daughter with records from which comparison can be made. A few other daughters from some of these bulls were bred, tested and later sold; these are properly entitled to a place in the comparison.

COMPARISON OF THE RECORDS OF DAUGHTERS OF SIR NATOYE KORNDYKE WITH THOSE OF THEIR DAMS

Daughters				Dams			
Number	Age	Milk	Fat	Number	Age	Milk	Fat
		lb.	lb.			lb.	lb.
46	Mature	19,060	584	75	Mature	10,938	*386·0
81	2 years	9,923	363	75	"	10,938	386·0
105	2 years	8,399	307·0	75	"	10,938	386·0
56	4 years	13,428	476·0	61	"	19,271	655·0
52	4 years	19,935	747·0	87	"	15,556	545·0
70	Mature	20,399	751·0	87	"	15,556	545·0
95	"	24,567	849·0	87	"	15,556	545·0
Total		115,711	4,077·0	Total		98,753	3,448·0
Average		16,530	582·04	Average		14,107	492·5
Average difference in favour of heifers		242,3	89·9				

*Best private record.

NOTES.—This comparison is hardly a fair one as two of the daughters' records were made in the two-year-old form. Even at this age, however, the daughters produced on the average 2423 pounds of milk and 89·9 pounds of fat more than the dams. The daughters were all very good show cows, but when in their prime the three dams were superior in type and conformation to the three best daughters.

COMPARISON OF THE RECORDS OF DAUGHTERS OF AGASSIZ AURORA CANARY WITH THOSE OF THEIR DAMS

Daughters				Dams			
Number	Age	Milk	Fat	Number	Age	Milk	Fat
	years	lb.	lb.		years	lb.	lb.
151	2	14,016	456	86	2	12,257	376
153	3	19,827	716	52	4	19,935	747
154	2	8,035	281	113	2	12,711	508
155	3	15,082	*566	93	2	8,821	322
157	2	13,673	505	90	2	14,520	468
Total		70,633	2,524	Total		68,244	2,421·0
Average		14,126·6	504·8	Average		13,648·8	484·2
Average difference in favour of heifers over dams		477·5	20·6				

NOTES.—The daughters of Agassiz Aurora Canary are a uniform lot, but no improvement over their dams in type. In production, however, they have the appreciable margin over their dams of 477·5 pounds of milk and 20·6 pounds of fat, on the average. Agassiz Aurora Canary is a son of the foundation cow Aurora Mechthilde.

*305 days.

COMPARISON OF THE RECORDS OF DAUGHTERS OF INKA SYLVIA BEETS POSCH WITH THOSE OF THEIR DAMS

Daughters				Dams			
Number	Age	Milk	Fat	Number	Age	Milk	Fat
	years	lb.	lb.		years	lb.	lb.
126	2	16,575	536	86	2	12,257	376
127	2	14,803	520	81	2	9,923	363
135	Mature	19,492	686	61	Mature	19,271	655
137	3	13,712	478	43	2	8,003	292
138	2	13,381	440	93	2	8,821	322
139	Mature	14,284	519	94	2	9,429	331
142	2	16,010	477	70	Mature	20,399	751
143	2	14,435	486	56	2	9,628	323
145	2	15,179	498	87	Mature	15,556	545
147	Mature	14,289	576	105	2	8,399	307
149	2	12,193	370	85	2	12,707	394
Total		164,353	5,586	Total		134,393	4,659·0
Average		14,941	507·82	Average		12,217·5	423·5
Average difference in favour of heifers over dams		2,723·5	84·3				

NOTES.—Inka Sylvia Beets Posch increased the production of his daughters over their dams on an average of 2723·5 pounds of milk and 84·3 pounds of fat. Had his daughters been better testers the improvement would have been greater. They are large, roomy big-producing cows. One of them was reserve grand champion at Vancouver and New Westminster this year (1925).

COMPARISON OF THE RECORDS OF DAUGHTERS OF AGASSIZ SIR INKA SYLVIA WITH THOSE OF THEIR DAMS

Daughters				Dams			
No.	Age	Milk	Fat	No.	Age	Milk	Fat
		lb.	lb.			lb.	lb.
159	2 years	16,644	572	46	Mature	19,060	584
167	2 "	11,452	425	114	3 years	12,085	455
176	2 "	21,343	801	93	2 "	8,821	322
188	2 "	12,400	423	86	2 "	12,257	376
194	2 "	15,659	556	70	2 "	14,305	504
Totals		77,498	2,777			66,528	2,241·0
Average		15,499·6	555·4			13,305·6	448·2
Average difference in favour of heifers over dams		2,194	107·2				

NOTES.—Agassiz Sir Inka Sylvia was from the foundation cow of the Lady Lyons family and sired by Inka Sylvia Beets Posch. Like his sire, he left good production in his daughters, the only five to be tested giving 2,194 pounds of milk and 107·2 pounds of fat on the average more than their dams, one of the dams being mature as compared to the two-year-old daughter. These daughters were somewhat off in type, being too hollow and somewhat sloping at the rump.

COMPARISON OF THE RECORDS OF DAUGHTERS OF MAPLECREST DEKOL HENRY WITH THOSE OF THEIR DAMS

Daughters				Dams			
No.	Age	Milk	Fat	No.	Age	Milk	Fat
		lb.	lb.			lb.	lb.
168	2 years	16,522	567	52	2 years	14,644	536
169	2 "	10,373	393	139	Mature	14,248	519
173	3 "	14,684	537	75	"	10,938	386*
178	2 "	10,666	404	70	2 Years	14,305	504
179	2 "	15,663	576	87	Mature	15,556	545
180	2 "	9,996	395	154	2 Years	8,035	281
190	2 "	14,175	572	93	2 "	8,821	322
Total		92,079	3,444			86,547	3,093
Average		13,154	492			12,364	442
Average difference in favour of heifers over dams		790	50				

* Private record.

NOTES.—Maplecrest DeKol Henry is a black bull of the low-set, thick, straight type. With very few exceptions, he left straight rumps on his offspring, although they were a trifle short. He sired more show animals than any other bull used in the herd, including both junior champions at Vancouver in 1922, the entire first prize young herd the same year, all the females in the first prize young herd in 1924 at Vancouver and New Westminster, the junior champion bull at Vancouver in 1925, and many other first-prize animals. His first seven daughters to freshen have all been tested and in heifer form have averaged 790 pounds of milk and 50 pounds of fat more than their dams, three of the latter being in mature form.

DAIRY WORK

CHEESE-MAKING.—During the past year experiments have been made with a new variety of cheese. The experiment cannot yet be considered complete as this cheese has not been put on the market, so that the amount of profit it would bring cannot be definitely stated. The method of making and the quality of the cheese itself would appear to be sufficiently settled for a preliminary report. The points aimed at were to secure a product:—

(1) Rich in fat with a texture resembling that of club cheese without the disadvantage that the latter has of being an old cheese ground up and remade.

(2) That it should have no rind.

(3) That it could if necessary be kept for three months without going dry or acquiring mould growth.

(4) That the flavour should be mellow, uniform and not strong.

So far as the work has gone, these results have been obtained.

The work was begun June 9, 1925, two batches being made. The first of these was ready for market on July 23. The same cheese was still in excellent condition on October 1, having been kept at a temperature of 50 degrees to 60 degrees F. The work has been continued at intervals and up to the time of writing the progress is satisfactory. The cheese would be eminently suited for the home cheese market as the equipment needed is of the simplest, and since it is small in size, is more readily adapted to the amount of milk at one's disposal.

In order to obtain the requisite texture the fat content of the milk was raised to 10 per cent. The milk was then coloured and rennetted at a temperature of 93 degrees. The coagulum formed in half an hour and then was cut and ladled on a draining rack where it remained for eighteen hours, room temperature being maintained at 70 degrees F. When ready for moulding it was broken up finely with the fingers, salted and pressed firmly into the form which stood on a cotton mat and board. Five-pounds weight was added and the cheese turned daily until ready for turning out, which was usually in three or four days. After turning out, the surface of cheese was scraped each day

to remove any possible mould growth. In seven to ten days, depending on temperature and humidity, the cheese was ready for wrapping in tin-foil, after which it was taken to the cellar. The tin-foil seems to afford complete protection from evaporation and mould growth. Some growth was allowed to form on the outside of the package to see if the contents were likely to be affected, but the cheese remained in good condition.

A few minor points remain to be worked out before complete information can be given.

English Stilton, cream and Cheshire were made during the year. A small home-cheesemaking demonstration and exhibit was held at New Westminster Fair and resulted in some interested inquiries.

Milk-testing consisted of the regular testing for the Experimental Farm herd and such samples as were sent in by neighbouring farmers.

HORSES

The horses on December 31, 1925, totalled seventeen head, all pure-bred Clydesdales except one gelding and a pony, and all bred on the Farm except four foundation mares and the pony. During 1925 a pair of yearlings were transferred to the Summerland Station, a team of mares to the Sidney Station, the Clydesdale mare Melita died, and a stallion, a filly and a gelding were sold. Madge was the only mare left in foal and she reared her fifth foal in succession, it being sired by Bute Crown. Three mares were bred, Madge, Diana, and Heather; all are in foal, the latter being due in February.

The average feed cost for a year of the nine horses doing most of the work was $97.35 for an average of 1,823 hours' work accomplished, or 5.34 cents per hour. Madge reared her foal on a feed cost of $85.09 and did 675 hours' work. The average feed cost of maintaining four two-year-olds and three yearlings was $50.18.

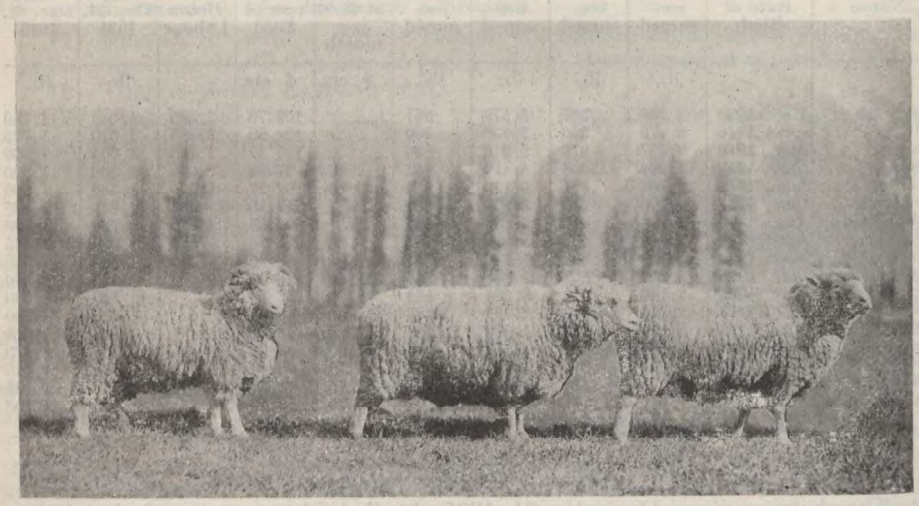
HORSE-RECORDS OF FEED AND LABOUR FROM JANUARY 1, 1925, TO DECEMBER 31, 1925

Name	Rate 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, 1924	Weight Dec. 31, 1925
		lb.	lb.	lb.	lb.	$ cts.	$ cts.		lb.	lb.
Scotty	May, 1920	3,740	367	5,578	861	.....	109 70	2,635	1,685	1,780
Bell	June, 1916	3,470	360	5,438	730	.....	103 90	2,385	1,610	1,725
Craigie	Aug., 1918	3,327	376	5,346	896	.....	101 57	1,745	1,605	1,700
Diana	May, 1918	3,004	406	5,422	931	.....	97 54	2,040	1,580	1,800
Heather	June, 1918	2,801	431	5,129	931	4 60	97 27	1,405	1,560	1,880
Bucklyvie	June, 1921	2,790	440	5,208	931	.....	93 10	1,085	1,730	1,625
Melita Pride	Aug., 1919	2,794	410	5,256	896	.....	92 85	1,370	1,700	1,725
Mike	April, 1922	2,849	407	4,892	754	0 60	91 26	1,580	1,350	1,545
Prince	May, 1922	2,727	402	4,938	754	.....	88 95	1,490	1,385	1,460
Madge	June, 1915	2,216	368	3,895	735	12 60	85 09	675	1,690	1,560
Bob	May, 1923	2,160	412	3,536	469	0 60	67 53	.....	1,250	1,600
Nellie	April, 1923	1,194	286	1,576	287	12 00	48 20	.....	1,210	1,530
Pat	May, 1923	1,194	286	1,576	203	12 00	48 01	.....	1,120	1,325
Jerry	April, 1923	1,194	286	1,576	203	12 00	48 01	.....	1,235	1,480
Glen	April, 1924	1,121	241	1,424	91	13 75	46 49	.....	880	1,245
Mac	April, 1924	1,121	241	1,424	91	13 75	46 49	.....	900	1,235
Tophine Bute	April, 1924	1,121	241	1,424	91	13 75	46 49	.....	815	1,100

SHEEP

The sheep on hand December 31, 1925, totalled fifty-seven head; consisting of two rams, thirty-nine ewes and sixteen shearling ewes, all pure-bred Dorsets. Early in the year the remainder of the grade sheep were sold as the grading experiment was considered completed. The thirty-two pure-bred ewes of breeding age gave birth to fifty-five lambs and raised forty-nine of them, or 153.1 per cent. These lambs were all born between February 5 and March 30, so that no

Foundation ewe No. 10.



Ewes 41, 66, and 77. No's. 41 and 66 are daughters of No. 10 by a Dorset ram and 77 is a daughter of No. 41.

Second-generation ewes of Dorset breeding. Nos. 159 and 160, daughters of No. 66 and granddaughters of No. 10.

Ewes Nos. 75 and 76, daughters of foundation ewe No. 10 and an Oxford ram.

Easter lambs were raised this year. The ewes on hand at the close of the year are all bred to lamb in January, so that a number of lambs will be available for the Easter market. The official ram-grader inspected five rams on hand in September; four were graded three star and the other two star.

CO-OPERATIVE WOOL SELLING—(PROJECT A. 324)

The 1925 wool clip consisted of 47 fleeces, 390 pounds, making an average of 8.3 pounds per fleece.

WOOL CROP

Grade	Pounds	Value	Amount
		cts.	$ cts.
Medium staples (3-8 blood staple), Bright	14	31	4 34
Low Medium Staple (1-4 blood staple), Bright	204	29	59 16
" " " Semi-bright	158	27½	43 45
Low staple (Low 1-4 blood staple), Bright	14	28	3 92
Total	390	.....	110 87

It cost $29.68 for grading, selling, freight and sacks, etc., leaving $81.19 for 390 pounds of wool, just under 21 cents per pound or $1.73 per sheep.

GRADING UP THE FLOCK WITH PURE-BRED RAMS—(PROJECT A. 310)

In November, 1915, ten ordinary range ewes showing a preponderance of Shropshire and Oxford type were purchased to form a foundation for a grading experiment. These ewes produced two crops of lambs by Dorset rams and two crops by Oxford rams. Thus not only was grading work started with Dorsets but with Oxfords as well and now that all are sold, after ten years have elapsed, some interesting results are available. As the first two crops of lambs from the original ewes were Dorset grades, thus getting a two-year start; as more of them were females; as the foundation ewes were in better form at that age than later; and as Dorsets are more prolific than Oxfords—the Dorset flock at all times was larger and one more cross was made with them than with the Oxfords. Owing to the third-cross Oxfords and fourth-cross Dorsets being sold as lambs, there are no figures available for their mature weights, wool weights or lambing results. The lamb weights on November 1 are not always a fair comparison as the lambs were not always born at the same time of year. The comparison of the mature autumn weights is a just one except in the case of the foundation ewes which got their original weight when thin. No data are given regarding male lambs as they were not directly concerned in the breeding operations. (For information regarding the foundation ewes and first generation Dorsets, see the interim report of this Farm, year 1921, and for like information of the second generation Dorsets, see annual report 1924.) The following tables give further information on the succeeding generations:—

DORSET HORN THIRD-CROSS EWES

Ewe No.	Dam No.	Face Colour	Horns	Lamb weight, Nov. 1	Average later weights taken each autumn	Number years Average taken	Average weight of fleeces	Number of fleeces average	Number of Lambs				Number of lamb crops	Per cent of lamb per crop raised
									Born		Raised			
									Male	Female	Male	Female		
				lb.	lb.		lb.							
136	77	White	Yes	126	194	2	8·6	3	.....	2	.....	1	1	100
169	113	"	"	134	187	2	11·5	2	2	1	2	1	1	150
170	74	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
171	74	"	"	133	178	3	9·2	3	1	2	1	2	2	150
172	111	"	No	121	169	1	10·4	1	.....	.....	.....	.....	.....	.....
183	73	"	Yes	118	210	3	7·9	3	2	2	1	1	2	100
184	73	"	"	126	188	3	8·2	3	2	.....	1	.....	2	50
206	152	"	"	121	171	2	10·2	2	1	1	1	1	1	200
207	161	"	"	134	184	2	10·0	2	1	1	1	1	1	200
214	113	"	"	139	176	2	10·3	2	1	.....	1	.....	1	100
219	125	"	"	130	182	1	11·8	1	.....	.....	.....	.....	.....	.....
220	125	"	"	126	180	2	9·1	2	1	1	1	.....	1	100
221	81	"	No	166	222	2	10·0	2	.....	2	.....	2	1	200
222	144	"	Yes	135	161	2	9·8	2	.....	1	.....	1	1	100
223	148	"	"	117	137	2	9·3	2	1	1	.....	.....	1	.....
182	73	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
198	127	"	No	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
218	156	"	Yes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
228	74	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
232	114	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
233	114	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
235	152	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
236	152	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
239	147	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
241	113	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
245	144	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
247	154	Brown	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
261	148	White	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
263	147	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
275	156	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
278	154	"	"	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total average	.....	.....	.....	130·44	181·35	.....	9·7	.....	.....	.....	.....	.....	.....	118·8

DORSET HORN, FOURTH-CROSS EWES

Ewe No.	Dam No.	Face Colour	Horns	Lamb weight, Nov. 1 lb.
229	136	White	Yes	.....
231	183	"	"	89
250	171	"	"	127
265	206	"	"	118
267	207	"	"	123
270	221	"	No	134
271	221	"	"	138
273	169	Brown	Yes	102
289	171	White	"	112
290	222	"	"	108
Total average	.....	90%	80%	116·8

OXFORD DOWN, FIRST-CROSS EWES

Ewe No.	Dam No.	Face colour	Lamb weight Nov. 1	Average other weights taken each autumn	Number years average taken	Average weight of fleeces	Number of fleeces average	Number of Lambs				Number of lamb crops	Per cent of lambs per crop raised
								Born		Raised			
								Male	Female	Male	Female		
			lb.	lb.		lb.							
75	10	Black	97	213	5	9·1	5	3	2	2	1	5	60
76	10	"	103	217	5	10·1	5	5	1	5	1	4	150
78	8	Dk. brown	110	199	5	13·6	5	1	6		2	4	50
89	7	Brown	101	198	2	9·5	3	1		1		1	100
90	7	Black	96										
95	4	Brown	101	196	5	11·7	5	5	3	5	2	5	140
120	6	Black	118	208	4	9·6	4	3	1	3	1	4	100
123	3	"	126	238	4	10·2	4	2	2	2	2	4	100
Total average			106·5	209·9		10·5							100

OXFORD DOWN, SECOND-CROSS EWES

Ewe No.	Dam No.	Face colour	Lamb weight Nov. 1	Average other weights taken each autumn	Number years average taken	Average weight of fleeces	Number of fleeces average	Number of Lambs				Number of lamb crops	Per cent of lambs per crop raised
								Born		Raised			
								Male	Female	Male	Female		
			lb.	lb.		lb.							
187	95	Black	134	187	3	12·0	3	1	1	1	1	2	100
199	75	"	109			8·3	1						
211	76	Mottled	142	185	2	13·0	2		2		1	1	100
213	95	Black	122	141	1	14·3	1						
224	123	"	116	193	2	9·8	2		2		2	1	200
243	120	"	148	236	1	9·0	1						
257	123	"	142	208	1	9·3	1						
Total average			130·4	191·7		10·8							125

OXFORD DOWN, THIRD-CROSS EWES

Ewe No.	Dam No.	Face colour	Lamb's weight, Nov. 1 lb.
238	187	Black	141
284	224	"	116
285	224	"	113
287	211	"	132
Average			125·5

SUMMARY OF RESULTS IN GRADING UP A FLOCK WITH PURE-BRED DORSET AND OXFORD RAMS

Classification of ewe	Number of ewes	Face colour	Per cent horned	Average lamb weights Nov. 1	Average other weights in autumn	Average weight of fleeces	Average per cent of lambs per crop raised	Remarks
				lb.	lb.	lb.		
Foundation stock	10	Grey to black	None	.....	142·5	7·7	143·3	No lamb weights available.
Dorset first generation	11	40% white	46·6	.....	179·7	8·2	171·3	" "
Oxford " "	8	Dark	None	106·5	209·9	10·5	100·0	
Dorset second "	29	69% white	82·7	101·0	180·9	9·5	122·7	
Oxford " "	7	Dark	None	130·4	191·7	10·8	125·0	
Dorset third "	31	96·77% white	90·32	130·44	181·35	9·7	118·8	
Oxford " "	4	Black	None	125·5	.....	.....	.....	Sold as shearlings before shearing.
Dorset forth "	10	90% white	80·0	116·8	.....	.....	.....	" "

CONCLUSIONS.—The appearance of an entire flock of sheep can be changed in a few generations by the use of pure-bred sires uniform as to desired type.

The rate of improvement was greater with the first few crosses than later.

Hornless ewes and dark faces appeared in the fourth generation of Dorset breeding. The hornless ewe twins, 270 and 271, came from a hornless family through numbers 221, 81, 32 and foundation ewe No. 2. The brown-faced ewe No. 273 in the fourth generation had a white-faced dam but the remainder of the dams in the family were dark, going to foundation ewe No. 8.

The Dorset-bred ewes were more prolific than those of Oxford breeding.

The Oxford-bred ewes produced more wool and attained greater size than those of Dorset breeding.

SWINE

There were forty-two pure-bred Yorkshire pigs on hand December 31, 1924, composed of two boars, fourteen sows and twenty-six feeder pigs. The imported three-year-old boar Rogerfield Masterpeace is a fine, big pig weighing in good condition 800 pounds. The younger boar, Ottawa Alexander, will be a year old in July. Seven of the sows are daughters of the imported boar. Five boars and three sows for breeding purposes and sixty-nine market hogs were sold during the year.

Considerable difficulty was experienced at all times during the year in getting the sows to breed; in fact a few of the sows refused to breed and were slaughtered. Owing to the litters coming at different times in the year it was difficult to get good groups of uniform feeders and hence no experimental feeding was done.

COST OF MAINTAINING A HERD BOAR—PROJECT A. 166

The herd board Rogerfield Masterpeace consumed during the year 4,252 pounds of skim-milk, valued at $10.63, and 2,778 pounds of grain, valued at $41.67, making a total of $52.30 cost for the year. He was kept in good breeding condition and run with the sows in the bush much of the time, thus getting plenty of exercise.

COST OF FEEDING BROOD SOWS—PROJECT A. 158

Four mature sows, numbers 3, 10, 30 and 36, consumed on the average during the year 2,658 pounds of grain, valued at $39.87, and 4,404 pounds of skim-milk, valued at $11.01, making a total cost of $50.88 per sow for the year. The grain mixture was composed of four parts oats, two parts shorts and one part bran. Each sow farrowed two litters in the year and raised an average of eight pigs per litter. The feed consumed by the young pigs to weaning time is charged to the sow.

FIELD HUSBANDRY

The four-year rotation, now in existence at this Farm for a period 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. Barnyard manure at the rate of 12 tons per acre was applied to the land during the autumn and winter on the sod. That portion set aside for the root crop was ploughed in the fall, reploughed in the early spring and well worked. The same applies to the corn-land with the exception of two or three acres which were not ploughed till spring. The varieties of mangels grown were Danish Sludstrup and Half Sugar White; the varieties of corn, Golden Glow, Longfellow and Wisconsin No. 7.

The mangel seed was sown at the rate of ten pounds per acre in drills set up thirty inches apart with a double mould-board plough. At the same time commercial fertilizer, in the proportion of one of nitrate of soda, two of superphosphate of lime and one of muriate of potash, at the rate of 500 pounds per acre was applied.

The roots were thinned early and kept weeded and thoroughly cultivated but the long spell of dry weather during the growing season affected the ultimate yields considerably. The corn gave quite fair results however. The latter was grown in hills three feet apart each way, and except for barnyard manure received no fertilizer.

The total mangel crop harvested amounted to 72 tons 235 pounds from six acres, while 377 tons 1,945 pounds of corn were stored for ensilage from 24 acres.

GRAIN

The grain was grown on land that had been in hoed crop the previous year. It was ploughed in the spring and well worked. Seeding commenced on April 7 and harvesting took place early in August. The grass and clover mixture used for seeding down consisted of 9 pounds red clover, 3 pounds alsike clover, 1½ pounds White Dutch clover, 3 pounds Italian rye grass, 3 pounds orchard grass per acre.

The total crop of grain (oats) harvested amounted to 47 tons 1,400 pounds from forty-four acres.

HAY

The hay crop was an entire failure owing to winter-killing of the stand the previous winter. Exclusive of a few acres from which 4 tons 1,850 pounds hay were harvested, the field was ploughed up, well worked and sowed to peas and oats for ensilage of which 133 tons 1,160 pounds were harvested from twenty-one acres.

PASTURE

The pasture field was in a similar condition to the hay field. It was so bare that the larger part of the field had to be ploughed up. This was sown to peas and oats for ensilage, a yield of 80 tons 1,432 pounds being obtained.

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	2 00 per ton
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	3 00 per acre
Twine	0 20 per pound
Threshing	0 4½ per bushel
Oats	0 85 "
Corn	0 08 per pound
Mangel seed	0 50 "
Red clover	0 37 "
Alsike clover	0 19 "
Italian rye grass	0 15 "
White Dutch clover	0 69 "
Orchard grass	0 24 "

Return Values

Oats	$ 0 50 per bushel
Oat straw	4 00 per ton
Corn ensilage	6 66 "
Peas and oats ensilage	6 66 "
Roots	2 66 "

Rotation Summary

Agassiz—Four-Year Rotation—Year 1925

Rotation year	Crop	Yield per acre 1925	Value of crop 1925	Cost of production 1925	Profit or loss per acre 1925
			$ cts.	$ cts.	$ cts.
1	Mangels	12 tons	31 92	122 77	−90 85
	Corn	15 tons	99 90	74 92	24 98
2	Grain (oats)	66 bush 1½ tons straw	39 00	50 79	−11 79
3	Peas and oats silage replacing hay	7 tons	46 62	46 32	0 30
4	Peas and oats silage replacing pasture	5 tons	33 30	43 92	−10 62

SOWING COMMERCIAL FERTILIZER BROADCAST BY HAND VERSUS SOWING IN DRILLS WITH WHEEL-BARROW SEEDER FOR MANGELS

One acre to be sown to mangels was measured off and the commercial fertilizer broadcast just immediately preceding the ridging of the land by the double-mould-board plough. The mangels were sown whenever the drills were set up.

A second acre was measured off, drills set up, and the commercial fertilizer applied on top of drills just prior to seeding of mangels.

From the acre with fertilizer broadcast by hand, a yield of 16 tons 1,100 pounds was obtained, compared to 15 tons 275 pounds from the acre with fertilizer sown in drills.

Both acres had been treated with 12 tons barnyard manure in early spring, the commercial fertilizer applied was the same in both cases, viz., one of nitrate of soda, two of superphosphate of lime, and one of muriate of potash, at the rate of 500 pounds per acre. (Project F 83.)

GYPSUM EXPERIMENTS WITH OATS

Three acres seeded to oats were treated with 500 pounds of gypsum per acre, broadcast, and three acres receiving no gypsum measured off for comparison. The latter yielded 3 tons, 1,956 pounds, the former yielding 3 tons, 1,812 pounds.

HORTICULTURE

The work in the horticultural department during 1925 consisted of variety and cultural tests of vegetables, tree and bush fruits and variety tests of flowers. The growing season was very dry which adversely affected the yield of late crops and brought about an earlier date of maturity. Tree fruits yielded very small crops, largely due to wet weather during the blossom period, causing a low percentage of pollinization.

POTATO VARIETIES.—In the early spring approximately seventy-five samples of different varieties of potatoes were sent out to growers in different parts of the province. Growers are asked to compare the variety received from the Farm with some other variety and to report their results in the fall. By following out this system it is hoped that those engaged in potato production will be able to choose the most suitable variety for the district in which they are living.

MOLES.—Moles in this district are becoming more numerous each year and are causing considerable damage to various crops. At the same time they are of some benefit in keeping under control certain pests as they live chiefly on insects, but to a large extent on the common earth worm. During the past fall moles have been successfully eradicated from the horticultural garden and lawns by trapping with the English mole-trap. Trapping, however, must be continued as a certain number keep moving in from the fields. This trap is a simple mechanical jaw-trap and can be purchased from hardware stores for a very nominal price. The trap is set in the subterranean passage used by the mole, which is easily located by the mound of earth thrown up. A small hole should be dug with a trowel just large enough for the trap and the trap set across the passage with jaws on either side. It should be lightly covered in with loose earth, care being taken that the earth will not prevent the trap from springing. It has been found best to level off the mounds and set the traps in the newer passages which are readily located by new hills thrown up. Traps should be examined once or twice each day.

VEGETABLES

POTATOES

VARIETIES.—There were forty-three plots of potatoes in the variety test. A few varieties were duplicated where seed from different sources was being tested. The field was manured early in the spring with barnyard manure at the rate of 12 tons per acre and commercial fertilizer at the rate of 500 pounds per acre scattered over the drills after the potatoes were planted. The average yield of all varieties was 9 tons 732 pounds per acre. The heaviest-yielding varieties in the past season were Rural Russet, Late Puritan, Table Talk, and Sir Walter Raleigh. Other main-crop varieties which have done well in recent years are Jones White, U.B.C., Dreer Standard, Green Mountain, Arran Chief, Carman No. 1, Eureka, and Up-to-Date. Early high-yielding varieties are Early Ohio, Irish Cobbler, and Early St. George. The following table gives the yield per acre of marketable and unmarketable potatoes for the past season and the average yield of marketable potatoes over the five-year period, 1921-1925. (Project H. 186):—

POTATOES—TEST OF VARIETIES

Name of Variety	Size	Season	Date of planting	Date of digging	Yield per acre marketable	Yield per acre unmarketable	Five-year average yield marketable	Form and Colour
					tons lb.	tons lb.	tons lb.	
Rural Russet, Inv. 1925	Large	Late	May 6	Oct. 7	13 400	.. 1,056	.. ....	Oval, russet.
Late Puritan	Medium	"	" 6	" 6	13 400	1 1,432	8 997	Oblong, white.
Table Talk	"	"	" 6	" 7	12 25	3 864	9 1,545	" "
Sir Walter Raleigh A.E.F	"	"	" 6	" 14	12 24	.. 792	6 879	" "
Early Ohio	"	Early	" 6	Aug. 27	11 1,760	1 1,960	8 145	" pink.
Jones White, U.B.C. 1920	Large	Late	" 6	Oct. 10	11 1,760	3 1,756	11 821	Oval, white.
Up-to-Date, U.B.C. 1925	Medium	Medium	" 6	" 12	11 704	3 1,920	.. ....	" "
U.B.C. 1920	Large	Late	" 6	" 14	11 440	2 1,280	10 1,422	" "
Eureka, U.B.C. 1925	"	"	" 6	" 12	11 176	5 824	—	" "
Ormandy	"	"	" 6	" 7	10 1,384	1 1,696	8 1,109	" "
Early Rose	Medium	Early	" 6	Aug. 31	10 1,120	1 1,168	†6 1,296	Oblong, pink.
Sir Walter Raleigh, U.B.C	"	Late	" 6	Oct. 15	10 856	.. 792	*8 632	Oval, white.
American Wonder	"	Medium	" 6	Sept. 29	10 856	1 1,960	7 1,834	Oblong "
Green Mountain	"	"	" 6	Oct. 6	10 856	2 1,544	9 243	Oval "
Early Hero	"	Early	" 6	Sept. 3	10 592	1 1,168	7 252	Oblong, pink.
Dreer Standard	Large	Medium	" 6	" 29	10 64	2 224	10 722	Round, flat, white.
Arran Chief	"	Late	" 6	Oct. 6	10 64	3 336	9 828	" white.
Irish Cobbler	Medium	Early	" 6	Sept. 2	9 1,800	2 752	8 1,240	" "
Sir Walter Raleigh, U.B.C. 1925	"	Late	" 6	Oct. 15	9 1,536	.. 1,056	.. ....	Oval "
Carman No. 1	Large	Medium	" 6	" 1	9 1,008	1 1,960	9 659	Round, flat, white.
Early Ohio, Inv. 1925	Medium	Early	" 6	Sept. 1	9 1,008	2 224	.. ....	Oblong, pink.
Houlton Rose	"	"	" 6	" 4	9 744	2 1,016	8 350	" "
Bermuda Early	"	"	" 6	Aug. 27	9 216	2 1,544	*7 1,093	Round, dark, red.
Gold Coin	"	Medium	" 6	Sept. 29	9 480	2 752	*8 368	" flat, white.
Eureka, 1923	Large	Late	" 6	Oct. 14	9 216	2 1,544	*9 40	Oval "
Jersey Royal, U.B.C. 1924	Medium	Early	" 6	Aug. 31	9 216	3 1,920	.. ....	Long, white.
Morgan Seedling	Large	Medium	" 6	Oct. 3	8 1,952	1 1,696	8 1,099	Oval, white.
Rural Russet, Inv. 1924	"	Late	" 6	" 7	8 1,688	1 376	.. ....	" russet.
Rawling Kidney	Medium	"	" 6	" 13	8 1,688	3 1,864	8 783	" white.
Dalmeny Beauty	Large	Medium	" 6	" 8	8 1,424	3 1,756	8 1,728	" "
Agassiz Special	Medium	"	" 6	Sept. 4	8 896	1 1,960	8 1,758	Oblong, white.
Up-to-Date, U.B.C. 1923	"	"	" 6	Oct. 14	8 896	4 976	*9 184	Oval "
Empire State	"	"	" 6	" 1	8 368	1 1,168	8 133	Oblong, white.
Wee McGregor	Large	"	" 6	" 3	8 368	1 1,960	8 1,874	" "
Vick Extra Early	Medium	Early	" 5	Sept. 3	7 1,576	2 1,280	6 863	" pale pink.
Gold Coin A.E.F	"	Medium	" 6	" 30	7 1,048	1 1,696	8 260	Round, flat, white.
Dakota Red	"	"	" 6	" 2	7 784	3 1,920	7 1,459	Oval, red.
Manitoba Wonder	Large	"	" 6	Aug. 26	7 520	1 904	8 586	Oblong, pink.
Gold Coin, U.B.C. 1925	Medium	"	" 6	Oct. 2	6 1,464	1 1,168	.. ....	Round, flat, white.
Early Rose, Inv. 1925	"	Early	" 6	Aug. 7	6 1,464	1 960	.. ....	Oblong, pink.
Jersey Royal, U.B.C. 1923	"	"	" 6	Sept. 5	6 408	1 1,432	*6 310	" white.
May Queen	"	Medium	" 6	" 30	5 32	4 1,768	6 46	" "
Early Ohio	"	Early	" 6	Aug. 31	4 184	1 1,168	.. ....	" pink.

† Denotes 4-year average. *Denotes 3-year averags.

CULTURAL.—An experiment with two varieties of early potatoes, Epicure and Vick Extra Early, was conducted to test out the relative value for yield of sets. Approximately two-ounce sets were used in every case. Twenty sets were used in each test. Sets were planted on March 19 and harvested May 27. The following results were obtained, showing a decided advantage in favour of sets with three or more eyes. (Project H. 164):—

Number of Sprouts	Variety	Marketable yield in pounds per plot	Variety	Marketable yield in pounds per plot
1, all others rubbed off	Epicure	8	Vick Extra Early	8¾
1, all others cut out	"	8	"	9
2, all others rubbed off	"	12¼	"	11¾
2, all others cut off	"	12¼	"	13½
3, all others rubbed off	"	14¼	"	15⅛
3, all others cut out	"	14¾	"	15⅜
All sprouts left on	"	16¼	"	15¾

BEANS

VARIETIES.—In the variety test twenty-two strains were planted. The earliest-maturing variety was Challenge Black Wax. Pods were ready for harvesting on June 3; the quality of this variety is rather inferior. The latest-maturing variety was Jones White, pods of good quality being ready for harvesting on June 26. All seed was planted on April 29. Masterpiece proved to be the best green variety. Stringless Green Pod is another variety to be recommended. The wax beans are more in favour than the green and of these Hodson Long Pod, Extra Early Red Valentine, Wardwell Kidney Wax and Davis White Wax are satisfactory varieties. (Project H. 61.)

CULTURAL.—This test was conducted to determine the best distance at which to plant seed in the rows. Seed of two varieties, Round Pod Kidney Wax and Stringless Green Pod, was planted in thirty-foot rows on April 29. The distance of planting was two, four and six inches in the rows. The results proved to be the same as those obtained in the two previous seasons, namely, that the closer planting gives an earlier and larger yield. (Project H. 58.)

BEETS

VARIETIES.—Seven varieties were tested in this project. Seed was planted on April 6 and the earliest-maturing variety was ready for harvesting on June 15. Detroit Dark Red was the heaviest-yielding variety followed by Sutton Globe. The latter is a beet of superior quality. (Project H. 68.)

CULTURAL.—In a separate plot six fifteen-foot rows of Detroit Dark Red were planted at intervals of ten days. The first planting was done on April 6 and the last on May 28. The results obtained this year were in favour of the early sowings for yield but later sowings showed improved quality with a decreased yield for successive plantings, possibly due to the dry season. Results to date are at variance with results for previous years except in that early plantings tend to collar-rot and that the roots are not as good for storing as when obtained from later plantings.

Detroit Dark Red variety planted on December 12, 1924, and compared to the same variety planted on April 6, 1925, gave results greatly in favour of the spring planting; ninety per cent of the winter-sown seed having run to seed by June 22. (Project H. 65.)

BRUSSELS SPROUTS

VARIETIES.—Two varieties were grown this year, Sutton Matchless and Lulu Island. Results were unsatisfactory as comparatively few buttons formed and these were loose and open. (Project H. 70.)

CABBAGE

VARIETIES.—Fourteen varieties of cabbage were planted out in rows thirty feet long. The dry season affected the yield to a considerable extent. Seed was sown in the hotbed on March 26 and transplanted to the open on May 21. The earliest-maturing variety was Golden Acre, which also yielded satisfactorily. Copenhagen Market, Glory of Enkhuizen and Dala are all high-yielding varieties. (Project H. 77.)

CULTURAL.—This experiment is being conducted to determine whether it is better to start the cabbage in the greenhouse and later transplant to the open or to plant seed in the open and later to transplant the seedlings to the permanent bed. Four varieties were tested during the past season and two of the hotbed-started varieties outyielded those sown in the open, and two varieties sown in the open outyielded those started in the hotbed. Further tests will be carried out until definite results are obtained.

Two thirty-foot rows of Copenhagen Market were planted. One lot of seed was sown on December 12, 1924, and the second lot on March 27, 1925, in order to compare results of fall-sown seed and spring-sown. The fall-sown cabbage was ready for use on July 7 and the spring-sown on August 8. The fall-sown seed also outyielded the spring-sown seed by thirty-two pounds. (Project H. 74.)

CAULIFLOWERS

VARIETIES.—In the variety test for cauliflowers the seed was sown in the open on March 26 and transplanted to the permanent bed on May 21. Owing to the dry season comparatively few heads formed, the few which matured being too small for commercial purposes. Early Snowball and Extra Early Erfurt gave the highest yield. Magnum Bonum has also proved to be a good variety in this district. (Project H. 88.)

CULTURAL.—Seed sown in the hotbed on March 20 and transplanted to the open on May 8 made good growth and matured satisfactorily, showing a decided advantage in favour of forcing the young plants rather than planting seed in the open. (Project H. 84.)

CARROTS

VARIETIES.—In the variety test for carrots, Early Scarlet Nantes and Champion Scarlet Horn excelled all other varieties in quality. Chantenay and Market Garden gave considerably higher yields but both were of inferior quality. Champion Scarlet Horn and Early Scarlet Nantes are about ten days earlier than Chantenay and Market Garden. (Project H. 83.)

CULTURAL.—Chantenay seed was sown at intervals of ten days from April 6 to May 28. Seed sown in the early part of April gave higher yields than the later sowings in April and May, but the later sowings gave improved quality. Seed sown on December 6, 1924, was fit for use two weeks before spring sowings, but by June 16 thirty-five per cent of the crop had run to seed. (Project H. 79.)

CELERY

VARIETIES.—Giant White and Winter Queen were the two highest-yielding varieties of the seven tested. Both are late in maturing and quality is only fair.

Easy Blanching, Golden Self Blanching, and Gold Plume are earlier varieties of very good quality but yielding considerably less than the two first-named varieties. (Project H. 94.)

CULTURAL.—A comparison between the use of soil and boards for blanching gave results in favour of boards. Soil blanching tends towards rusting. Plants sown on the square six inches apart with the object in view of causing self-blanching without the use of boards or soil failed to give good results. (Project H. 90.)

TABLE CORN

VARIETIES.—Eleven varieties of corn were grown in 1925, most of which gave satisfactory results. Howling Mob and Sunnybrook were the two heaviest yielding varieties maturing later than the majority of the varieties tested. Early Burbank, Sweet Squaw, and Golden Bantam did very well, yielding satisfactory crops of good quality. Banting and Pickaninny are the two earliest varieties grown. (Project H. 102.)

CULTURAL.—This experiment was conducted to determine whether there is any advantage in removing suckers or lateral stalks. Two varieties were tried, Early Malcolm and Golden Bantam. The results were similar to those obtained in the two previous years; little or no advantage in yield, quality or earliness of crop secured by removing suckers. Results so far show that the extra labour involved is not justified. (Project H. 101.)

CUCUMBERS

VARIETIES.—Of the cucumber varieties tested, Davis Perfect and Fordhook Famous both gave good yields of high quality. For pickling purposes Fordhook pickling proves to be a very satisfactory variety. (Project H. 106.)

LETTUCE

VARIETIES.—Eleven varieties of lettuce were tested. Improved New York and New York gave the highest yields, maturing good firm heads. All Year Round gave a good yield of high quality and was ten days earlier. The earliest-maturing variety tested was a cross between Grand Rapids and Matchless. Grand Rapids is a good early-maturing leaf variety. (Project H. 116.)

CULTURAL.—Two rows of Grand Rapids were planted out, one December 6, 1924, and the second on April 3, 1925. The December-sown seed was ready for use twenty days before the later sowing and yielded two and one-half pounds more from a thirty-foot row. (Project H. 113.)

Two varieties, Grand Rapids and Big Boston, were sown in the hotbed and later transplanted. These were grown in comparison with the same two varieties planted in the open and not transplanted. Contrary to results obtained the previous season, the hotbed-sown plants yielded a little more, and in the case of Big Boston the crop was ready for use eight days earlier.

MUSKMELON

VARIETIES.—The muskmelon is more commonly known under the title name of cantaloupe. Six varieties of muskmelon were grown during the past summer. Emerald Gem, the most popular variety, grown from Agassiz selected seed out-yielded all other varieties. This strain of seed also exceeded in yield the same variety from two other sources. Montreal Market and Tip Top, two large-fruited varieties, gave satisfactory yields. Emerald Gem was the earliest-maturing variety grown and is the most suitable for this district. (Project H. 122.)

WATERMELONS

VARIETIES.—Only one variety of watermelon, Kleckly Sweet, was grown. The first fruit was ripe on August 8, which is six weeks earlier than the previous year. This variety yields well and the fruit is of good quality. (Project H. 125.)

CITRON

VARIETIES.—Only one variety of citron, Colorado Preserving, was grown. This variety is a high-yielder, giving good size and quality of fruit. Three hundred and twenty-nine pounds of fruit were harvested from three hills. (Project H. 309.)

SQUASH

VARIETIES.—Five varieties of squash were grown, Improved Hubbard giving the highest yield. This variety is a high-yielder of good quality and stores well. White Bush also yielded well and is popular both for its quality and economy of space. Golden Hubbard is also a variety to be recommended. (Project H. 201.)

VEGETABLE MARROW

VARIETIES.—Long Green vegetable marrow was the highest yielding variety of the marrows. It also gave a larger crop than any of the pumpkins or squash. (Project H. 216.)

PUMPKINS

VARIETIES.—Small Sugar was the only variety of pumpkin grown. Although not as heavy a yielder as some of the larger-growing varieties it is popular on account of its medium size and good quality. (Project H. 188.)

ONIONS

VARIETIES.—Thirteen varieties of onions were grown during the past summer. Seven varieties from seed grown on the Farm were compared to similar varieties with seed from other sources. In every case the home-grown seed gave the higher yield. Long Keeping gave the highest yield of any variety tested, followed closely by Ailsa Craig and Southport Yellow Globe. Brand Exhibition and Australian Brown are also to be recommended, the latter more for its keeping qualities than high yield. (Project H. 138.)

CULTURAL.—Two cultural experiments were tried with onions but neither were of great success. Fall-sown seed was compared to spring-sown. The first planting was done December 6 and the spring planting on April 3. The ground baked badly when the fall-sown seed was planted, thus spoiling chances for a fair comparison.

The second test was a comparison of seed grown in the hotbed and transplanted to the open and seed sown in the open. Moles did considerable damage to the hotbed-grown plants, upsetting chances for a fair experiment. During the past five years results have been variable in this experiment but present indications are that the extra labour involved in transplanting would not be warranted. (Project H. 137.)

GARDEN PEAS

VARIETIES.—A large number of varieties and strains of peas were grown. Three varieties, Thomas Laxton, English Wonder, and Duke of Albany, from seed grown and selected on the Farm, were compared to three varieties with seed from other sources. In each case the crop from the home-grown seed gave the higher yield. The heaviest-yielding variety grown was Seedling No. 6 from the Invermere Station. Sutton V.C. was followed closely by Duke of Albany, a Gradus American Wonder cross from the Central Experimental Farm,

Ottawa, and Stratagem also did very well. Stratagem is a dwarf variety and yielded very high for this type of pea. Bromfield Early Six Weeks is another high-yielding dwarf variety. Thomas Laxton is the best early pea. (Project H. 157.)

CULTURAL.—Distance apart of planting seed. Seed of three different varieties, Thomas Laxton, English Wonder, and Stratagem, was planted in thirty-foot rows, one inch, two inches and three inches apart to determine the most satisfactory distance. This is the third season this experiment has been conducted and to date, though no definite information has been obtained, a space of between one and two inches between seed appears to be the most satisfactory distance. (Project H. 148.)

PARSNIP

VARIETIES.—Of the parsnip varieties grown during the past years Hollow Crown has proved itself the most satisfactory from the point of view of quality. (Project H. 145.)

CULTURAL.—Different dates of sowing. The first seed was sown on April 7 and thereafter at intervals of ten days until May 28. The highest yield was obtained from the first sowing, with results showing decreasing yield until the last planting, with the exception of seed sown on April 27 and May 7 when the yields were reversed. This is in conformity with results of previous years, the early April planting proving the best. (Project H. 142.)

PARSLEY

VARIETIES.—Two varieties of parsley were grown in the past year, Imperial Curled and Champion Moss Curled. Both varieties did exceptionally well. Imperial Curled was ready for use ten days earlier than Champion Moss Curled. (Project H. 140.)

PEPPERS

VARIETIES.—Three varieties of peppers were grown, Tomato or Squash, New Neapolitan, and Ruby King. The hot, dry season was particularly favourable for this crop and all varieties did well. Tomato gave the highest yield with New Neapolitan second. The fruit of the former is inferior to New Neapolitan and Ruby King both in quality and size. (Project H. 157.)

RADISH

VARIETIES.—The test of varieties was unsatisfactory due to the attack of maggots. The most promising variety is Crimson French Breakfast. In a test of fall-sown seed against spring-sown seed planted December 6 and April 7, respectively, some of the fall-sown seed was ready for use before the attacks of maggots became prevalent on April 27. There was, however, only a low percentage of germination. For assured success in radish-growing the plants should be grown under cheesecloth to prevent the fly from laying eggs on the young plants. It is the larva from these eggs that causes the damage to the radish. (Project H. 192.)

TURNIPS AND RUTABAGA

VARIETIES.—Rutabaga commonly goes under the name of Swede turnip. Generally speaking, they require a longer growing season than turnips, are more elongated and firmer in flesh, which adds to their keeping quality. Due to the ravages of flea beetle and maggots they are difficult to grow in this district. Varieties of good quality that have yielded well are Bronze Top rutabaga and Extra Early Purple Top Milan and Early Snowball, two varieties of turnips. (Project H. 214.)

TOMATOES

VARIETIES.—Twenty-two varieties of tomatoes were grown during the past season, the majority of which did well. Victoria Whole Salad gave the highest yield of any variety grown. It is a medium-sized tomato suitable for table purposes, a little later than some of the varieties. Best of All is another medium-sized variety which has done well. The earliest variety to ripen fruit was Abbotsford Argo, but the fruit is mostly too small for commercial purposes. Other varieties which can be recommended are Bonny Best, Earliest of All, Rosy Morn, Crimson Canner, and John Baer. (Project H. 211.)

CULTURAL.—Method of pruning to one stem. Two varieties were used in this test, each pruned to a single stem and cut back to one, two or three trusses, the object in view being to obtain ripe tomatoes at as early a date as possible. In both varieties the stems with three trusses gave the first ripe fruit and the yield increased with the number of trusses. The fruit on plants with only one truss scalded badly from exposure to the sun. Results so far would show that it does not pay to prune to less than three trusses. (Project H. 207.)

TREE FRUITS

The season of 1925 was not favourable to the growing of fruits. During the bloom period a considerable amount of rain fell, which affected pollinization, and it was observed that the bees were not as active as usual at this period.

APPLES

Apple tree anthracnose or canker causes considerable damage in this district if the trees are not sprayed with Bordeaux mixture. It has been observed that two varieties, namely, King and Northern Spy, are more resistant to this disease than most other varieties, but the King is rather a shy cropper and the Northern Spy comes into bearing late. When proper spraying methods are used these diseases can be readily kept under control.

The early-bearing varieties usually succeed best, Yellow Transparent, Duchess of Oldenburg, Gravenstein, and Wealthy being the best. Of the late varieties, Grimes Golden, King, and Ontario give the best results. The Wagener is also a good cropper but is more susceptible to anthracnose than some of the other varieties. (Project H. 33.)

PEARS

Among the tree fruits, pears are one of the best. They are not as susceptible to scab as the apple nor is the tree so seriously attacked by anthracnose. The Bartlett has proved to be the outstanding successful variety in this district for yield and quality. It breaks down very quickly after ripening and is therefore difficult to ship as it should go into consumption as soon after ripening as possible. Dr. Jules Guyot is a heavy cropper and an early variety, but the quality is not up to the Bartlett. (Project H. 44.)

PLUMS

Plums yielded poorly this year; there was only a light setting of fruit and a large amount of that which set was attacked by brown rot before ripening. This disease is the most serious drawback to plum-culture in the Coast area. Since 1917, when the plum trees first came into bearing, the Mallard plum has outyielded all other varieties tested. The fruit is large, of a deep-purple colour, with yellow flesh, rich and juicy, and of good quality. It is a free-stone and

ripens early. Other varieties which are above average are Bradshaw, Burbank, Diamond, and Italian Prune. Washington is the best yellow variety. The Damson also does well. (Project H. 48.)

CHERRIES

The cherry crop, like that of other tree fruits, was very light during the past season. Bing is the outstanding cherry for quality, yield, and disease resistance; it is also an excellent shipper. The Lambert matures a little later than the Bing, is a cherry of good quality, ships well, and is a fair yielder. Royal Anne is the earliest of the best sweet varieties. It yields well, is of good quality, but should be planted for home use as it is a poor shipper and bruises easily both on the tree and in transit. Along with any of the above varieties, Black Tartarian or Black Republican trees should be planted for pollinizing. Planted alone the first three mentioned will not set fruit. Of the sour cherries, Morello and Olivet are the most suitable both as yielders and for their canning qualities. (Project H. 35.)

SMALL FRUITS

STRAWBERRIES

The strawberry crop was not harvested during the past season as a large number of plants were killed by severe frost in December, 1924, making a fair comparison impossible. Gibson, a variety grown on the Farm for the first time, shows considerable promise of hardiness, as frost-injury to this variety was much less than in any other case. (Project H. 21.)

CURRANTS

Both red and black currants yielded well during the past season. The three heaviest-yielding varieties of black currants during the past three years are Buddenborg, Kerry and Victoria. The three heaviest-yielding red varieties over a similar period are Perfection, Pomona and Fay Prolific. (Project H. 4.)

RASPBERRIES

Only two varieties of raspberries were in full bearing during the past season, Cuthbert and Fillbasket. The former variety is the commercial berry in this district. Three new varieties, Count, Viking, and Brighton, will come into bearing during 1926. (Project H. 11.)

BLACKBERRIES

Blackberries suffered from the cold spell during December, 1924, when the temperature went to three degrees below zero. The Erie is more subject to frost-injury than the Snyder or Evergreen. Of varieties so far tested the Snyder has proved to be the most satisfactory. (Project H. 2.)

LOGANBERRIES

The loganberries were all killed back during the winter of 1924-25. To allow the canes to be on the ground in winter is not sufficient protection, as the temperature in this district frequently goes below fifteen degrees Fahrenheit, which is too cold for unprotected plants of loganberries. (Project H. 325.)

GOOSEBERRIES

Of the gooseberries the Josselyn (Red Jacket) is a satisfactory variety. It is more resistant to mildew than most other varieties. (Project H. 6.)

BARNYARD MANURE VERSUS COMMERCIAL FERTILIZER FOR SMALL FRUITS

A comparison is being made between the relative value of commercial fertilizers and barnyard manure for the production of small fruits. The commercial fertilizer applied consists of two parts of superphosphates of lime, one part of nitrate of soda and one part muriate of potash applied at the rate of 500 pounds per acre. Manure was applied at the rate of ten tons per acre. The plots on which this experiment is being carried out were planted in the spring of 1922. The results to date indicate that the manure is of greater value for loganberries, raspberries, blackberries, and gooseberries. The difference in yield from the different plots of currants is not so marked as it is in the fruits named but a slight increased yield is shown in favour of those plants given commercial fertilizers.

FLOWERS

ROSES

All top growth of roses was killed back to the ground during December, 1924, with the exception of two excellent climbing roses, Paul Scarlet and Mrs. Van Fleet. Other climbers worthy of note are Gloire de Dijon, Papa Gontier, and Caroline Testout. The bush roses in spite of the severe setback gave an abundance of high-quality bloom. Seventeen new varieties were planted out in the spring and of these Florence Forester, Mme. Jules Grolez, Lillian Moore, and Mrs. Chas. Lamplough are worthy of recommendation. Others which have succeeded well are James Cory, Maman Cochet, Frau Karl Druschki, Hugh Dickson and Mrs. J. J. Lang. (Project H. 302.)

ANNUAL FLOWERS

Of the annual flowers, sweet peas and asters were sown in the largest quantity. Both succeeded well and made a splendid showing. Some of the better sweet peas are Wedgewood, Royal Purple, Jack Cornwall and V.C. The asters were a lovely collection. Rochester White was the best of the white-flowered ones. Other varieties of note are Snow White, Dark Violet, Silvery Rose, Royal Purple, Rochester Shell Pink, King Violet, Southcote Pearly pink, and Southcote Beauty mauve. A large number of other annuals were grown, some of the most beautiful being Zinnia, fire ball; Lavatera, mallow; Nasturtium, salmon pink; Godetia; Clarkia elegans; Schizanthus, large flowered; Salpiglossis; Dianthus; Portulaca; and candytuft. Floral enthusiasts have a wide range of flowers from which to choose as a large number do exceptionally well in this coast area. (Project H. 261.)

PERENNIALS

The same statement can be made of perennials as annuals there are many excellent kinds which do well in this district. As a large part of the perennial border has a very gravelly subsoil and as no water is available for sprinkling during the hot, dry, summer months the early-flowering varieties make the best showing.

BULBS

In spite of the cold winter, which was injurious to roses, shrubs, hedges and some trees, the bulbs wintered well in the ground and made the best showing in years. A large number of bulbs grown on the Farm have given good satisfaction and measure up to any of the imported stock. Of daffodils some of the best varieties grown were Van Wavern Giant, Glory of Sassenheim, Madame de Graaff, Madame Plemp, Barri Albatross, Duke of Bedford, Lucifer, Emperor, and Giant Red Beacon.

Varieties of narcissi which have done well are Poetaz, Elvira, Jaune, Merveille, Irene, Klondyke, Majestic and Pheasant Eye. Of the early tulips, Keiserskroon, Duchesse de Parma, a bright scarlet, Artus, Cottage Maid, and La Reine, white, are among the best. Among the Darwin tulips, the following were noticeable for their quality and size of bloom: Inglescomb, Clara Butt, *Gesneriana spathulata*, Picotee, Martigon, Millet, and Sunset.

CEREALS

LAND AND TREATMENT

The land upon which the cereal plots were located is a sandy loam with a mixture of clay. It had been in hay the previous year, was ploughed in the fall and again in the spring and well worked. All grains were treated with formalin as a smut preventive before sowing. Owing to a late spring, first seeding did not take place until May 9. Harvesting commenced during the latter part of July and was completed early in August.

OATS—VARIETIES OR STRAINS

There were fifteen varieties of oats sown on May 9 under what is known as the "rod-row" system. Each plot consisted of three rows one rod in length, each row being eight inches apart. All plots were sown in quadruplicate; i.e., each variety occupied four plots of three rod-rows each. During the season characteristics peculiar to each variety were noted. At the end of the season the two outside rows of each variety were discarded, the seed for future work being taken only from the middle row. In point of yield Victory came first, with Prolific second, Alaska gives promise of being a fair yield, while it is also desirable from the standpoint of earliness.

BARLEY—VARIETIES OR STRAINS

Fifteen varieties of barley were sown on the same date and under the same conditions as the oats. Charlottetown 80 gave the highest yield, with Bearer (Ottawa 475) second.

SPRING WHEAT

Seven varieties of spring wheat were sown on the same date and under the same conditions as the oats and barley. The yields were rather light. This seems to be the general experience with spring wheats grown on the Pacific coast.

Of the varieties grown, Early Red Fife gave the highest yield and Marquis the lowest.

No conclusions are being arrived at with reference to the foregoing cereals until a test of some five years or so has been made.

BEANS—VARIETIES OR STRAINS

Five varieties of beans were tested in duplicate plots each one-two-hundredth-acre in size. The beans were sown in drills twenty-eight inches apart on May 18 and harvested August 31, the results being based on the average of two plots. Largely due to seasonal conditions, which were too dry, the yields were low. Navy and Norwegian ranked first and second respectively, this being in keeping with results of previous years.

BEANS—TEST OF VARIETIES

Variety	Number of days maturing	Average yield per acre
		lb.
Navy, Ottawa 711	105	1,350
Norwegian, Ottawa 710	105	1,300
Beauty, Ottawa 712	105	1,150
Large White, Ottawa 713	105	1,100
Carleton, Ottawa 718	105	1,000

MIXED PEAS AND OATS

A mixture of Arthur peas and Banner oats was compared with Solo peas and Banner oats, the former giving a yield of 2,340 pounds per acre as against 2,100 pounds from the latter.

ELITE SEED OATS

About one-third of an acre was sown to Elite Seed Victory oats obtained from the University of British Columbia, Vancouver. The seed was not sown until May 11. Notwithstanding an excellent stand, the crop was a great disappointment owing to a severe attack of rust just prior to harvesting. The plot yielded only at the rate of 1,117 pounds and the grain was unfit for seed purposes.

FORAGE CROPS

The long spell of dry weather during the growing season showed its effects in the resulting yields, more especially with roots.

From all the plots were taken green-weight samples from which the total dry matter was secured and the yield of dry matter per acre estimated.

SOIL AND TREATMENT

The hoed crops were grown on land that had been in hay the previous year. The land was ploughed in the fall, reploughed in the spring and well worked. Barnyard manure was applied in the spring at the rate of ten tons per acre, and for the root-land commercial fertilizer, consisting of one of nitrate of soda, two of superphosphate of lime and one of muriate of potash, was applied at the rate of 500 pounds per acre. There was no commercial fertilizer applied to the corn and sunflower area.

CORN FOR ENSILAGE

Seventeen varieties of corn were grown in quadruplicate, yields being based on the average of four plots. The corn was sown in hills three feet apart each way.

On account of the dry season the yields of corn while good in some cases were light in others. The following table gives an indication as to the standing of the varieties tested according to the estimated yield of dry-matter content. (Project Ag. 1.)

CORN

—	Yield per acre (green weight)		Dry-matter content	Yield per acre dry matter	
	tons	lb.	p.c.	tons	lb.
North Dakota (Steele Briggs)	24	1,235	23·32	5	1,480
Burr Leaming (Carter)	27	562	20·08	5	940
Longfellow (Dakota Imp. Seed Co.)	18	1,188	24·34	4	1,040
Leaming (Parks)	22	589	20·27	4	1,020
Golden Glow (Duke)	16	1,788	24·92	4	580
North West Dent (Nebraska grown, A. E. McKenzie)	20	1,686	20·12	4	380
Compton's Early (Duke)	20	938	20·31	4	300
Wisconsin 7 (Parks)	21	298	20·35	4	60
Leaming (Duke)	16	742	24·06	3	1,860
Wisconsin No. 7 (Duke)	16	941	22·81	3	1,500
North Western Dent (Dakota Improved Seed Co.)	15	1,228	23·71	3	1,400
Disco—90-day White Dent (Dakota Improved Seed Co.)	17	61	21·29	3	1,240
White Cap Yellow Dent (Steele Briggs)	14	140	22·97	3	460
Longfellow (Duke)	15	160	21·48	3	460
Quebec 28, Dr. J. L. Tod—sub for McDonald College	13	909	19·73	2	1,300
Twitchells Pride (Fredericton)	11	249	20·23	2	500
Amber Flint (Wimple)	10	421	18·59	1	1,780
North Western Dent (North Dakota grown, A. E. McKenzie)	11	221	16·41	1	1,640

SUNFLOWERS

Ten varieties of sunflowers were grown in quadruplicate plots, sown in hills three feet apart each way. The yields of sunflowers were quite high in some cases, as will be noted from the accompanying table. The Giant and Russian varieties gave the highest yields. (Project Ag. 76.)

SUNFLOWERS

—	Yield per acre (green weight)		Dry-matter content	Yield per acre, dry matter	
	tons	lb.	p.c.	tons	lb.
Russian Giant (Dakota Improved Seed Co.)	37	936	18·63	6	1,960
Mammoth Russian (McDonald)	34	333	18·75	6	800
Russian Giant (Vancouver Milling and Grain Co.)	32	1,328	17·34	5	1,320
Manchurian (McKenzie)	24	565	13·05	3	320
Black (C. P. R.)	25	202	11·64	2	1,842
Manteca (C. P. R.)	20	878	13·01	2	1,300
Manchurian (C. P. R.)	21	214	12·42	2	1,242
Mixed (C. P. R.)	22	372	11·21	2	960
Ottawa 76 (C. E. F.)	20	916	11·76	2	800
Mammoth Russian (C. P. R.)	18	694	12·11	2	440

MANGELS

Thirty-three varieties of mangels in quadruplicate plots were sown on May 13 and the crop pulled on October 20, yields per acre being based on an average of four plots. Owing to the long dry season the yields were light. (Project Ag. 16.)

MANGELS—TEST OF VARIETIES

—	Yield per acre, green weight		Dry-matter content	Yield per acre, dry matter	
	tons	lb.	p.c.	tons	lb.
Elvethan Mammoth (Hjalmar Hartmann)	20	1,244	16·21	3	680
Ideal (McMeans)	23	958	13·91	3	540
Yellow Leviathan (Rennie)	24	926	12·69	3	200
Select Gaint Rose Intermediate Sugar (Ewing)	21	1,822	13·91	3	100
Eckendorfer Yellow (Hjalmar Hartmann)	24	1,059	12·30	3	20
Barres Half Long (General Swedish Seed Co.)	20	1,814	14·18	2	1,920
Barres Stryno (Hjalmar Hartmann)	24	882	12·07	2	1,900
Danish Sludstrup (Steeves)	21	1,066	13·24	2	1,700
Long Red Mammoth (Ewing)	18	231	15·59	2	1,640
Barres Tarroje (Hjalmar Hartmann)	21	1,561	12·62	2	1,480
Leviathan (Rennie)	19	1,506	13·83	2	1,460
White Red Top Half Sugar (Hjalmar Hartmann)	21	67	12·97	2	1,440
Danish Sludstrup (K. McDonald)	20	1,881	13·01	2	1,440
Fjerritslev Barres (Hjalmar Hartmann)	22	126	12·32	2	1,380
Yellow Eckendorfer (General Swedish Seed Co.)	22	387	11·91	2	1,280
Barres Oval (General Swedish Seed Co.)	20	1,244	12·85	2	1,280
Svalof Original Alfa (General Swedish Co.)	19	1,225	13·48	2	1,280
Half Sugar White (Steves)	23	1,042	11·21	2	1,260
Svalof Oriinal Rubra (General Swedish Seed Co.)	17	1,531	14·65	2	1,200
Danish Sludstrup (Ewing)	19	1,126	13·20	2	1,160
Giant White Feeding Sugar (Steele Briggs)	21	1,974	11·56	2	1,080
Longfellow (Ewing)	16	226	14·88	2	780
Giant Yellow Globe (Ewing)	20	1,610	11·48	2	760
Yellow Intermediate (C. E. F.)	20	789	11·60	2	720
Rosted Barres (Hjalmar Hartmann)	20	1,818	11·02	2	600
White Green Top Half Sugar (Hjalmar Hartmann)	18	762	12·46	2	580
Golden Tankard (Rennie)	17	452	13·28	2	560
Red Eckendorfer (General Swedish Co.)	19	72	11·25	2	280
Jumbo Sugar (Rennie)	20	1,166	9·73	2	....
Giant Yellow Globe (Rennie)	19	1,281	10·12	1	1,960
Golden Tankard (Ewing)	18	1,290	10·62	1	1,960
Eckendorfer Red (Hjalmar Hartmann)	17	1,925	10·0	1	1,580
Danish Sludstrup (Dup. & Ferguson)	11	1,849	11·80	1	800

CARROTS

Thirteen varieties of carrots were sown in quadruplicate plots on May 14 and the crop harvested on October 30, yields per acre being based on an average of four plots. The following table shows that yields were slightly better than those of the mangels. (Project Ag. 36.)

CARROTS

—	Yield per acre, green weight		Dry-matter content	Yield per acre, dry matter	
	tons	lb.	p.c.	tons	lb.
Yellow Belgian (Ewing)	26	321	10·98	2	1,740
Danish Champion (C. E. F.)	21	1,489	13·16	2	1,720
Large White Belgian (Rennie)	23	510	11·09	2	1,140
White Belgian (Ewing)	25	188	10·12	2	1,060
New Yellow Intermediate (Halifax Seed Co.)	19	1,603	12·50	2	940
Half Long White (General Swedish Seed Co.)	19	1,473	12·38	2	880
Mammoth White Intermediate (Rennie)	23	297	10·16	2	700
New Yellow Intermediate (Ewing)	22	1,702	10·04	2	580
White Belgian 9008 (Trifolium)	19	216	11·84	2	520
White Belgian (Hjalmar Hartmann)	18	1,091	11·91	2	400
Improved Intermediate White (Ewing)	28	1,437	9·77	2	160
Mammoth Short White (Rennie)	27	202	10·35	2	160
White Belgian (Halifax Seed Co.)	19	1,234	9·34	1	1,660

TURNIPS

On land that had already produced a crop of early potatoes harvested at the end of May, an attempt was made to grow a crop of swedes and fall turnips. Usually it is impossible to grow turnips on this Farm owing to the ravages of the flea-beetle. With the assistance of spraying with nicotine dust and the fact that the flea-beetles were not as numerous as usual, quite a fair yield of turnips resulted. After the potatoes had been taken off and the land well prepared, commercial fertilizer was applied at the rate of 300 pounds per acre. This fertilizer consisted of three of nitrate of soda, nine of superphosphate of lime and one of muriate of potash. The resulting crops yielded at the rate of 20 tons 425 pounds of fall turnips and 21 tons 900 pounds of swedes per acre.

POULTRY

The Farm flock now consists entirely of Barred Plymouth Rocks there being on hand at the end of the year four hundred and ninety-five birds. Pedigree breeding is of first importance and all hens are trap-nested, accurate records being kept of every individual.

INCUBATION

Hatching commenced early in March and finished towards the end of April the incubators used being the 1,200-egg Candee and the 100-egg Jubilee.

The average fertility was 87.49 per cent; of the total eggs set 43 per cent hatched, while of the fertile eggs there was a 49.21 per cent hatch. Of the chicks hatched 77.82 per cent were alive when wing-banded.

In comparing hatching results for settings by the month, the months of March and April only being considered, the following figures are interesting: The per cent fertility during March was 85 as against 92 during April. Of the total eggs set during March 36 per cent hatched, while 56 per cent hatched in April; of the fertile eggs, 43 per cent hatched in March as contrasted with a 61 per cent hatch of fertile eggs in April. Of chicks hatched in March 76 per cent were alive when wing-banded as compared with a percentage of 80 of those hatched in April.

A comparison was made in hatching results from hens and pullets. The hen eggs showed a fertility of 88 per cent; the fertility of the pullet eggs being 72 per cent. Of the total hen eggs set, 44 per cent hatched, whereas of the total pullet eggs set only 22 per cent hatched. Of fertile hen eggs 50 per cent hatched as compared with 31 per cent in the case of pullets. The number of chicks alive when wing-banded was 79 per cent of those hatched from hen eggs, while of those hatched from pullet eggs only 50 per cent were alive when wing-banded.

EGGS SOLD FOR HATCHING

As usual there was considerable demand for Barred Rock hatching eggs. Sixty-five settings or almost one thousand eggs were sold for hatching but it was not possible to satisfy the demand.

PEDIGREE BREEDING

All breeding stock is pedigreed. All hens are trap-nested, pedigree and mating records being carefully kept. The ultimate object of this work is to maintain birds typical of the breed they represent while yet conforming to high standards of production.

To emphasize the importance of egg and pedigree records a summary of the pedigree of Barred Rock pullet No. 332 is given. This bird laid 321 eggs in the 1924-25 British Columbia Egg-laying Contest. Having laid four eggs prior

to entering the contest, this bird for the period of 365 days from date of laying her first egg scored a total of 325 eggs. No. 332 has a pedigree that shows her to be of the seventh generation of birds having a recorded production. Among her ancestors were eleven birds with first-year records of over 200 eggs, and a great-granddam (on the sire's side) had over 300 eggs to her credit.

Whilst qualifying for registration under the rules and regulations governed by the Canadian National Poultry Record Association this bird is believed to have established a world's record for the breed with a margin of one egg over the previous known record. Without the knowledge of the history of this bird's parents as recorded in the pedigree record there would be no information as to the possible and probable hereditary influence towards this high record. With the information gained through a study of the pedigree record it is natural to assume that the success of No. 332 can hardly be credited to herself alone but is largely due to her breeding.

CONFINEMENT VERSUS RANGE

This experiment, which was put into operation on November 29, 1921, to be carried on yearly for five or more years, has now completed its fourth period, this stage dating from October 1, 1924, until September 30, 1925. For this period two pens of Barred Rocks were selected, comprising ten pullets in each pen. The following table shows results for the fourth year. (Project P. 55A.)

CONFINEMENT VERSUS RANGE

—	Eggs	Value of eggs	Cost of feed	Gain
		$ cts.	$ cts.	$ cts.
Barred Rocks, confined	1,770	61 95	24 35	37 60
Barred Rocks, range	1,650	57 75	24 70	33 05

Prices.—Scratch grains, $50; mash, $55; shell, $40; grit, $35; green feed, $5; milk, 25 cents per 100 pounds. Grain consisted of equal parts wheat, oats and cracked corn. Mash consisted of 100 parts bran, 100 parts shorts, 100 corn meal, 100 crushed oats, 75 beefscrap and 5 charcoal. These proportions were all by weight.

EFFECT OF CONFINEMENT AND RANGE ON HATCHING RESULTS

The average fertility of eggs from Barred Rocks on range was 97.6 per cent, while that from Barred Rocks confined the previous year was 83.8 per cent. The number of chicks hatched in the former case was 53 per cent of the total eggs set, as compared with 31 per cent in the latter case. Of the fertile eggs 54.4 per cent were hatched from the range birds and 37 per cent from the confined. When wing-banded, 85 per cent of chicks hatched were alive from birds on range the previous season, as against 80 per cent from birds confined the previous year. (Project P. 120.)

FEEDING

Commencing November 1, 1924, a series of feeding experiments was started. These comprised twelve pens consisting of ten birds in each pen, the duration of the experiment to continue for at least six months and probably till the end of the laying year. The birds used were all pullets. Unfortunately about the middle of December the building in which these birds were housed was struck by a severe wind storm and practically demolished. Owing to weather conditions it was impossible to reconstruct the building until well on in the spring. As a result of this it was considered advisable not to attempt to again commence

the same experiments, but rather to set similar experiments going early the following fall. Accordingly there is in operation at the present time a comprehensive line of feeding experiments, results of which will not be available for report until next fall.

FEEDING EXPERIMENTS WITH BROILERS AND ROASTERS

During the month of July experiments were carried on in fattening broilers under different conditions. One lot was crate-fed and another lot fed in a pen. The following ration was used: equal parts by weight of crushed oats, cornmeal, shorts, skim-milk. The price of the ration was two cents per pound. The accompanying table gives the results. (Project P.34A.)

FEEDING BROILERS

—	Original weight of birds	Final weight	Gain	Feed used	Cost of feed	Value of gain	Profit
	lb.	lb.	lb.	lb.	cts.	cts.	cts.
Feed in pen, 5 birds	13	15·0	2·0	15·0	30	36	6
Fed in crate, 5 birds	11	15·5	4·5	15·5	31	81	50

In a comparison of different rations for fattening broilers the following feeds were used:—

Pen 1, equal weights crushed oats, crushed barley, shorts, skim milk: price 2 cents per pound.
Pen 2, equal weights crushed oats, cornmeal, shorts, skim-milk: price 2 cents per pound.
Pen 3, equal weights crushed oats, cornmeal, shorts, soybean meal, water: price 2½ cents per pound. (Project P 34 B.)

FATTENING BROILERS

Pen	Original weight of birds	Final weights	Gain	Feed used	Cost of feed	Value of gain	Profit
	lb.	lb.	lb.	lb.	cts.	cts.	cts.
1	12·0	15·0	3	15	30	54	24
2	13·0	15·0	2	15	30	36	6
3	11·5	13·5	2	14	35	36	1

In comparing methods and rations for fattening and finishing roasters the following is an indication of feeds used and method of handling. (Project P. 42 A.)

Pen 1, equal weights crushed oats, cornmeal, shorts, skim-milk; price 2 cents per pound.
Pen 2, crate fed: equal weights crushed oats, cornmeal, shorts, skim-milk: price 2 cents per pound.
Pen 3, equal weights crushed oats, crushed barley, shorts, skim-milk, price 2 cents per pound.

FINISHING ROASTERS

Pen	Original weight of birds	Final weights	Gain	Feed used	Cost of feed	Value of gain	Profit
	lb.	lb.	lb.	lb.	cts.	cts.	cts.
1	16	20·0	4·0	16·0	32	72	40
2 (crate-fed)	18	21·0	3·0	15·5	31	54	23
3	17	19·5	2·5	15·5	31	45	14

A comparison was made between the use of milk and beef-scrap as a substitute in fattening.

The rations used were composed of:—

Pen, 1, equal weights crushed oats, cornmeal, shorts, mixed with skim-milk: price 2 cents per pound.
Pen 2, equal weights crushed oats, cornmeal, shorts, ½ beef-scrap, mixed with water: price 2½ cents per pound.

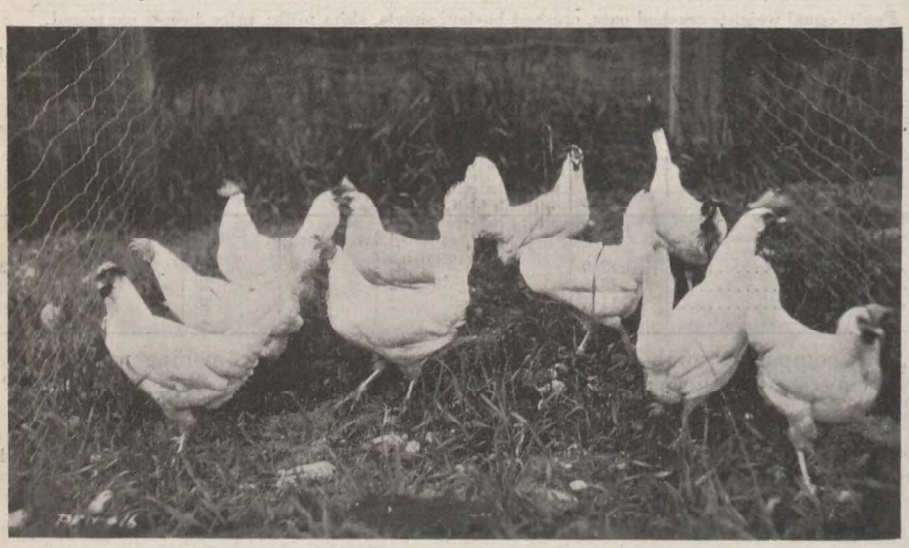
The following are the results:—

Pen	Original weight of birds	Final weight	Gain	Feed used	Cost of feed	Value of gain	Profit
	lb.	lb.	lb.	lb.	cts.	cts.	cts.
1	13	15	2	15·0	30	36	6
2	10	14	4	15·5	35	72	37

EGG-LAYING CONTEST

The Fifth British Columbia Egg-Laying Contest conducted at Agassiz by the Experimental Farms Branch terminated October 30, 1925. The contest contained forty-five pens of ten pullets in each, the five breeds entered being represented as follows:—

	Pens
Anconas	2
S. C. White Leghorns	30
Barred Plymouth Rocks	6
S. C. Rhode Island Reds	1
R. C. Rhode Island Reds	1
White Wyandottes	5



Highest-producing pen of ten birds in Canada, laying 2,683 eggs in the 1925 egg-laying contest. Owned by J. H. Mulford and Sons, Milner, B.C.

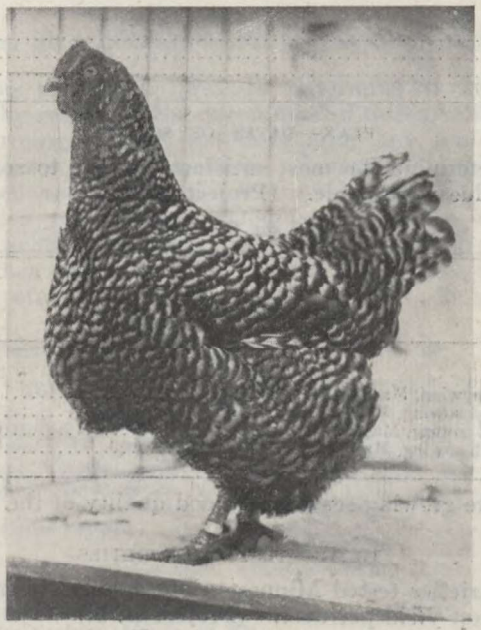
The production at these contests has risen year after year. The record made in the previous contest of almost 207 eggs per bird seemed so high that anything higher was scarcely looked for in the last contest. However, the contest closed with a production of 96,717 eggs from 450 birds, or almost 215 eggs per bird. As far as is officially known this is a world's record for a contest while, furthermore, the winning pen, which laid 2,683 eggs, is also credited with the honour of having made a new Canadian record for a pen of ten birds. With further reference to this pen is the most important feature that these ten birds

were the original ten composing the pen when the contest commenced. It is also interesting to record that during the year these birds made a 100 per cent record for ten successive days.

Several exceptionally high individual records were made during the year. Of these 15 birds laid over 300 eggs, and of these 15 eight qualified for Registration.

The highest individual record was that of 332 eggs from a S.C. White Leghorn belonging to the Farm. The highest record from the heavy breeds was that of 321 eggs from a Barred Rock belonging to the Farm. With four eggs laid before entering the contest this bird made a total of 325 eggs, which is considered to be a world's record to date for a Barred Rock. All the other records above 300 eggs were made by S.C. White Leghorns, with the exception of a R.C. Rhode Island Red which laid 305 eggs.

Out of the 450 birds, 165, or 36.66 per cent, qualified for registration.



World's champion Barred Rock—325 eggs in a year.

SUMMARY OF RESULTS 1924–1925 CONTEST

Total number of eggs	96,717
Average number of eggs per bird	214·92
Highest Pen No. 16 (J. H. Mufford & Sons White Leghorns)	2,683
Average number of eggs per bird in best pen	268
Highest Bird, No. 6, Pen 1 (Agassiz Exp. Farm W. L.)	332
2nd Highest Bird, No. 2, Pen 9 (Farrington, W. L.)	331
Number of Birds laying 200 to 225 eggs	96
" " 225 to 250 eggs	85
" " 250 to 275 eggs	51
" " 275 to 300 eggs	16
" " over 300 eggs	15

Breed Average per Bird

	Eggs
White Leghorns	222·18
Rhode Island Reds	216·15
White Wyandottes	203·8
Barred Rocks	196·55
Anconas	187·8

FIBRE PLANTS

Experimental work pertaining 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 Longstem, Riga Blue, and Pure Line No. 5, Longstem gave the highest yield of total crop per acre, with the others following in the order named. (Project E. 3.)

FLAX VARIETIES

Variety	Yield per acre	
	tons	lb.
Longstem	2	560
Riga Blue	1	1,980
Pure Line No. 5	1	1,800

FLAX—DATES OF SOWING

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

DATES FOR SOWING FLAX

Variety	Date of sowing	Yield per acre total crop	
		tons	lb.
Riga Blue	First sowing, May 8	1	1,980
"	Second sowing, May 15	2	300
"	Third sowing, May 22	1	1,200
"	Fourth sowing, May 29	1	460

Throughout the growing season the good quality of the flax was particularly noticeable.

HEMP—TEST OF VARIETIES

Of the two varieties tested Minnesota No. 8 and Chington, the former gave the higher total crop yield per acre. (Project E. 8.)

HEMP VARIETY TEST

Variety	Yield per acre	
	tons	lb.
Minnesota No. 8	2	720
Chington	2	120

HEMP—DATES OF SEEDING

Three different sowings of Chington were made with results of total crop per acre as shown in the table. (Project E. 8.)

DATES FOR SOWING HEMP

	Tons	Lb.
Chington—first sowing, May 8	2	120
" second sowing, May 15	2	940
" third sowing, May 22	1	1,900
" fourth sowing, May 29	1	340

BEES

The season of 1925 was less satisfactory for honey-production than any season for several years owing to the cool, wet weather in April, the severe winter-killing of clover, and also drought conditions during the balance of the year. In the autumn of 1924 eleven colonies of bees were placed in winter quarters out-of-doors, five being in Kootenay cases and the remainder in double wintering-cases. All colonies came out strong in the spring with ample stores, the average number of combs covered by bees was eight and as high as fifteen in some colonies. During May an outbreak of European foul brood was discovered and treatment started at once. By the end of the succeeding month the disease was well under control but it was too late then to expect any heavy honey-yields. From the eleven colonies one increase, 60 sections and 674 pounds of extracted honey were produced, 141 pounds of the latter being fed back to the bees. The greatest net yield from a colony was 179½ pounds.

SWARM CONTROL BY DEQUEENING AND REQUEENING—PROJECT AP. 1

The object of this experiment was to determine if swarming could be effectively controlled by removing the queen and all queen-cells when the colony showed signs of swarming. About ten days later any remaining queen-cells were destroyed and a new queen introduced. Number six colony used for this purpose was dequeened and queen-cells destroyed April 25. Cells were again destroyed May 5 and a young queen introduced. On July 5 queen-cells were found in the colony, so the result was a failure. Five other colonies, however, were dequeened and then requeened May 29, which was later in the season, and the results were successful. A few supersedure cells were located in one colony early in August.

RETURNS FROM APIARY—PROJECT NO. AP. 20

Number of Colonies, Spring Count, 11

Value of extracted honey produced, 674 lb. at 20c	$134 80	
" comb honey, 60 combs at 25c	15 00	
" bees sold, 1 nuclei at $7	7 00	
" wax sold, 5 lb. at 47c	2 35	
Gross returns		$159 15
Number of Colonies, Autumn Count, 11		
Labour expended in apiary, 16 full days	$ 48 00	
Supplies purchased	46 25	
Value of honey fed to bees, 141 lb. at 20c	28 20	
Queens purchased	12 50	
Gross expenditure		$134 95
Net balance		$ 24 20

PACKAGE BEES AS A MEANS OF STARTING COLONIES—PROJECT AP. 22

Although no packages were purchased this year it is interesting to note the progress of a two-pound package purchased April 26, 1923. That year it produced a surplus of 176 pounds; the following year a surplus of 166 pounds, and this year 72 pounds, or in the three years a total of 414 pounds.

STUDY OF HONEY FLOW—PROJECT AP. 28

An effort is made each year to find out the source of the honey-flow during the season and the data secured are valuable. The importance of certain bloom for honey-production varies with the weather conditions. Canada thistle and

clover can always be depended upon as a source of supply. The results this year are as follows:—

Fruit bloom and dandelion in April.
Clover from June 26 and July.
Canada thistle, July and to August 8.
Basswood, July 8 to 20.

PROTECTED VERSUS UNPROTECTED HIVES DURING SUMMER—PROJECT AP. 42

The continued comparison of the single-wall hive with the Kootenay hive, in which the brood-chamber was protected, verified the previous good record of the latter. The two Kootenay hives used in the experiment (numbers 2 and 3) gave a net yield of 134 pounds while numbers 7 and 8, the single-wall hives, yielded only 40½ pounds. All four hives were queened in August, 1924, with Ottawa queens. They were also all requeened May 29, 1925, with Edison queens. Number 6, a Jumbo hive, produced 72 pounds net, but even this is not as great a yield as number 1, a Kootenay hive with 179½ pounds net. This latter comparison, however, is perhaps somewhat misleading as the colonies were given different treatment.

QUEEN-REARING

In 1924 considerable success was met with in rearing queens in the natural way. This year an attempt was made to raise queens by the artificial cup-method. The results were not satisfactory. Of the eighteen cells grafted only seven were accepted, the remainder drying out. Of the seven accepted three were grafted to dequeened colonies of which only one was mated, the other two being lost during the mating flight. The remaining four cells were put in a mating-box in a two-frame nuclei, and of these only two were mated properly.

GENERAL NOTES

In co-operation with the Summerland and Invermere Stations an interesting agricultural exhibit was again staged at Vancouver Summer Exhibition. A cheesemaking demonstration was given at New Westminster Exhibition and in co-operation with the University of British Columbia a fancy cheese display was made in connection with the Western Canada Dairymen's Convention in Vancouver. Sixteen Holstein cattle were shown at Vancouver and New Westminster and succeeded in winning many of the best prizes. The superintendent of the Farm judged the Holstein and Ayrshire cattle at Edmonton and the Guernsey cattle at Vancouver summer shows and the sheep at Vancouver Winter Fair. On two occasions he acted on examining boards for civil service examinations. Considerable time was given to the directorate work of the Provincial Seed Growers' Association, Dairymen's Association, Holstein Breeders' Association and the Stock Breeders' Association, particularly with the sale of dairy cattle held in June at Vancouver and the bull sale at Kamloops in April. Officers of the Farm attended the Jersey Breeders' Summer Meet, the Ayrshire Breeders' Field Day, the Fraser Valley Milk Producers' get-together meeting, Provincial Potato Show, Chilliwack Ploughing Match, Agronomy Conference, several fairs, and visited many farmers and poultrymen in the province.

Under the auspices of the British Columbia Holstein Breeders' Association a field day was held on the Farm June 22 which some two hundred breeders attended. Some valuable demonstrations on Holstein judging were given by the Dominion Holstein field man, the Dominion Animal Husbandman, the Professor of Animal Husbandry of the University and others.

On June 26 a large poultrymen's picnic was held. Those attending had the opportunity of visiting the laying-contest and of listening to addresses given by Mr. Elford and Dr. Weaver, of the Central Farm, and others.

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