DOMINION OF CANADA

DEPARTMENT OF AGRICULTURE

DOMINION EXPERIMENTAL FARMS

EXPERIMENTAL STATION

LA FERME, P.Q.

REPORT OF THE SUPERINTENDENT

PASCAL FORTIER

FOR THE YEARS 1926 AND 1927

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EXPERIMENTAL STATION, LA FERME, P.Q.

REPORT OF THE SUPERINTENDENT, PASCAL FORTIER

THE SEASONS OF 1926 AND 1927

Except in January and December, the mean temperature in 1926 in the Abitibi district was lower than the average of the nine previous years. Seeding was not started until the middle of June. June and July had a more than average rainfall and less hours of sunshine than the average. The crops made slow growth and did not ripen well. Late sown cereals were harvested green and used as fodder.

The mean temperature in 1927 was slightly higher than the average, but during the period of growth, May to September it was lower than the ten-year average. The temperature records for the two years are given in the following tables:—

METEOROLOGICAL RECORDS—1926

—	Temperature (F.)						Precipitation (inches)				Sunshine (hours)	
	Mean		Maximum in 1926		Minimum in 1926		Rain	Snow	Precipitation		1926	Average 6 years
	1926	Average 9 years	Highest	Mean maximum	Lowest	Mean minimum			1926	Average 9 years		
January	1·85	4·99	34·0	13·8	−41·0	−10·13	.....	13·5	1·35	1·92	81·2	91·7
February	1·88	4·30	28·0	15·8	−33·0	−12·04	.....	9·0	0·90	1·56	108·8	109·2
March	10·68	16·30	43·5	24·33	−28·0	−2·97	.....	10·0	1·00	2·15	169·2	135·2
April	24·22	32·55	49·0	34·71	−20·0	−13·73	.....	22·0	2·20	2·27	114·0	166·8
May	41·84	46·50	83·0	53·62	7·0	−30·06	0·95	8·5	1·80	2·08	202·8	198·2
June	52·33	55·28	78·0	63·11	22·0	41·56	3·02	.....	3·02	2·44	177·7	236·7
July	60·72	61·99	87·0	72·21	40·0	49·23	4·07	.....	4·07	4·00	265·9	242·3
August	58·79	59·30	85·0	70·95	31·0	46·64	0·76	.....	0·76	3·85	230·8	218·2
September	48·88	49·14	67·0	58·06	21·0	39·70	2·25	.....	2·25	3·64	94·2	136·5
October	37·52	38·42	71·0	43·93	21·0	31·12	2·61	.....	2·61	2·58	45·9	90·1
November	22·71	21·20	50·0	28·50	−30·0	12·40	1·61	1·7	1·78	2·05	15·1	47·1
December	8·09	7·99	46·0	18·30	34·0	−2·12	.....	3·0	3·00	2·85	55·6	46·5
	30·61	32·44	60·33	41·44	26·75	24·32	15·27	83·0	22·80	31·39	1,561·2	1,719·5

METEOROLOGICAL RECORDS—1927

—	Temperature (F.)						Precipitation (inches)				Sunshine (hours)	
	Mean		Maximum in 1927		Minimum in 1927		Rain	Snow	Total precipitation		1927	Average 7 years
	1927	Average 10 years	Highest	Mean maximum	Lowest	Mean minimum			1927	Average 10 years		
January	3·45	−2·70	35	30·6	−47	−41·6	.....	9·0	0·90	1·83	95·4	92·2
February	7·32	1·74	38	38·1	−43	−36·2	.....	3·0	0·30	1·48	115·8	110·1
March	24·51	17·03	51	49·9	−17	−24·2	0·07	5·75	0·676	2·00	163·6	139·2
April	30·02	32·20	65	64·6	−2	−3·3	0·66	3·75	1·03	2·15	197·0	171·1
May	43·91	46·15	68	79·0	25	15·9	2·80	.....	2·80	2·15	219·9	202·1
June	53·81	55·14	96	85·6	27	27·7	3·60	.....	3·60	2·66	242·9	237·6
July	61·85	61·88	92	86·3	34	35·5	4·43	.....	4·43	4·04	262·1	245·1
August	55·49	58·92	72	82·1	34	34·6	4·93	.....	4·93	3·96	164·9	210·6
September	50·63	50·31	76	75·9	26	27·7	4·67	.....	4·67	3·75	138·2	136·7
October	40·19	38·62	68	66·0	15	14·5	1·91	.....	1·91	2·50	56·0	85·2
November	21·44	22·72	58	47·4	−8	−11·4	1·51	23·0	1·51	2·00	45·0	46·8
December	6·23	7·5	37	38·6	−32	−32·5	.....	32·5	3·25	2·59	46·8	47·2
Total	.....	.....	.....	.....	.....	.....	24·58	77·00	29·88	31·11	1,747·6	1,723·7

EVAPORATION OF MOISTURE

In order to ascertain the amount of moisture evaporated during the growing season observations are made during the four months from June to September inclusive. The method followed consists in measuring at regular intervals the level of the water in a vat exposed to the air. The total precipitation is noted by means of the rain gauge. The evaporation is influenced by various factors such as a rise in temperature, the hydrometric condition of the air, the atmospheric pressure and the velocity of the wind.

In 1926, the quantity of water evaporated was almost equal to the precipitation, the difference being only ½ inch. In 1927 the evaporation was practically the same as in 1926 but there was an excess of precipitation of 7·55 inches, showing that the soil remained saturated with water during the whole of the growing season.

INFLUENCE OF TOPOGRAPHY ON TEMPERATURE AND FROSTS

Thermometer records are taken during the growing season at six different places on the Farm in order to ascertain the comparative influence of the topography of various locations on temperature. The observation posts are scattered inside a circle the radius of which is not more than a mile and a half and are placed as follows: No. 1, on the north shore of Spirit lake; No. 2, on a high rocky bluff, 30 feet above the surrounding ground; No. 3, in a slough; No. 4, in the centre of a level field; No. 5, on the south shore of George's lake; No. 6, in the centre of a field covered with stumps, surrounded by green, half-burnt trees. The data recorded in 1927 are given in the following table:—

AVERAGE MAXIMUM AND MINIMUM TEMPERATURES IN 1927

Month	Post No. 1		Post No. 2		Post No. 3		Post No. 4		Post No. 5		Post No. 6	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
June	69·7	31·8	64·3	41·3	68·0	41·7	67·1	45·5	65·7	46·7	65·4	43·4
July	77·1	46·3	71·0	45·7	74·9	46·8	77·1	50·0	75·5	50·6	75·5	47·6
August	66·5	41·2	64·5	40·8	66·2	43·4	68·4	46·1	64·9	46·5	65·9	44·1
September	60·6	36·9	59·0	34·0	60·9	37·4	61·7	40·3	60·5	41·4	60·8	39·2
Totals	273·9	156·2	258·8	161·8	270·0	169·3	274·3	181·9	266·6	185·2	267·6	174·3
Averages	68·5	39·0	64·7	40·4	67·5	42·3	68·6	45·5	66·6	46·3	66·9	43·6

ANIMAL HUSBANDRY, 1926 AND 1927

HORSES

Fifteen horses were kept on this station in 1926 and there has been no change since December 31, 1927, when our horses included six pure-bred French-Canadian horses kept for breeding purposes and nine grades, mainly used for heavy farm work.

MAINTENANCE AND FEEDING OF WORK HORSES

The cost of feeding and maintaining ten work horses was recorded during the last two years, and the average for each year, for a horse of average weight, is given below:—

AVERAGE FEED AND MAINTENANCE COST OF WORKING HORSES, 1926

Particulars and price	Expenditure
	$ cts.
3·98 tons of hay at $15 per ton	59 70
0·38 tons of bran at $32 per ton	12 16
3·16 tons of oats at $35.46 per ton	112 05
Manual labour	46 23
Interest on capital	22 95
Shelter 4·9% of total cost	10 40
Harness and repairs	4 35
Shoeing	10 00
Total annual cost	277 84

AVERAGE FEED AND MAINTENANCE COST OF WORKING HORSES, 1927

Particulars and prices	Expenditure
	$ cts.
3·98 tons of hay at $15 per ton	59 70
0·33 ton of bran at $30.80 per ton	10 16
2·52 tons of oats at $39.20 per ton	98 78
Manual labour	50 10
Interest 7% on capital	15 75
Shelter 4·9% of total cost	10 48
Harness and repairs	5 00
Shoeing	11 25
Total annual cost	261 22

It may be surmised from these tables that the annual cost of maintaining horses is very high and that, therefore, only good horses should be kept. The farm work should be arranged so as to lower as much as possible the cost of horse labour by making the horses give as many hours of work as possible, and these distributed over a large number of days during the year.

In the computation made in 1927, the amount of interest chargeable to capital was lowered. This amount, which is now $15.75, is more in conformity with the conditions prevailing in this district.

DAIRY CATTLE

Dairying is one of the most important branches of animal husbandry in this district and naturally it has received a great deal of attention on this farm. The breeding of dairy cattle, grading-up experiments, the cost of production of cattle at different ages and the cost of dairy products are the main lines investigated.

SUMMER FEEDING

During the summer of 1926 and 1927, the dairy heifers were pastured in a large patch of burnt land on the northern boundary of the station, where there was plenty of good water available and an abundance of clover from seeding done after the fire. These heifers were in good condition when stabled in October, although they had not received any grain while on pasture.

The herd of dairy cows was kept for some months on a very good pasture, then as this pasture became depleted, green fodder such as clover and green oats, was fed in the stable. Cows in milk received in addition, throughout the summer, a ration of concentrates, at the rate of 1 pound per 3 or 4 pounds of milk produced.

WINTER FEEDING

During the winter months, the ration is made up of roughages, such as clover and sunflower silages, clover hay, cereal hay and pea, oat and vetch hay. The cows received 25 to 40 pounds ensilage, 8 to 15 pounds clover hay per day and, on the average, 1 pound of meal for 3 or 4 pounds of milk produced daily. Dry cows and yearling heifers do not, as a rule, receive concentrates, good clover hay and ensilage being sufficient in most cases.

The calves are pail fed at first with their mothers' milk, then for a few weeks with mixed milk, whole milk being gradually replaced by skim-milk. Later on, dry grain and clover hay are fed, followed some time later by silage. About this time skim-milk is discontinued.

On December 31, 1926, the dairy herd included 49 head of accredited cattle as follows: 22 pure-bred Ayrshires, 1 herd bull, Lord Kyle 10th, and 27 grade Ayrshires. On the same date in 1927, this herd was made up of 54 accredited cattle, or 3 pure-bred Ayrshires and 2 grade Ayrshires more than in 1926, considerable culling out having been done in the meantime.

In the spring of 1927, the herd bull, Lord Kyle 10th, was sold and replaced by the young Ayrshire bull, Ottawa Supreme 12th, No. 92925; supplied by the Central Experimental Farm, Ottawa. This bull is registered in the Advanced Registry, class A.

During 1926, 15 cows completed their period of lactation; in 1927, there were 21 in all.

COST OF MILK PRODUCTION

In this experiment a record is taken of the feed consumed by each cow during the milking period, as well as during the period of rest preceding calving. The milk of each cow is weighed morning and evening during the whole period of lactation and it is tested monthly to determine the percentage of fat. The cost of production is figured from these data. No account is taken of the labour or of the litter, as these are offset by the value of the calf and the manure.

The data recorded during the last two years are given in the two following tables. The third table contains the averages recorded during the last eight years.

RECORDS OF COWS HAVING COMPLETED A PERIOD OF LACTATION IN 1926

Name of cow	Age at beginning of lactation	Date of calving	Number of days in period of lactation	Total production of milk	Average daily milk production	Per cent of fat	Value of milk at $2.26 per 100 lb.	Meal at $38.80 per ton	Silage at $5.00 per ton	Roots at $2.50 per ton	Hay at $13.00 per ton	Green fodder at $5.00 per ton	Pasture at $1.00 per month	Cost of 100 pounds milk	Total cost of feed	Profit per 100 pounds milk	Profit per cow (manual labour and calf not included)
	years		days	lb.	lb.	p.c.	$ cts.	lb.	lb.	lb.	lb.	lb.	mos.	$ cts.	$ cts.	$ cts.	$ cts.
Mignonne	2·5	7–10–25	355	6,662	18·77	4·0	150 56	1,733	5,800	450	1,701	280	4	0 97	64 44	1 29	86 12
Rita	2·5	6– 7–25	323	4,225	13·08	3·6	95 49	1,294	6,276	600	1,636	672	1	1 36	57 55	0 90	37 94
Lily	5·5	10– 9–25	280	5,410	19·32	4·3	122 27	1,473	6,265	700	1,695	1,030	1	1 10	59 71	1 16	62 56
Blanche	6·0	8– 8–25	371	5,557	14·98	3·8	125 59	1,613	7,455	700	1,877	810	4	1 24	69 03	1 02	56 56
Emma	5·0	15– 4–26	233	3,633	15·59	4·2	82 10	1,076	3,605	.....	1,632	385	4	1 25	45 46	1 01	36 64
Anna	4·5	16– 1–26	145	3,494	24·10	3·7	78 96	1,089	6,020	.....	1,336	.....	.....	1 28	44 86	0 98	34 10
Nelly		4–10–25	410	4,539	11·07	4·0	102 58	1,210	6,815	700	2,031	1,178	4	1 36	61 53	0 90	41 05
Desneiges	5·0	25– 4–26	207	3,662	17·69	3·8	82 76	1,083	3,135	.....	1,434	385	4	1 18	43 13	1 08	39 63
Daisy A-1	5·0	27–11–25	317	6,206	19·6	4·1	140 26	1,745	6,785	.....	1,855	560	4	1 14	70 51	1 12	69 75
Ottawa Valentine 2	2·5	23– 1–26	264	4,327	16·4	4·2	97 79	1,188	3,685	.....	1,193	325	4	1 04	44 83	1 22	52 96
Alphonsine	2·3	21– 2–26	238	3,165	13·3	3·8	71 53	972	2,490	.....	1,476	295	4	1 25	39 41	1 01	32 12
Primrose of Ottawa	2·5	16–12–25	311	4,689	15·1	4·2	105 97	1,467	5,665	.....	1,624	365	4	1 24	58 07	1 02	47 90
Pauline C	4·0	19– 5–25	352	5,887	16·7	4·4	133 05	1,526	11,115	690	2,171	1,070	.....	1 27	75 04	0 99	58 01
Daisy B	5·0	23–11–25	300	3,997	13·3	4·2	90 33	1,164	7,235	.....	1,729	140	4	1 42	56 82	0 84	33 51
Antoinette	1·9	9– 9–25	289	2,786	9·64	3·7	62 96	864	4,750	352	1,547	228	½	1 44	40 20	0 82	22 76
Totals	.....	.....	4,395	68,239	238·64	.....	1,542 21	19,497	87,096	4,192	24,937	7,723	42½	18 54	830 59	15 36	711 61
Averages	.....	July 14	293	4,549·3	15·91	4·0	102 81	1,299·8	5,806·4	279·5	1,662·5	514·9	2·8	1 24	55 37	1 02	47 44

Records of Cows Having Completed a Period of Lactation in 1927

Name of cow	Age at beginning of lactation	Date of calving	Days in period of lactation	Total milk produced	Average daily production	Per cent of fat	Value of milk at $2.26 per 100 lb.	Meal at $38.66 per ton	Silage at $5.00 per ton	Roots at $2.50 per ton	Hay at $13.00 per ton	Green fodder at $2.50 per ton	Pasture at $1.00 per month	Cost per 100 pounds milk	Total cost of feed	Profit per 100 pounds milk	Profit per cow (manual labour and calf not included)
	years		days	lb.	lb.		$ cts.	lb.	lb.	lb.	lb.	lb.	mos.	$ cts	$ cts.	cts.	$ cts.
Ottawa Mina	7·9	6- 4-27	258	4,906	19·0	3·8	110 88	1,262	3,965	375	1,414	1,300	3	0 99	48 59	1 27	62 29
Albertine	2·4	11- 5-26	401	5,838	14·6	4·2	131 94	1,503	6,285	.....	2,978	385	5	1 19	69 60	1 07	62 34
Jumelle	7·2	27- 5-26	412	6,888	16·7	3·9	155 67	1,879	10,910	.....	4,205	385	5	1 40	96 41	0 86	59 26
Ottawa Pansy	3·4	24-10-26	260	3,559	13·7	3·9	80 43	886	5,925	150	2,644	25	4	1 50	53 34	0 76	27 09
Aurore	2·8	3- 1-27	308	5,431	17·6	3·8	122 74	1,320	5,865	300	2,030	1,175	3	1 07	58 22	1 19	64 52
Mignonne	3·7	12-11-26	386	7,341	19·0	3·7	165 91	1,811	7,970	150	3,013	1,250	3	1 08	79 27	1 18	86 64
Primrose Ottawa 2nd	3·6	26-12-26	312	5,799	18·6	4·0	131 06	1,464	6,550	300	2,475	1,250	3	1 13	65 70	1 13	65 36
Véline	4·3	20- 3-27	263	5,535	21·0	3·8	125 09	1,391	5,072	450	1,920	1,300	3	1 03	57 24	1 23	67 85
Ottawa Valentine	3·3	10- 3-27	272	5,810	21·4	4·2	131 31	1,574	4,835	375	1,908	1,250	3	1 03	59 95	1 23	71 36
Daisy A-1	7·2	4- 1-27	351	8,154	23·2	3·9	184 28	2,217	8,575	375	3,325	1,375	3	1 12	91 09	1 14	93 19
Bily	7·5	27- 9-26	372	9,608	25·8	4·4	217 14	2,739	8,800	150	3,709	1,435	6	1 11	107 03	1 15	110 11
Primrose of Athens	9·3	26- 5-26	304	5,431	17·9	4·2	122 74	1,543	9,688	.....	3,513	302	3·5	1 49	80 76	0 77	41 98
Primrose of Ottawa	6·0	8- 6-26	292	5,297	18·1	4·0	119 71	1,478	6,535	.....	2,945	385	5	1 31	69 53	0 95	50 18
Belle	5·1	3- 5-26	326	6,471	19·8	3·9	146 24	1,742	7,840	.....	3,159	385	4	1 21	78 29	1 05	67 95
Blanche	7·1	28- 9-26	344	8,628	25·1	3·7	194 99	2,150	8,815	.....	3,557	1,200	4	1 07	92 22	1 19	102 77
Eva	3·0	20- 4-26	285	5,027	17·6	3·9	113 61	1,460	8,315	.....	2,909	385	4	1 44	72 40	0 82	41 21
Fauvette	3·6	20- 4-26	288	5,211	18·1	3·9	117 77	1,463	7,292	.....	2,798	385	4	1 33	69 18	0 93	48 59
Adèle	2·5	12-10-26	305	5,601	18·4	3·8	126 58	1,396	6,355	.....	1,864	.....	2·5	1 03	57 49	1 23	69 09
Rosette	2·2	15- 4-26	289	4,289	14·8	4·1	96 93	1,142	3,405	.....	1,904	385	4	1 11	47 44	1 15	49 49
Glista	7·0	29- 3-26	321	10,663	33·2	3·3	240 98	2,970	7,936	.....	3,650	415	4	0 99	105 49	1 27	135 49
Pauline "C"	5·4	5-10-26	335	5,786	17·3	4·2	130 76	1,465	7,918	.....	3,394	640	7·5	1 36	78 47	0 90	52 29
Totals	.....	.....	6,684	13,127	410·9	.....	2,966 76	34,855	148,851	2,625	59,314	15,612	83·5	24 99	1,537 71	22 47	1,429 05
Averages	.....	.....	318·3	6,251·1	19·6	3·9	141 27	1,659·8	7,088·1	125·0	2,824·4	743·4	4·0	1 19	73 22	1 07	68 05

AVERAGE COST OF THE PRODUCTION OF MILK FOR 1920-1927

Year	Number	Average age at beginning of lactation	Number of days in period of lactation	Total production of milk	Average daily production of milk	Value of milk at $2.20 per 100 lb.	Meal	Silage	Roots	Hay	Green fodder	Pasture at $1.00 per month	Cost per 100 pounds milk	Total cost of feed	Profit per 100 pounds milk	Profit per cow
				lb.	lb.	$ c.	lb.	lb.	lb.	lb.	lb.	mos.	$ cts.	$ cts.	$ cts.	$ cts.
1920	2		292·0	8,274·5	28·3	264 78	531·25	3,980·5	1,568·0	2,301·2		4·6	1 88	156 26	1 31	108 52
1921	3		322·0	8,019·0	24·9	256 61	1,720·3	8,245·0	813·3	6,222·3	1,263·0	3·5	1 76	127 93	1 60	128 68
1922	4		451·0	9,218·0	20·4	294 98	1,838·0	9,840·0	563·0	1,610·0	2,141·0	5·6	1 36	125 99	1 83	168 99
1923	10	2·8	369·0	6,704·0	18·2	214 53	1,880·0	9,740·0	742·0	1,810·0	2,806·0	2·8	1 86	124 52	1 34	90 01
1924	11	3·8	330·6	7,629·0	23·1	244 15	2,325·3	9,108·0	1,004·6	2,950·8	3,821·4	2·5	1 65	129 45	1 50	114 70
1925	19	4·0	349·0	5,807·6	16·6	185 84	1,745·1	8,166·0	548·0	2,428·2	1,733·0	3·4	1 32	76 74	1 88	109 10
1926	15	4·9	293·0	4,549·2	15·5	145 57	1,299·8	5,779·7	279·4	1,662·4	521·5	2·7	1 24	55 82	1 97	89 75
1927	21	4·9	318·3	6,251·1	19·6	200 04	1,659·7	7,088·1	125·0	2,824·4	743·4	3·9	1 18	73 48	2 02	126 56
8-year average			340·6	7,056·6	20·8	225·81	1,624·93	7,743·4	705·4	2,726·16	1,628·7	3·63	1 53	108 77	1 68	117 04

In view of the fact that the average age of this herd is rather low, the production of the past two years as recorded in these tables is comparatively high. These tables also show that the cost of production of 100 pounds of milk has been decreased during the last few years and it is hoped that it may be still further decreased by the continued selection of the best heifers and by reducing the cost of feeding, through the use of improved home-grown crops in greater quantity.

COST OF RAISING HEIFERS UNTIL CALVING

In this experiment, the quantity of food necessary to raise and maintain a heifer from birth until calving is recorded, and the cost of production is figured from these dates. During 1926, four heifers completed this period and five did so in 1927. The data of this experiment are given in the following tables, the last table containing averages for a seven year's period.

Name of heifer	Age at calving	Feed consumed								
		Whole milk at $2.26 per 100 lb.	Skim-milk at $0.50 per 100 lb.	Meal at $38.80 per ton	Hay at $13.00 per ton	Green fodder at $5.00 per ton	Silage at $5.00 per ton	Roots at $2.50 per ton	Pasture at $1.00 per month	Total cost
	years	lb.	lb.	lb.	lb.	lb.	lb.	lb.	months	$ cts.
Jeannette	3·0	401	1,864	1,533	4,311	741	7,673	.....	4	101 18
Adèle	2·6	217	2,249	1,025	2,985	235	5,838	.....	4	74 62
Albertine	2·4	235	2,064	691	3,766	531	7,125	.....	4	76 66
Rossette	2·6	540	1,499	985	2,955	531	5,645	.....	4	77 46
Totals	10·6	1,393	7,676	4,234	14,017	2,038	26,281	.....	16	329 92
Averages	2·6	348·3	1,919·0	1,058·5	3,504·3	509·5	6,570·3	.....	4	82 48

Cost of Raising Heifers, 1927

Name of heifer	Age at calving	Feed consumed: Whole milk at $2.26 per 100 pounds	Skim-milk at $0.50 per 100 pounds	Meal at $38.80 per ton	Hay at $13 per ton	Green fodder at $5 per ton	Silage at $5 per ton	Roots at $2.50 per ton	Pasture at $1 per month	Total cost
	years	lb.	lb.	lb.	lb.	lb.	lb.	lb.	months	$
Albertine	3·9	137	2,064	2,914	5,622	916	14,376	150	6·5	151 41
Adele	2·5	109	2,249	1,198	3,976	495	12,515	150	10·0	105 51
Aurore	2·8	109	2,531	898	3,435	270	7,418	.....	8·0	82 08
Claire	2·6	189	2,548	1,544	2,958	50	5,625	.....	7·0	87 38
Chevrette	2·7	150	2,954	1,536	2,473	40	5,595	60	8·0	86 20
Totals	14·5	694	12,346	8,090	18,464	1·771	45,529	360	39·5	512 58
Averages	2·9	138·8	2,469·2	1,618	3,692·8	354·2	9,105·8	72·0	7·9	102 52

Cost of Raising Heifers from Birth to Calving, 1921–27

Year	Average age	Number	Average quantity of feed consumed by heifer: Whole milk	Meal	Hay	Green fodder	Silage	Roots	Skim-milk	Pasture	Total cost
			lb.	lb.	lb.	lb.	lb.	lb.	lb.	months	$ cts.
1920–21	.....	2	250·0	533·0	1,758·0	.....	3,028·0	.....	1,180·0	2·6	79·25
1921–22	.....	4	555·2	471·7	935·7	458·0	1,903·0	294·7	1,750·0	5·0	60·12
1923	.....	6	427·0	602·6	1,417·0	484·8	4,097·0	311·2	2,235·5	4·7	81 48
1924	2·1	8	461·5	855·4	2,794·4	2,241·9	8,235·4	479·0	1,782·5	5·0	111 72
1925	2·1	4	531·7	2,150·1	3,628·2	2,289·0	12,211·5	715·7	1,340·9	7·5	119 70
1926	2·6	4	348·2	1,058·5	3,504·2	509·5	6,570·2	.....	1,919·0	4·0	82 48
1927	2·9	5	138·8	1,618·0	3,692·8	354·2	9,105·8	72·0	2,469·2	7·9	102 52
Average for one heifer (7 year period)	2·6	.....	387·5	1,041·3	2,532·9	905·3	6,450·1	267·5	1,811·0	5·2	91 04

These tables show that the cost of raising a heifer until she is able to produce milk is generally so high that it is worth while to raise only good heifers. This may be done by raising heifers from breeding stock of good quality and by practising continuous selection.

SALE OF BREEDING ANIMALS

During the past two years, several young Ayrshire bulls were sold for breeding purposes to farmers of the district.

HEALTH

During 1926, a few head of cattle contracted lump jaw. Potassium iodide was very useful in the treatment of this disease, as well as for treating goitre among the young animals. This remedy cured practically all the diseased animals.

SWINE

The Yorkshire is the only breed of pigs kept at this station. The best animals are kept for breeding purposes or sold to the farmers of the district, which helps greatly in improving and standardizing swine breeding in the district, where the Yorkshire is the only breed kept.

On December 31, 1926, there were 30 Yorkshire hogs on the farm including 2 boars, 9 pure-bred sows over a year old, 14 pigs on a feeding experiment and 7 young pigs. In 1927, ten sows and one boar were kept. Eight sows farrowed 64 living pigs, 28 of which were sold for breeding purposes in the county of Abitibi, 2 young sows were kept for breeding and the remainder were used in the various feeding experiments.

COST OF PRODUCTION OF PORK

Records were taken of the feed consumed, in order to determine the cost of production at various stages, from birth until marketing. During 1926, a review of such experiments which have been conducted for some time past was made. The cost at various stages is given in the following table.

AVERAGE COST OF PRODUCTION AND MAINTENANCE OF PIGS AT DIFFERENT AGES

Duration of experiment	Particulars	Cost at different ages
years		$ cts.
5	Cost of raising young pigs until weaning (8 weeks)	5 53
3	Cost of raising young pigs up to age of 3 months	6 73
3	Cost of raising pigs up to age of 6 months	16 55
3	Cost of raising pigs up to breeding age (13 months)	33 52
4	Cost of production of pork (196 pounds live weight)	22 88
1	Cost of maintenance of an adult boar per year	36 49

As a rule, the cost at different stages may vary within rather wide limits, according to the variations in the prices of foods, and according to the number of pigs in each litter.

CORNMEAL VS. BARLEY MEAL AS A FINISHING RATION FOR THE PRODUCTION OF BACON

The pigs in this experiment were divided into two lots of even numbers and even weights. The first lot received a meal ration including 1 part of oat meal, 1 part of corn meal, 1 part of middlings and ½ part of linseed meal. The second lot received the same mixture, with the exception that the corn meal was replaced by the same proportion of barley meal. In 1926, each lot was made up of 7 pigs and the experiment lasted 40 days. The following table shows the results obtained since the beginning of the experiment and the average for a period of four years.

Items		1921		1924		1925		1926		1921-24-25-26 4-year average	
		Group 1 — Corn	Group 2 — Barley	Group 1 — Corn	Group 2 — Barley	Group 1 — Corn	Group 2 — Barley	Group 1 — Corn	Group 2 — Barley	Corn Group 1	Barley Group 2
Number of pigs per group		6	6	10	10	3	3	7	7	6·5	6·5
Duration of test		64	64	40	40	42	40	40	40	46·5	46·0
Total weight at beginning	lb.	770	764	1,221	1,176	441	441	1,114	1,114	886·5	873·8
Average weight at beginning	"	128·3	127·3	122	117·6	147	147	159·1	159·1	139·1	137·8
Total weight at end	"	1,150	1,107	1,696	1,705	631	569	1,599	1,597	1,269·0	1,244·5
Average weight at end	"	191·7	184·5	169·6	170·5	210·3	189·7	228·4	228·1	200	192·3
Total increase for period	"	380	343	475	529	190	128	485	483	382·5	370·8
Average gain per hog throughout period	"	63·3	57·2	47·5	52·9	63·3	42·7	69·3	69·0	60·9	55·4
Average daily gain per hog	"	0·99	0·89	1·19	1·32	1·51	1·07	1·73	1·73	1·36	1·25
Meal consumed per group	"	2,261	2,116	2,261	2,415	868	821	2,109	2,189	1,874·8	1,885·3
Average daily ration consumed per group	"	35·3	33·1	56·5	60·4	20·7	20·5	52·7	54·7	41·3	41·2
Average daily ration per hog	"	5·9	5·5	5·7	6·0	6·9	6·8	7·5	7·8	6·50	6·53
Quantity of meal necessary for 100 pounds gain	"	595	616·9	476·0	456·5	456·8	641·4	434·8	453·2	490·65	542·00
Feed required for 1 lb. gain	"	5·95	6·17	4·76	4·57	4·57	6·41	4·35	4·53	4·91	5·42
Cost of feed per group	$	45·52	42·32	57·88	57·23	20·74	19·05	45·76	45·31	42·48	40·98
Cost of feed per 100 pounds gain	$	11·98	12·34	12·19	10·82	10·92	14·88	9·44	9·38	11·13	11·86

DEDUCTIONS.—The average results obtained during the four years covered by this experiment show that cornmeal has produced slightly heavier gains than barley meal. The cost of 100 pounds gain was on the average lower with cornmeal. This factor, the cost of production, may vary with the cost of feeds. On account of the very high cost of imported cornmeal, it is possible that barley may be procured in this district at a lower cost per 100 pounds than corn. Barley also produces meat of better quality, especially when little skim-milk is available during this period. A detailed statement giving the items and the prices used in the computation for the year 1927 is contained in the following tables.

COST OF RAISING YOUNG PIGS UP TO WEANING AGE, 1927

Number of sows	5
Litters per sow	1
Young pigs alive from 5 sows	45
Average of young pigs alive from 5 sows	9
Feed for five sows and 45 pigs—	
11,387 pounds of mixed grain at $36.66 per ton	$208 72
2,221 pounds of skim-milk at $0.25 per 100 pounds	5 55
14 pounds bone, charcoal and salt at $20 per ton	0 14
	$214 41
Cost of service of sows at $2 per litter	10 00
Interest on cost of sows at $35 at 6%	10 50
Cost of 45 young pigs	234 91
Cost of a young pig at weaning (8 weeks)	5 22

The total cost of maintenance of five sows is charged to the young pigs, with the exception of labour, which is covered by the value of the manure.

COST OF RAISING A PIG UP TO THREE MONTHS OF AGE

25 young pigs costing $5.22 at the age of 2 months	$130 50
Feeding 25 young pigs from weaning up to the age of 3 months:—	
665 pounds grain mixture at $37.80 per ton	12 57
3,820 pounds of skim-milk at 25c. per 100 pounds	9 55
191 pounds oats at $38.80 per ton	3 70
1,366 pounds green clover hay at $2.50 per ton	1 71
Cost of 25 young pigs at the age of 3 months	$158 03
Cost of 1 young pig at the age of 3 months	6 32

COST OF PRODUCING YOUNG PIGS UP TO THE AGE OF SIX MONTHS

15 young pigs at $6.32 (three months old)	$94 80
Cost of feeding 15 young pigs from the age of three months to that of 6 months:—	
3,266 pounds of grain mixture at $41.92 per ton	68 46
6,155 pounds skim-milk at 25c. per 100 pounds	15 39
475 pounds oats at $38.80 per ton	9 22
8,493 pounds green fodder at $2.50 per ton	10 62
Cost of 15 young pigs at the age of 6 months	198 49
Cost of 1 young pig at the age of 6 months	13 23

COST OF PRODUCTION OF A PIG

25 young pigs at weaning time	$130 50
Feeding from weaning until ready for slaughtering:—	
10,818 pounds of grain mixture at $42.34 per ton	229 02
12,168 pounds of skim-milk at 25c. per 100 pounds	30 42
1,096 pounds of oats at $38.80 per ton	21 26
17,857 pounds green fodder at $2.50 per ton	22 32
350 pounds bone, charcoal and salt at $20 per ton	3 50
Cost for 25 young pigs	$437 02
Cost for 1 young pig	17 48

This experiment shows that reared under these conditions, the cost of production of a pig weighing 176 pounds amounted to $17.48. The cost of production per 100 pounds gain, live weight, was $9.93. These figures represent a five-year average.

SHEEP

Only the Cheviot breed of sheep is kept at this station. On December 31, 1926, the flock included one adult ram, 8 ewe-lambs and 28 ewes. On the same date in 1927, there were 47 sheep in the herd, as follows: one ram, 16 ewe-lambs, 1 ram-lamb and 30 ewes.

BREEDING OF CHEVIOT SHEEP

The flock is carefully culled every year. All inferior animals, lacking the distinctive qualities of the breed, are eliminated, a great deal of importance being attached to the quality of the wool. During the past two years, several rams were sold for breeding purposes to farmers of the district. Twenty-eight ewes lambed in 1927, the same number as in 1926. The percentage of lambs per ewe was very low, only two producing twins.

YIELD OF WOOL

The average weight of the fleeces was only 5·75 pounds. Several fleeces were sold in the district. Samples taken from each fleece were forwarded to the Wool Growers' Co-operative Association to be graded. This should enable us to perform our selection work in a better manner and thus eliminate all those sheep producing wool of an inferior grade.

HEALTH

The potassium iodide treatment for goitre, started in 1924 when 30 per cent of the lambs were suffering from this disease, was continued this year. In this treatment, iodized common salt is left at all times within easy reach of the ewes in order that they may eat it when they feel the need of it. It is very satisfactory to note that not one member of the flock has suffered from goitre since this treatment was introduced.

FIELD HUSBANDRY, 1926

On account of unfavourable weather, the sowing of cereals was not started until mid-June, and as conditions were not very favourable to growth, the crop had to be used as green fodder or silage.

COST OF PRODUCTION OF PRINCIPAL FIELD CROPS IN 1926

In order to determine the cost of production of the principal field crops, an exact record is kept of the cost of all the operations necessary for the production of same. A summary of the observations made in 1926 is given here, and a more detailed statement is given for 1927.

COST OF PRODUCTION OF PEAS, OATS AND VETCHES, 1926

Total cost per acre	$30 26
Yield per acre (tons)	3 30
Value of crop	19 80
Loss per acre	10 46
Cost per ton	9 17

The silage produced was of excellent quality. O.P.V. may be considered as one of the main silage crops in the northern districts.

COST OF PRODUCTION OF HAY PER ACRE, 1926

Total cost per acre	$16 92
Yield per acre (tons)	1 33
Value of crop	23 94
Profit per acre	7 02
Cost per ton of hay	12 72

The yield of hay was not as high as in 1925, but, on the other hand, there was an increase in the market value of this crop.

COST OF SUNFLOWERS PER ACRE IN 1926

Cost per acre	$34 85
Yield per acre (tons)	0 78
Value of crop	4 68
Loss per acre	30 17
Cost per ton	44 68

In 1926, the sunflower crop resulted in a heavy loss on account of the low yield obtained. Seeding was later than usual, about the middle of June. An excess of moisture checked the growth of the crop during the whole season and none of the plants had reached the flowering stage when they had to be harvested, on account of threatening frosts.

FIELD HUSBANDRY, 1927

SEEDING

Work was started as soon as the land was able to bear the weight of the horses. The first seeding of cereals was started on May 9 and completed towards the end of the month. In June, a mixture of peas, oats and vetches was sown for the production of fodder and silage.

GROWTH

The crops came up early but the growth was slow on account of the cold, wet weather. Hay and hoed crops were also affected by the temperature.

HARVEST

Haying was slow and difficult; however, the crop was average in quality and quantity. Early-sown cereals ripened perfectly but harvesting was extremely difficult on account of the rain-soaked fields. Threshing was also done under difficulty on account of the continued rains and because this work had to be done in the open. Cereals gave an average yield of fair quality.

COST OF PRODUCTION OF PRINCIPAL FIELD CROPS

An exact record is kept of the cost of each of the operations involved in the production of field crops. The items upon which this valuation is based are given in the following table:—

COST VALUES

Rent, per acre	$4 50
Use of machinery, per acre	2 85
Manure, per ton	3 00
Threshing oats and barley, per bushel	0 08
Wheat and rye, per bushel	0 12
Silage, per ton	0 70
Manual labour	0 30
Horse labour	0 10
Seed:—	
Potatoes, per bushel	2 00
Wheat, per bushel	2 00
Barley, per bushel	2 00
Oats, per bushel	1 60
Peas, per bushel	3 00
Vetches, per bushel	3 25
Rye, per bushel	2 35
Sunflowers, per pound	0 12
Corn, per pound	0 55
Swedes, per pound	0 45
Beets, per pound	0 35
Timothy, per pound	0 14
Red clover, per pound	0 38
Alsike clover, per pound	0 35
Alfalfa, per pound	0 23
Twine, per pound	0 16

Market Value of Crops

In this valuation, cereals, hay and potatoes are valued at the current prices paid in the district. The price of straw, of silage crops and roots, is based upon their content of digestible dry matter, in comparison with hay of good quality.

Return Values

Rye, per bushel	$1 40
Potatoes, per bushel	1 25
Wheat, per bushel	1 50
Barley, per bushel	0 90
Oats, per bushel	0 80
Hay, per ton	15 00
Straw, oats and barley, per ton	6 00
Straw, wheat and rye, per ton	3 00
Sunflowers, per ton	4 00
Clover (silage), per ton	5 00
O.P.V. (silage), per ton	3 50
Corn, per ton	2 47
Swedes, per ton	2 47
Beets, per ton	2 47

Since in the following table, the cost of production of hay and of mixtures of peas, oats and vetches, has been recorded under two different headings, "Improved land" and "Unimproved land," an explanation should be given. In a district just being colonized, such as the one surrounding this station, a large proportion of the crops are grown on recently cleared land, which is not under regular rotation and has never received any manure. By improved land, is meant land under rotation and which has been manured. It is interesting to note the results obtained in the first system, which enables the settler to proceed with the second system, by means of which the soil fertility may be maintained and even increased.

Cost of Production of Hay

The cost of production of hay per acre under average conditions at this station in 1927 is given in the following table:—

Cost of Production of Hay per Acre at La Feeme

Items		Improved lands		Unimproved lands	
		1927	Two-year average	1927	Two-year average
Rent	$	4 50	4 50	4 50	4 50
Manure	$	6 05	6 05	.....	.....
Seed	$	2 29	2 29	2 29	1 91
Use of machinery	$	2 85	2 85	2 85	2 85
Labour	$	4 20	4 34	3 10	4 82
Horse labour	$	1 50	1 47	1 20	1 35
Total cost per acre	$	21 39	21 50	13 94	15 43
Yield	tons	1·79	1·82	1·05	1·19
Total value of crop	$	26 85	30 03	15 75	19 63
Profit or loss	$	5 46	8 53	1 81	4 20
Cost of production per ton	$	11 95	11 81	13 22	12 96

The hay crop is generally the one which is produced at the lowest cost. As a rule, it yields a profit and for this reason it is grown more than any other in the district. An effort should be made to increase the yield per acre, as this would mean an increase in profit. The cost of harvesting an additional ton of hay is not more than a couple of dollars per ton, for labour only.

COST OF PRODUCTION OF OATS, PEAS AND VETCH MIXTRE AT LA FERME

The cost of production per acre of the O.P.V. mixture grown under average field conditions at La Ferme is given in the following table:—

Items		Manured plots		Unmanured plots	
		1927	Two-year average	1927	Two-year average
Rent	$	4 50	4 50	4 50	4 50
Manure	$	12 80	12 80	.....	.....
Seed	$	7 01	5 75	7 01	5 75
Use of machinery	$	2 85	2 85	2 85	2 85
Twine	$	0 54	0 44	0 46	0 44
Manual labour	$	5 60	5 04	5 32	5 45
Horse labour	$	3 40	2 10	3 20	3 67
Total cost per acre	$	36 70	33 48	23 24	22 66
Yield per acre	tons	5·70	4·50	3·25	2·90
Total value of crop	$	28 50	27 75	16 25	14 96
Profit or loss	$	−8 20	−5 73	−6 99	−7 70
Cost of production per ton	$	6 43	7 44	7 15	7 91

This mixture is the best crop that can be grown as an early fodder crop on newly-cleared land.

COST OF PRODUCTION OF SUNFLOWERS PER ACRE AT LA FERME

The cost of production per acre of sunflowers, grown under average field conditions at La Ferme in 1927, is given in the following table:—

Items		1927	Two-year average
Rent	$	4 50	4 50
Manure	$	13 90	13 90
Seed	$	1 20	1 10
Use of machinery	$	2 85	2 85
Manual labour	$	11 81	10 84
Horse labour	$	2 97	2 85
Total cost per acre	$	37 23	36 04
Yield per acre	tons	3·25	2·01
Total value of crop	$	13 00	8 84
Profit or loss	$	−24 23	−27 20
Cost of production per ton	$	11 45	17 93

The yields obtained are very low, the apparent reason being that sunflowers are heavy feeders and the land on which they are grown is not very fertile. Nitrification does not take place rapidly because the subsoil is of a very hard nature and contains an excess of moisture in wet years. To make matters worse, cultivation opens the soil and enables it to store up more water. These defects will disappear gradually as the stock of humus in the soil is increased. The growing of leguminous plants, the roots of which penetrate to a great depth will render the soil a little more porous, richer and more productive.

COST OF PRODUCTION OF OATS PER ACRE AT LA FERME

The cost of production per acre of oats grown under average field conditions at La Ferme is given in the following table:—

Items		Improved land		Unimproved land	
		1927	Two-year average	1927	Two-year average
Rent	$	4 50	4 50	4 50	4 50
Manure	$	9 60	9 60	.....	.....
Seed	$	4 80	3 77	4 80	3 77
Use of machinery	$	2 85	2 85	2 85	2 85
Twine	$	0 48	0 39	0 32	0 37
Manual labour	$	4 28	3 36	5 13	3 79
Horse labour	$	3 10	2 77	3 70	2 77
Threshing	$	2 66	2 15	1 38	1 44
Total cost per acre	$	27 47	29 39	22 68	19 49
Yield per acre (grain)	bush.	33·3	30·3	17·3	21·7
Yield per acre (straw)	tons	1·08	1·06	0·97	1·01
Total value of the crop	$	33 12	26 88	19 66	20 24
Profit or loss	$	5 65	−2 51	−3 02	0 75
Cost of production per bushel, when the value of the straw is deducted from the cost of production	cents	0·633	0·72	0·974	0·66

Oats do not give as much profit as they should. However, there is a profit when the yield is high. There is no doubt that the above yields could be doubled under proper cultivation and with the application of a fairly large quantity of fertilizer.

COST OF PRODUCTION OF BARLEY PER ACRE AT LA FERME

The cost of production per acre of barley, grown under average field conditions at La Ferme, is given in the following table:—

Items		Improved lands		Unimproved lands	
		1927	Two year average	1927	Two year average
Rent	$	4 50	7 50	4 50	4 50
Manure	$	9 60	9 60	.....	.....
Seed	$	5 00	4 75	5 00	4 75
Use of machinery	$	2 85	2 85	2 85	2 85
Twine	$	0 32	0 30	0 32	0 34
Manual labour	$	5 55	5 22	4 86	4 98
Horse labour	$	3 20	3 37	3 06	3 67
Threshing	$	1 50	1 45	0 96	1 04
Total cost per acre	$	32 52	32 27	21 55	22 13
Yield per acre (grain)	bush.	18·8	17·5	12	9·7
Yield per acre (straw)	tons	0·83	0·79	0·72	0·59
Total value of the crop	$	21 90	20 49	15 12	9 10
Profit or loss	$	10 62	11 78	−6 43	−13 03
Cost of production per bushel when the value of the straw is deducted from the cost of production	$	1 47	1 52	1 49	1 86

Barley is more exacting than oats as regards fertility and it has not produced as much as the latter. It may be stated, however, that it ripens early and its kernel has a high nutritive value and may be used for balancing the rations composed of other grains produced in the district.

COST OF PRODUCTION OF POTATOES

The cost of production per acre of potatoes grown under average field conditions at La Ferme is given in the following table:—

Items		1927	Two year average
Rent	$	4 50	4 50
Manure	$	19 20	19 20
Seed	$	35 00	31 50
Use of machinery	$	2 85	2 85
Manual labour	$	45 30	27 26
Horse labour	$	5 65	4 82
Total cost per acre	$	112 50	90 13
Yield per acre	bush.	193·5	114·2
Total value of crop	$	241 87	147 56
Profit or loss	$	144 50	57 43
Cost of production per bushel	$	0 58	0 79

Potatoes showed the highest profit of any crop in 1927. It is the most profitable of our crops and may be grown on all the farms, even those making a specialty of dairying. The farmers of this district should give more attention to potato growing, and should at least grow a quantity sufficient for the needs of the district.

ROTATIONS

The rotations started in 1923 have already been described several times in previous reports. A few of the results obtained may now be given, although this experiment is still in its early stages, as our rotations have not yet covered a complete cycle.

Twenty-two acres are used in this experiment. The following rotations are included in the test: three-year, four-year, five-year, six-year and five-year with fall grain. Each rotation covers as many acres as the number of years comprising the rotation. These small fields of one acre are longer than they are broad, in order to reproduce as exactly as possible the proportions that a field should have to be cultivated in as economical a manner as possible.

A complete record is kept of the rent of the land, the cost of fertilizer, seed, etc., and of all other operations, including the harvesting of the crops.

ROTATION A—THREE YEARS

This is a short rotation, including sunflowers, oats, and clover. Manure at the rate of 12 tons per acre is applied following the clover crop. The ground is ploughed, disk-harrowed and sown with sunflowers the following spring.

RESULTS WITH ROTATION A

Rotation year	Crop	Yield per acre		Profit or loss per acre	
		1927	Three year average	1927	Three year average
				$ cts.	$ cts.
1	Sunflowers, tons	3·10	1·92	−27 77	−30 26
2	Oats, bush.	27·9	26·7	− 2 10	− 2 12
3	Clover hay, tons	0·35	0·73	−13 59	− 8 69
	Average per acre			−14 49	−13 69

ROTATION B—FOUR YEARS

This rotation includes the following crops in the order given: Sunflowers, oats, clover hay, and timothy hay. Manure is applied to the timothy sod at the rate of 16 tons per acre. The land is then ploughed immediately and disk-harrowed in preparation for the sunflowers.

RESULTS WITH ROTATION B

Rotation year	Crop	Yield per acre		Profit or loss per acre	
		1927	3-year average	1927	3-year average
				$ cts.	$ cts.
1	Sunflowers.....tons	3·32	2·22	−28·14	−25·52
2	Oats.....bush	20·8	22·9	−13·07	−9·86
3	Clover hay.....tons	1·68	1·43	5 76	0 69
4	Timothy hay.....tons	1·05	1·09	− 0·19	0 32
	Average per acre.....	.....	.....	− 8·91	−8 45

ROTATION C—FIVE YEARS

This rotation includes the following crops: oats, sunflowers, barley, clover hay, and timothy hay. Manure is applied at the rate of 20 tons per acre; 12 tons to the oats stubble and 8 tons following the clover crop.

RESULTS WITH ROTATION C

Rotation year	Crop	Yield per acre		Profit or loss per acre	
		1927	3-year average	1927	3-year average
				$ cts.	$ cts.
1	Oats.....bush.	28·0	33·6	− 3 37	3 30
2	Sunflowers.....tons	3·32	2·13	−21 04	−26 82
3	Barley.....bush.	12·3	15·4	−16 86	−11 68
4	Clover hay.....tons	0·25	0·86	−11 80	− 4 83
5	Timothy hay.....tons	1·25	1·32	2 26	− 0 48
	Average per acre.....	.....	.....	−10 16	− 8 10

ROTATION D—SIX YEARS

This rotation includes the following crops: potatoes, wheat, barley, hay, hay, hay. Manure is applied at the rate of 24 tons per acre, 16 tons after the last timothy crop which precedes the potatoes, and 8 tons on the barley stubble.

RESULTS WITH ROTATIONS

Rotation year	Crop	Yield per acre		Profit or loss per acre	
		1927	3-year average	1927	3-year average
				$ cts.	$ cts.
1	Potatoes.....bush.	193·5	100·8	127 55	50 72
2	Wheat.....bush.	19·1	15·9	− 2 13	− 4 71
3	Barley.....bush.	12·3	11·0	−14 97	−13 67
4	Clover.....tons	0·74	1·21	− 5 78	− 2 43
5	Timothy.....tons	1·00	1·11	0 65	0 11
6	Timothy.....tons	0·80	1·14	0 67	1 59
	Average per acre.....	.....	.....	18 01	5 26

ROTATION E—FIVE YEARS

This rotation includes the following crops: oats seeded down with clover, summer fallow, barley and fall wheat, clover hay, timothy hay. Manure is applied at the rate of 16 tons per acre, 8 tons to the summer-fallow, and 8 tons following the timothy crop.

RESULTS WITH ROTATION E—FALL WHEAT

Rotation year	Crop	Yield per acre		Profit or loss per acre	
		1927	3-year average	1927	3-year average
				$	$
1	Oats.....bush.	16·6	22·2	− 9 17	−12 15
2	Summer fallow.....	.....	.....	−11 94	−17 94
3	Fall wheat.....bush.	12·3	5·6	−17 39	−24 49
4	Clover hay.....tons	1·32	1·50	− 2 70	− 3 81
5	Timothy hay.....tons	1·25	1·62	− 1 85	− 1 21
	Average per acre.....	.....	.....	− 8 63	−11 92

RESULTS WITH ROTATION E—FALL RYE

Rotation year	Crop	Yield per acre		Profit or loss per acre	
		1927	3-year average	1927	3-year average
				$	$
1	Oats.....bush.	16·6	22·2	− 9 17	−12 15
2	Summer fallow.....	.....	.....	−11 94	−17 94
3	Fall rye.....bush.	14·2	5·77	−17 14	−22 39
4	Clover hay.....tons	1·32	1·50	− 2 70	− 3 81
5	Timothy hay.....tons	1·25	1·62	− 1 85	− 1 21
	Average per acre.....	.....	.....	− 8 56	−11 50

These rotation experiments which have just been started will doubtless prove once more the value of rotations and they will also help us to ascertain which ones are the best for this district. We are convinced that lands actually showing a net loss each year can be made to return a profit by the judicious management and the use of proper rotations.

EXPERIMENTS WITH GREEN MANURE

CLOVER PLOUGHED UNDER, FOLLOWED BY CULTIVATION

A five-year rotation is followed in this experiment. The object of the experiment is to determine the value of clover as green manure. The clover is ploughed under when it has reached sufficient height and the field is kept cultivated until the fall. The results are as follows:—

CLOVER PLOUGHED UNDER, FOLLOWED BY CULTIVATION

Rotation year	Crop	Yield per acre		Cost of summer-fallow	Value of crop less cost of summer-fallow
		Hay and straw	Grain		
		tons	bush.	$	$
1	Oats	0·65	29·1	4 05	23 05
2	Clover turned under followed by summer-fallow	.....	.....	.....	.....
3	Barley	0·44	12·6	4 05	9 93
4	Clover hay	0·51	.....	4 05	3 60
5	Timothy hay	1·15	.....	4 05	13 20
	Average per acre	.....	.....	3 24	9 95

CLOVER PLOUGHED UNDER FOLLOWED BY O.P.V. ALSO PLOUGHED UNDER IN THE FALL

A five-year rotation is also followed in this experiment but without summer-fallow. After the clover has been ploughed under, the land is prepared at once for seeding a mixture of oats, peas and vetches, which is also ploughed under in the fall. The results are given in the following table:—

CLOVER PLOUGHED UNDER, FOLLOWED BY MIXED GRAINS ALSO PLOUGHED UNDER IN THE FALL

Rotation year	Crop	Yield per acre		Cost of summer-fallow	Value of crop less cost of fallow
		Hay or straw	Grain		
		tons	bush.	$	$
1	Oats	1·70	29·7	5 80	28 16
2	Clover turned over followed by a mixture of oats, peas and vetches	.....	.....	.....	.....
3	Barley	0·31	9·7	5 80	4 79
4	Clover hay	0·52	.....	5 80	2 00
5	Timothy hay	1·12	.....	5 80	11 00
	Average per acre	.....	.....	4·64	9 19

EXPERIMENT WITH BARNYARD MANURE

A four-year rotation is followed here, and sixteen tons of barnyard manure are applied per acre. The results are given in the following table:—

RESULTS WITH BARNYARD MANURE

Rotation year	Crop	Yield per acre		Cost of manure	Value of crop less cost of manure
		Hay or straw	Grain		
		tons	bush.	$	$
1	Oats, manure, 16 tons per acre	0·85	35·3	12 80	20 54
2	Barley	0·83	18·8	9 60	22 30
3	Clover hay	1·54	.....	6 40	17 15
4	Timothy hay	0·80	.....	3 20	9 80
	Average per acre	.....	.....	8·00	17 45

BARNYARD MANURE APPLIED IN CONJUNCTION WITH CRUSHED LIMESTONE

Rotation year	Crop	Yield per acre		Cost of manure and of limestone	Value of crop less cost of manure and limestone
		Hay or straw	Grain		
		tons	bush.	$	$
1	Oats, manure, 16 tons per acre	0·74	35·4	16 62	16 14
2	Barley, limestone, 2 tons per acre	0·94	21·4	13 43	11 47
3	Clover hay	2·76	2·76	10 22	31 18
4	Timothy hay	2·00	2·00	7 03	22 97
	Average per acre	.....	.....	11 82	20 44

FERTILIZER EXPERIMENT

A four-year rotation is followed in this experiment. One hundred pounds nitrate of soda are applied to the rye crop, and an additional 100 pounds nitrate of soda and 300 pounds of superphosphate are applied to the clover at the beginning of the growth of the crop. The results obtained are as follows:—

RESULTS OF FERTILIZER EXPERIMENT

Rotation year	Crop	Yield per acre		Cost of fertilizer	Value of crop less cost of fertilizers
		Hay or straw	Grain		
		tons	bush.	$	$
1	Oats	0·75	29·7	2 64	25 62
2	Barley with 100 lbs. nitrate of soda	1·00	22·9	4 72	21 89
3	Clover hay, nitrate of soda, 100 pounds acid phosphate 300 pounds per acre	2·31	.....	1 39	33 26
4	Timothy hay	1·35	.....	4 84	15 41
	Average per acre	.....	.....	3 40	24 06

EXPERIMENT WITHOUT FERTILIZER

The same rotation as in the three above-mentioned experiments is followed here, but without any applications of manure or fertilizer of any kind. The results are given in the following table:—

RESULTS OF EXPERIMENT WITHOUT FERTILIZER

Rotation year	Crop	Yield per acre		Value of crop
		Hay or straw	Grain	
		tons	bush.	$
1	Oats	0·71	29·4	27 78
2	Barley	0·47	11·4	12 08
3	Clover hay	1·95	.....	29 25
4	Timothy hay	1·05	.....	15 75
	Average per acre	.....	.....	21 21

SURFACE DRAINAGE EXPERIMENT

The object of this experiment is to compare the value of two systems of surface drainage: (1) by dead furrows placed at intervals of 18 feet and (2) furrows at intervals of 30 feet. A four-year rotation is followed. Manure is applied at the rate of 16 tons per acre. This year's results are given in the following table:—

SURFACE DRAINAGE EXPERIMENT, 1927

Rotation year	Crop	Yield per acre			
		Intervals of 18 feet		Intervals of 30 feet	
		Hay or straw	Grain	Hay or straw	Grain
		tons	bush.	tons	bush.
1	Oats	0·80	38·2	1·08	42·3
2	Barley	0·62	16·6	0·83	18·5
3	Clover hay	1·40	.....	1·07	.....
4	Timothy hay	0·76	.....	1·00	.....

REMARKS.—The results show that where the dead furrows are well made and when the lands are well-levelled and slightly rounded in the centre, very good results may be obtained in the district with the dead furrows 30 feet apart. Cultivation is easier than when the lands are narrower and there is a great saving of ground.

HORTICULTURE, 1926 AND 1927

FRUIT TREES

Little damage was done to the apple trees in the winters of 1925-26 and 1926-27. Several varieties produced flowers but the fruit either dropped after setting or did not ripen.

VEGETABLES

The season of 1926 was not favourable to horticultural work on account of heavy precipitation, and in 1927 growth was again checked by excessive rains.

BROAD BEANS—VARIETY TEST.—In this test the varieties used were sown in 30-foot rows and thinned to 30 inches in the row. In 1926 they were sown on June 14, and were ready for use on October 6. In the following table the yield per acre is given for 1926 and the yield per 30-foot row for 1927.

RESULTS OF VARIETY TEST OF BROAD BEANS IN 1926 AND 1927

Variety	Source	1926—Yield per acre			1927—Yield per 30-foot row		
		Seed	Pods	Fodder	Seed	Pods	Fodder
		lb.	lb.	lb.	lb.	lb.	lb.
Early Mazagan	Sharpe 1926... Sutton 1927...	942	1,740	19,720	6·0	16·0	89
Long Pod Hangdown	Sharpe	1,025	2,320	19,140	12·0	24·5	66
Long Pod Green	Sharpe	1,521	2,900	12,760	7·5	13·0	60
Long Pod Aquadulce	Sharpe	2,465	4,930	20,300	8·0	12·2	35
Long Pod Seville	Sharpe	1,015	2,755	8,120	7·0	11·0	33
Broad Windsor	Sharpe	1,377	3,045	20,880	16·0	30·0	90
Early Long Pod	Sharpe	543	1,305	13,340	11·0	21·0	74
Giant Seeded	Sharpe	290	1,015	10,440	12·0	24·0	82
Windsor Green	Sharpe	870	1,885	15,660	7·5	12·5	74
Bunyard	Sharpe	435	1,450	11,600	8·2	21·5	82
Beck Green Gem	Sutton	.....	.....	.....	8·0	14·0	48
Long Pod Johnson	Sharpe	1,305	2,900	24,360	6·8	15·5	73
Long Pod Masterpiece	Sharpe	811	2,030	13,340	8·0	16·5	79
Windsor Taylor	Sharpe	786	1,740	12,180	16·0	30·0	92
Monarch	Sharpe	580	1,232	22,620	9·0	21·5	84
Harlington	Sharpe	1,160	2,900	11,020	.....	.....	.....
Common Windsor	Sharpe	1,377	2,465	13,920	11·5	21·0	82
Conqueror	Sharpe	1,305	2,175	17,980	10·0	23·5	100

BEETS—THINNING EXPERIMENT.—In 1926 a 100-foot row of the Detroit Dark Red variety was sown on June 12. One-third of the row was thinned to 2 inches, another third to 3 inches, and the remainder to 4 inches. The five-year average yield per acre was 10,827 pounds for the beets thinned to 2 inches, 8,417 pounds for those thinned to 3 inches, and 7,991 pounds for those thinned to 4 inches. On the other hand the highest yield for the season of 1926 was from the beets thinned to 4 inches.

BEETS—DIFFERENT DATES OF SOWING.—In 1926, a 30-foot row of Detroit Dark Red was sown on each of the following dates: June 12, 18, and 26, and July 3, and 14. The last two sowings gave practically no crop. The results from the earlier sowings were by far the best.

In 1927 with the same variety, the dates of sowing were May 23 and 30, June 6, 14, 21 and 28. The earlier sowings gave much the best results. The highest yield was from the sowing of May 23.

BEETS—FALL *vs.* SPRING SOWING.—The object of this experiment is to determine whether it is more profitable to sow beet seed in the fall, just before freezing up, or in the spring as early as possible. In 1926, the best results were obtained from the fall seeding. In 1927, however, the spring seeded beets gave the higher yields.

BRUSSELS SPROUTS.—Four varieties, Amagar Market, Dalkeith, Paris Market and Improved Dwarf, were sown in hotbeds on April 21, 1926, and set out in the open on June 19. None of these varieties produced any heads.

CABBAGE—VARIETY TEST.—Eighteen varieties were sown in hotbeds on April 21, 1926, and set out in the open on June 25. In 1927, eleven varieties were sown in hotbeds on April 5, and set out on May 13. The yields per acre for 1926, and per 30-foot row for 1927, are given in the following table:—

RESULTS WITH VARIETIES OF CABBAGE IN 1926 AND 1927

Variety	Source	1926		1927	
		Number of days from seeding until ready for use	Yield per acre	Number of days from seeding until ready for use	Yield per 30-foot row
			lb.		lb.
Golden Acre	Harris	119	13,630	97	27·0
Enkhuisen	Rennie	133	11,382	124	59·5
Danish Ballhead	Harris	175	5,945	124	19·2
Danish Ballhead	S.B.	175	2,682	158	9·0
All Head Early	S.B.	175	10,440	138	33·0
Baby Head	D. & F.	139	12,397	107	23·2
Kildonan	S.B.	175	12,760	107	23·0
Fottler Improved	S.B.	152	2,610	138	6·8
Kniver Savoy	Wills	.....	.....	102	40·0
American Savoy	Ferry	.....	.....	107	17·0
Red Stonehead	Graham	175	1,305	.....	.....
Haco Red Round	D. & F.	142	3,335	.....	.....
Copenhagen Market	Graham	135	13,992	.....	.....
Marblehead Mammoth	Ewing	175	2,610	.....	.....
Ex. Am. Danish B.H.	O-8619	174	2,610	.....	.....
Perfection Drumhead	Ewing	175	3,045	.....	.....
Dala	McD.	142	12,036	.....	.....

CABBAGE—SOWING IN THE OPEN VS. IN HOTBEDS.—In 1926, the plants were started in hotbeds on April 21, and set out in the open on June 16. Sowing in the open was done on May 21. The plants started in hotbeds gave a yield of 7,392 pounds per acre, while those sown in the open were a complete failure.

In 1927, two 30-foot rows of the Copenhagen Market variety, started in the hotbed, yielded 51·2 pounds, while two rows sown in the open yielded 38·5 pounds. Ex. Am. Danish Ballhead yielded 26·5 pounds from two 30-foot rows when sown in the hotbeds but where sown in the open resulted in a failure. Sowing of late varieties in the open is not advisable.

CABBAGE—PROTECTION AGAINST ROOT MAGGOTS.—The Early Jersey Wakefield and Copenhagen Market varieties were used in this experiment. The results were as follows:—

PROTECTION OF CABBAGE AGAINST ROOT MAGGOTS

Variety	1/1500 solution of bichloride of mercury		Tar-paper disks		Check unprotected	
	Per cent destroyed	Yield per 30-foot row	Per cent destroyed	Yield per 30-foot row	Per cent destroyed	Yield per 30-foot row
		lb.		lb.		lb.
Early Jersey Wakefield	1	26·5	3	29·5	6	30·2
Copenhagen Market	0	21·0	5	32·5	7	23·0
Six-year average	2·5	14·2	20	17·8	32·5	

Although very little harm was done by the root worms, it is always better to use some method of protection.

CAULIFLOWER—VARIETY TEST.—In 1926 the yields from this test were so poor that they were not recorded. The failure is attributed to excessive moisture and lack of nitrification. In 1927, three varieties of cauliflowers were sown in hotbeds on April 19, and set out in the open on June 2. They were all ready for use in 87 days. Early Dwarf Erfurt yielded 9·5 pounds per 60-foot row, Early Snowball 10·8 pounds, and Six Weeks 10·5 pounds.

CAULIFLOWER—PROTECTION AGAINST ROOT MAGGOTS.—As in the case of cabbage, tar-paper disks and a 1/1500 solution of bichloride of mercury were the methods of protection used. Although the worms caused very little damage, it is advisable to use some method of protection. The six-year average yield of protected plants in the test was 17,109 pounds per acre, while that of the unprotected plants was 17,159 pounds.

CARROTS—DIFFERENT DATES OF PLANTING.—The Chantenay variety was used in this experiment. In 1926, the seed was sown on June 12, 19, and 26, and July 3 and 14. In 1927, the dates of sowing were May 23 and 30, June 6, 14, 21 and 26. In both years the early sowings gave the best results.

CARROTS—THINNING EXPERIMENT.—The Chantenay variety was used. Owing to the low yield on account of excessive moisture in 1926 no notes were taken in that year. Results obtained in the four previous years indicated that thinning out to 2 inches is the best method. In 1927, however, plants thinned to 1½ inches gave a yield of 31 pounds of marketable carrots for a 33½-foot row, against 21 pounds by the plants thinned to 2 inches, and 23 pounds by those thinned to 3 inches.

CARROTS—FALL VS. SPRING SOWING.—For the 1926 test the Chantenay variety was sown on October 10, 1925, and on June 12, 1926. The fall-sown carrots were ready for use on August 5, and yielded at the rate of 22,040 pounds per acre, while the spring-sown carrots were not ready for use until August 27, and yielded 10,449 pounds per acre.

In 1927, the carrots sown on October 15, 1926, yielded 30 pounds per 30-foot row, while those sown on May 31, 1926, yielded 26 pounds.

CELERY—VARIETY TEST.—Seventeen varieties were sown in the hotbed on May 2, 1927, and set out in the open on June 23, in rows 48 inches apart. The plants were thinned to 6 inches in the rows. The results are given in the following table:—

RESULTS OF VARIETY TEST WITH CELERY

Varieties	Source	Ready for use	Yield per 15-foot row
			lb.
Golden Plume (Nov.)	Garraham	Aug. 30	37·5
Paris Golden Yellow	D. & F.	" 30	37·5
Evans Triumph	D. & F.	Sept. 15	37·5
Giant Pascal	Graham	Aug. 22	30·0
Rose Ribbed	Vaughan	Sept. 1	30·0
Winter Queen	Graham	" 1	30·0
Empereur	Schill	Aug. 30	22·5
London Prize Red	S.B.	" 30	22·5
Paris Golden Ribbed	D. & F.	" 30	22·5
Wonderful	Ferry	" 10	22·5
Easy Blanching	Graham	Oct. 1	22·5
Fordhook	Burpee	" 1	22·5
Golden Self Blanching	Stokes	" 1	15·0
Paris Golden Yellow	S.B.	" 1	15·0
Golden Plume	Vaughan	" 1	15·0
Winter Queen	Garraham	" 1	15·0
Golden Plume	Moore	.....	.....

CELERY—BLANCHING EXPERIMENT.—Five different methods of blanching were compared in this experiment in 1927. The variety used was Golden Self Blanching.

CELERY—BLANCHING EXPERIMENT RESULTS

Method	Date of sowing	Ready for use	Remarks
Planted in rows, unprotected	April 2	Sept. 1	Fibrous and hard.
With tar paper	" 2	" 10	Good.
In trench, 6 feet deep, plants hilled with earth	" 2	" 10	Extra good.
Double rows, with boards on each side	" 2	" 10	Excellent, fine, delicate.
Plants set 6 x 6 inches apart	" 2	" 17	Very small.

The first four methods are recommended. Planting 6 inches apart every way gave very small plants but of excellent quality. We believe that larger plants would be obtained if more manure was applied. Furthermore, when the plants are sown closely, they are better protected against the early frosts. This experiment has not been carried on long enough to justify any recommendation in favour of any of the above methods.

CELERIAC.—The only variety sown was the Large Smooth Prague. The seed used came from two different sources: Steele-Briggs and Harris. The first gave a yield of 37·5 pounds per 30-foot row and the second 22·5 pounds.

LETTUCE—VARIETY TEST.—Seventeen varieties were sown on May 23, 1927, in rows 15 inches apart and the plants were thinned out to 6 inches in the rows. The results are given in the following table:—

LETTUCE—RESULTS OF VARIETY TEST

Variety	Source	Days from sowing until ready for use	Yield per 15-foot row
			lb.
Trianon Cos	Vaughan	44	36·25
Black Seeded Simpson	Ewing	44	26·25
Grand Rapids	McK	44	25·75
Black Seeded Simpson	Dreer	44	25·50
Paris White (Cos)	Graham	44	24·75
Imp Hansom	D. & F	44	27·25
Big Boston	McK	44	20·50
Iceberg	Ewing	44	18 75
Salamandre	Graham	44	17·00
Wonderful	Webb	44	17·00
Grand Rapids	Burpee	44	12·75
Big Boston	Graham	44	13·25
All Heart	Dreer	44	11·50
Crisp as Ice	Will	44	10·50
Tom Thum	Burpee	44	10·00
Early Paris Market	O–8414	44	7·50
Black Seeded Simpson	Dreer	44	13·00

LETTUCE—FALL SOWING VS. SPRING SOWING VS. SEEDING IN HOTBEDS.—The results are given in the following table:—

When sown	Date of sowing	Ready for use	Number of plants	Yield
				lb.
Fall	Oct. 15, 1926	Total failure.	.....	.....
Hot beds	April 20, 1927	July 12.....	48	38
In the open	May 20, 1927	July 12.....	48	31

The fall sowing gave no crop this year, and the crop sown in hotbeds could have been used earlier than that sown in the open. Its yield was also heavier.

PARSLEY—VARIETY TEST.—Two varieties were sown on May 27, 1927, in rows 15 inches apart. The results are given in the following table:—

PARSLEY—RESULTS OF VARIETY TEST

Variety	Source	Days from sowing until ready for use	Yield per 30-foot row
			lb.
Moss curled	Ewing	78	18
Triple curled	Ewing	78	7

PARSNIPS—VARIETY TEST.—Five varieties were sown on May 23, 1927, in rows 30 inches apart and the plants were thinned out to 2 inches in the rows. The results are given in the following table:—

PARSNIPS—RESULTS OF VARIETY TEST

Variety	Source	Days from sowing until ready for use	Yield per 30-foot row
			lb.
Guernsey XXX half long	Rennie	126	6
Hollow Crown	O-8936	126	6
Hollow Crown	McK	126	5
Elcombe Imp. H.C	Graham	126	3
Dobbies Select	Ewing	126	2

The yield was lower than the average, due to poor soil conditions.

PARSNIPS—THINNING EXPERIMENT.—The object of this experiment is to find out the most profitable distance for thinning in rows 30 inches apart. Three distances were compared: i.e., 2, 3, and 4 inches. Hollow Crown was the variety used.

PARSNIPS—RESULTS OF THINNING EXPERIMENT

—	Date of sowing	Date of harvest	Yield per 33½-foot row	
			Marketable	Unmarketable
			lb.	lb.
Thinned to 2 inches	May 30	Oct 5	9	8
" 3 "	" 30	" 5	5	6
" 4 "	" 30	" 5	6	7

A six-year average shows that thinning to 2 inches gave the highest yield, followed by thinning to 3 inches.

PARSNIPS—DIFFERENT DATES OF SOWING.—The first sowing was done as soon as the soil was ready and the five others at one week intervals. Hollow Crown was the variety used. The results are given in the following table:—

PARSNIPS—RESULTS FROM DIFFERENT DATES OF SOWING

Order of sowing	Date of sowing	Date of harvest	Yield per 30-foot row
			lb.
1st	May 23	Sept. 26	6·5
2nd	" 30	" 26	5·0
3rd	June 6	" 26	4·8
4th	" 14	" 26	0
5th	" 21	" 26	0
6th	" 28	" 26	0

Only the earlier sowings produced a crop.

PEAS—VARIETY TEST.—In 1926, the different varieties were sown on June 12, in 30-foot rows, 30 inches apart. In 1927, the sowing was done on May 23, in 30-foot rows, 35 inches apart, and the plants spaced 1 inch in the rows. The results, in pounds per acre for 1926, and in pounds per 30-foot row for 1927, are given in the following table:—

PEAS—RESULTS OF VARIETY TESTS IN 1926 AND 1927

Variety	Source	1926		1927	
		Number of days from sowing until ready for use	Yield per acre	Number of days from sowing until ready for use	Yield per 30-foot row
			lb.		lb.
Telephone	D. & F.	70	7,108	58	19·0
Gradus x American Wonder	O-8584 (*a*)	63	6,171	48	34·5
Gregory Surprise x English Wonder	O-6471 (*b*)	63	6,927	53	34·0
Sutton Excelsior	Harris	63	5,989	53	21·2
Advancer	Harris	73	6,140	.....	.....
American Wonder	Graham	70	7,058	53	20·2
Laxtonian	Graham	70	4,719	43	17·5
Stratagem	Graham	90	4,688	64	21·8
Lincoln	Invermere	70	6,292	53	26·8
Thomas Laxton	McD	59	5,142	38	17·5
Early Six Weeks	Childs	63	4,567	38	11·0
Senator	D. & F.	70	7,865	53	28·0
Prosperity	Rennie	63	3,811	43	18·8
Director	Invermere	70	8,651	48	30·5
Lincoln	Sharpe	73	6,019	.....	.....
McLean Advancer	Livingston	77	1,058	.....	.....
McLean Advancer	Harris	.....	.....	49	23·5
McLean Advancer	Ferry	.....	.....	58	22·5
Bruce	Invermere	81	8,470	53	24·0
British Wonder	Burpee	81	5,384	58	27·2
Garden Pea No. 6	Invermere	70	5,687	53	31·0
No. 3	Invermere	.....	.....	58	22·2
English Wonder	8511	.....	.....	57	27·8
English	O-8622	70	6,957	.....	.....

(*a*) 8624 in 1927. (*b*) 8627 in 1927.

PEAS—EXTENDING THE SEASON.—The object of this experiment is to determine whether, in order to prolong the season, it is better to sow an early-ripening variety of peas at different dates, starting from the beginning of the season, than to sow on one date several varieties of different seasons. The results in 1927 indicate that early sowing of several varieties of different maturing periods is best, higher yields and a larger crop season being obtained than when a single variety is sown at different dates.

PEAS—PLANTING AT DIFFERENT DISTANCES.—Three varieties, Thomas Laxton, English Wonder, and Stratagem, were sown on May 23, 1927, in rows 3 feet apart. The results are given in the following table:—

PEAS—RESULTS FROM DIFFERENT DISTANCES OF PLANTING

Variety	Date of sowing	Ready for use	Yield per 30-foot row		
			1 inch	2 inches	3 inches
			lb.	lb.	lb.
Thomas Laxton	May 23	Aug. 5	32·5	32·0	24·5
Stratagem	May 23	Sept. 2	22·0	23·5	24·0
English Wonder	May 23	Aug. 12	25·7	18·0	19·0

POTATOES—DATES OF PLANTING.—In 1926, the first planting was done on June 12, and the others at intervals of one week, the last being done on July 3. The rows were 2½ feet apart and the sets 12 inches apart in the rows. The following are the results:—

POTATOES—RESULTS FROM DIFFERENT DATES OF PLANTING IN 1926

Variety	Quantity of seed per acre	Date of planting	Ready for use	Yield per acre	
				Marketable	Unmarketable
	lb.			lb.	lb.
Irish Cobbler—					
1st planting	1,452	June 12	Sept. 16	9,504	3,564
2nd "	1,452	" 19	" 16	10,032	2,904
3rd "	1,452	" 26	" 16	6,862	4,224
4th "	1,716	July 3	" 16	5,280	5,280
5th "	1,650	" 14	" 16	2,376	3,696
Green Mountain—					
1st planting	1,386	June 12	Sept. 16	9,504	3,432
2nd "	1,452	" 19	" 16	9,504	5,280
3rd "	1,650	" 26	" 16	8,976	2,904
4th "	1,848	July 3	" 16	5,808	5,280
5th "	1,584	" 14	" 16	1,716	6,072

In 1927, the first planting was done on May 21, and five others followed at intervals of one week up to June 24. The spacing was the same as in 1926. The results were as follows:—

POTATOES—RESULTS FROM DIFFERENT DATES OF PLANTING IN 1927

Variety	Date of planting	Quantity of seed per acre	Marketable yield per acre	Unmarketable yield per acre
		bush.	bush.	bush.
Irish Cobbler	May 21	35·2	246·4	105·6
"	" 28	35·2	228·8	140·8
"	June 4	26·4	220	145·2
"	" 11	28·6	145·2	101·2
"	" 17	30·8	127·6	70·4
"	" 24	28·8	110·0	79·2
Green Mountain	May 21	26·4	286·0	57·2
"	" 28	25·3	202·7	66·0
"	June 4	30·8	246·4	96·8
"	" 11	26·4	312·4	83·6
"	" 17	26·4	352·0	83·6
"	" 24	24·2	250·8	101·2

POTATOES—DIFFERENT KINDS OF SETS.—The object of this experiment is to determine the relative value of sets containing one, two, and three eyes. In 1926, the sets were planted on June 15, and on May 20 in 1927. The following table gives the results for the two years.

POTATOES—RESULTS FROM DIFFERENT KINDS OF SETS

Variety and number of sets	1926			1927		
	Quantity of seed used per acre	Yield per acre		Quantity of seed used per acre	Yield per acre	
		Marketable	Unmarketable		Marketable	Unmarketable
	lb.	lb.	lb.	bush.	bush.	bush.
Irish Cobbler—						
1 eye	792	7,392	3,168	19·8	211·2	108·4
2 eyes	1,122	13,728	2,112	26·4	211·2	50·6
3 eyes	1,518	9,504	2,376	35·2	158·4	30·8
Green Mountain—						
1 eye	792	13,728	1,848	13·2	118·8	52·8
2 eyes	1,056	12,672	3,168	17·6	149·6	39·6
3 eyes	1,386	13,728	3,168	30·8	110·0	74·8

POTATOES—TUBERS FROM DIFFERENT DATES OF PLANTING.—The object of this experiment is to determine the influence on the yield of tubers at various stages of maturity used as seed. Planting was done on June 15, in 1926, and on May 20, in 1927.

POTATOES—RESULTS FROM TUBERS AT DIFFERENT STAGES OF MATURITY

Variety and order of planting in 1925	1926			Variety and date of planting 1926	1927		
	Quantity of seed used per acre	Yield per acre			Quantity of seed used per acre	Yield per acre	
		Marketable	Unmarketable			Marketable	Unmarketable
	lb.	lb.	lb.		bush.	bush.	bush
Irish Cobbler—				Irish Cobbler—			
1st planting	1,452	5,808	2,640	June 12	15·9	308·0	70·4
2nd planting	1,584	7,920	2,376	June 19	26·4	325·6	26·4
3rd planting	1,188	5,808	3,432	June 26	22·0	431·2	66·0
4th planting	1,650	9,504	2,640	July 3	25·9	158·4	25·9
5th planting	1,452	7,392	3,432	July 14	14·8	237·6	37·4
6th planting	1,188	10,032	1,848				
Green Mountain—				Green Mountain—			
1st planting	1,584	5,280	1,980	June 12	19·6	286·0	74·8
2nd planting	1,386	1,584	3,168	June 19	22·0	264·0	70·4
3rd planting	1,518	3,168	3,168	June 26	20·6	299·1	79·1
4th planting	1,254	6,864	3,168	July 3	18·9	347·4	66·0
5th planting	1,254	5,280	3,696	July 13	12·1	277·2	61·6
6th planting	1,254	7,920	3,696				

The results for three years show that tubers selected from the ripest seed give highest yield.

POTATOES—HILLED VS. LEVEL CULTIVATION.—Part of the plantation was hilled up after the last cultivation and the other part immediately after planting. In 1926 the potatoes were planted on June 15, and in 1927 on May 20. The Green Mountain variety was used. The results were as follows:—

POTATOES—RESULTS FROM DIFFERENT METHODS OF CULTIVATION

Method of cultivation	1926—Yield per acre		1927—Yield per acre	
	Marketable	Unmarketable	Marketable	Unmarketable
	lb.	lb.	bush.	bush.
Level	13,570	2,745	142·6	77·6
Hilled	13,780	3,274	284·1	89·8

It would appear that hilling up is more profitable in wet seasons, but it may be that level cultivation will give a higher yield in dry seasons. Since wet seasons outnumber dry ones hilling up of patotoes is recommended.

POTATOES—NUMBER OF CULTIVATIONS.—The object of this experiment is to determine if the number of cultivations has an influence on the yield. The Green Mountain variety was used with the following results:—

POTATOES—RESULTS FROM DIFFERENT NUMBER OF CULTIVATIONS ON YIELD

Number of cultivations	1926—Yield per acre		1927—Yield per acre	
	Marketable	Unmarketable	Marketable	Unmarketable
	lb.	lb.	bush.	bush.
Three	3,220	2,218	215·6	93·6
Six	4,646	2,692	143·3	108·1

POTATOES—SPROUTED VS. UNSPROUTED TUBERS FOR SEED.—Irish Cobblers and Green Mountains were used in this experiment. The sprouted tubers were exposed to the light in order to favour the development of strong sprouts. The other tubers did not have any sprouts when planted.

POTATOES—RESULTS WITH SPROUTED AND UNSPROUTED TUBERS

Variety	1926			1927		
	Date ready for use	Yield per acre		Days from planting to harvest	Yield per acre	
		Marketable	Unmarketable		Marketable	Unmarketable
		lb.	lb.		bush.	bush.
Irish Cobbler—						
Sprouted	Aug. 12	7,900	6,336	84	277·2	57·2
Unsprouted	Aug. 30	6,336	7,392	97	188·5	114·4
Green Mountain—						
Sprouted	Aug. 25	13,200	4,224	124	365·2	70·4
Unsprouted	Sept. 4	6,336	7,392	130	272·8	120·2

The results indicate that the yield may be increased by planting sprouted tubers, and, if earliness is desired, much time is gained by this method.

POTATOES—DISTANCES OF PLANTING.—The object of this experiment is to determine how far apart potatoes should be planted to obtain the best yield. The results for 1927 are given in the following table:—

POTATOES—RESULTS FROM PLANTING DIFFERENT DISTANCES APART

Variety	Date of planting	Distance between rows	Distance between sets	Quantity of seed used per acre	Yield per acre	
					Marketable	Unmarketable
		in.	in.	bush.	bush.	bush.
Irish Cobbler	May 20	30	12	31·4	176·6	75·9
	May 20	30	14	29·5	296·2	66·6
	May 20	36	12	30·2	148·4	63·9
	May 20	36	14	30·7	231·8	26·1
Green Mountain	May 20	30	12	23·8	318·7	82·9
	May 20	30	14	20·6	225·6	69·8
	May 20	36	12	21·2	137·7	53·9
	May 20	36	14	17·9	295·6	49·1

The quantity of seed used is explained by the fact that the tubers were exceptionally large. A distance of 30 inches between the rows and of 12 inches between the sets appears to be the best.

SPINACH—VARIETY TEST.—Nine varieties were sown on May 24 in rows 30 inches apart. The yields are given in the following table:—

Variety	Source	Days from sowing until ready for use	Yield per 30-foot row
			lb.
Victoria	McD	46	15·8
King of Denmark	Graham	46	9·5
New Zealand	Graham	46	12·8
Princess Juliana	Stokes	46	11·2
Noble Gandry	Stokes	46	16·5
Princess Juliana	Rice	46	12·5
Big Crop	Madsen	46	8·5
Juliana	Madsen	46	12·5
King of Denmark	Madsen	46	9·2

SALSIFY—VARIETY TEST.—Only two varieties were sown on May 23 in rows 30 inches apart. The plants were left at 1·5 inch intervals in the rows.

SALSIFY—VARIETY TEST

Variety	Source	Days from sowing until ready for use	Yield per 30-foot row
			lb.
Mammoth Sandwich	Rennie	105	18
Long Black	D. & F	135	6

TABLE TURNIPS—VARIETY TEST.—Four varieties were sown on May 23 in rows 15 inches apart and the plants were thinned to 2 inches in the rows.

TABLE TURNIPS—VARIETY TEST

Variety	Source	Days from sowing until ready for use	Yield per 30-foot row
			lb.
Extra Early Purple Top Milan	McD	56	32·2
Snowball Early	Graham	68	53·0
Early White Milan	Harris	54	24·9
Golden Ball	Graham	85	35·0

RADISH—VARIETY TEST.—Eleven varieties were under test. They were sown in rows 15 inches apart and the plants were thinned to 1 inch in the rows.

RADISH—VARIETY TEST

Variety	Source	Days from sowing until ready for use	Yield per 30-foot row
			lb.
Early Scarlet Turnip White Tipped	Graham	34	13·8
Icicle	D. & F.	34	14·8
XXX Round Scarlet Oval	Rennie	34	6·8
Scarlet Turnip White Tipped	McD.	39	8·8
French Breakfast	Patmore	34	13·2
Twenty Day	Vaughan	31	11·2
Early Scarlet Globe	Vick's	34	9·0
Chartier	Ewing	39	14·2
Early White Turnip	S.B.	34	15·2
Saxa	Rice	31	8·8
Scarlet White Tipped	McD.	39	11·8

EXPERIMENTS WITH OTHER VEGETABLES

Other experiments with Beans, Borecole, Brussels Sprouts, Cabbage, Cauliflower, Celeriac, Celery, Corn, Cucumber, Egg Plant, Lettuce, Melon, Onion, Parsley, Parsnip, Pepper, Pumpkin, Radish, and Vegetable Marrow were also carried out in 1926 and 1927, but lack of space prevents publishing the information at this time.

NITRATE OF SODA FOR VEGETABLES

The object of this experiment is to determine if it is advisable to use nitrate of soda in addition to the usual application of manure in the fertilizing of vegetables. Nitrate of soda was applied at the rate of 300 pounds per acre, spread over three applications, the first when the plants start to grow, and the others at 15-day intervals. The results in 1926 and 1927 were as follows:—

RESULTS OF USING NITRATE OF SODA ON VEGETABLES

Vegetable	1926—Yield per acre		1927—Yield per acre	
	Nitrate of soda and manure	Manure only	Nitrate of soda and manure	Manure only
	lb.	lb.	lb.	lb.
Summer Cabbage	7,392	6,072	17,400	11,600
Winter Cabbage	15,093	8,707	6,090	3,480
Potatoes	10,032	5,808	10,590	8,520
Spinach	.....	.....	4,600	2,560
Turnips	24,090	10,448	38,313	23,220
Celery	2,178	907	13,612	8,227
Lettuce	36,876	16,260	.....	.....
Beets	2,030	No yield	.....	.....
Carrots	13,646	12,190	.....	.....
Parsnips	6,095	1,740	.....	.....
Kohl Rabi	9,505	1,740	.....	.....
Salsify	5,514	2,900	.....	.....
Peas	9,438	7,865	.....	.....

The additional use of nitrate of soda seems to be profitable. It hastens the growth at a time when it is imperative to do so and when the vegetation is rather slow in the La Ferme district on account of cold weather. It is a well known fact that nitrates form very slowly in the soil when the weather and soil are cold and the plants suffer in consequence.

ORNAMENTAL GARDENING

During the last two years the lawns were enlarged and improved, new hedges were planted and those already existing were trimmed and now show up to better advantage.

A considerable number of varieties and strains of flowers were tested. They produced a magnificent bloom which lasted from early summer until very late in the fall. It would seem as if the damp weather which prevails in this district is to a large extent responsible for the success obtained in growing flowers.

CEREALS, 1926

The work done on this station consists of a test of varieties in order to ascertain the most suitable ones for the district, for earliness, yield and immunity from disease.

The field where the trial plots are laid out is under a four-year rotation, as follows: 1st year, sunflowers manured at the rate of 16 tons per acre; 2nd year, cereal seeded down to clover and timothy; 3rd and 4th years, clover and timothy hay. The test plots measured $\frac{1}{120}$ acre. Five plots were sown to each variety under test.

Results.—The temperature was most unfavourable; sowing was delayed until June 11. The germination was checked by excessive rains and cold weather. The stand was very poor and rust appeared towards the end of the growing season, causing much damage. The crop was almost a failure on account of such unfavourable conditions, however, the superiority of early varieties in this district was clearly demonstrated. The three leading varieties of each kind of cereals are as follows:—

Wheat—Prelude, Garnet, Ruby.

Oats—Alaska, Montcalm, Cartier.

Barley—O.A.C. 21, Charlottetown 80, Star.

CEREALS, 1927

Variety tests were continued on plots measuring $\frac{1}{120}$ acre repeated five times.

Tests in rod-row plots were added this year, and all these tests were repeated four times. Five rows 18·5 feet long are sown with the same variety. The outside rows on each side of the plot as well as one foot of each end are removed before harvesting, and the yield per acre is computed from the rest. The cereal plots were sown May 31, under very favourable conditions and the results were fairly good.

OATS—VARIETY TEST.—Three early varieties were sown at the rate of 2½ bushels per acre. The results are given in the following table:—

OATS—VARIETY TEST

Variety	Number of days maturing	Length of straw including head	Strength of straw maximum 10 points	Actual yield per acre
		in.		bush.
Alaska	102	39	8·0	34·8
Cartier	109	38	7·5	31·7
Montcalm	111	36	7·8	29·2

The Alaska still heads the list but is closely followed by the Cartier and Montcalm, two new promising varieties.

BARLEY—VARIETY TEST.—Ten varieties selected among the earliest were sown at the rate of 2 bushels per acre. The results are given in the following table:—

BARLEY—VARIETY TEST

Variety	Number of days maturing	Length of straw including head	Strength of straw, maximum 10 points	Actual yield per acre
		in.		bush.
Chinese, Ottawa 60	102	35	8·5	38·9
Manchurian, C.R. 14	108	33	8·5	38·9
(a) Hannchen (Sn.)	115	28	7·5	38·1
(a) Charlottetown No. 80	116	31	7·5	37·0
O.A.C. 21, ck. 2	101	34	8·5	36·8
(a) Duckbill, Ottawa 57	110	25	8·0	33·0
Bearer, Ottawa 475	111	22	8·0	33·0
Star (Star)	102	28	9·0	32·9
(a) Duckbill 207 M.C	112	30	7·8	31·7
O.A.C. 21 ck. 1	100	37	8·5	29·8
Mensury, 3207 M.C	105	30	9·0	26·8

(a) 2-rowed varieties.

It is interesting to note that so many varieties of barley ripen perfectly in our district in such a short time.

VARIETY TESTS OF CEREALS IN ROD-ROW PLOTS

Four varieties of wheat were under test. The results are as follows:—

WHEAT—VARIETY TEST

Variety	Number of days maturing	Length of straw including head	Strength of straw, maximum 10 points	Yield in grain
		in.		bush.
Prelude	110	37	7·5	18·76
Garnet	112	35	8·5	17·91
Ruby	114	38	8·0	14·05
Marquis	118	37	9·0	6·16

The wheats were slightly damaged by an early frost, but the crop was of fair quality.

OATS—VARIETY TEST.—Four varieties were under test. The results are given in the following table:—

OATS—VARIETY TEST

Variety	Number of days maturing	Length of straw including head	Strength of straw, maximum 10 points	Yield in grain per acre
		in.		bush.
Gold Rain	120	38	8·0	47·65
Alaska	109	39	8·0	45·96
Banner, Ottawa 49	123	44	7·5	35·64
Liberty, Ottawa 480	118	36	8·0	21·49

Gold Rain gave a higher yield than the Alaska. Its quality is excellent but it ripens a little later than the Alaska, this latter variety being more suitable for late sowing.

BARLEY—VARIETY TEST.—Four varieties were under test. The results obtained are given in the following table:—

BARLEY—VARIETY TEST

Variety	Number of days maturing	Length of straw including head	Strength of straw, maximum 10 points	Yield in grain
		in.		bush.
O.A.C. 21	99	35	7·5	41·17
Chinese, Ottawa 60	102	40	8·0	40·45
Albert, Ottawa 54	97	30	8·5	39·68
Velvet	105	38	7·5	38·03

The O.A.C. 21 still heads the list.

FORAGE CROPS, 1926 AND 1927

The conditions of soil and climate in the Abitibi region are very favourable for the production of grasses and leguminous crops, but not so favourable for corn and sunflowers.

SUNFLOWERS

In 1926, five varieties of sunflowers were sown on June 16. The stand was feeble and growth was completely checked by frost on August 23. There was practically no yield.

In 1927, five varieties were sown on June 3. Manure had been applied at the rate of 16 tons per acre. The sunflowers were harvested on September 10. The highest yield, 6 tons, 1,800 pounds per acre, was from Ottawa 76, a Central Experimental Farm selection.

CORN

Twenty varieties were under test in 1926, but none gave a yield worth recording. In 1927, twenty-one varieties were sown on June 7, and harvested on September 20. The results were as follows:—

CORN—RESULTS OF VARIETY TEST, 1927

Variety	Source	Height when cut	Yield per acre	
			Green matter	Dry matter
		inches	tons lb.	lb.
Quebec 28	Dr. Todd	30	4 550·0	983·2
Quebec 28	McDonald College	32	3 1,550·0	852·5
North Western Dent	Rennie	28	3 550·0	687·7
Queitcheel's Pride	Fredericton E.P.	27	3 516·7	716·7
Amber Flint	Wimple	26	2 1,750·0	736·0
Longfellow	Disco	29	2 950·0	585·0
N.W.D. (Crookton strain)	McKenzie	23	2 200·0	528·0
North Western Dent		22	2 450·0	614·1
Gehu	Disco	22	2 —	448·0
Minnesota No. 13	Disco	21	1 1,966·7	503·6
Longfellow	Duke	24	1 1,950 0	446·3
Golden Glove	Duke	22	1 1,800·0	471·2
Burr Learning	Cartier	28	1 1,650·0	386·9
Yellow Dent	Wimple	25	1 1,550·0	511·2
Compton's Early	Duke	18	1 216·7	226·0
North Western Dent	McKenzie	20	1 300·0	312·8
Hybrid	Wimple	22	1 200·0	270·8
Wisconsin, N.F	Duke	22	– 1,066·7	149·3
Bailey	Dr. Bondy	18	– 1,130·0	138·9
Longfellow	Johnston	18	– 1,100·0	132·6
Learning	J. O. Duke	18	– 800·0	94·4

ROOT CROPS

On account of delay in preparing the land in the spring of 1926, owing to excess of moisture, it was impossible to sow early enough to obtain crops of roots worth recording.

MANGELS

Thirty-two varieties were sown on June 4, 1927, in rows 30 inches apart and the plants thinned to 10 inches in the rows. The results are given in the following table:—

MANGELS—RESULTS OF VARIETY TEST, 1927

Variety	Source	Yield per acre	
		Green matter	Dry matter
		tons lb.	lb.
Imp. Large Y. Globe	Bruce	5 950	1,462·9
Red Eckendorfer	General Swedish	4 1,000	1,223·1
Eckendorfer Red	Hartmann	4 550	1,205·5
Long Red Mammoth	Ewing	3 1,050	1,126·5
Green Top half sugar	Hartman	3 1,050	1,070·1
Danish Sludstrup	D. & F.	3 150	850·5
Long White	D. & F.	2 1,475	936·7
Torroje Barres	Hartmann	2 1,250	878·8
Barres Oval	General Swedish	2 800	651·6
Svalof Original Rubra	General Swedish	2 650	821·1
Yellow Intermediate	Hartmann	2 500	756·0
Golden Tankard	Bruce	2 500	643·5
Eckendorfer Yellow	Hartmann	1 1,750	628·5
Best of all	General Swedish	1 1,675	639·1
Red Globe	D. & F.	1 1,300	548·4
Stryno Barres	Hartmann	1 1,300	580·1
Svalof Original Alfa	General Swedish	1 1,300	574·8
Sludstrup Barres	General Swedish	1 1,300	520·0
Elvetham Hartmann	Hartmann	1 1,300	574·6
Rosted Barres	Hartmann	1 1,200	561·9
Giant Yellow Globe	Ewing	1 700	417·6
Golden Tankard	Ewing	1 700	414·7
Sludstrup Barres	Hartmann	1 400	410·6
Danish Improved	D. & F.	1 250	423·6
Golden Tankard	D. & F.	1 100	355·9
Giant Rose Intermediate	Ewing	1 25	367·5
Yellow Eckendorfer	General Swedish	1 1,875	348·0
Golden Flesh Tankard	Steele Briggs	1 1,800	331·2
Danish Sludstrup	Ewing	1 1,800	260·1
Longfellow	Ewing	1 1,800	311·4
Mammoth Long	D. & F.	1 1,725	294·1
Best Globe Red	Ewing	1 1,500	267·1

SWEDES

Thirty-seven varieties of swedes were sown on June 7 in rows 30 inches apart and the plants were thinned out to 10 inches in the rows. The crop was harvested on September 20. The results are given in the following table:—

SWEDES—RESULTS OF VARIETY TEST, 1927

Variety	Source	Yield per acre	
		Green matter	Dry matter
		tons lb.	lb.
Early Model	D. & F.	7 450	1,731·1
Best of All	Ewing	7 200	1,762·2
Shepherd	Trifolium	5 1,950	1,632·3
Bangholm	Nappan E. F.	5 650	1,515·4
Good Luck	S. B.	5 600	1,366·3
Hall's Westbury		5 545	1,226·5
Bangholm Pajberg	Trifolium	4 1,850	1,406·5
Bangholm	Ewing	4 1,700	1,358·0
Hall's Westbury	Ewing	4 1,690	1,329·6
Ditmars		4 1,600	1,286·4
Invicta Brome Top	Ewing	4 900	1,194·3
Imp. Lord Derby	Sutton	4 850	1,284·1
Cornings	Yarmouth Producers Co.	4 700	1,170·6
Mammoth Clyde Purple	D. & F.	4 40	1,157·7
Canadian Gem	Bruce	3 950	893·0
Garton's Superlative	Ewing	3 800	956·8
Olsgard Bangholm	Hartmann	3 800	959·4
Bangholm	Charlottetown E. F.	3 540	971·8
Elephant or Monarch	Ewing	3 510	870·3
Elephant or Monarch	D. & F.	3 450	893·9
Kangaroo	D. & F.	3 300	946·2
Elephant	Sutton	3 390	847·0
Imp. Yellow	General Swedish	3 350	884·5
Perfection	D. & F.	3 50	815·5
Bangholm 8112	McD. College	2 1,700	790·3
Jumbo	S. Briggs	2 1,200	737·8
Bangholm	Ewing	2 1,190	777·4
Bangholm	G. Swedish	2 1,100	716·0
Magnum Bonum	Sutton	2 1,050	704·9
Laing's Imp	D. & F.	2 950	731·6
Favorite	D. & F.	2 900	700·2
Bangholm	D. & F.	2 750	710·1
Kangaroo	Ewing	2 740	712·4
Ne Plus Ultra	D. & F.	2 600	656·8
Bangholm	Nappan E. F.	2 600	684·9
Shepherd's Globe	Hartmann	1 1,750	497·2

FALL TURNIPS

Fifteen varieties of fall turnips were sown on June 7, in rows 30 inches apart and the plants thinned to 12 inches in the rows. The crop was harvested on September 20. The highest yield, 10 tons, 1,450 pounds green matter, or 1 ton 83 pounds dry matter, was obtained from the Hardy Green Round variety. The varieties next in order of yield were Greystone, Early Six Weeks, Mammoth Purple Top and Red Paragon.

FIELD CARROTS

Nine varieties of field carrots were sown on June 8, in rows 30 inches apart, and the plants thinned to 4 inches in the rows. The highest yield, 4 tons 1,045 pounds, was obtained from the White Intermediate variety, the seed of which was secured from the Summerland, B.C., Experimental Station.

ANNUAL HAY

Different varieties of peas and oats, a mixture of peas, oats and vetches, barley, spring rye, millet and other annual hay crops were tested in 1926 and 1927. The results for the two years are given in the following table:—

ANNUAL HAY CROPS—RESULTS IN 1926 AND 1927

—	Yield green weight 1926	1927— Yield per acre		Average 1925-27— Yield per acre	
		Green weight	Hay containing 15% moisture	Green weight	Hay containing 15% moisture
	tons lb.	tons lb.	tons lb.	tons lb.	tons lb.
Oats, peas and vetches	6 1,333	7 53	2 380	6 1,491	2 4
Peas, Prussian Blue	2 640	5 1,467	1 1,248	5 1,550	1 806
Peas, Gold Vine	2 667	7 1,440	1 1,451	6 1,252	1 864
Peas, Arthur	3 1,520	7 1,253	1 1,617	5 738	1 653
Oats and peas	4 107	7 0	2 793	6 1,413	1 1,921
Oats, Banner	4 1,173	6 213	2 233	5 478	1 1,618
Oats, Victory	3 613	6 534	2 334	5 1,650	1 1,807
Oats, Gold Rain	3 1,840	7 1,094	2 1,202	6 846	1 725
Oats, Abundance	3 1,813	.....	.....	.....	.....
Rye, Spring	3 853	4 133	2 592	4 248	1 1,743
Barley, hulless	3 53	5 320	1 1,994	6 577	1 1,004
Oats, Alaska	2 947	.....	.....	.....	.....
Oats, O.A.C. 72	.....	6 1,393	2 571	5 1,643	1 1,447
Clover, Hubam	.....	5 400	1 656	3 640	– 1,699
Millet, Japanese	.....	2 853	– 998	3 625	– 1,086
Millet, Hog	.....	2 773	– 114	.....	.....
Millet, Golden	.....	1 1,787	– 854	1 1,900	– 946
Teff grass	.....	1 1,973	– 913	1 1,867	– 975
Sudan grass	.....	1 1,400	– 703	.....	.....

The high yields of peas and cereals are encouraging, as they received practically no manure, being in the fifth year of the rotation. The mixtures of peas, oats and vetches are very suitable for ensilage in this district. The millets, Sudan grass and Teff grass cannot be recommended.

MIXTURES OF LEGUMES AND GRASSES

Twenty-eight different mixtures were under test in 1927. The following table contains the results for the year as well as the three-year average yield for first-year hay and the two-year average for second-year hay.

Results with Mixtures of Grasses and Clovers for Hay

Mixtures	Seed per acre	Yield per acre in 1927				Average yields per acre			
		First year hay		Second year hay		Three years		Two years	
						First year hay		Second year hay	
		Green weight	Hay 15 p.c. moisture	Green weight	Hay 15 p.c. moisture	Green matter	Hay 15 p.c. moisture	Green matter	Hay 15 p.c. moisture
	lb.	tons lb.	tons lb.	tons lb.	tons lb.	tons lb.	tons lb.	tons lb.	tons lb.
Alfalfa	6								
Red clover	10								
Alsike clover	2								
Timothy	6	5 226·7	1 1,921·2	4 1,653·4	2 492·8	5 493·1	1 1,720·2	3 1,346·7	2 492·
Alfalfa	3								
Red clover	5								
Timothy	6	3 613·4	1 704·2	4 1,760·0	2 312·3	5 491·1	1 1,258·7	4 920·0	2 312·3
Timothy	8								
Red clover	10	3 1,946·6	1 1,089·8	5 1,186·7	2 401·5	5 675·6	1 1,613·7	4 1,273·4	2· 401·5
Timothy	8								
Red clover	10								
Blue grass	2								
Red top	2	4 1,093·4	1 1,247·8	4 1,686·7	2 10·9	5 1,302·0	1 1,441·5	4 523·4	2 10·9
Timothy	8								
Red clover	8								
Alsike clover	2	5 1,226·4	1 1,487·1	4 1,733·4	1 1,408·1	6 1,172·0	1 1,315·4	4 973·4	1 1,408·1
Timothy	8								
Red clover	8								
Alsike clover	2								
Blue grass	2								
Red top	2	4 1,573·4	1 1,018·2	5 373·4	2 140·5	5 1,467·6	2 1,066·5	4 693·2	2 140·5
Timothy	8								
Alsike clover	4	4 1,800·0	1 1,415·7	5 1,306·7	2 679·5	6 129·1	1 1,565·4	5 413·4	2 679·5
Timothy	8								
Alsike clover	4								
Blue grass	2								
Red top	2	5 160·0	1 1,564·5	4 1,973·4	1 1,774·5	4 1,572·5	1 1,105·4	3 1,773·4	1 1,774·5

Timothy	6																		
Fescue	4																		
Red clover	10	3	1,200·0	1	262·0	4	933·4	1	1,328·1	3	1,866·7	1	1,314·6	4	26·7	1	1,328·1		
Timothy	6																		
Fescue	4																		
Red clover	10																		
Blue grass	2																		
Red top	2	4	533·4	1	833·5	3	506·7	1	1,035·5	4	914·7	1	1,033·9	2	1,586·5	1	1,035·5		
Timothy	6																		
Fescue	4																		
Red clover	8																		
Alsike clover	2	5	880·0	1	1,597·0	3	1,066·7	1	1,191·9	5	1,208·0	1	1,369·0	3	880·0	1	1,191·9		
Timothy	6																		
Fescue	4																		
Red clover	8																		
Alsike clover	2																		
Blue grass	2																		
Red top	2	4	746·4	1	903·4	4	1,520·0	1	1,549·8	3	1,416·8	1	1,182·5	3	1,813·3	1	1,549·8		
Timothy	6																		
Orchard grass	4																		
Red clover	10	2	1,220·0	0	1,617·3	3	773·4	1	1,105·6	4	308·0	1	814·9	3	840·4	1	1,105·6		
Timothy	6																		
Orchard grass	4																		
Red clover	10																		
Blue grass	2																		
Red top	2	3	1,760·0	1	331·0	3	1,360·0	1	906·1	3	1,319·1	1	1,269·3	3	560·0	1	906·1		
Timothy	6																		
Orchard grass	4																		
Red clover	8																		
Alsike clover	2	4	1,626·7	1	1,322·8	3	1,280·0	1	1,258·6	6	488·9	1	1,723·9	4	—	1	1,258·6		
Timothy	6																		
Orchard grass	4																		
Red clover	8																		
Alsike clover	2																		
Blue grass	2																		
Red top	2	3	1,360·0	0	1,992·3	4	600·0	1	1,825·4	6	1,245·3	1	1,707·0	4	844·7	1	1,825·4		
Timothy	6																		
Orchard grass	2																		
Fescue	2																		
Red clover	10	3	1,413·4	1	656·5	4	373·4	2	116·7	5	440·9	1	447·8	3	1,526·7	2	116·7		

RESULTS WITH MIXTURES OF GRASSES AND CLOVERS FOR HAY—*Concluded*

Mixtures	Seed per acre	Yield per acre in 1927				Average yields per acre			
		First year hay		Second year hay		Three years		Two years	
						First year hay		Second year hay	
		Green weight	Hay 15 p.c. moisture	Green weight	Hay 15 p.c. moisture	Green matter	Hay 15 p.c. moisture	Green matter	Hay 15 p.c. moisture
	lb.	tons lb.	tons lb.	tons lb.	tons lbs.	tons lb.	tons lb.	tons lb.	tons lb.
Timothy	6								
Orchard grass	2								
Fescue	2								
Red clover	10								
Blue grass	2								
Red top	2	4 1,386·7	1 292·0	4 506·7	1 1,564·5	5 585·7	1 1,097·8	4 253·4	1 1,564·5
Timothy	6								
Orchard grass	2								
Fescue	2								
Red clover	8								
Alsike clover	2	5 1,706·7	1 1,101·7	4 800·0	1 995·3	5 1,593·3	1 1,205·9	4 1,880·0	1 995·3
Timothy	6								
Orchard grass	2								
Fescue	2								
Red clover	8								
Alsike clover	2								
Blue grass	2								
Red top	2	5 960·0	1 727·6	5 346·7	2 76·7	6 1,143·4	1 1,688·5	4 1,933·4	2 76·7
Timothy	8								
Sweet clover	10	.....	.....	5 160·0	2 71·8	4 13·4	1 748·7	4 1,920·0	2 35·2
Timothy	6								
Orchard grass	4								
Sweet clover	10	.....	.....	4 1,413·4	1 1,679·4	4 860·0	1 444·8	4 746·7	1 1,283·9
Timothy	6								
Fescue	4								
Sweet clover	10	.....	.....	4 1,813·4	1 864·8	4 1,460·0	1 874·5	4 516·7	1 1,194·0
Timothy	6								
Fescue	2								
Orchard grass	2								
Sweet clover	10	.....	.....	5 293·4	2 465·3	3 973·4	1 749·0	4 746·7	1 1,494·5

Timothy	8														
Yellow clover	10	.....	.....	5	1,013·4	2	598·6	4	66·7	1	372·3	5	6·7	2	543·8
Timothy	6														
Orchard grass	4														
Yellow clover	10	.....	.....	4	1,093·4	1	1,544·5	3	1,252·0	1	533·4	2	1,346·7	1	1,128·0
Timothy	6														
Fescue	4														
Yellow clover	10	.....	.....	5	346·7	2	102·0	4	1,764·0	1	1,297·9	4	1,786·4	1	1,386·0
Timothy	6														
Fescue	2														
Orchard grass	2														
Yellow clover	10	.....	.....	3	1,146·7	1	400·1	4	385·4	1	590·5	3	253·4	1	637·5

GRASSES FOR HAY

Nine varieties were under test. The results in 1926 and 1927 are given in the following table:—

RESULTS OF VARIETY TEST OF GRASSES FOR HAY

Varieties	1926—Yield per acre		1927—Yield per acre	
	Green weight	Hay containing 15 per cent moisture	Green weight	Hay containing 15 per cent moisture
	tons lb.	tons lb.	tons lb.	tons lb.
Orchard grass	4 1,492	2 1,618	1 160	0 609
Meadow fescue	5 1,120	2 177	1 392	0 858
Perennial rye grass	5 1,067	1 1,046	1 100	0 973
Brome grass	2 507	1 114	0 568	0 255
Italian rye grass	4 1,467	1 898	.....	.....
Tall oat grass	3 1,413	1 850	.....	.....
Western rye grass	4 27	1 993	1 184	0 1,071
Blue grass	4 1,887	1 1,666	0 457	0 247
Red fescue	3 1,227	1 1,513	.....	.....
Common red top	.....	.....	1 493	0 811

Common Red Top was the best yielder over a period of five years. The soil and weather in this district are favourable to the growth of this crop which is of great value, especially when sown in mixtures, as it supplies a succulent grass till late fall.

TIMOTHY

Three varieties of timothy were tested in 1926 and 1927. Commercial yielded 2 tons 1,160 pounds of hay containing 15 per cent moisture in 1926, and 1 ton 857 pounds in 1927. Boon yielded 2 tons 167 pounds in 1926, and 1 ton 513 pounds in 1927. The production of the Ohio variety was 2 tons 131 pounds in 1926, and 1 ton 819 pounds in 1927.

RED CLOVER

Eleven varieties of red clover were tested in 1926 and 12 varieties in 1927. The yields of hay in the two years and the three-year average yields are given in the following table:—

RED CLOVER—RESULTS OF VARIETY TESTS

Varieties	Yield of hay containing 15 per cent moisture in 1926	Yield of hay containing 15 per cent moisture in 1927	Yield of hay containing 15 per cent moisture, three-year average
	tons lb.	tons lb.	tons lb.
Medium Late Swedish	3 1,853	2 21	1 1,237
Late Swedish	1 1,907	1 1,822	1 612
Early Swedish	2 212	0 1,878	1 1,465
Ambria (Italy)	1 1,549	0 1,103	1 1,416
Chateauguay	1 1,185	0 1,753	1 843
Emilia (Italy)	.....	0 1,538	0 1,942
Dauphine (France)	.....	0 1,632	1 1,332
Alta Swede	2 974	1 1,264	1 1,542
Kenora	1 1,735	1 473	1 1
Ottawa	1 1,314	1 110	1 604
St. Clet (Quebec)	.....	0 1,360	1 1,022
Commercial	.....	0 1,947	.....

ALSIKE CLOVER

Only one variety of alsike clover was sown in both years. The yield in 1926 was high, amounting to 2 tons, 1,210 pounds of hay. The yield in 1927 was 1 ton 746 pounds.

SWEET CLOVER

Six varieties were tested in 1926 and 1927. The results for the two years and the three-year average are given in the following table:—

SWEET CLOVER—RESULTS OF VARIETY TESTS

Varieties	Yield of hay containing 15 per cent moisture in 1926		Yield of hay containing 15 per cent moisture in 1927		Yield of hay containing 15 per cent moisture, three-year average	
	tons	lb.	tons	lb.	tons	lb.
Ladino	1	1,372	1	634	0	1,760
Styrno	1	1,310	1	739	0	1,901
Morso	1	1,169	1	600	0	1,581
Commercial	1	1,033	1	1328	0	843
English White Wild	1	1,041	1	552	0	1,213
Wild Kentish	1	386	.....		.....	
Scotch White Wild	.....		1	697	0	1,901

EXPERIMENTS WITH FERTILIZERS

A very important experiment was inaugurated this year under the supervision of the Chemistry Division, with the object of ascertaining which is the best fertilizer for field crops in the clay belt of Northern Quebec.

The results from this experiment will, we feel sure, have a high economic importance and be of great interest to the farmers of this district.

A field typical of the average conditions of the clay belt of this district was chosen, with the assistance of Dr. Frank T. Shutt, Dominion Chemist, and worked under a five-year rotation as follows: 1st year, oats, peas and vetches; 2nd year, oats; 3rd year, clover and timothy; 4th year, timothy; 5th year, timothy. Fertilizers are applied during the first year of the rotation. The experiment is carried out on duplicate plots measuring 1/40th acre.

Prior to the application of fertilizers, samples of the soil were taken from all plots and forwarded to the Chemistry Division, Ottawa, for analysis. Samples will again be taken after each rotation cycle, so that the changes that appear in the fertility of the plots under treatment may be noted. The quantity of fertilizer applied and the results obtained during the year are given in the following table:—

FERTILIZERS APPLIED AND YIELDS OF OATS, PEAS AND VETCH OBTAINED, LA FERME, 1927

Plot No.	Fertilizer or treatment applied	Fertilizer, quantity per acre	Yield per acre O.P.V.
		lb.	lb.
1	Farmyard manure	16,000	4,660
2	Nitrate of soda	100	.....
	Superphosphate	250	4,880
	Muriate of potash	50	
3	Check	.....	1,520
4	Nitrate of soda	100	3,100
	Superphosphate	250	
5	Nitrate of soda	100	3,060
6	Check	.....	3,220
7	Superphosphate	250	2,380
8	Thomas phosphate	500	1,960
9	Unslaked lime	3,000	3,240
10	Check	.....	1,900
11	Limestone	6,000	2,120

VARIETY TESTS WITH SUGAR BEETS

Three varieties of sugar beets were sown in order to determine the suitability of this district for this crop. Samples were submitted for analysis to the Division of Chemistry, Ottawa, to learn if the beets produced in this district would prove suitable for the production of sugar. The results are given in the following table:—

SUGAR BEETS—VARIETY TEST AND ANALYSIS

Variety	Per cent of sugar in juice	Coefficient of purity	Yield per acre
			ton lb.
Schreiber & Sons	16·51	85·61	3 1,898·0
Home Grown	16·21	86·92	3 1,434·2
Dippe	17·11	86·16	2 1,252·2
Horning	16·73	88·37	1 1,252·0

The yield was poor but the quality excellent. Dr. Shutt states as follows: The high percentage of sugar and of purety present is particularly remarkable, when one takes into consideration the seasonal condition of the district in which the beets were grown.

Soil samples were taken in certain fields where it was impossible to obtain a growth of sweet clover and forwarded to Ottawa for analysis. The results show that the soil was lacking in lime; this explains certain failures met with in the past.

POULTRY, 1926 AND 1927

On December 31, 1926, our flock included 107 hens, 256 pullets, and 20 cocks and cockerels, all Barred Plymouth Rocks, and on December 31, 1927, it included 151 hens, 279 pullets and 47 cocks and cockerels.

The gradual improvement in the quality of our flock in the last few years, the vigour of our stock and the successes won at the laying contests of Quebec East in two consecutive years, have given it such a reputation that a great many orders are received from other districts and there was such a demand for hatching eggs, day-old chicks, and 8-week pullets in the fall that only one-third of the orders could be filled.

A great many visitors were received in 1927 on our poultry plant. It was also visited by many intending settlers taking part in the excursion organized by the provincial Department of Colonization.

EXTENSION

Our poultry exhibit was shown at the school Fairs at Amos and La Sarre, as well as at the District Poultry Fair of Macamic. Great interest was taken by the settlers in the miniature poultry plant and much information was given on housing, matings, incubation, feeding, selection, etc. At the request of some farmers, our poultryman visited a few farms, giving demonstrations and lectures on killing and caponizing.

There was a large correspondence in poultry matters with settlers in 1927 from which it may be concluded that poultry-keeping is one of the most popular branches of agriculture in this district.

INCUBATION

The average fertility of eggs set was 89·9 per cent. The number of chicks hatched was 70·8 per cent of the total number of eggs set and 78·9 per cent of the fertile eggs hatched. Of the chicks hatched 97·6 per cent were alive at the age of three weeks.

MATINGS AND PEDIGREE BREEDING

In 1924, the 24 best hens mated gave an average production of 151 eggs; in 1925, the 48 best hens mated gave an average production of 165 eggs. In 1926, the 48 best hens mated gave an average production of 176 eggs. The 20 best hens had a production varying from 177 to 215 eggs and an average production of 191 eggs. In 1927, the 48 best hens mated gave an average production of 214 eggs; the 20 best ones gave a production varying from 205 to 244 eggs. The 48 best hens that will be mated in 1928 gave an average production of 218 eggs; the 20 best layers gave an average production of 232 eggs.

These figures show that there has been a very material increase in the number of eggs since 1924, a conclusive evidence of the efficiency of selection, the use of good breeders, and of trap-nests and pedigree breeding.

REGISTRATION

Since 1923, 10 selected pullets were sent each year to the Eastern Quebec Laying Contest for registration. The results are as follows:—

—	1923–24	1924–25	1925–26	1926–27
Number of pullets	10	10	10	10
Total production eggs	1,359	1,428	2,019	2,023
Average production "	135·9	142·8	201·9	202·3
Number of pullets qualified for registration	.....	.....	3	3

BEST TYPE AND BEST MAKE OF INCUBATORS

Tests of incubation were made with two different makes and types of incubators: Buckeye (hot water) and Prairie State (hot air). The results for five years are given in the following table:—

Incubator	Total Number of eggs set for incubation	Number fertile eggs	Per cent fertile	Number of chicks	Per cent total eggs hatched	Per cent fertile eggs hatched	Number of chicks alive at the age of 3 weeks	Per cent chicks alive at the age of 3 weeks	Total eggs required for one chick hatched	Total fertile eggs for one chick hatched	Total eggs required for a 3-weeks-old chick	Year
Buck Eye (hot water)	703	629	89·4	266	37·8	42·3	148	55·6	2·6	2·4	4·8	1923
	830	691	83·3	232	28·0	33·6	161	69·4	3·6	3·0	5·2	1924
	1,310	1,172	89·4	573	43·7	48·9	542	94·6	2·3	2·04	2·4	1925
	924	731	79·2	446	48·3	61·0	413	92·6	2·1	1·6	2·2	1926
	1,349	1,213	89·6	907	67·3	74·8	884	97·4	1·5	1·3	1·5	1927
Total	5,116	4,436	86·1	2,424	47·4	54·6	2,148	88·5	2·1	1·8	2·4	
Prairie State (hot air)	432	371	85·9	195	45·1	52·6	142	72·8	2·2	1·9	3·0	1923
	650	557	85·7	247	38·0	44·3	195	78·9	2·6	2·2	3·3	1924
	578	511	88·4	249	43·1	48·7	238	95·6	2·3	2·05	2·4	1925
	213	166	77·9	124	58·05	74·7	119	95·97	1·7	1·3	1·4	1926
	203	184	90·6	141	70·4	77·7	139	98·5	1·4	1·3	1·5	1927
Total	2,076	1,789	86·1	956	41·3	53·4	833	87·1	2·2	1·9	2·5	

DEDUCTIONS.—With the Buckeye, 1·8 fertile eggs were required for one chick hatched and 2·4 eggs for one chick alive at three weeks. With the Prairie State, 1·9 fertile eggs were required for one chick hatched and 2·5 fertile eggs for one chick alive at three weeks.

Both machines are very good, but the Prairie State requires more humidity than the Buckeye.

BEST SITE FOR INCUBATION

The purpose of this experiment is to find out the best place for incubation: a cellar, a half-cellar or a room above the level of the ground. This experiment was started in 1924. Two incubators of the same make were used, and they were started the same day with the same number of eggs. The results are as follows:—

Year	Site	Percentage fertile eggs hatched
1924	Cellar	34·6
1924	Room	60·8
1925	Half-cellar	86·0
1925	Room	69·4
1926	Half-cellar	82·7
1926	Room	63·9

It should be stated here that the cellar used for this experiment in 1924 was very damp. The results of the last two years show clearly the advantage of a half-cellar for incubation as compared with a room above the level of the ground. For anyone who has no half-cellar, satisfactory results may be obtained from a room not too warm or too cold and easily ventilated.

BEST DATE FOR INCUBATION

The purpose of this experiment is to find out the best dates for incubation, as regards fertility, hatchability and viability of chicks. The results given by eggs set in February, March, April, and May for five consecutive years are given in the following table:—

RESULTS FROM DIFFERENT INCUBATION DATES

Year	Date of starting incubator	Number of eggs set for incubation	Number fertile eggs	Per cent fertile eggs	Number of chicks hatched	Per cent total eggs hatched	Per cent total fertile eggs hatched	Number of chicks alive at 3 weeks	Per cent chicks hatched alive at 3 weeks	Total eggs for one chick hatched	Total fertile eggs for one chick hatched	Total eggs for a 3-week-old chick
1923	March	680	625	91·9	316	46·4	50·6	153	48·4	2·1	1·9	4·4
	April	455	375	82·4	145	31·9	38·7	115	79·3	3·1	2·6	3·9
1924	March	390	294	75·4	85	21·8	28·9	69	81·2	4·6	2·4	5·6
	April	1,350	947	77·6	276	20·4	26·3	205	74·3	4·9	3·8	6·6
	May	640	565	88·3	284	44·4	50·3	218	76·8	2·3	2·0	2·9
1925	March	445	381	85·6	109	24·5	28·6	104	95·4	4·08	3·5	4·28
	April	1,508	1,359	90·1	708	46·9	52·0	680	96·0	2·13	1·2	2·2
	May	865	778	89·9	473	54·7	60·8	431	91·1	1·82	1·8	2·0
1926	March	974	783	80·4	448	46·0	57·2	424	94·6	2·17	1·7	2·3
	April	1,376	1,155	83·9	651	47·3	56·4	586	90·0	2·1	1·77	2·35
	May	1,035	860	83·0	618	59·7	71·9	x	x	1·66	1·39	x
1927	February	165	149	86·6	121	73·4	81·8	118	97·5	1·3	1·2	1·4
	March	1,387	1,248	89·9	927	66·8	74·2	905	97·6	1·5	1·3	1·5
	April	1,277	1,062	87·3	828	67·2	77·9	x	x	1·5	1·3	x
	May	1,414	1,320	90·2	1,107	75·6	83·8	x	x	1·3	1·2	x
Summary	February	165	149	86·6	121	73·4	81·8	118	97·5	1·3	1·2	1·4
	March	3,876	3,331	86·0	1,885	48·6	56·6	1,655	87·8	2·0	1·7	2·3
	April	5,966	4,898	82·1	2,608	43·7	53·3	x	x	2·3	1·9	x
	May	3,954	3,523	89·1	2,482	62·8	70·4	x	x	1·6	1·5	x

x Day-old chicks sold.

DEDUCTIONS.—Fertility was the best in May, hatchability in February, and viability in February.

In May, the sun is brighter and the hens go out oftener and take more exercise, which explains the higher fertility for this month. The month of February, 1927, was very fine, and the hens were out almost every day on litter thrown on the snow. The mating stock was in a very good condition and the germs of the eggs were not weakened by strenuous laying. It should be mentioned here that there was no hatching done in February in previous years. As a rule, May hatching was the most profitable.

HATCHING EGGS VS. DAY-OLD CHICKS

The object of this experiment is to determine whether it is better for the farmer to purchase hatching eggs or day-old chicks. This experiment was conducted in co-operation with the Kapuskasing Experimental Station. For this purpose, 120 eggs for hatching were shipped to Kapuskasing and the same quantity of eggs was forwarded to us by Kapuskasing on the same day. Twenty-one days later, 60 day-old chicks were shipped to Kapuskasing and the same number were received in return. The results obtained were as follows:—

HATCHING EGGS VS. DAY-OLD CHICKS

	Eggs set	Day-old chicks
Number received	120	60
Number of fertile eggs	98	
Per cent fertile eggs	81·7	
Number of chicks hatched	76	
Per cent fertile eggs hatched	77·5	
Number of chicks alive at 3 weeks	65	45
Per cent chicks alive at 3 weeks	85·5	75
Summary of Cost		
Quantity bought	120	60
Cost (eggs at 10 cents and chicks at 25 cents)	$12 00	$15 00
Cost of shipping	0 95	0 83
Cost of incubation of eggs	2 00	
Number of chicks hatched or alive when received	76	59
Total cost	$14 95	$15 83
Cost of a day-old chick	0·197	0·268

Results for three years	1925	1926	1927
Total cost of day-old chicks from eggs received from Kapuskasing	$ 0·284	$ 0·294	$ 0·197
Total cost of day-old chicks received from Kapuskasing	0·275	0·275	0·268

This experiment will be continued a few more years before final deductions are drawn.

COST OF ARTIFICIAL INCUBATION

In order to learn the cost of artificial incubation, a record was kept of the number of eggs placed in the incubators, coal-oil used, and labour. The eggs were valued at $10 per hundred, coal-oil at 35 cents per gallon, and labour at 30 cents per hour. The results are as follows:—

SUMMARY OF COST OF ARTIFICIAL INCUBATION

	1926	1927
Number of eggs set	2,380	4,212
Number of chicks hatched	1,099	2,883
Value of eggs	$238 00	$421 20
Quantity of oil used (gallons)	52¾	82·5
Cost of oil	$18 46	$26 88
Labour, 30 cents per hour	$46 20	$42 75
Total cost	$302 65	$492 63
Cost per chick	$0·275	$0·171

The incubators used were of different capacity. Those with a greater capacity cost less for oil and labour, in proportion to the number of eggs set. In order to ascertain exactly the quantity of oil used and the cost of this oil for various makes of machines used on this farm, the costs per machine were carefully noted. The results are as follows:—

RESULTS FROM DIFFERENT INCUBATORS

Incubator	Capacity	Total quantity of oil	Quantity per 100 eggs	Total cost	Cost per 100 eggs
		quarts	quarts		
Buckeye (hot water)	500	30	6·0	$2 63	$0 53
" "	350	23	6·8	2 01	0 57
" "	175	18	10·3	1 57	0 90
Prairie State (hot air)	210	21	10	1 84	0 88

The cost of operation and of the oil used decreases with the capacity of the incubators. The quantity of oil used appears to be a little less for the Buckeye than for the Prairie State.

NATURAL AND ARTIFICIAL INCUBATION

The purpose of this experiment is to ascertain which method of incubation (natural or artificial) gives the best results. Eggs from selected hens were hatched by hens and by incubators and the results noted as regards cost, per cent of hatching, and of viability of chicks. The results are given in the following table:—

NATURAL VS. ARTIFICIAL INCUBATION

—	Natural incubation			Artificial Incubation		
	1925	1926	Average of two years	1925	1926	Average of two years
Number of eggs set for hatching	120	91	105·5	2,698	2,380	2,539
Number of fertile eggs	107	80	93·5	2,411	1,938	2,174·5
Per cent fertile eggs	89·1	87·9	88·5	89·4	81·4	85·4
Number of chicks hatched	79	54	66·5	1,211	1,099	1,155
Total percentage of eggs hatched	65·9	59·3	62·6	44·9	46·2	45·5
Per cent fertile eggs hatched	73·9	67·5	70·7	50·2	56·7	53·4
Number of chicks alive at the age of 3 wks.	76	52	64	1,139	1,010	1,074·5
Per cent of chicks hatched alive at the age of 3 weeks	96·2	97·3	96·2	94·1	91·9	93
Total number of fertile eggs required for 1 chick	1·36	1·5	1·4	1·99	1·76	1·87
Total number of eggs required for 1 chick alive at the age of 3 weeks	1·57	1·75	1·66	2·37	2·35	2·36
Total number of eggs required for 1 chick hatched	1·5	1·7	1·6	2·23	2·16	2·19

Summary of Cost

—	Natural incubation	Artificial incubation
Cost of eggs at 10 cents each	$9 10	$238 00
Quantity of coal-oil used, gallons	.....	52½
Cost of coal-oil used	.....	18 46
Cost of labour	4 80	46 20
Total cost	13 90	302 66
Cost per chick hatched	0 26	0 275
Cost of incubation per chick at age of 3 weeks	0 27	0 30

Natural incubation was more satisfactory from many points of view, but it should be stated that it was not practised on as large a scale as artificial incubation, and also that it was carried out under better conditions, that is in May, while artificial incubation covered a period from March 10 to May 5.

Where chicks are bred on a large scale, it is necessary to use artificial incubation, which may give as good results as hatching under hens, provided one has sufficient experience in the operation of incubators. Artificial incubation has also the advantage that the pullets being hatched earlier in the spring are mature in the fall and can be put into good laying condition for the winter.

In 1927, an incubator was started at the same time as the eggs were set under the hens, so that the eggs might be hatched under the same conditions with both types of incubation. The results are given in the following table:—

NATURAL VS. ARTIFICIAL INCUBATION

—	Natural incubation	Artificial incubation
Number of eggs set	60	165
Number of chicks hatched	43	108
Per cent total eggs hatched	71·6	65·9
Number of chicks alive at three weeks	40	105
Per cent chicks alive at three weeks	93·3	97·2
Summary of costs		
Value of eggs at 10 cents each	$6 00	$16 50
Quantity of oil used (gallons)	.....	7
Cost of oil	.....	2 45
Cost of labour	3 20	2 18
Total cost	9 20	21 13
Cost per chick hatched	0 214	0 195
Cost of incubation per chick at three weeks	0 23	0 20

COST OF ARTIFICIAL BROODING

The object of this experiment is to determine the cost of brooding the chicks from birth until they have no further need of artificial heat, at the age of six weeks. The results are as follows:—

COST OF ARTIFICIAL BROODING

—	1926	1927
Number of chicks	200	200
Quantity of coal used (pounds)	650	840
Value of coal at $17.35 per ton	$5 63	$7 29
Cost of grain, 102 pounds at $2.50 per 100 pounds	2 25	2 55
Cost of mash, 74 pounds at $2.75 per 100 pounds	1 92	2 08
Cost of skim-milk, 200 pounds at $0·005 per pound	1 25	1 00
Cost of cod liver oil (one quart)	0 19	0 19
Cost of labour, 35 hours at 30 cents	10 50	10 50
Total cost	21 75	23 56
Cost per 100 chicks	10 88	11 78

NATURAL VS. ARTIFICIAL BROODING

The purpose of this experiment is to ascertain the comparative advantage of raising chicks until six weeks with hens and with artificial brooders. A record was kept of all the expenses in connection with the two systems and the results for 1926 and 1927 are given in the following table:—

NATURAL VS. ARTIFICIAL BROODING

—	Natural brooding	Artificial brooding
1927		
Number of chicks	100	100
Cost of coal	.....	$3 65
Cost of scratch grain, $2.50 per 100 pounds	$2 00	1 25
Cost of mash at $2.75 per 100 pounds	1 92	1 10
Cost of skim-milk at 50 cents per 100 pounds	0 62	0 53
Cost of cod liver oil	.....	0 12
Cost of labour	5 10	6 30
Total cost	9 64	11 70
Cost per chick	0 096	0 117
1926		
Number of chicks	100	100
Quantity of coal used in 6 weeks, pounds	325	
Cost of coal	$2 81	
Quantity of grain used, pounds	45	130
Cost of grain	$1 13	$3 25
Quantity of dry mash used, pounds	35	50
Cost of mash	$0 96	$1 38
Skim-milk used, pounds	125	140
Cost of skim-milk	$0 62	$0 70
Cod liver oil, 1 pint	0 10	
Labour, hours	17	10
Cost of labour	5 10	3 00
Total cost	10 72	8 33
Cost per chick	0 1072	0 083

The larger quantity of food consumed during natural brooding is due to the fact that there were five hens to care for the chicks. Interest on capital and depreciation of material were not counted in both cases, nor was the value of the eggs that might have been laid by the hens used in natural brooding if they had not been permitted to brood.

Natural brooding requires less technical knowledge than artificial brooding and less capital.

METHODS AND RATIONS FOR FATTENING COCKERELS

The object of this experiment was to demonstrate: (1) the best method for the fattening of cockerels, whether in crates or in pens; (2) the best ration for fattening (barley, corn, or a mixture of both; (3) the cost of fattening and the profit realized.

Forty-eight cockerels were selected for this experiment and were divided into lots of 8 each. Lots 1, 2 and 3 were put in crates, and lots 4, 5 and 6 were left in the pens. Group No. 1 received the following ration: 2 parts of corn meal; ½ part of oatmeal; 1 part of middlings, 2½ per cent of charcoal and skim-milk. Group No. 2 received exactly the same ration, with the exception that barley meal was substituted for cornmeal. Group No. 3 was fed a ration composed of equal parts of cornmeal and barley meal, plus 2½ per cent of charcoal and skim-milk. Group No. 4 received the same ration as group No. 1. Group No. 5 received the same ration as group No. 2. Group No. 6 received a regular ration of the following composition: dry mash in hopper, wet mash in a trough at noon and scratch grain thrown in the litter morning and night.

All the lots received 6 pounds of skim-milk. The fattening period covered 21 days. The results obtained in the last four years are given in the following table:—

EXPERIMENT ON THE FATTENING OF COCKERELS

Lot and special feed	In pen or crate	Initial weight	Weight after fattening	Value at start of experiment at 35c. per pound	Value after fattening at 35c. per pound	Increase in value	Value of feed	Profit
		lb.	lb.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Lot No. 1—								
Corn	Crate	50¼	57½	15 08	20 13	5 05	1 68	3 37
4-year average		46	54	13 80	18 90	5 10	1 51	2 42
Lot No. 2—								
Barley	Crate	47	53·75	14 10	18 81	4 71	1 40	3 31
4-year average		46	51½	13 80	18 03	4 23	1 18	3 15
Lot No. 3—								
Corn and barley	Crate	52½	57·75	15 75	20 21	4 46	1 45	3 01
4-year average		47	52	14 10	18 20	4 10	1 18	2 92
Lot No. 4—								
Corn	Pen	48¼	58	14 48	20 30	5 82	1 95	3 87
4-year average		45	52	13 50	18 20	4 70	1 62	3 08
Lot No. 5—								
Barley	Pen	49½	54	14 85	18 90	4 05	1 60	2 45
4-year average		46	51	13 80	17 85	4 05	1 30	2 75
Lot No. 6—								
Ordinary ration		47·75	50·75	14 33	17 76	3 43	2 10	1 33
4-year average		45	51	13 50	17 85	4 35	2 07	2 28

Group No. 4, fattened in a pen, and receiving a corn ration, gave the greater profit this year, and the flesh of the birds had the best appearance for the market. No. 1, fattened in a crate on a corn ration was a close second, then Nos. 3, 5 and 6 in the order named. This experiment will be carried on another year before final conclusions are drawn.

PULLET VS. HEN EGGS FOR INCUBATION

In order to determine the fertility, the number of chicks hatched and the number of chicks alive from hen and pullet eggs, a separate record of incubation, of hatching, and of the rate of mortality was kept in both cases. The results are given in the following table:—

PULLET VS. HEN EGGS FOR INCUBATION

—	Hen	Pullet
Total number of eggs	855·0	697·0
Number of fertile eggs	740·0	618·0
Per cent fertile eggs	86·5	88·7
Number of chicks	571·0	477·0
Per cent of chicks hatched	66·7	68·4
Per cent fertile eggs hatched	77·2	77·3
Number of chicks alive at age of 3 weeks	553·0	466·0
Per cent of chicks alive at age of 3 weeks	96·8	97·7
Total number of eggs required for 1 chick hatched	1·5	1·5
Total number of fertile eggs required for 1 chick hatched	1·3	1·3
Total number of eggs required for 1 chick 3 weeks old	1·6	1·6

RESULTS AND AVERAGE FOR FIVE YEARS

Year	Number of eggs set		Per cent fertile eggs		Number of chicks hatched		Number chicks alive at 3 weeks		Number eggs required for 1 chick hatched		Number eggs required for 1 chick alive at 3 weeks	
	Hens	Pullets	Hens	Pullets	Hens	Pullets	Hens	Pullets	Hens	Pullets	Hens	Pullets
1923.....	442	205	88·5	91·7	169	43	102	26	2·6	4·7	4·3	7·9
1924.....	1,914	466	81·5	74·2	513	132	400	92	3·7	3·5	4·7	5·1
1925.....	1,138	120	90·2	71·6	451	44	431	41	2·7	2·7	2·6	2·9
1926.....	878	508	84·9	80·5	390	261	351	235	2·3	1·9	2·5	2·2
1927.....	855	697	86·5	88·7	571	477	553	466	1·5	1·5	1·6	1·6
Total.....	5,227	1,996	.....	.....	2,094	957	1,837	860	.....	.....	.....	.....
Average....	1,045	399	86·3	81·3	419	191	367	172	2·6	2·9	3·1	3·9

CORN VS. BARLEY FOR LAYING STOCK

The object of this experiment is to ascertain if barley is a satisfactory substitute for corn in a ration for laying stock.

Two equal groups of pullets were selected for this experiment and they were housed and fed in the same manner; the only difference was that one group received cornmeal in the mash and cracked corn in the scratch grain, while the other group received barley meal and barley. Records were taken of the total cost of feed, the value and cost of eggs per dozen and net profit. The results obtained are given in the following table:—

CORN VS. BARLEY FOR LAYING STOCK

—	Year	Corn	Barley
Total cost of feed	1926	$1 53	$1 25
	1927	1 44	1 20
Number of eggs laid	1926	57·4	55·4
	1927	59·4	66·1
Value of eggs laid	1926	$2 66	$2 55
	1927	2 74	2 95
Cost of feed for one dozen eggs	1926	$0 57	$0 424
	1927	0 29	0 22
Net profit	1926	$0 90	$1 30
	1927	1 32	1 74

These figures are based on the production of 1 bird from the 1st of November to the 1st of May.

Barley is grown in this district, while corn is imported. The barley-fed pen gave 42 cents more per hen than the corn-fed pen. The cost of food per dozen eggs laid is 7 cents higher for the corn-fed pen. This experiment shows that the poultrymen of the district would find it profitable to use barley in place of corn for the laying hens. However, this experiment will be continued before final conclusions are drawn.

ROOTS VS. CLOVER VS. SPROUTED OATS VS. EPSOM SALTS

The object of this experiment is to compare the three green feeds mentioned above and to see if Epsom salts may be used as a substitute for green feed.

Four groups of 25 pullets each were used in this experiment; they were housed, treated and fed in the same manner, with the exception of the form of green feed given.

The first group received clover as green feed. The second group received vegetables and the third group sprouted oats. The fourth group received Epsom salts as substitute for green feed, at the rate of 2 ounces for 25 pullets, mixed in the wet mash. The results obtained are as follows:—

ROOTS VS. CLOVER VS. SPROUTED OATS VS. EPSOM SALTS

—	Year	Clover	Vegetables	Sprouted oats	Epsom salts
Cost of food	1926	$1 50	$1 496	$1 60	$1 47
	1927	1 35	1 37	1 46	1 34
Eggs laid	1926	65·8	54·1	67·9	53·3
	1927	74·8	77·5	75·8	72·4
Value of eggs laid	1926	$3 05	$2 49	$3 15	$2 48
	1927	3 75	3 74	3 71	3 45
Cost of food (per dozen eggs)	1926	$0 37	$0 44	$0 35	$0 41
	1927	0 22	0 21	0 23	0 22
Net profit	1926	$1 55	$1 00	$1 55	$1 03
	1927	2 40	2 37	2 25	2 11

These figures are based on the production of 1 bird.

The pen receiving clover gave the best results. This experiment will be continued for a few years.

WET MASH VS. DRY MASH

The object of this experiment is to compare wet mash and dry mash for egg production. Two groups of pullets of the same stock and of about the same size were used. They were housed, treated and fed in the same manner, with the exception that one group received wet mash in a self-feeder, available at all times, while the other group received in addition dry mash in a trough at noon. The results obtained are given in the following table:—

WET VS. DRY MASH

—	Year	Wet mash	Dry mash
Total cost of food	1926	$1 69	$1 41
	1927	1 35	.....
Eggs laid	1926	58·49	40·75
	1927	88·3	51·5
Value of eggs laid	1926	$2 83	$1 86
	1927	4 27	2 42
Cost of food per dozen eggs	1926	$0 34	$0 42
	1927	0 18	0 34
Net profit	1926	$1 20	$0 45
	1927	2 92	0 94

These figures are based on the production of 1 bird.

The above table shows that the feeding of a wet mash to laying hens is very profitable. Wet mash is digested more readily than dry mash and hens show a preference for it. This experiment will be continued a few more years, however, before final conclusions are drawn.

COST OF PRODUCTION OF EGGS

The object of this experiment is to determine the feed cost of eggs as well as the number of eggs required to cover the food cost during the winter months. A group of 25 pullets was used in this experiment which covered six months (November 1 to May 1). A record was kept of the food consumed, the cost of this food, the number of eggs laid and the value of these eggs. The number of eggs required per hen to pay for the winter's feed was 31 during 1926 and 16·5 during 1927.

THE EFFECT OF VARIOUS GREEN FEEDS ON FERTILITY

The object of this experiment is to determine the effect of various green feeds on fertility.

Four pens of 25 pullets each were used. They were given as green feeds, or as substitutes, clover, vegetables, sprouted oats and Epsom salts. All the birds of these pens were mated at two different periods. In the first period, they were mated in the ordinary way; in the second period the males were transferred from one pen to another every day. A record of incubation was kept for the two periods. The results are as follows:—

EFFECT OF VARIOUS GREEN FEEDS ON FERTILITY

1926

	Number of eggs set for incubation	Number of clear eggs	Per cent fertile eggs
First period—			
Group No. 1—Clover	48	10	79·2
No. 2—Vegetables	53	18	66·0
No. 3—Sprouted oats	60	8	86·6
No. 4—Epsom salts	49	5	89·8
Second period—			
Group No. 1—Clover	48	9	79·2
No. 2—Vegetables	60	11	81·2
No. 3—Sprouted oats	63	6	90·7
No. 4—Epsom salts	41	12	70·7

1927

First period—			
Group No. 1—Clover	80	9	88·8
No. 2—Vegetables	105	13	87·6
No. 3—Sprouted oats	95	8	91·5
No. 4—Epsom salts	73	7	90·4
Second period—			
Group No. 1—Clover	83	8	90·4
No. 2—Vegetables	104	6	94·2
No. 3—Sprouted oats	90	6	93·3
No. 4—Epsom salts	71	5	92·9

It should be noted that there was an interval of eighteen days between the first and the second period, and that the temperature was more favourable for mating during the second period. To determine the advantage, if any, of changing the males every day, this change will be made in the first period next year.

BEST TYPE OF LAYING-HOUSE

Three 100-hen poultry houses were built. The first one was built of logs with front one-third cotton, one-third glass, and one-third wood. The second was built with boards with front one-eighth cotton, one-quarter glass, and the rest wood. The third was built with boards with front one-quarter cotton, one-quarter glass, and the rest wood. All three were fitted with a gable roof with straw attic and openings under the gable. The layer of straw promotes ventilation. The three sides, with the exception of the front, are tight-fitting, so that no air can pass through. In this way, the cotton screen and sashes may be opened without draught. A thermometer was placed in each of these poultry-houses.

RESULTS.—The first poultry-house, made of logs, gave the best results as regards production, comfort and health of the birds, and according to the thermometer records, the fluctuations of temperature were less in this poultry-house than in the other two, and the temperature was also higher during the winter months. This poultry-house kept very dry at all times during the year. It would be a very economical poultry-house for a settler who has the necessary logs on his lot or who would like to transform his first log-dwelling into a poultry-house. It would be more expensive for anyone who would have to buy wood, because it requires more wood than the other types.

The second poultry-house gave the lowest average yield of the three. This poultry-house is not so cold as the third one during the winter, but the ventilation is not so good, owing to the smaller area in cotton, and the hens do not keep in as good a condition as in the other two.

The third one is a very good house, though it is the coldest of the three. The hens in it keep very well and lay satisfactorily. This poultry-house is the least expensive of the three. It is very practical and is to be recommended.

The first and the third ones are the best; the second one, though good, is not as profitable as the other two.

BEE-KEEPING

The apiary was reorganized during the year. The production of honey was not pushed during the season in order that the colonies might be reinforced, and five colonies in good condition were placed in the cellar in the fall. We intend to make further increases in the number of colonies before starting experiments. There is such an abundance of honey plants in this district that we believe that bee-keeping may be successful in spite of the shortness of the season, if suitable methods are followed.

FIBRE PLANTS

In the experimental work on fibre plants, the following four-year rotation is followed: first year, flax and hemp; second year, sunflower with an application of 16 tons manure per acre; third year, oats; fourth year, clover hay.

The tests of flax and hemp were conducted in triplicate $\frac{1}{40}$-acre plots. The crop is pulled, weighed and forwarded to Ottawa to be graded according to the quality of the fibre.

FLAX—VARIETY TEST

Three varieties were sown June 2, at the rate of 1·5 bushels per acre. Pulling was done on September 2. On account of frequent rains, this crop took a long time to dry and lost a good deal of its quality.

According to the valuation made by Mr. R. J. Hutchinson, Chief, Fibre Plant Division, upholsterers' tow from this straw has a value of $55 per ton. The yield per acre is given in the following table.

RESULTS OF VARIETY TEST WITH FLAX

Variety	Date of pulling	Date of blooming	Yield per acre dry matter
			tons
Riga blue	June 13	July 28	1·80
Dutch blue	June 15	July 30	1·70
Longstem	June 15	Aug. 2	2·18

HEMP—VARIETY TEST

One variety was tested in plots adjacent to the flax plots. The stand was even, but the growth was so weak that it was not deemed advisable to harvest the crop. In the fall, the tallest plants were only eighteen inches high. This poor growth may be attributed to the fact that hemp is more exacting as regards plant food than flax, which is also more exacting than wheat. Hemp requires a great deal of lime. An analysis of the soil taken in the neighbourhood of this plot has shown a great lack of lime and this is probably the chief reason for this failure.

ILLUSTRATION STATIONS

A few illustration stations were selected and organized in the district with the assistance of the Illustration Station Branch, Ottawa. These stations are cerainly the best means of imparting quickly to farmers the practical information gained on the experimental farms.

EXTENSION AND PUBLICITY

The station was visited by many farmers during 1927, and explanations and demonstrations were given. In the fall, the meeting of the Agricultural Association of Abitibi was held on the station. A large number of delegates from all the parishes of Abitibi were received, and lectures were given by the staff. The members of the staff were also called upon to act as judges at several agricultural contests in the district and to answer a great number of inquiries.

At the beginning of July, 1927, the members of the Liaison Française were received on their return from their trip to the Pacific coast. This excursion included a great number of persons belonging to different classes of society, from various provinces of Canada and various places in the United States, and every one took a keen interest in our work.

At the beginning of August, another excursion organized by Colonizing Missionaries and mainly composed of people who desired to settle in Abitibi was received. These people, several hundreds in number, went away satisfied with valuable information. On this occasion, meals were served to a number of excursionists, who appeared to appreciate this attention.

About the middle of the month, on account of the fifteenth anniversary of the foundation of Amos, another excursion composed of the Minister and Deputy Minister of Colonization of the Province of Quebec, almost all the members of the Provincial Legislature, a number of members of the Legislative Council and representatives of the great newspapers of the province, was also received. All these people took a great deal of interest in our work and appeared to be satisfied with their visit.

Towards the end of September, another excursion was received, composed of people from various parts of the province who desired to see by themselves at this time of the year the farming results in this district. They were able to see on the experimental Station of La Ferme, wheat, oats, well-matured barley and excellent vegetables, also some good second growth on the meadows where the clover was in bloom. They were all very favourably impressed and a number of them have since purchased farms or lots in the district. A large number of farmers of the district also visited the Station at various times during the year.

At the invitation of agricultural representatives and of the directors of the Agricultural Society, the station presented agricultural exhibits during the month of September at the following fairs: La Sarre, Macamic, Amos. An exhibit was presented at the poultry exhibition held at Macamic on the 1st of December. The judging was done by members of the staff, who also gave lectures at other agricultural meetings. All this shows the growing interest that is being taken in the experimental station and the educational work done by the station.

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