DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE
DOMINION EXPERIMENTAL FARMS

EXPERIMENTAL STATION

LENNOXVILLE, QUE.

INTERIM REPORT OF THE SUPERINTENDENT

J. A. McCLARY

FOR THE YEAR ENDING MARCH 31, 1921

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EXPERIMENTAL STATION, LENNOXVILLE, QUEBEC

INTERIM REPORT OF THE SUPERINTENDENT, J. A. McCLARY

SEASON 1920-21

The month of April was dull and dry, and very little vegetation started, the first seeding being on May 8. June was quite dry, but there was an excessive amount of rain—7·66 inches—in July. The month of August was fine and warm. The first frost to do any damage occurred on September 20. October, November and December were unusually mild, as well as the three following months.

METEOROLOGICAL RECORDS, 1920-21

Month, 1919	Temperatures					Precipitation			
	Maximum		Minimum		Mean Degree	Rainfall inches	Snowfall Inches	Total Inches	Total Sunshine Hours
	Date	Degree	Date	Degree					
April	20	65	9	9	38·01	4·62	.....	4·62	136·7
May	31	83	5	21	49·25	1·28	.....	1·28	241·9
June	27	85	4-26	35	59·44	2·22	.....	2·22	220·1
July	14	85	2	38	64·15	7·66	.....	7·66	222·9
August	9	88	24-4	40	68·59	4·70	.....	4·70	229·7
September	24	86	21	25	56·59	4·45	.....	4·45	152·5
October	9	72	24-12-13	25	49·75	2·27	0·28	2·55	143·6
November	10	53	21	−06	29·94	1·94	0·71	2·65	41·3
December	15	45	27	− 0	21·12	3·31	2·00	5·31	28·8
January, 1921	2	34	19-25-26	− 3	11·27	0·75	0·65	1·40	106·6
February	6-17-23	25	25	12	16·76	0·47	0·80	1·27	90·6
March	21-2	40	4	25	34·11	2·27	0·80	3·07	141·2
Total	761			221	498·98	35·94	5·24	41·18	1,761·9
Average per month 1920-21	63·41			18·41	41·58	2·99	0·87	3·43	146·8
" 1919-20	68·16			1·91	41·11	2·77	16·2	3·12	142·9
" 1918-19	65·50			10·8	40·81	2·98	3·56	3·28	132·9
" 1917-18	65·75			4·25	36·39	3·45	16·8 1	3·29	130·9

ANIMAL HUSBANDRY

BEEF CATTLE

Owing to the large amounts of hay and silage grown on the farm, and to the comparatively small dairy herd maintained, it is necessary to feed a considerable number of steers each year; consequently, during the months of September and October, 1920, ninety-three stockers were purchased. These steers were all well graded, Shorthorns and Polled Angus, with a very few Herefords. They cost ten cents per pound, delivered, which was the lowest price for which steers of the quality obtained could be purchased at that time.

These cattle, after a preparatory feeding period on the late fall grass, were put into the stable for late winter feeding on November 6, 1920. They were split up into groups, and a number of experiments conducted, which are reported on herein.

The steers were sold on May 20, 1921, at a considerable loss, as will be seen by the financial statement given at the close of this report.

FEEDING EXPERIMENTS

Early vs. Late Grain Feeding

Object in View.—To ascertain the relative economy of feeding grain immediately the steers are stabled for winter feeding, compared with starting grain feeding two and four months later.

Procedure.—Three lots of steers, six in each, were selected. All were given the same roughage ration and care, but lot 1 was started on grain feeding almost immediately; lot 2, two months later; and lot 3, four months later. The grain mixture consisted of one part ground corn, one part ground oats, and one part ground elevator screenings. It was fed at the rate of 3 pounds per day at the start, and gradually increased to 7 pounds per day. The following tables give the results:

Early vs. Late Grain Feeding

All Steers put on Experiment November 6, 1920

—		Lot 1	Lot 2	Lot 3
Started Grain Feed		Nov. 15	Jan. 15	Mar. 15
Number of steers		6	6	6
Gross weight Nov. 6, 1920	lbs.	5,630·0	5,449·0	5,930·0
Average weight Nov. 6, 1920	lbs.	938·3	908·1	988·3
Gross weight May 26, 1921	"	7,185·0	6,675·0	7,115·0
Average weight May 26, 1921	"	1,197·5	1,112·5	1,185·8
Total gain in 195 days	"	1,555·0	1,336·0	1,185·0
Average gain in 195 days	"	1,555·0	1,336·0	1,185·0
Average gain in 195 days	"	259·1	204·3	197·5
Average gain per steer per day	"	1·33	1·05	1·01
Amount of hay eaten by group	"	11,700·0	11,700·0	11,700·0
Amount of silage eaten by group	"	25,272·0	25,272·0	25,272·0
Amount of corn eaten by group	"	2,337·5	1,758·0	1,037·0
Amount of oats eaten by group	"	2,337·5	1,758·0	1,037·0
Amount of screenings eaten by group	"	1,625·0	1,530·0	1,025·0
Total cost of feed	$	211 43	186 99	151 46
Cost of feed per steer	$	35 24	31 16	25 24
Cost to produce one pound gain	$	13 60	15 25	12 78
Original cost of group	$	563 00	554 90	593 00
Original cost plus cost of feed	$	774 43	741 89	744 46
Selling price at $9.65, $9.15, and $8.65	$	693 35	610 76	615 45
Net loss per group	$	81 08	131 13	129 01
Net loss per steer	$	13 51	21 85	21 50

LOOSE VS. TIED

		Lot I Loose	Lot II Tied
Number of steers		10	8
Gross weight Nov. 6, 1920	lbs.	8,775·0	8,310·0
Average weight Nov. 6, 1920	"	877·5	1,038·7
Gross weight May 20, 1921	"	11,305·0	10,015·0
Average weight May 20, 1921	"	1,130·5	1,251·8
Total gain in 195 days	"	2,530·0	1,705·0
Average gain in 195 days	"	253·0	213·1
Amount of hay eaten by group	"	19,500·0	15,600·0
Amount of silage eaten by group	"	42,120·0	33,696·0
Amount of corn eaten by group	"	2,930·0	2,344·0
Amount of oats eaten by group	"	2,930·0	2,344·0
Amount of screenings eaten by group	"	2,600·0	2,080·0
Total cost of feed for group	$	311 66	249 33
Total cost of feed for steer	$	31 16	31 16
Cost to produce one pound gain	$	12 31	14 61
Original cost of group	$	877 05	831 00
Original cost of group plus cost of feed	$	1,189 16	1,080 33
Selling price at $9.15 per cwt	$	1,034 40	916 37
Nett loss per group	$	154 76	163 96
Net loss per steer	$	15 47	20 49

GROUND ELEVATOR SCREENINGS VS. CORN, OATS AND SCREENINGS

		Lot 1 Corn, oats, screenings	Lot 2 Ground elevator screenings
Number of steers		8	5
Gross weight Nov. 6, 1920	lbs.	8,310·0	4,810·0
Average weight Nov. 6, 1920	"	1,038·7	962·0
Gross weight May 20, 1921	"	10,015·0	5,810·0
Average weight May 20, 1921	"	1,251·8	1,162·0
Total gain in 195 days	"	1,705·0	1,000·0
Average gain in 195 days	"	213·1	200·0
Amount of hay eaten by group	"	5,600·0	9·759·0
Amount of silage eaten by group	"	33,696·0	21,060·0
Amount of corn eaten by group	"	2,344·0	.....
Amount of oats eaten by group	"	2,344·0	.....
Amount of screenings eaten by group	"	2,040·0	3,880·0
Total cost of feed for group	$	249 33	131 77
Total cost of feed per steer	$	31 16	26 35
Cost to produce 1 lb. gain	$	14 62	13 17
Original cost of group	$	831 00	481 00
Original cost of group plus cost of feed	$	1,080 33	612 77
Selling price	$	916 37	531 61
Net loss per group	$	163 96	81 06
Net loss per steer	$	20 49	16 21

Ground Elevator Screenings vs. Corn, Oats and Screenings

Lot No. 1—	Pounds
Nov. 6, 1920, 8 steers weighed	8,310
May 20, 1921, 8 steers weighed	10,015
Total gain for period	1,705
Cost of Feed—	
Hay, 15,600 lb. at 50c. cwt	$ 78 00
Silage, 33,696 lb. at 15c	50 54
Corn, 2,244 lb. at $2	44 88
Oats, 2,244 lb. at $2	44 88
Screenings, 2,244 lb at $1.32½	29 73
Cost to produce 1,705 lb. gain	$248 03
Cost to produce 1 lb. gain	.1454

Lot No. 2—	Pounds
November 30, 5 steers weighed	4,810
May 20, 5 steers weighed	5,810
Total gain	1,000
Cost of Feed—	
Hay, 9,759 lb. at 50c. cwt	$ 48 77
Silage, 21,060 lb. at 15c	31 59
Screenings, 4,207 lb. at $1.32½	55 74
Cost to produce 1,000 lb. gain	$136 10
Cost to produce 1 lb. gain	.1361

Note.—Grain feeding commenced January 15 with 3 pounds per day, increased to 7 pounds per day at end of period (May 20).

Steer Feeding—Winter 1920-21

Number of steers in lot		93
First weight, gross, November 6		lb 86,811
First weight, average		" 933·45
Finished weight, gross		
1 steer sold January 12—Weight	897 lb.	
92 steers sold May 20—Weight	107,480 "	
		108,377
Finished weight average		1,165·34
Total gain for period		21,556
Average gain per steer		231·89
1 steer sold January 12, weight 897 lb. at 7c.		$ 62 79
92 steers sold May 20, weight	107,480	
Shrinkage	6,900	
	100,580 lb. at $9.15 cwt.	$ 9,203 07
Less insurance		46 00
		$9,157 07
Value of steer sold January 12		62 79
		$9,219 85

Steers cost November 6, 86,811 lb. at 10c., $8,681.10.

Cost of Feed—		
Hay, 179,400 lb. at 50c	$897 00	
Silage, 387,504 lb. at 15c	581 25	
Corn, 22,472 lb. at $2	449 44	
Oats, 22,472 lb. at $2	449 44	
Screenings, 22,895 lb. at $1.32½	303 35	
Total cost of feed		$ 2,680 48
Total cost of feed and steers		11,361 58
Total loss per lot		2,141 73
Total loss per steer		28 02

DAIRY CATTLE

AYRSHIRE HERD

The Station's Ayrshire herd at present consists of 33 females and one stock bull, "Ottawa Master", which was bred by the Central Experimental Farm at Ottawa. In this herd are 18 young heifers of different ages, from two months to three years, and bred at this station from the Ayrshire stock bull, "Gardrum Bold Boy" No. 47138, which was bred at the Nova Scotia Agricultural College, his dam being a R.O.P. cow with a record of over 14,000 pounds of milk. Good milk production is expected from this stock, which will be entered in the R.O.P. test as soon as they freshen.

Following will be found the milk yields and cost of producing same; cost of feeding Ayrshire herd bull from 2 years to 3 years, 3 years to 4 years, and 4 years to 5 years; cost of raising Ayrshire heifers from birth to 1 year, 1 year to 2 years, and 2 years to 3 years; cost of raising Ayrshire heifer from birth to 18 months; and cost of raising Ayrshire bull calves from birth to 10 months.

Financial Statement for Ayrshire Herd

Inventory and returns for dairy cattle for the year April 1, 1920, to March 31, 1921.

	April 1, 1920		March 31, 1921		Return including sales of dairy produce and breeding cattle	Gross returns including increased value and sales
	No.	Value	No.	Value		
Dairy cattle	40	$5,195 00	44	$5,650 00	$4,135 07	$4,590 07

Returns

	$ cts.	$ cts.
By increased value of herds	455 00	
Returns from dairy products	1,397 05	
Returns from sales of cattle	2,738 02	
		4,590 07

Expenditures

To value of feed consumed	1,526 69	
Cost of new stock purchased	1,250 00	
		2,776 69
Net credit balance from dairy cattle		1,813 38

Dairy Herd Records, 1920-1921—Ayrshire

Name of Cows	Date of dropping calf	No. of days in lactation period	Total lbs. of milk for period	Daily average yield of milk	Average per cent fat	Pounds of butter produced	Value of butter at 30c. per lb.	Value of skim-milk at 20c. per cwt.	Total value of product	Amount of meal eaten at ·01¼ per lb.	Amount of roots and silage eaten at $2 per ton	Amount of hay eaten at $7 per ton	Amount of green feed eaten at $3 per ton	Months on pasture	Total cost of feed for period	Cost to produce 100 lbs milk	Cost to produce 1 lb. butter	Profit on 1 lb. butter	Profit on cow
							$ cts.	$ cts.	$ cts.						$ cts.				$ cts.
Julia 2nd	May 15, 1919	351	10,884	31·00	3·6	460·96	130 29	20 85	159 14	3,903	114,95	2,868	3,000	5	79 89	73·4	17·3	12·7	79 25
Tatehurst Daisy	Dec. 22, 1919	253	7,184·5	28·39	4·0	399·09	119 73	13 69	133 42	2,665	8,050	1,904	700	4½	53 57	74·5	13·4	16·6	79 85
Pansy	April 28, 1919	376	13,108	34·80	4·0	571·21	171 36	25 87	197 24	4,564	10,675	2,732	3,000	4¾	86 54	66·0	15·1	14·9	110 70
Oakland Dairy-maid	April 8, 1920	206	6,706	32·50	4·1	320·11	96 03	12 97	109 00	2,709	7,420	1,953	.....	4	52 11	77·8	16·5	13·5	56 89
Pauline's Pride	Aug. 29, 1919	281	5,366·5	19·09	4·4	277·79	83 34	10 18	93 52	2,096	7,980	2,004	1,475	3⅓	46 80	87·0	16·0	14·0	46 72
Lennoxville Mary	May 6, 1920	270	6,419·5	23·77	4·3	326·80	98 04	12 18	110 22	2,763	6,835	2,014	.....	4	52 43	81·0	15·1	14·9	57 79
Lennoxville Bettina	May 20, 1920	314	7,324·4	23·32	4·0	344·67	103 40	13·96	117 36	3,501	7,114	1,798	.....	4	61 16	76·6	17·7	12·3	56 20
Annabel	Aug. 2, 1920	205	3,079·5	15·02	3·7	136·90	41 07	5·88	46 97	1,784	5,715	1,914	.....	3	37 72	122·0	27·5	2·5	3 35
Lennoxville Roxie	Sept. 18, 1919	348	7,244	20·81	4·4	300·90	106 20	13·78	119 98	2,519	7,980	2,004	300	6½	53 43	73·6	15·0	15·0	52 77
Lennoxville Blue-bell	Sept. 14, 1919	320	7,320	22·87	3·5	302·50	90 75	14 03	104 78	2,493	7,980	2,004	300	5	51 62	70·5	17·0	13·0	53 16
Lennoxville Beauty	Sept. 14, 1919	312	7,622·5	24·43	3·4	304·90	91 47	14 63	106 10	2,527	7,980	2,004	300	5	52 03	68·2	19·0	13·0	54·07
Lennoxville Doreen	Sept. 22, 1919	327	8,217	25·12	4·1	326·90	118 90	15 64	134 54	2,612	7,980	2,004	300	3½	51 59	62·7	15·3	14·7	67 31
Lennoxville Marjorie	Jan. 20, 1920	372	6,523	17·53	4·7	362·60	108 78	12 32	121 10	3,043	9,595	2,750	.....	4	61 27	63·9	16·8	13·2	59 83
Average	.....	302·6	7,538·3	24·51	4·0	342·02	104 56	14 30	119 49	2,852	8,215	2,150	1,171	4·3	56 93	79·0	16·9	13·1	59 83

Cost of Feeding Ayrshire Herd Bull

From Two to Three Years

2,271 lb. hay at $7 per ton	$ 7 95
4,800 lb. ensilage at $2 per ton	4 80
2,350 lb. green feed at $3 per ton	3 53
1,712 lb. grain at $25 per ton	21 40
	$37 68

From Three Years to Four Years

3,132 lb. hay at $7 per ton	$10 96
6,275 lb. ensilage at $2 per ton	6 28
1,150 lb. green feed at $3 per ton	1 73
1,755 lb. grain at $25 per ton	21 94
	$40 91

From Four to Five Years

3,697 lb. hay at $7 per ton	$12 94
7,110 lb. ensilage at $2 per ton	7 11
950 lb. green feed at $3 per ton	1 43
1,850 lb. grain at $25 per ton	23 12
	$44 60
Cost of feeding herd bull 3 years	$123 19

Cost of Raising Ayrshire Heifers

From Birth to Eighteen Months

Names	Whole milk at $1.75 per cwt.	Skim-milk at 20c. per cwt.	Meal at ·01½c. per lb.	Ensilage at $2 per ton	Hay at $7 per ton	Pasture at $1 per month	Total cost
							$ cts.
Lennoxville Beauty 2nd	415	3,652	1,510	2,184	2,356	3½	47 37
Lennoxville Annabel	667	2,900	1,381	2,167	2,119	3½	47 84
Lennoxville Bluebell 3rd	678	4,027	1,555	1,986	2,420	2	51 82
Lennoxville Roxie 2nd	660	4,518	1,760	2,001	2,881	2	56 67
Lennoxville Doreen 2nd	798	4,302	1,576	2,652	2,715	2	56 41
Average	644	3,879	1,556	2,198	2,498	2¾	52 02

Cost of Raising Ayrshire Heifer

"Lennoxville Dairymaid"—61419. Born March 23, 1918

From Birth to One Year

769 lb. milk at $1.75 per cwt	$13 46
2,503 lb. skim-milk at 20c. per cwt	5 01
1,308 lb. hay at $7 per ton	4 58
1,170 lb. ensilage at $2 per ton	1 17
851 lb. grain at $25 per ton	10 64
	$34 86

From One Year to Two Years

1,712 lb. hay at $7 per ton	$ 5 99
5,330 lb. ensilage at $2 per ton	5 33
890 lb grain at $25 per ton	11 12
4½ months pasture	4 50
	$26 94

From Two Years to Three Years

1,423 lb. hay at $7 per ton	$ 4 98
5,400 lb. ensilage at $2 per ton	5 40
443 lb. grain at $25 per ton	5 54
5 months pasture at $1 per month	5 00
	$20 92
Cost of feeding Ayrshire heifer from birth to 3 years	$82 72

Cost of Feeding Ayrshire Heifers

Name and feeding period Mar. 2, 1919	Whole milk at $1.75 per cwt.	Skim-milk at 20c. per cwt.	Meal at ·01½c. per lb.	Ensilage at $2 per ton	Hay at $7 per ton	Pasture at $1 per month	Total cost
							$ cts.
Lennoxville Dairymaid 2nd—							
Birth to 6 months	450	1,277	486	.....	500	.....	18 66
6 months to 1 year	.....	225	699	2,320	1,160	.....	15 57
1 year to 2 years	.....	.....	512	4,270	1,361	5	20 43
From birth to 2 years	450	1,502	1,697	6,590	3,021	5	54 66
Lennoxville Susie—							
Birth to 6 months	364	1,517	430	.....	440	.....	16 31
6 months to 1 year	.....	225	667	1,925	1,112	.....	14 61
1 year to 2 years	.....	.....	481	4,085	1,392	5	19 97
From birth to 2 years	364	1,742	1,578	6,010	2,844	5	50 89
Lennoxville Halcyone—							
Birth to 6 months	474	1,983	435	.....	397	.....	19 11
6 months to 1 year	.....	225	674	1,770	1,112	.....	14 53
1 year to 2 years	.....	.....	543	3,675	1,361	5	20 22
From birth to 2 years	474	2,208	1,652	5,445	2,870	5	53 86

Average cost of feeding Ayrshire heifers from birth to 2 years, $53.14.

Cost of Raising Ayrshire Bull Calves

From Birth to Six Months

Names April 22, 1920	Whole milk at $1.75 per cwt.	Skim-milk at 20c. per cwt.	Meal at ·01½c. per lb	Ensilage at $2 per ton	Hay at $7 per ton	Total cost
						$ cts.
Lennoxville Bold Boy 2nd	492	1,770	393	.....	415	18 51
Bettina's Bold Boy 2nd	550	1,466	378	.....	438	18 80
Flora's Bold Boy 2nd	462	1,692	254	124	292	15 78
Annabell's Bold Boy 2nd	552	1,618	254	124	231	17 02

Cost of Rearing Ayrshire Bull Calves

"Lennoxville Bold Boy 2nd"—73700. Born April 22, 1920. Weight at birth 68 pounds. Weight February 22, 1921, 525 pounds.

From Birth to Ten Months

492 lb. milk at $1.75 per cwt.	$ 8 61
2,528 lb. skim-milk at 20c. per cwt.	5 06
808 lb. hay at $7 per ton	2 83
368 lb. ensilage at $2 per ton	0 37
901 lb. grain at $25 per ton	11 26
Total cost	$28 13

Average daily gain, 1·49 lb.
Cost to produce 1 lb., 6·15 cents.

"Bettina's Bold Boy 2nd"—73704. Born May 20, 1920

From Birth to Ten Months

550 lb. milk at $1.75 per cwt.	$ 9 62
1,840 lb. skim-milk at 20c. per cwt.	3 68
713 lb. hay at $7 per ton	2 50
588 lb. ensilage at $2 per ton	0 59
980 lb. grain at $25 per ton	12 25
	$28 64
Average cost of feed for calves from birth to 10 months	$28 38

SHORTHORNS

There has been established at this station a good foundation for a Shorthorn herd, consisting of ten females and two young bulls raised on the station. These Shorthorns are mostly of Scotch breeding and some of the heifers are showing up very well in milk production. It is hoped to be able to procure a good Shorthorn bull for the herd with a good milk production behind him, and at the same time retaining the beef qualities.

Two heifers are entered in the R.O.P. test work at present. Following are tables giving the cost of rearing Shorthorn heifers and financial statement of this herd.

Cost of Rearing Shorthorn Heifers

Two Shorthorns were raised to six months on a feed cost ranging from $23.82 to $24.69, an average of $24.25 per head.

Two Shorthorns were raised to twelve months on a feed cost ranging from $37.50 to $44.94, an average of $41.22 per head.

Two Shorthorns were raised to eighteen months of age on a feed cost ranging from $47.88 to $56.44, an average of $52.16 per head.

Financial Statement for Shorthorn Herd

Inventory and returns for dairy cattle for the year April 1, 1920, to March 31, 1921.

	April 1, 1920		Mar. 31, 1921		Returns including sales of dairy produce and breeding stock	Gross returns including increased value and sales
	No.	Value	No.	Value		
		$ cts.		$ cts.	$ cts.	$ cts.
Dairy cattle	8	1,750 00	13	3,115 00	335 63	1,700 63

Returns

By increased value of herd	$1,365 00	
Returns from dairy products	219 43	
Returns from sales of cattle	116 20	
		$1,700 63

Expenditures

To value of feed consumed	$ 335 22	
Cost of new stock purchased	1,400 00	
		$1,735 22
Net debit balance		$ 34 59

HORSES

Financial Statement for Horses

Farm work	6,559 hrs.	
Ploughing, harrowing, seeding	2,994 "	
Cultivating	667 "	
Horticultural Division and lawns	635 "	
Drawing manure	4,345 "	
Road work	2,745 "	
Hauling freight, cream, feed, etc	1,560 "	
	19,505 "	at 12c., $2,340.60
Feed for horses—		
82,244 lbs. hay at $10 per ton		$ 411 22
44,757 " oats at $2.50 per cwt		1,118 93
8,410 " bran at $2 per cwt		168 20
1,200 " corn at $2 per cwt		24 00
1,500 " roots at $3 per ton		2 25
Pasture at $1 per month		12 00
		$1,736 60

FINANCIAL STATEMENT FOR HORSES

	April 1, 1920		Mar. 31, 1921	
	No.	Value	No.	Value
		$ cts.		$ cts.
Horses	18	3,975 00	15	3,925 00

Receipts

By sale of three horses	$ 600 00	
19,505 hours labour at 12c. hour	2,340 60	
		$ 2,940 60

Expenditures

To cost of feed	$1,736 60
	$ 1,204 00

SHEEP

Financial Statement for Sheep

Inventory and returns for the year April 1, 1920, to March 31, 1921.

	April 1, 1920		Mar. 31, 1921		Returns, including sales	Gross returns, including increased value and sales
	No.	Value	No.	Value		
Sheep	58	$1,057	64	$1,054	$715.49	$715.49

Returns

By sale of old ewes	$ 98 85	
By sale of feeding lambs	456 55	
By sale of wool	160 09	
		$ 715 49

Expenditures

To cost of feed consumed	$ 593 45
	$ 122 04

SWINE

Financial Statement for Yorkshire Swine

Inventory and returns for swine for the year April 1, 1920, to March 31, 1921.

	April 1, 1920		Mar. 31, 1921		Returns, including sales	Gross returns, including sales
	No.	Value	No.	Value		
Swine	48	$1,028.00	23	$521.00	$2,082.90	$2,118.90

Returns

By sales of breeding stock	$ 102 00	
By sales of feeding stock	1,980 90	
By service fees	36 00	
		$ 2,118 90

Expenditures

To cost of feed consumed	$ 1,123 29
Net credit balance	$ 995 61

Cost of Producing Pork

LOT II

	Pounds
12 pigs weighed July 1, 1920	569
12 pigs weighed when sold December 10, 1920	2,437
12 pigs gained in 162 days	1,868
Average gain per pig	155·66
Average gain per pig per day	·96
Cost per pound gain ..Cts.	.07½

LOT III

	Pounds
8 pigs weighed August 1, 1920	396
8 pigs weighed when sold March 11, 1921	1,785
8 pigs gained in 225 days	1,389
Average gain per pig	173·6
Average gain per pig per day	·77
Cost per pound gain ..Cts.	.10½

FIELD HUSBANDRY

The area of the Lennoxville Farm property is 440 acres. A further 160 acres was recently acquired from the Soldiers' Settlement Board, making a total area available of 600 acres. This latter quarter-section, i.e., the 160 acres taken over from the S.S.B., was in extremely poor condition, producing practically no hay. Thirty acres of underdrainage have been put in on this farm, as well as 250 rods of fencing. Forty acres have been summer-fallowed, and are ready for crop in 1921.

There has not yet been any experimental work conducted in field husbandry, it having been essential to get the land into proper shape before embarking upon any projects along this line. Experimental work will, however, be commenced in 1921. The usual practice at this Station has been to follow as nearly as possible a four-year rotation, consisting of a hay crop, followed by grain, seeded down, and two years of hay.

In the spring of 1920 fifty-two acres of oats were sown, yielding 45 bushels to the acre; 27 acres of mixed grain consisting of oats, barley, and wheat, yielding 43 bushels

per acre; 200 acres of hay, yielding 1½ tons to the acre; 159 acres in rough uncultivated pasture; 20 acres of corn with a light mixture of sunflowers for silage purposes, yielding 12 tons per acre; 7 acres of oats and vetches for silage purposes, yielding 8 tons to the acre; one-half acre of mangels, yielding 950 bushels to the acre; and 1½ acres of swedes, yielding 900 bushels to the acre.

A Cleveland tractor has been used at this Station, and has been found to be of great utility in ploughing, discing, threshing and cutting silage crops. The first ploughing was done on April 15, and the first seeding on May 8. Haying was commenced on June 24; cutting clover (2nd crop), oats and vetches for silage on August 7; reaping grain on August 16; cutting grain on September 13; and fall ploughing on September 22.

HORTICULTURE

SEASONAL REMARKS, 1920

From the outset, when spring opened, until autumn set in, the weather conditions were the nearest to being ideal that have been on record for many years in this locality. The first hot-bed was put down on March 19. The first digging was done in the garden on April 14, and seed was sown out-of-doors on May 15.

During the season of growth, the rainfall showed a tendency to be excessive, but no serious damage resulted therefrom.

Insect pests were not very numerous, but some damage was done to onions, cabbage, carrots and parsnips, by maggots affecting the roots. These pests were found to affect the crops mentioned more seriously on the lighter soils. Raspberry cane-borer was quite common.

Many trees in the orchards showed signs of injury as a result of the severe winter conditions. Replacing was carried out to quite an extent.

The strawberry crop was unusually large, and a ready market for this class of fruit was found locally.

During the night of September 18 quite a hard frost occurred, which cut off all tender crops. Fine, summer-like weather followed, and continued until late into October.

FRUITS

CULTURAL ORCHARD

It seems quite evident from the losses sustained each year that some other plan will necessarily have to be put into operation if the Lennoxville orchard is to be continued. During the past two winters the number of trees killed has rendered it advisable to adopt a new and very drastic policy, viz:—of eliminating rather than replacing such varieties as prove too tender.

In so far as can be seen from the various methods of handling the trees in this orchard, cultivation or no cultivation does not show to the advantage of any variety. Hardiness is the prime requisite in every case, and, unless varieties possessing this character are used, orcharding will not meet with very much success.

It has been found that such varieties as Langford Beauty, Crimson Beauty, Lowland Raspberry and Scott Winter showed considerable hardiness.

During the summer the usual cultivation was attended to, and pruning and spraying done. Thirty-four trees were replaced, as follow: Fameuse, 2; Milwaukee, 13; Wolf River, 4; Yellow Transparent, 1; McIntosh, 6; Dudley, 3; St. Lawrence, 3; Crimson Beauty, 2.

VARIETY APPLE ORCHARD

Work in the orchard was commenced early in March, when the trees were pruned. Spraying was done when the leaf-buds were bursting, and cultivation started when the land was dry enough, and continued until July 15, when a cover crop of rape was sown.

The following varieties were replaced: 3 Pointed Pipka, 0-3470; 1 Lobo, 0-2663; 2 Thurso, 0-3153; 1 Montreal Peach, 0-3025; 1 Luke, 0-2692; 1 Walter, 0-2935; 1 Donald, 0-3155; 1 McMahan White, 0-3162; 2 Omesal, 0-3235; 1 Vermac, 0-3129; 2 Fameuse (Red) 0-3098; 1 Honora, 0-3125; 2 Antonovka Augustin, 0-2987; 1 Merlin, 0-3115; 5 Rupert, 0-3158; 2 Brock, 0-3151; 1 Merlin 0-3115; 1 Elmer, 0-3156; 2 Okabena 0-3350.

Additions to the orchard were as follow: 8 Winton, 0-3131; 8 Ambo, 0-3148; 8 Brisco, 0-3143; 2 Linda, 0-2958; 2 Mavis, 0-3140; 2 Girton, 0-3060; 2 Rome Beauty, 0-3108; 1 Valerie, 0-3115.

Eight varieties came in bloom and set a few fruits. They were as follows. Jewel x Tetofsky, Early Strawberry, Trail, 0-1518; Horace, 0-1421; Pioneer x McIntosh, 0-1524; Jewel x Rideau, 0-1516; Jewel x Simbrisk, 0-1528; Melba. Of the foregoing, Melba and Trail were the two most outstanding varieties.

PLUMS

The trees were laden with bloom, and, there being no late frost, a fair crop was set. The varieties which did the best amongst the seedlings were as follow: Gloria, 0-436; Oren Sdlg, 0-423; Caro Sdlg, 0-419; Hawkeye Sdlg, 0-417; Waneta, 0-2796; Of the foregoing, Waneta is the finest fruit, as to size and quality, but as the trees are small there were not many fruits for comparison. However, all of the above mentioned varieties seem promising, with Hawkeye as a very outstanding sort.

Standard Varieties.—The trees wintered well, and a small showing of bloom produced. Very little fruit was produced.

CHERRIES

This part of the plantation has not shown up to advantage and it seems evident that this particular sort of fruit tree will not be a success.

PEARS

There is only a remnant left of the original planting, these trees having suffered considerably from the severe winter conditions.

GRAPES

Quite a number of the varieties were removed, due to the lack of hardiness. Wilkins and Moore Early produced small crops. The former is a white grape, with a medium to large berry, borne in bunches of good size. The fruit is of good quality. Moore Early produced the greater quantity of fruit, but the quality was poor. None of the fruit ripened completely on the vines.

STRAWBERRIES

This was an exceptionally good season for strawberries. Weather conditions were in every way favourable, and the market held out well, with prices ranging high.

Twenty-five varieties were under test, in plots 30 feet long and 48 inches between the rows from centre to centre. A matted row 18 inches wide is formed in all cases. It has been found that spring planting is preferable to autumn planting.

The method of handling the plantation is to plant a fresh set of plots each year, and to take two crops, after which the plantation is ploughed down.

The following is a list of varieties giving the yield per plot and calculated yield per acre:—

VARIETY TEST—STRAWBERRIES

Variety	Date first ripe	No. of pickings	Size of fruit	Yield per plot	Calculated yield per acre
				oz.	lbs.
Senator Dunlap, per	June 20	8	Large	810·55	9,132·176
Lovett Early, per	" 22	10	Medium to small	646,75	7,336·570
Williams Imp., per	" 26	5	Large	598·75	6,792·073
Wm. Belt, per	" 26	5	Medium	446·75	5,067·820
Chesapeake, per	" 22	8	Large	673·25	7,637·179
Howard No. 41, imp	" 21	9	"	2,597·75	33,614·476
Glen Mary, per	" 19	6	"	605·5	6,243·646
Three W's, per	" 20	5	"	465·75	5,220·851
Haverland, imp	" 22	9	Medium to small	1,208·75	13,711·882
Sample, imp	" 23	5	Medium	597·0	7,397·218
Pocomoke, per	" 22	8	Large	1,006·25	11,414·668
Joe, per	" 23	6	Medium to small	296·75	7,143·787
Stevens Late Champion, per	" 23	6	Large	651·5	7,390·453
Warfield, imp	" 22	10	Small	650·75	7,375·695
Buster, imp	" 23	6	Large	1,271·25	14,433·242
Mariana, per	" 22	9	"	1,392·5	15,796·178
Greenville, imp	" 21	9	"	981·75	11,136·726
Julia, per	" 22	8	"	712·25	8,181·617
Ruby, per	" 23	7	Medium	603·0	6,840·281
Portia, imp	" 24	7	Medium large	785·75	8,913·3515625
Ophelia, per	" 30	4	Large	906·5	10,283·109375
Valeria, per	" 25	10	Medium	1,561·5	17,713·265625
Cordelia, per	" 22	5	Large	4,362·25	50,058·1171875
Americus Everbearing	" 19	3	Small	170·5	1,934·109375
Progressive Everbearing	" 26	3	Large	61·0	691·96875

The foregoing tabulation applies to the two year old plantation.

The following table shows the yields obtained from the plantation the first spring after planting. Twenty-four varieties:—

Variety	Date first ripe	No. of pickings	Size of fruit	Yield per plot	Calculated yield per acre
				oz.	lbs.
Senator Dunlap, per	June 22	11	Medium	1,398·75	15,742·0703125
Lovett, per	" 24	5	"	541·5	6,142·640625
Williams Imp., per	" 26	6	Large	571·75	6,485·7265625
Wm. Belt, per	" 23	5	"	442·75	5,022·4453125
Chesapeake, per	" 23	5	"	521·25	5,912·9546875
Howard No. 41, imp	" 25	7	"	1,180·75	13·519·1328125
Glen Mary, per	" 30	5	"	616·0	6,987·75
Three W's, per	" 20	7	"	541·50	6,145·140625
Haverland, imp	" 24	3	Medium	603·0	6,840·28125
Sample, imp	" 20	6	"	564·25	6,338·2109375
Pocomoke, per	" 22	5	Large	667·25	7,569·1171875
Joe, per	July 1	4	Medium	452·75	4,619·6328125
Stevens late Champion, per	June 26	6	Large	1,210·5	13,731·609375
Warfield, imp	" 22	5	Medium	661·0	7,521·343125
Buster, imp	" 23	6	Large	1,251·0	14,191·03125
Mariana, per	" 22	13	"	1,066·75	12,100·9453125
Greenville, imp	" 26	6	Medium	938·0	10,515·4375
Julia, per	" 20	7	"	630·75	7,155·0703125
Ruby, per	" 26	8	"	1,355·75	15,379·2890625
Portia, imp	" 28	7	Large	538·75	6,111·4453125
Ophelia, per	" 26	5	"	273·25	3,099·6796875
Valeria, per	" 20	8	"	1,107·25	12,560·3671875
Cordelia, per	" 25	9	Medium	686·5	8,788·109375
Progressive Everbearing	" 26	4	"	408·0	4,565·75

The everbearing varieties have not been a very great success.

RASPBERRIES

Four varieties of red raspberries have been under test, and the past season could be regarded as very favourable. The crop was quite satisfactory as regards fruit. There was, however, quite a serious attack of raspberry cane-borer which did considerable damage to the young growing tips. The method of control employed was to remove all wilted tips.

The varieties are planted in rows 30 feet long, with six feet between the rows.

In the following table will be found the results:—

VARIETY TEST—RASPBERRIES

Variety	Date first ripe	No. of pickings	Size of fruit	Yield per lot	Calculated yield per acre
				oz.	lbs.
King	July 8	5·125	Large	174·71875	2,643·41984375
Brighton	" 11	4·6	Medium	145·9	2,206·7350
Eaton	" 16	5·33	Large	138·4833	2,076·6979166
Count	" 13	3·5	"	84·75	1,281·84375

BLACK CURRANTS

Twelve varieties were under test, planted in rows 6 feet apart and 5 feet part in the rows.

The crop from this variety of bush fruits was not extremely heavy, but the quality was very good.

Saunders, Kerry, and Climax are the most outstanding.

VARIETY TEST—BLACK CURRANTS

Variety	Size of fruit	Yield from 6 bushes	Calculated yield per acre
		oz.	lbs.
Saunders	Large	127·75	1,932·218
Kerry	"	156·0	2,359·5
Climax	"	87·5	1,324·062
Buddenborg	"	76·5	1,153·281
Victoria	"	150·0	2,268·75
Eagle	"	41·25	623·906
Boskoop Giant	Medium	76·75	1,160·843
Magnus	Medium to small	83·25	1,884·156
Clipper	Large	87·5	1,326·593
Collins Prolific	Medium	46·75	725·843
Black Champion	Large	50·25	759·88
Eclipse	Medium to small	Picking not accomplished	

RED CURRANTS

Twelve varieties were under test, the planting being similar to that of the black currants.

The most outstanding of the red currants are as follow: Red Grape, Lee Prolific, and Victoria.

VARIETY TEST—RED CURRANTS

Variety	Size of fruit	Yield from six bushes in oz.	Calculated yield per acre in lbs.
Red grape	Large	28·5	431·0625
Lee Prolific	*Medium		
Victoria	Large	80·0	1,210·0
Fay Prolific	"	86·5	1,308·3125
Red Dutch	"	53·25	805·40625
Wilder	"	29·75	449·625
Perfection	"	87·5	1,324·0625
Pomona	"	72·5	1,096·5625
Greenfield	"	41·5	672·6875
Cumberland	Medium	32·75	495·34375
Rankin Red	"	27·5	415·9575
Cherry	Large	28·5	431·0625

*Picking was not accomplished in 1920.

WHITE CURRANTS

Three varieties of white currants are under test. They are given in order of merit.

VARIETY TEST—WHITE CURRANTS

Variety	Size	Yield from six bushes in oz.	Calculated yield per acre in lb.
White Cherry	Large	87·5	1,324·0625
Large White	Medium	71·0	1,073·875
White Grape	Large	33·5	506·6875

GOOSEBERRIES

Eight varieties are under test, planted similarly to the currants. The best varieties in order of merit are Houghton and Carrie.

VARIETY TEST—GOOSEBERRIES

Variety	Size of fruit	Yield from six bushes in oz.	Calculated yield per acre in lb.
Houghton	Large	7·75	117·21875
Carrie	"	41·75	631·46875
Oregon everbearing	"	10·75	162·59375
Oregon Champion	"	11·75	178·96875
Whitesmith	"	2·75	41·59375
Downing	Medium	20·5	310·0625
Victoria	"	Only a few fruits.	
Keepsake	Large	Picking not accomplished	

VEGETABLE CULTURE

Variety Test of Peas

Ten varieties and strains were under test. The seed was sown in rows 30 feet long and 30 inches apart, on May 15.

Variety	Ready for use	Yield in lbs.
English Wonder	July 18	34·25
American Wonder	" 15	25·0
Little Marvel	" 18	27·0
Eight Weeks	" 18	12·0
Gradus	" 21	15·0
Stratagem	" 25	21·0
Sutton's Excelsior	" 20	19·0
Laxtonian	" 20	15·5
Gradus	" 20	35·5
Thomas Laxton	" 15	22·0
Blue Bantam	" 23	17·0
Pioneer	" 23	17·0
Early Morn	" 23	25·5
Surprise	" 23	22·5

BEETS

Eight varieties and strains were tested, in rows 30 feet long and 30 inches apart. Seed was sown May 15. Detroit Red and Black Red Ball were found to be the most outstanding varieties.

Variety	Ready for use	Yield in lbs.
Crosby's Egyptian	August 13	71
Black Red Ball	" 13	45
Early Model	" 13	68
Detroit Dark Red	" 13	37
Eclipse	" 13	41
Early Wonder	" 13	34
Crimson Globe	" 13	19
Dark Red	" 13	43

SPINACH

One variety was tested, Victoria. The quality is very good.

SALSIFY

Three varieties and strains were under test. Seed was sown in the garden on May 15, in drills 15 inches apart. Thinning was done, when the plants were well established, to 6 inches apart in the row. The varieties were:—

	Pounds
Long White 0-8891	17
Mammoth Sandwich Island	10
Long White	10

ONIONS

Fifteen varieties and strains were tested, in rows 30 feet long and 15 inches apart. Seed was sown on May 15. Thinning was done, when the plants were well established, to a distance of 3 inches apart in the rows.

Variety	Yield from plot in lbs.
Yellow Globe Danvers	27
Large Wethersfield	8
Yellow Globe Danvers	6
South Port White Globe	12
South Port Red Globe	11
Giant Yellow Prize Taker	13
Ailsa Craig	12
Yellow Globe Danvers	10
Large Red Wethersfield 0-9518	10
Yellow Globe Danvers 0-9290	9
South Port Yellow Globe	9
Australian Brown	7
Mammoth Silver King	6
Extra Early Flat Red	10
White Barletta	10

CARROTS

Five varieties were tested. Seed was sown on May 17, in drills 30 feet long and 30 inches apart. Thinning to 4 inches apart in the row was done when the plants were large enough.

Variety	Ready for use	Remarks
Early Scarlet Horn	August 28	All varieties were damaged seriously by rust fly.
Improved Danvers	" 28	
Nantes long Scarlet	" 28	
Danvers	" 28	
Chantenay 0-8885	" 28	

PARSNIPS

Two strains of Hollow Crown were tested, but owing to the damage done by rust fly the crop in either case could not be considered as being worth recording in tabular form. Too early sowing is undesirable because of the coarse texture of the resulting crop for storage.

RADISH

Six strains of Scarlet Turnip White Tip were sown on May 15, in rows 15 feet long and 15 inches apart. This variety has been found very satisfactory.

LETTUCE

Eight varieties and strains were sown on May 17, in rows 15 feet long and 15 inches apart. The best varieties were Iceburg, Crisp as Ice, and Grand Rapids.

Variety	Ready for use	Quality
Grand Rapids	July 18	Medium
Salamander	" 18	Good
Black Seeded Simpson	" 18	"
Hanson	" 18	"
Iceberg	" 18	Very good
Crisp as Ice	" 18	"
Cos	" 18	Good
Grand Rapids 0-9273	" 18	"

PARSLEY

Four varieties were sown on May 17, in rows 15 feet long and 15 inches apart. The best varieties proved to be Champion Moss Curl and Double Curl.

TURNIPS

Four varieties were sown on May 17, in drills 15 feet long and 30 inches apart. Thinning to 6 inches apart was done when the plants had developed their first true leaves. The best varieties are Early Snowball and Golden Ball.

Variety	Ready for use	Yield per plot in lbs.
Extra Early Purple Top Milan	August 13	30
Red Top Strap Leaf	" 25	38
Early Snowball	" 12	26
Golden Ball	" 13	35

BEANS

Fifteen varieties were sown on June 7, in drills 30 feet long and 30 inches apart.

Beet wax varieties: Wardwell's Kidney Wax, Hodson Long Pod. Best green varieties: Extra Early Red Valentine, Stringless Green Pod.

Variety	Ready for use	Yield per plot lbs.	Ripe seed, lbs.
Round Pod Kidney Wax	August 5	7·0	
Wardwell's Kidney Wax	" 1	31·5	
Grenell's Rustless Wax	" 3	19·0	
Pencil Pod Black Wax	July 26	26·5	1·0
Davis White Wax	August 5	15·0	1·0
Hodson Long Pod Wax	.....	.....	5·75
Vermont Kidney	July 26	17·0	1·0
Fordhook Favourite	August 5	16·0	0·75
Bountiful	July 28	20·0	1·75
Refugee	.....	.....	4·5
Masterpiece 0-8955	July 28	20·0	2·75
Extra Early Red Valentine	August 1	14·0	1·5
Stringless Green Pod	" 1	7·0	1·5
Bountiful 0-8957	" 1	14·0	0·75
Kentucky Wonder Wax (Pole)	" 10	18·0	5·5

CORN

Twenty-seven varieties and strains were under test. They were planted in hills, 3 by 3 feet apart, on May 31, five kernels being dropped per hill. Four stalks per hill were allowed to remain. Twenty hills of each variety were planted, twelve representative hills being chosen from which to take records. The best varieties are: Early Malcolm for an early variety, and Golden Bantam for the late crop.

Variety	Ready for use	Number of ears from 12 hills
Sweet Kloochman	August 20	33
"	" 20	32
Pickaninny	" 20	73
Mayflower	" 20	78
Sweet Squaw	" 24	46
Early Sweet	" 26	85
Early Malcolm	" 29	51
Square Deal	" 30	52
Howling Mob	" 26	58
Early Malcolm	" 26	41
Golden Bantam	" 26	39
Pocohontas	" 26	48
Extra Early Cory	" 28	62
Stowell's Evergreen	" 28	50
Early Fordhook	" 28	50
Golden Bantam	" 28	87
Golden Giant	" 28	53
Black Mexican	" 30	88
Country Gentleman	September 31	55
Golden Tom Thumb (pop)	" 3	101

KOHL RABI

One variety was tested. Seed was sown in the garden on May 31. When the plants were well developed they were transplanted into rows 30 feet long and 30 inches apart, with the plants 18 inches apart in the rows. The quality of the resulting crop was very good.

TOMATOES

Thirteen varieties of tomatoes were sown in the hot-bed on March 27. When the plants had developed their true and rough leaves they were pricked out into flats 3 by 3 inches apart, and, when crowding in these flats, were transplanted to 4 by 4 inches apart. Hardening off was carried out by placing the flats in cold frames three weeks prior to planting. Planting out was done on June 8. In this test five plants of each variety were used, trained to one stem and tied to stakes. The best varieties are: Bonny Best, Sunnybrook Earliana, and Chalks Early Jewel.

TOMATOES—TEST OF VARIETIES

Variety	Ready for use	Yield in lbs., ripe	Yield in lbs., green
Langdon Earliana	Aug. 3	37·0	
Chalks Early Jewel	July 30	41·25	17
John Baer	Aug. 6	45·0	18
Burbank Early O-8679	July 30	35·0	8
Earlibell	" 30	27·0	19
Matchless	" 30	17·25	10
Danish Export O-8697	" 30	19·0	12
Alacrity 201A	Aug. 6	22·75	5
Prosperity	July 30	18·25	5
Red Head	" 30	23·0	10
Alacrity A-1	Aug. 6	13·5	9
Bonny Best	July 30	35·25	20
Sunnybrook Earliana	" 30	43·5	

EGG PLANT

Two varieties were sown in the hot-bed on March 25, and transplanted into pots. Planting in the garden was done after danger of late frost was over.

Varieties	Ready for use	Yield per plot
		lb.
Black Beauty	.....	.....
New York Improved	Sept. 6.....	11

PEPPERS

Four varieties were sown in the hot-bed on March 27, and pricked out when ready. Planting was done in the garden after June 10.

Variety	No. of plants	Ready for use	Yield per plot
			lb.
Harris Earliest	20	Aug. 4.....	10
Neapolitan	20	" 4.....	16
Long Red	20	.....	frozen
Red Chili	20	.....	"

CELERY

Eight varieties sown on March 29, in the hot-bed. Transplanting was done, when the plants had developed their rough leaves, into flats, spacing the plants 2 by 2 inches apart. Planting in the garden was done after June 8. Shallow trenches were made and the plants set 6 inches apart inte row with the rows 4 feet apart.

CELERY—TEST OF VARIETIES

Variety	Ready for use	Weight of 5 average heads
Paris Golden	Sept. 18....	8
Evans Triumph	Oct. 1....	8
Winter Green	" 1....	10
White Plume	Sept. 18....	5
Giant Pascal	Oct. 1....	9
Sandford Easy Blanching 0-8883	" 1....	7
Golden Self Blanching	Sept. 20....	8
French Success	Oct. 1....	9

CABBAGE

Nine varieties of cabbage were sown in the hot-bed on April 26, and were pricked out into cold frame when large enough. Twenty-five plants of each variety were planted in rows 30 inches apart and 18 inches apart in the rows. The weight of five average heads of each variety formed the basis upon which the results were computed. The weights were taken on September 30.

CABBAGE—TEST OF VARIETIES

Variety	Weight of 5 average heads
Fottler's Improved Brunswick	63
Enkhuizen Glory	68
Succession	65
Delicatesse	48·5
Extra Amager Danish Ballhead	65
Perfection Drumhead Savoy	48
Marblehead Mammoth	76
Copenhagen Market	60
Early Jersey Wakefield	50

CAULIFLOWER

Two varieties were tested, similarly to the cabbage, and the results were obtained in a similar way.

Variety	Ready for use	Weight of 5 average curds
Extra Early Dwarf Erfurt	Aug. 6	10·75
Early Snowball	" 6	11·25

BRUSSELS SPROUTS

Three varieties were tested. Seed was sown in the hot-bed on April 26, and the plants treated similarly to cabbage.

Variety	Ready for use	Quality
Dalkeith	Oct. 10	Very good
Amager Market	" 10	Good
Paris Market	" 10	"

CUCURBITS

The seed of this class of crop was sown between May 1 and 5, in paper earth bands, in a hot-bed which was quite cool—three seeds per band. When the plants were well established, the strongest plants of the three in each band were selected and allowed to remain, the other two being removed. In this way good sturdy plants were obtained. The plants were hardened off in cold frames, and planted in hills after June 10. All varieties were tested, three hills of each, with three plants per hill.

Melon, cucumber and citron hills were put 6 by 6 feet apart. Squash and pumpkin hills were put 9 by 9 feet apart.

WATER MELON

Three varieties were under test. Best variety: Ice Cream.

Variety	Ready for use	Weight of heaviest melon	Weight of total crop
		lb.	lb.
Ice Cream	Oct. 10	13·5	137
Harris Early	" 10	14	70
Fordhook	" 18	17	57

MUSK MELON

Four varieties were under test. Best varieties: Emerald Gem, Earliest Ripe, and Hackensack.

Variety	Ready for use	Weight of total crop
		lb.
Hackensack	Oct. 10	84
Emerald Gem	" 10	36·5
Rockey Ford	" 10	54·5
Earliest Ripe	" 10	53

CUCUMBERS

Six varieties and strains of cucumbers were tested. Best variety, Early, Extra Early Russian. Main crop, Davis Perfect.

Variety	Ready for use	Weight of total crop
		lb.
Extra Early Russian	July 23	78
Improved Long Green	" 30	135·75
Giant Pera	" 30	92
Davis Perfect	" 30	129·5
Davis Perfect	" 30	126·5
Gherkin	Sept. 23	64

PUMPKINS

Five varieties were tested. Best varieties, Small Sugar, Connecticut Field.

Variety	Ready for use	Weight of total crop
		lb.
Connecticut Field	Sept. 18	256
King of the Mammoth	Aug. 30	365
Small Sugar	" 30	249·5
Rennie's Mammoth	" 30	244
Jumbo	" 30	216·5

SQUASH

Four varieties tested. The best proved to be Hubbard and English Vegetable Marrow.

Variety	Ready for use	Weight of total crop
		lb.
Hubbard Green	Aug. 30	216·5
Hubbard Golden	" 30	317
White Bush Marrow	" 30	190
English Vegetable Marrow	" 30	428

CULTURAL EXPERIMENTS WITH VEGETABLES

PEAS

Three weekly sowings of an early variety of peas were tested against the sowing of four varieties of peas sown at one time. Thos. Laxton was used as an early variety for successive sowings. Stratagem, Advancer and Gradus were used to give the succession of pickings sown at one time. A thirty-foot row of each variety, 30 inches apart, was used in all cases.

Variety	Date sown	Ready for use	Lbs. per row
Thos. Laxton	May 15	July 15	17
Thos. Laxton	" 22	" 18	16
Thos. Laxton	" 29	" 26	15
Thos. Laxton	June 5	Aug. 5	16
Stratagem	May 15	July 18	12
Advancer	" 15	" 23	3
Gradus	" 15	" 23	9

BEANS

This test with beans is being conducted with the same object as is the pea experiment. Round Pod Kidney Wax, the early variety, was used for weekly sowings. Extra Early Red Valentine, Refugee Green Pod, and Stringless Green Pod to be sown at one time to give successional pickings.

Variety	Date sown	Ready for use	Lbs. per row
Round Pod Kidney Wax	May 29	Aug. 8	7
Round Pod Kidney Wax	June 5	" 11	7
Round Pod Kidney Wax	" 12	" 20	6
Round Pod Kidney Wax	" 19	" 30	4
Extra Early Red Valentine	May 29	" 5	10·5
Refugee Green Pod	" 29	" 5	4
Stringless Green Pod	" 29	" 5	2

Four weekly sowings of an early variety will supply successional pickings very satisfactorily.

ONIONS

Four varieties were tested culturally. Seed was sown on April 6, in the hot-bed, pricked out into flats 2 by 2 inches apart. These were transplanted in the garden, in rows 15 inches apart and 30 feet long. Three rows of each variety were planted

2, 3, and 4 inches apart, one row of each different distance. Transplanting in the garden was done after June 10.

Seed was sown out of doors, three rows of each variety, 30 feet long and 15 inches apart, after May 15. When the plants were large enough they were thinned, one row of each distance, as mentioned above.

CULTURAL EXPERIMENTS WITH ONIONS

Variety	Inches apart in row	When sown	Ready for use	Pounds per row of 30 feet
Extra Early Flat Red	2	Out-of-doors	Aug. 10	
"	3	"	" 10	16
"	4	"	" 10	10
"	2	Hot-bed and transplanted	" 19	16
"	3	"	" 19	20
"	4	"	" 19	20
Yellow Globe Danvers	2	Out-of-doors	" 15	20
"	3	"	" 15	18
"	4	"	" 15	18
"	2	Hot-bed and transplanted	" 22	15
"	3	"	" 22	21
"	4	"	" 22	20
Large Red Wethersfield	2	Out-of-doors	" 10	5
"	3	"	" 10	6
"	4	"	" 10	4
"	2	Hot-bed and transplanted	" 18	9
"	3	"	" 18	9
"	4	"	" 18	12
Giant Yellow Prize Taker	2	Out-of-doors	" 12	12
"	3	"	" 12	10
"	4	"	" 12	8
"	2	Hot-bed and transplanted	" 22	6
"	3	"	" 22	4
"	4	"	" 22	3

CONTROL OF CABBAGE ROOT MAGGOT

Two varieties of cabbage and two varieties of cauliflower were planted in rows 30 inches apart, the plants being 18 inches apart in the rows, with 25 plants in each row. Three rows of each variety were planted. Tar-felt collars were placed on the plants of one row of each variety at the time of planting. The other two rows served as a check. It was very noticeable that where the plants had been given protection the crop was better in every respect.

POTATOES

In order to ascertain what influence the size of the sets would have on the resulting crop, and also to determine what influence the location of the eyes on the tubers would have on crop production, 66 sets were planted in each case. Planting was done on May 28. The rows were 30 inches apart, and the sets were planted 18 inches apart in the rows.

CULTURAL EXPERIMENTS WITH POTATOES

Variety	Kind of seed	Weight of seed	Marketable tubers	Small tubers	Diseased tubers
		lb.	lb.	lb.	lb.
Eyes at end	Whole small	12·5	29·5	21·5	4·0
"	1 eye	2·5	13·0	6·0	
"	2 eyes	5·0	70·0	24·5	8·5
"	3 eyes	7·5	17·5	12·0	12·0
Seed end to base	Whole small	12·25	51·0	24·5	6·5
"	1 eye	3·0	32·5	11·0	
"	2 eyes	6·0	52·0	11·0	·2
"	3 eyes	9·5	44·0	19·0	3·0

Sets cut to 2 or 3 eyes have shown decidedly better yields than small wholes, as regards the quantity of marketable tubers. A comparison between distance apart in the drills and sets in the drills were tried, resulting as follows:—

14 x 30 inches, 66 sets, 75·5 marketable, 16 small, ... diseased.
14 x 36 inches, 66 sets, 75·0 marketable, 11 small, 8·0 diseased.
18 x 30 inches, 66 sets, 91·0 marketable, 15·5 small, 10·5 diseased.
18 x 36 inches, 66 sets, 121·5 marketable, 15·0 small, 10·5 diseased.

It will be noted that where more space was allowed between the hills the crop was larger.

ONIONS

It was found that 3 and 4 inches was much the most satisfactory distance to have the plants apart in the row.

Onion Sets from Seed.—Growing onion sets from seed has been tried at the Lennoxville Station for several years, with only partial success. Seed was sown in drills 100 feet long and 15 inches apart in the row, at the rate of about 200 seeds per linear foot. Sowing was done on May 15.

Variety	Yield per 100 feet of row
Large Red Wethersfield	80
Yellow Globe Danvers	84

BEETS

Seed of one variety was used, sown in drills 30 feet long and 30 inches apart. When the plants were large enough they were thinned to the respective distances, one row devoted to each distance: Three rows in all, 2, 3 and 4 inches apart. Sowing was done on June 5.

Variety	Inches apart in row	Ready for use	Pounds per row of 30 feet
Detroit Dark Red A. O. 9520	2"	July 6....	67
	3	" 6....	83
	4	" 6....	116

Similar tests were conducted with carrots and parsnips, but rust fly spoiled the crop.

CELERY

Different methods of Blanching.—Golden Self Blanching was used. Seed was sown on March 30, and handled and planted as described in regard to celery in the previously recorded experiment. Two rows were planted on the level, and one in a shallow trench. In all cases the rows were 4 feet apart, the plants being set 6 inches apart in the row.

Variety	How planted	Method of blanching	Ready for use	Weight of 5 average heads
Golden Self Blanching	Level	Pliable roofing	Sept. 2....	4
"	"	Boards	" 2....	4
"	Trench	Earthed up	" 20....	8

TOMATOES

The object of this experiment is to ascertain the effect that training tomatoes to stakes, or to a trellis, would have on the earliness, quality of fruit, and yielding ability of the plants, as compared with plants allowed to grow under ordinary field conditions.

For the methods of growing the plants from seed and general care, refer to the description under test of varieties, as previously given.

The rows were 4 feet apart, and the plants 2 feet apart in the rows, except in the case of the field method, where the plants were spaced 4 by 4 feet apart. Twenty-five plants of each variety were used in each of the tests.

Two varieties were used, Sunnybrook Earliana and Bonny Best.

CULTURAL EXPERIMENTS WITH TOMATOES

Variety	No. of stems	Support	Treatment	Ready for use	Ripe fruit	Green fruit
					lbs.	lbs.
Bonny Best	1	1 stake	Foliage entire	July 30	37·25	20
Sunnybrook Earliana	1	"	"	Aug. 17	36·75	12
Bonny Best	1	"	One-half defoliated.	July 30	64·5	35
Sunnybrook Earliana	1	"	"	" 30	46·75	15
Bonny Best	2	2 stakes	Foliage entire	" 30	55·25	18
Sunnybrook Earliana	2	"	"	Aug. 18	60·25	17
Bonny Best	2	"	One-half defoliated.	July 31	84·5	15
Sunnybrook Earliana	2	"	"	Aug. 18	67·0	10
Bonny Best	1	Wire trellis	Foliage entire	July 30	52·25	30
Sunnybrook Earliana	1	"	"	" 30	41·5	30
Bonny Best	1	"	One-half defoliated.	" 30	50·25	32
Sunnybrook Earliana	1	"	"	" 30	41·5	40
Bonny Best	2	"	Foliage entire	" 30	58·25	30
Sunnybrook Earliana	2	"	"	" 30	50·5	40
Bonny Best	2	"	One-half defoliated.	" 30	60·5	56
Sunnybrook Earliana	2	"	"	" 30	50·5	39
At will on ground—						
Bonny Best				" 30	43·5	20
Sunnybrook Earliana				" 30	36·0	

SPRAYING

Last season an experiment was conducted for the purpose of comparing the killing power of various arsenical poisons and commercial preparations, in treatment of potatoes against "Colorado potato beetle." In all, five preparations were used, in combination with Bordeaux mixture of the standard preparation, four pounds of lime, four pounds of bluestone, or copper sulphate, in forty gallons of water, 4-4-40.

It was found that calcium arsenate, used at the rate of one and one-half pounds in forty gallons of Bordeaux, ranked first, dry lead arsenate ranked second, used at the same rate as the former; and the paste lead arsenate ranked third, when three pounds of the poison per 40 gallons of Bordeaux was used.

The foregoing materials can be relied upon with certainty to give sure killing and ample protection.

ORNAMENTAL GARDENING

The ornamental grounds have been undergoing changes each year, and gradually but surely have been developed into quite attractive shape. In the perennial borders all classes of plants have become very well established, and are a centre of interest throughout the season. The Irises, Pœonies, and Phlox are the most attractive in their respective seasons, with the more common old-fashioned sorts of perennials filling the gaps, in the season of bloom.

In the shrubbery borders there is yet much to be accomplished in establishing certain of the varieties. Quite a number of the best shrubs have winter-injured and died out. Amongst the hardy sorts of deciduous shrubs are:—

Berberis Thunbergii,
Rosa rugosa,
Syringa vulgaris,
" Josikaea,
" villosa,
Caragana arborescens,
" frutescens,
" pygmaea aurantiaca,
Cornus alba sibirica Variegata,
" " "
Rhamnus Frangula,
" cathartica,
Amelanchier Botryapium,
Lonicera,
Ribes aureum,
Hydrangea paniculata grandiflora,
" arborescens,
Genista tinctoria.

Semi-hardy Sorts

Philadelphus,
Syringa (named varieties),
Pyrus angustifolia,
Berberis Aquifolium,
Sambucus nigra foliis luteis,
Cytisus,
Spirea Van Houtteii,
" rotundifolia,
" Bumalda,
Cydonia japonica.

Tender Sorts

Deutzia,
Forsythia,
Ligustrum,
Weigelia candida,
Ptelea trifoliata aurea,
Rhus Cotinus,
Spirea Menziesii triumphans,
Tamarix odessana,
Robinia hispida rosea,
Viburnum Lantana.

The planting of evergreen trees and shrubs was carried out this spring with considerable success. In this respect the following varieties, which have, after five years in the nursery, been found hardy, were planted in groups on the main lawn. The varieties are as follow:—

Retinospora filifera,
" pisifera aurea,
Pinus austriaca,
" sylvestris,
" montana Mughus,
Picea canadensis Caerulea,
" " Hudsonii,
" Englemanii,
" excelsa Remontii,
" " pyramidalis,
Picea Omorika,
" pungens, Kosteriana glauca,
" excelsa inverta,
" pungens,
" excelsa,
Thuya Occidentalis Wareana,
" " compacta,
" " Columbia,
" " plicata pyramidalis,
" " Hoveyii.

The following varieties have been found to be too tender at Lennoxville, and none of them have been planted: Retinospora plumosa, Retinospora plumosa aurea,

Juniperus hibernica, Juniperus cupressifolia, Juniperus cupressifolia mascula, Juniperus suecia and Picea Alcockiana.

In arranging the planting, space has been left for the planting of the deciduous trees, which, when completed, will add very materially to the general appearance.

The hillside, overlooking the main lawn, formerly occupied as a vegetable garden, was graded and seeded down. This change will improve the appearance of the ornamental grounds.

BULBS

There was a very fine showing of bloom in the bulb beds, starting with Scilla sibirica and Snowdrops and extending to the more attractive tulips, narcissi and daffodils. Many of the fine tall Darwin varieties of tulips were hardly over bloom, before it was time to plant the annual flowers.

ANNUALS

Many annuals were started in the hot-bed. The seed was sown during the first week in April. Pricking out was done when the plants had developed their true leaves. Planting in the garden was done on June 10th.

Variety	No. of varieties	Height of plants	Season of Bloom	
			Began	Finished
		inches		
Antirrhinum	6	14	Aug. 10	Sept. 19
Stocks	6	16	" 16	" 19
Phlox	6	12	" 12	Oct. 20
Carnation Marguerite	1	14	July 20	" 20
Schizanthus	1	14	" 10	Aug. 11
Marigold	2	14	3	Oct. 20
Tagetes signata pumila	2	12	Aug. 15	" 20
Cosmea large flowered	1	35	" 4	Sept. 19
Dahlia collarette and double	1	40	" 20	Aug. 30
Petunia single	1	14	" 4	Oct. 20
Petunia Leviathan	1	16	" 10	" 20
Salpiglossis	1	20	" 14	Sept. 19
Salvia Scarlet Queen	1	18	" 23	" 19
Salvia Scarlet Firebell	1	18	" 26	" 19
Lobelia ramosa	1	10	" 26	" 19
Jacobea Double	1	10	" 6	" 19
Celosia Plumosa	1	12	" 6	" 19
Linaria Crimson and Gold	1	9	" 6	" 19
Portulaca	2	4	In hot bed	.....
Pansy Brilliant	2	6	"	Sept. 19
Martynia Fragrance	1	10	"	" 19
Asters	51	9–18	Aug. 13	" 19
Globe Amaranth	2	14	" 26	" 29
Rudbeckia	1	16	In hot-bed	" 29
Verbena	2	9	"	Oct. 20
Balsam mixed	2	16	"	Sept. 19
Nicotiana	2	32	Aug. 11	" 19
Zinnia	2	12	In hot-bed	Oct. 20
Canna	1	16	Aug. 10	Sept. 19
Sweet Peas (Spencer)	29	.....	July 30	" 19
Sweet Pease (waved)	34	.....	" 15	" 19
Sweet Peas (Spencer Gdf.)	18	.....	" 12	" 19
Mimulus moschatus	1	3	" 18	" 19
Ageratum mexicanum	1	12	In hot-bed	" 19
Dianthus Heddewigii	2	9	Aug. 1	" 19
Acroclinium	1	18	" 13	" 19
Coreopsis	2	20	" 12	" 19
Gaillardia	1	12	" 20	" 19
Abronia umbellata	1	7	" 20	Oct. 20
Lavatera trimestris	1	40	" 1	Sept. 19
Helichrysum	1	40	" 5	" 19
Malope	1	40	" 1	" 19
Poppy Shirley	1	20	June 4	" 19
Amaranthus Tricolor	1	20	.....	.....

Variety	No. of varieties	Height of plants	Season of bloom	
			Began	Finished
		inches		
Larkspur	2	20	July 12..	Sept. 19..
Sweet Sultan	1	18	" 15..	" 19..
Dimorphotheca aurantiaca	1	12	" 10..	" 19..
Calendula	2	14	" 13..	" 19..
Alonsoa Warscewiczii	1	12	" 18..	" 19..
Godetia	1	14	" 15..	" 19..
Bartonia aurea	1	14	" 26..	" 19..
Mignonette	1	12	" 15..	" 19..
Virginian stocks	1	12	" 9..	" 19..
Candytuft	1	14	" 18..	" 19..
Alyssum Little Dorrit	1	9	" 18..	" 19..
Eschscholtzia	1	10	" 15..	" 19..
Chrysanthemum	1	15	" 21..	" 19..
Nasturtium, dwarf	1	12	June 9..	" 19..
Nasturtium, tall	6	12[1]	" 11..	" 19..

The seeds of many annuals were sown out-of-doors on May 6. All germinated and supplied a great profusion of bloom.

Gladioli

A collection of this variety of flowers has added to the beauty of the garden this year. Some very fine bloom was produced.

The varieties are as follow:—Mohawk, Augusta, Domino Rose, Miss Gladys Harkness, Minister Ripon, La Luna, Glory of Holland, Baron Jos. Hulot, Panama, Loveliness, Rouge Torch, Niagara, Mrs. Francis King, Peace, Halley, Prince of Wales, Hilda, War, Wilbrink, Mrs. Frank Pendleton, Empress of India.

SEED DISTRIBUTION

To parties interested in flower gardening, and who so desired, a collection package of the various seeds on hand was sent out; but no general distribution was carried out.

The general distribution of seed potatoes has been discontinued also.

PROPAGATION

Cuttings of currants, red and black, were set out, but the number that actually struck root was small.

Perennial phlox was increased by dividing one clump of each variety. Quite a number of Chinese lilacs, Caragana arborescens, Syringa vulgaris and Ginnalian maple were started from seed.

FORAGE CROPS

GRASSES AND CLOVERS

Coupled with the usual test of varieties of roots and corn, a series of six plots of various grass and clover mixtures were sown on quarter-acre plots. The object of this experiment is to ascertain the relative values of the different grasses and clovers in combination for hay purposes.

After the removal of the nurse crop of oats, there was a very satisfactory stand of all varieties of grasses and clovers. The mixtures per acre were as follows:—

TEST OF GRASSES AND CLOVERS

Plot No.	Pounds Timothy	Pounds Red Clover	Pounds Alsike Clover	Pounds White Dutch	Pounds Red Top	Pounds Orchard Grass	Pounds Meadow Fescue	Pounds Tall Oat
I	5	5	.....	0·5				
II	10	8	2	0·5				
III	5	8	2	0·5	3–4			
IV	5	8	2	0·5	.....	10		
V	5	8	2	0·5	.....	.....	10	
VI	5	8	2	0·5	.....	.....	.....	10

PERENNIAL RED CLOVER

A plot consisting of six rows, 50 feet long, was sown May 30. There was a very good stand established, and from the appearance of plants there is every prospect for success with this particular variety of clover.

FIELD ROOTS

VARIETY TEST—SWEDES

Eighteen varieties of swedes were sown in plots, in duplicate. During the early part of the month of July serious damage was done to this crop by root maggot, especially where the land was light. It was found at harvesting time that none of the plots would yield representative returns; consequently no weights were taken.

Mangels—Test of Varieties

Variety	1st plot yield per acre		2nd plot yield per acre		Average yield per acre	
	tons	hush.	tons	bush.	tons	bush.
Red Globe (Ewing)	16·85772	561·924	17·162604	572·088	17·010162	567·006
Golden Tankard (Ewing)	20·2554	675·18	15·42024	514·008	17·83782	594·594
Yellow Globe (Ewing)	24·43716	814·576	36·245972	1,215·324	30·341566	1,014·95
Giant Half Sugar (Ewing)	20·21184	673·728	22·99028	766·34266	21·60106	720·3533
Danish Sludstrop (Ewing)	17·33688	577·896	16·24788	541·596	16·79238	559·746
Giant Sugar Mangel (Rennie)	18·2952	609·84	11·49984	383·328	14·89752	496·584
Yellow Half Long (Rennie)	20·20684	673·56133	(no record from	this plot)	20·20684	673·56133
Prize Winning Strain (Rennie)	21.3444	711·46	15·63312	521·124	13·48876	616·285
Imp. Tankard Cream (Steel Briggs)	27·18144	906·048	17·2062	573·54	22·19382	739·794
Giant Yellow Oval (Steel Briggs)	25·743961	858.132	18·60012	620·004	22·17204	739·068
Giant Yellow Intermediate (Steel Briggs)	18·9486	630·2866	20·06032	668·67733	19·50446	649·481965
Yellow Globe (Steel Briggs)	19.81525	660·500833	23·958	798·6	21·886625	729·554165
Leviathan (Steel Briggs)	22·91256	763·752	9·32184	310·728	16·11720	537·240
Sludstrup (Summerland)	15·72516	524·172	19·29708	643·236	17·51112	583·704
Yellow Leviathan (Agassiz)	15·637999	521·26633	12·50172	416·724	14·0698595	468·995165
Selected Yellow Intermediate (Charlottetown)	18·16447	605·48233	17·38044	579·348	17·772455	592·415165
Half Sugar (Charlottetown)	24·56784	818·928	22·2165	740·52	23·39672	779·724
Yellow Intermediate (Charlottetown)	23·958	798·6	18·9486	631·62	21·4533	715·11
Yellow Intermediate (Ottawa)	26·90244	896·748	24·5728	819·0933	25·73762	857·91065

CARROTS—TEST OF VARIETIES

Variety	1st Plot Yield per Acre	
	Tons	Bush.
Mammoth Short Field, White (Rennie)	22·12798	737·59933
Mammoth White Intermediate (Rennie)	22·12798	737·59933
Improved Short White (S. Briggs)	19·34064	644·688
Long Orange or Surry (S. Briggs)	14·11344	470·448
Imp. Intermediate White (Ewing)	23·17392	772·464
White Belgian (Ewing)	17·94672	598·224

No duplicate plots in carrots.

ENSILAGE CORN—TEST OF VARIETIES

No.	Variety	1st Plot Yield per Acre	
		Tons	Height
			feet
1	Twitchell's Pride, Y. Flint	14·8104	7·75
2	McConnell, Y. Flint	16·5533	7·75
3	St. Anne de la Pocatiere	19·6646	8·25
4	Ewings Yellow Flint	8·560665	7·16
5	Quebec No. 28	13·8666	8·5
6	Compton's Early	27·225	10·0
7	North Dakota	25·3374	9·5
8	Longfellow	30·129	10·0
9	Sorghum	18·15	8·83
10	Smut Nose	21·3444	8·75
11	Pride of Ohio	31·5084	9·75
12	Duke's Golden Glow	21·876	10·75
13	Duke's Improved Ey. White Cap	15·246	9·5
14	Wisconsin No. 7	31·944	10·3
15	White Cap Yellow Dent	20·5458	9·3
16	Improved Leaming	30·4194	10·0

POULTRY

The buildings occupied by this division consist of an administration building, two straw-loft-type laying houses, and five moveable, shed-roof colony houses. The administration building contains an office for all record work, a bedroom for the attendant, and a storage room on the ground floor, while the basement is equipped with incubator and egg rooms. The two laying houses are 16 by 32 feet each in size, and each house is divided, making four pens 16 feet square. These are used to house 200 pullets each fall, and are a type of house which is meeting the needs of the district very satisfactorily. The five moveable colony houses are each 10 feet by 12 feet in size. They are used each spring for brooder houses; then as range houses for the growing birds during the summer months. They also serve to house during the winter and early spring, the adult birds that are being kept as special breeding stock for the spring hatching. On this farm only one breed of poultry is being kept, viz: Barred Plymouth Rocks of a good laying strain. There were on April 1, 1920, 140 females and 9 pedigreed males. These females had been selected by trapnesting as the best winter producers from a flock of 215 pullets housed in the laying houses the previous fall. These females were mated to pedigreed males that were from hens with records of over 200 eggs each in their pullet year.

The following table will show the cost of feeding, cost of producing eggs, and average production of the pullets during the months November, 1919, to March, 1920, inclusive.

Production Costs, November, 1919, to March, 1920, Inclusive

Month	Number of birds	Cost of feed	Eggs laid	Price sold	Total value	Profit	Loss	Eggs per bird	Profit per bird	Cost of feed per bird	Cost to produce 1 doz. eggs	Average per cent production per day	Average loss per bird	Remarks
		$ cts.		cts.	$ cts.	$ cts.	$ cts.	cts.	cts.	cts.	$ cts.		cts.	
November, 1919	215	46 55	306	90	22 95	.....	23 60	1⅜	.....	21½	1 82½	4¾	10⅞	
December, 1919	206	62 17	2,142	90	160 65	98 48	.....	10⅜	47¾	30⅛	0 34¾	33½	.....	
January	206	63 02	2,663	80	177 52	114 50	.....	12⅞	56¼	30½	0 28¼	41½	.....	Temperature as low as 47 below zero.
February	205	64 05	2,124	75	132 75	68 70	.....	10⅜	33½	31¼	0 36¼	37	.....	
March, 1920	166	40 05	1,973	75	123 30	83 25	.....	11¼	50⅛	24⅛	0 24¼	38⅛	.....	

Although these 140 females were used for breeding stock during the spring months, they were still continued on trap-nesting, in order to select the best producers for their entire pullet year; the best ones to be retained as adult breeders, and kept without forcing for eggs, in good healthy condition, for next spring's breeding work. Several of these birds made a record of over 200 eggs each, with some others following closely. The highest pullet, "Lennoxville Queen," laid 226 eggs in her pullet year, with "Lennoxville Princess" next, 217 eggs. Below is given a summary of cost of feeding, cost of production, average profit and loss, etc., during the twelve months April 1, 1920, to March 31, 1921.

Financial Statement of Poultry—April, 1920, to March, 1921, Inclusive

Month	No. of birds	Cost of feed	Eggs laid	Price sold	Total value	Profit	Loss	Eggs per bird	Profit per bird	Cost of feed per bird	Cost to produce 1 doz.	Average percent production per day	Average loss per bird
		$ cts.		cts.	$ cts.	$ cts.	$ cts.		cts.	cts.	$ cts.		cts.
1920													
April	140	38 84	2,061	60	102 95	64 11	.....	14¾	45¾	27½	0 22	47½	.....
May	140	27 77	1,802	56½	84 84	57 10	.....	12⅞	40¾	19¾	0 19¾	40	.....
June	97	21 05	1,118	60	55 90	34 85	.....	11½	36¼	21¾	0 22½	37¼	.....
July	95	18 12	1,009	60	51 65	33 53	.....	10⅝	35½	19	0 21½	35¼	.....
August	78	22 45	799	65	43 25	20 80	.....	10¼	26¾	28¾	0 33	33	.....
September	61	14 69	486	65	26 32	11 63	.....	7⅞	19	23	0 36	26½	.....
October	60	15 42	311	68	17 58	2 16	.....	5⅛	3½	25¼	0 59½	16½	.....
November	58	18 29	463	85	30 47	12 18	.....	8	21	31½	0 43	26¾	.....
December	58	12 43	335	90	25 12	12 69	.....	5¾	21⅞	21½	0 45	18½	.....
1921													
January	58	12 36	66	75	4 13	.....	8 23	1¼	.....	21½	2 25	3½	14⅛
February	58	12 19	257	70	14 99	2 80	.....	4⅜	4¾	21	0 57	15½	.....
March	58	14 17	794	58	38 38	24 21	.....	13¾	41¾	24¼	0 21½	43¾	.....

Note.—During the months of June, July, August, and September, the lowest producers were culled out; also any birds laying a small, a thin-shelled, or a poorly-shaped egg.

The eggs used for incubation during the spring of 1920 gave an average of 89¼ per cent fertile, 55 per cent hatch, and over 90 per cent livability of chicks hatched. One thousand chicks were hatched for rearing on the Farm, besides a large number sold as day-old chicks. The sale of day-old chicks seemed to appeal to the public more than did eggs for hatching, and the demand was so great that, in order to distribute the stock as much as possible among the farmers, the orders were limited to 50 chicks each. The cost of incubating in a Mammoth incubator averaged 2½ cents per chick, and brooding by colony brooder stoves cost an average of 2½ cents per chick. During the summer a number of the cockerels were sold as broilers, in order to allow more space for the growing stock. In the fall, after selecting 200 pullets for winter quarters, a number of pullets and cockerels were sold, mostly to farmers, as breeding stock. The inquiries for bred-to-lay, trap-nested stock are becoming more numerous at this Farm each year. The remainder of the young stock was crate-fattened and sold as dressed poultry. The average cost to feed each chick during the summer months was as follows: April 2½ cents, May 6½ cents, June 7 cents, July 13½ cents, August 17½ cents, September 20¼ cents, October 27½ cents; or an average cost for feed of 94½ cents to rear a chick to maturity. The 200 pullets which were put into winter quarters, early in October, are all being trap-nested, and are giving very encouraging results. A few birds which were not making a fairly creditable showing, were culled out in March. One apparently healthy pullet, which had not laid an egg, was discovered, while her best pen-mate had laid 105 eggs by the same date. The value of selecting from the best producers has been quite clearly demonstrated in a number of cases; for instance, No. E-48 is a daughter of "Lennoxville Princess" (217) and sired by a male whose dam's and grandam's records were all over 200 eggs each. She has produced 121 eggs in 136 days since commencing to lay, and during that time she laid on 42 consecutive days. The cost of feeding, cost of producing eggs, and prices for the flock, are given in table.

Cost of feeding, cost of producing eggs, average production and prices for the whole flock of pullets during the five months, Nov. 1, 1920, to March 31, 1921

Month	No. of birds	Cost of feed	Eggs laid	Price sold	Total value	Profit	Loss	Eggs per bird	Profit per bird	Cost of feed per bird	Cost to produce 1 doz.	Average per cent production per day	Average loss per bird
1920		$ cts.		cts.	$ cts.	$ cts.	$ cts.		cts.	cts.	$ cts.		cts.
November	200	56 05	556	85	39 38	.....	16 67	2¾	.....	28	1 21¾	9½	8¼
December	199	55 17	2,925	90	220 88	165 71	.....	14⅝	83¼	27¾	22½	47¾	.....
January	195	47 46	3,623	75	226 43	178 97	.....	18½	91¼	24¼	15¾	61½	.....
February	194	43 87	3,392	70	197 87	154 00	.....	17½	79⅜	22¾	15½	63	.....
March	164	31 60	3,198	58	154 57	122 97	.....	19½	75	19¼	11¾	62¾	.....

EARLY VERSUS LATER HATCHED PULLETS

COMPARISON TEST

It has always been considered, during the past few years at least, that early hatched pullets are the most profitable for winter egg production, when eggs are high in price also. In order to support this belief with some actual figures, a comparative test of a certain number of early hatched pullets versus the same number of late hatched pullets, is being carried on each winter at this farm. The check pens are kept under exactly the same conditions and management, and the different results noted. During the winter of 1920 and 1921, lot No. 1 had 25 pullets which were hatched between April 13 and May 1; while lot No. 2 had 25 pullets which were hatched between May 1 and May 15. It was thought at one time that possibly No. 1 would call a light breathing spell during the latter part of January or the month of February, and that lot No. 2 would equal the number of eggs laid by lot No. 1. Such, however, was not the case. Special mention might be made of one individual in each lot, which produced 40 eggs in 40 consecutive days. It is also interesting to note that one of those individuals has since raised her score to 132 eggs in the 145 days from commencing to lay. The following table will best show the results received.

EARLY VS. LATE HATCHED PULLETS

Lot No. 1—(Early)—(25 birds)

Month	Cost of Feed	Eggs Laid	Value of Eggs	Profit over cost	Loss	Average profit per bird
	$ cts.		$ cts.	$ cts.		$ cts.
November	7 00	231	17 32	10 32	.....	0 41½
December	6 95	550	41 25	34 30	.....	1 37
January	6 07	531	33 19	27 12	.....	1 08½
February	6 00	486	28 35	20 85	.....	0 86½
	26 77	1,798	120 11	93 34	.....	3 73

Lot No. 2—(Late)—(25 birds)

Month	Cost of feed	Eggs Laid	Value of of eggs	Profit over cost	Loss	Average profit per bird
	$ cts.		$ cts.		$ cts.	
November	6 50	15	1 12	.....	5 38	.....
December	6 75	266	19 95	13 20	.....	0 52½
January	6 00	418	26 10	20 10	.....	0 80½
February	5 50	369	21 53	15 97	.....	0 63¾
	24 75	1,068	68 70	49 27	.....	1 97
Less	.....	.....	.....	5 38		
				43 89		

Summary for four months

	Cost of feed	Eggs Laid	Profit over feed	Average Profit
	$ cts.		$ cts.	$ cts.
Lot No. 1	26 77	1,798	93 34	3 73
Lot No. 2	24 75	1,068	43 89	1 75½

EXTENSION AND PUBLICITY

Exhibitions.—This station was represented at the Canadian Great Eastern Exhibition, held at Sherbrooke from August 28 to September 3. This exhibit, occupying 65 feet frontage, was located in the Main Industrial building, in which the animal husbandry, cereal, horticultural and poultry divisions of the work were also represented. The exhibit being located in this building brought us in touch with a large percentage of people attending this fair in south-eastern Quebec. A number of circulars were distributed, and inquiries of all kinds answered; and much interest seemed to be taken by the public in our work.

An exhibit of the Poultry Division's was put on at the Sherbrooke Annual Poultry show, held during the month of January. The staff of this Station attended numerous meetings throughout the districts in the course of the year, such as Farmers' Clubs, Agricultural Societies, Women's Institutes and other special meetings, at which addresses, demonstrations and illustrated lectures were given by the Horticultural, Poultry and Live Stock divisions. The superintendent and assistants assisted in judging at local fairs throughout the district during the fall and winter.

The Annual Farmers' Day gathering was held on August 19 at this station, at which a very large gathering of people was present. The day was taken up in the inspection and judging of live stock and inspection of field husbandry and horticultural work.

MEETINGS ATTENDED DURING THE YEAR

The following meetings were attended and a short practical talk on some branch of poultry work was given:—

Tomifobia—Farmers Co-operative Association and Women's Institute.

Waterville—Annual Farmers' Club.

Sherbrooke—Poultry Show.

Lennoxville—Soldiers' Wives' Convention.

Sherbrooke—Several meetings, Sherbrooke Poultry Association.

Rural School Fairs at Lennoxville, Ayers Cliff, Cookshire, Bury, Scotstown and La Patrie.