DOMINION OF CANADA

DEPARTMENT OF AGRICULTURE

DOMINION EXPERIMENTAL FARMS

REPORT OF THE CHIEF SUPERVISOR

JOHN FIXTER

ON

THE ILLUSTRATION STATIONS

IN

ONTARIO, QUEBEC, NEW BRUNSWICK NOVA SCOTIA, and PRINCE EDWARD ISLAND

FOR THE YEAR 1926

A field of certified Irish Cobbler potatoes which yielded 509 bushels per acre; grown by the Illustration Station operator at Montague, P.E.I.

Printed by authority of the Hon. W R. Motherwell, Minister of Agriculture,
Ottawa, 1927

TABLE OF CONTENTS

ILLUSTRATION STATIONS

IN

Ontario, Western Quebec, Eastern Quebec, New Brunswick, Nova Scotia, and Prince Edward Island

REPORT OF THE CHIEF SUPERVISOR, JOHN FIXTER

During the past year one hundred and forty-nine Illustration Stations have been in operation. In addition, two new sites have been selected and work will be started on them in the spring of 1927. Eight of these Stations are located in Prince Edward Island, fourteen in Nova Scotia, sixteen in New Brunswick, forty in Quebec, nine in Ontario, eleven in Manitoba, twenty in Saskatchewan, eighteen in Alberta, and thirteen in British Columbia. The yields, costs of production, and results of the various projects under way on these Stations are published in two reports; one deals with the work in the east and the other with that in the western provinces.

For the collection of data and recording of results making possible the following report of the work of the division, the superintendents of branch Farms and Stations and supervisors of Illustration Stations as named below are responsible:—

J. C. MOYNAN, Assistant, Ottawa, Ont.

SUPERINTENDENTS	SUPERVISORS
S. Ballantyne, Kapuskasing, Ont.	W. L. Chauvin, Ottawa, Ont.
J. A. Ste. Marie, Ste. Anne de la Pocatière, P.Q.	J. H. Tremblay, Ste. Anne de la Pocatière, P.Q.
C. F. Bailey, Fredericton, N.B.	T. G. Hetherington, Fredericton, N.B.
W. S. Blair, Kentville, N.S.	F. B. Kinsman, Kentville, N.S.
J. A. Clark, Charlottetown, P.E.I.	

PRODUCTION AND SALE OF SEED

As in former years the Illustration Stations have functioned as seed centres. New and improved varieties of crops, which experiments on the nearest Experimental Farms have proven to be most suitable for the district, are grown on the Stations. Thus, surrounding farmers can observe their habit of growth and yielding ability. Surplus seed grown on these fields is offered for sale, in the district, so that others may have an opportunity of benefiting by any improvement resulting in this way. This year 634 farmers purchased seed from these Illustration Station operators. The total sales amounted to 27,370 bushels of seed grain, 7,513 bushels of seed potatoes and 9,188 pounds of grass and clover seed.

SALE OF BREEDING STOCK AND HATCHING EGGS

During the past year the Illustration Station operators have directed considerable attention to improving their poultry flock as well as their housing conditions. The development of a strong and high-producing strain of poultry on

these Stations is of considerable importance financially to the operator, and is also far reaching in its influence on the general quality of the poultry kept in these districts, when we consider the annual sales of hatching eggs and breeding stock which takes place on these Stations. During the past year 379 pullets, 637 cockerels and 1,345 settings of eggs were sold to be used in breeding stock.

LIVE STOCK WORK

The class of live stock kept by the various Illustration Station operators varies a great deal. Many have highly bred, accredited herds; others have just started to keep milk records and to build up pure-bred herds, while others have recently signified their intention to give greater attention to the breeding and feeding of their herds. This seems a practical and necessary procedure not only on an Illustration Station but on every farm where dairy cattle are kept. It seems lost energy to endeavour to produce crops economically, if they are to be fed to low-producing and not profit-paying stock. During the year 71 head of pure-bred cattle, 96 sheep and 93 swine were sold by the operators to farmers in their respective districts for breeding purposes.

PRICES CHARGED WHEN MAKING UP PRODUCTION COSTS

In this report will be found the cost of growing each crop on each Station. When determining these costs the calculations have been based on the following charges:—

Rent of land per acre	Based on value of land at prevailing rate of interest.
Horse and manual labour; spray material. Cost of fertilizers, twine and threshing	Based on prices in the district.
Use of machinery	$2.85 per acre, except in Nova Scotia where it was $2.
Manure	$2 per ton.

Cost of Seed

—	Ontario	Western Quebec	Eastern Quebec	New Brunswick	Nova Scotia	Prince Edward Island
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Oats, Banner (Reg.) per bushel	1 15	1 15	1 25	1 24	.....	1 00
Oats, Victory (Reg.) per bushel	.....	.....	.....	1 24	.....	.....
Oats, Banner, per bushel	.....	1 00	0 90	.....	.....	.....
Oats, Alaska, per bushel	.....	.....	1 10	.....	.....	.....
Wheat, Huron, per bushel	.....	2 90	3 00	.....	.....	2 00
Barley, O.A.C. No. 21, (Reg.) per bushel	1 75	1 75	2 00	.....	.....	.....
Barley, Charlottetown No. 80 per bushel	.....	.....	.....	.....	.....	1 25
Buckwheat, per bushel	1 50	.....	.....	.....	.....	.....
Potatoes, (Certified) per bushel	.....	1 00	1 25	1 82	.....	1 50
Corn, Bailey, per bushel	2 00	2 00	.....	.....	.....	.....
Corn, Golden Glow, per bushel	.....	.....	2 40	.....	.....	.....
Corn, Longfellow, per bushel	2 50	2 50	3 00	.....	.....	3 25
Corn, Wisconsin, per bushel	2 00	2 00	2 50	.....	.....	.....
Vetches, per bushel	.....	.....	2 50	3 00	.....	.....
Peas, Golden Vine, per bushel	2 25	2 25	3 00	.....	.....	.....
Sunflowers, per pound	0 10	0 10	0 10	0 11½	.....	0 15
Timothy, per pound	0 13	0 13	0 13½	0 12½	.....	0 13
Red clover, per pound	0 30	0 30	0 28½	0 30	0 28	0 30
Alsike, per pound	0 25	0 25	0 25	0 24½	0 22½	0 23
Alfalfa, per pound	0 19	0 19	0 20	0 20	.....	.....
Swedes, Halls Westbury and Perfection, per pound	0 40	0 40	0 55	0 45	0 40	.....
Swedes, Champion Purple Top	.....	0 40	0 45	.....	.....	.....
Swedes, Bangholm, per pound	.....	.....	.....	.....	.....	1 00
Mangels, per pound	.....	0 30	.....	.....	0 40	.....

RETURN VALUES

—	Ontario		Western Quebec	New Brunswick	Nova Scotia	Prince Edward Island
	Northern	Eastern				
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Timothy hay, per ton	15 00	10 00	10 00	10 00	.....	11 00
Clover hay, per ton	15 00	9 00	9 00	8 00	.....	11 00
Oats, peas and vetch hay, per ton	15 00	9 00	9 00	8 00	.....	.....
Oat straw, per ton	6 00	4 00	4 00	4 00	.....	.....
Threshed clover, per ton	.....	5 00	5 00	.....	.....	.....
Corn fodder, dry, per ton	.....	.....	.....	3 50	.....	.....
Corn fodder, green, per ton	.....	3 10	3 10	3 50	.....	3 50
Corn, ensilage, per ton	.....	3 50	3 50	.....	.....	.....
Sunflower fodder, green, per ton	.....	.....	.....	.....	.....	3 00
Sunflower ensilage, per ton	.....	3 00	3 00	.....	.....	.....
Oats, peas and vetch ensilage, per ton						
Turnips, per bag	1 00	.....	.....	.....	.....	.....
Turnips, per ton	2 25	.....	.....	3 00	.....	4 80
Wheat, per bushel	.....	.....	.....	2 00	.....	1 80
Oats, per bushel	0 60	0 75	0 75	0 75	.....	0 68
Barley, per bushel	.....	.....	.....	.....	.....	0 96
Potatoes, per bushel	1 50	1 00	1 00	0 90	.....	0 80
Red clover seed, per pound	.....	0 30	0 30	.....	.....	.....
Timothy seed, per pound	.....	0 10	0 10	.....	.....	.....

The cost of manure is distributed over the crops in the rotation in the following proportions:—

40 per cent is charged to the hoed crop.
30 per cent is charged to the grain crop.
20 per cent is charged to the clover crop.
10 per cent is charged to the timothy hay.

The cost of chemical fertilizers is charged to the different crops as follows:

First year	55 per cent
Second year	30 per cent
Third year	10 per cent
Fourth year	5 per cent

REPORT OF THE ILLUSTRATION STATIONS IN ONTARIO

Nine Illustration Stations are now in operation in Ontario. Five are located in the eastern part of the province and are supervised by the Supervisor for Western Quebec, and four in Northern Ontario, under the supervision of the Superintendent, Experimental Station, Kapuskasing. The seasonal conditions in the eastern part of the province were quite similar to those outlined in the report of Western Quebec. In northern Ontario, the spring was somewhat cool and backward, so that the hoed crops were not planted sufficiently early to give the best results. The hay crops were fairly good. Some of the grain crops, however, were severely attacked by green aphids which materially reduced the yields.

The rainfall at Porquis Jct. and Genier as compared with that at Kapuskasing is given in the following table. It will be observed that the rainfall was particularly heavy at these two Stations in June and July:—

MONTHLY PRECIPITATION

(Inches)

Month	Porquis Junction 1926	Genier 1926	Kapuskasing 1926	Kapuskasing average nine years
May	0·74	No records	0·17	1·50
June	4·57	3·24	1·94	2·05
July	4·26	4·75	1·78	3·18
August	No records	1·16	0·91	2·63
September	No records	2·75	2·85	3·23

Pure-bred sires are maintained at each Station, three of which have been purchased from the Experimental Station at Kapuskasing. Milk scales are used on all the Stations. This will enable the operators to weed out the low producing cows. A flock of bred-to-lay Barred Rock poultry is maintained on each Station and eggs from these are distributed to settlers in the district. Seed potatoes and seed grain is also produced and sold to those desiring same.

COCHRANE, TIMISKAMING DISTRICT

Operator, E. D. Carrere

Field "A" was fall-ploughed early in the autumn of 1925 in preparation for seeding to Alaska oats and grass seed in 1926. The seed was sown on May 29.

Field "B" was fall-ploughed out of sod in the autumn of 1925 and was manured during the following winter and spring at the rate of 16 tons to the acre. One acre was planted to Irish Cobbler potatoes on June 5, and the remaining two acres were sown to oats and peas at the rate of two bushels of oats and one bushel of peas per acre, on June 15. This crop was cured for hay.

Field "C" was in timothy hay and field "D" in clover hay. The yields and production costs are as follows:—

Operation Cochrane—Four-Year Rotation

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
				$ cts.	$ cts.
A	Alaska oats	Sept. 3	30·7 bush.	0 95 per bush.	—13 27
B	Potatoes	Sept. 12	72·0 bush.	1 35 per bush.	10 46
B	Oats and peas	Sept. 11	1·125 tons	32 67 per ton	—19 87
C	Timothy hay	Aug. 5	0·5 ton	21 21 per ton	—3 11
D	Clover hay	Aug. 5	2·25 tons	8 20 per ton	15 31

It is worthy of note that Mr. Carrere was successful in winning twenty-six prizes at the Cochrane Exhibition, as follows: Twenty-one firsts and five seconds. He also won first prize in the Standing Field Crop Competition for potatoes, and sixth for oats. In addition to these he was winner of the A. J. H. Eckardt trophy consisting of a sterling silver tea set.

GENIER, TIMISKAMING DISTRICT

Operator, Oliver Genier

Field "A" was in clover hay and field "B" was in timothy hay.

Field "C" was fall-ploughed out of sod and was manured at the rate of sixteen tons to the acre during the winter. Two acres were planted to Irish Cobbler potatoes on June 1, and one acre was sown to a mixture of oats and peas at the rate of two and one-half bushels of oats and three-quarter bushel of peas on June 5. This crop was almost completely destroyed by green aphids, so that no results are reported.

Field "D" was sown to Banner oats on May 24, and seeded out to grass and clover with a mixture of red clover eight pounds, alsike two pounds and timothy ten pounds per acre. The yield from this field is abnormally low on account of damage done by green aphids. The yields and production costs are as follows:—

OPERATION AT GENIER—FOUR-YEAR ROTATION

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover hay	Aug. 9	1·83 ton	10 52 per ton	8 21
B	Timothy hay	Aug. 19	1 ton	11 86 per ton	3 14
C	Potatoes	Sept. 29	75 bush.	1 45 per bush.	4 06
D	Banner oats	Sept. 25	16·7 bush.	1 31 per bush.	−17 65

VAL GAGNE, TIMISKAMING DISTRICT

OPERATOR, H. LABRECHE

Field "A" was in clover hay and field "B" in timothy hay. Field "C" was ploughed during the autumn and afterwards manured at the rate of 16 tons to the acre in preparation for the hoed crops. One acre was planted to Irish Cobbler potatoes on June 4, and one acre was seeded to swede turnips on June 5.

Field "D" was sown to Alaska oats on May 27 and gave a good yield of good quality grain.

The yields and costs of growing all crops are as follows:—

OPERATION VAL GAGNE—FOUR-YEAR ROTATION

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover hay	Aug. 2	2·5 tons	7 86 per ton	17 84
B	Timothy hay	Aug. 2	2 tons	6 43 per ton	17 14
C	Potatoes	Sept. 28	130·5 bush.	0 77 per bush.	95 41
C	Turnips	Oct. 12	(a) 40 bags (b) 6 tons	0 82 per bag 1 85 per ton	9 60
D	Alaska oats	Sept. 7	43·6 bush.	0 60 per bush.	0 18

(a) Sold for table use. (b) Fed to cattle.

In addition to the regular rotation, arrangements were made with Mr. Labreche to plough two acres of sod immediately after haying in 1925, and disk it occasionally until the freeze up, and compare the crop obtained with the crop on a similar area which was not ploughed until just before the freeze up. Both areas were seeded to Alaska oats on June 5. The crop on the early ploughing was a better colour and had a more even appearance throughout the growing season. It also matured slightly earlier and gave a larger yield, which indicates that after-harvest cultivation has an influence on the yield obtained. The following table gives the details of the test:—

EARLY PLOUGHING AND DISKING VERSUS LATE PLOUGHING

Crop	Treatment	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
Alaska oats	Ploughed early and disked in autumn.	33·5 bush.	0 57 per bush.	1 33
Alaska oats	Ploughed late	29 bush.	0 60 per bush.	−0 06

PORQUIS JUNCTION, TIMISKAMING DISTRICT

OPERATOR, JOHN MACDONALD

Field "A" was in clover hay and field "B" in timothy hay. One acre of field "C" was planted to Irish Cobbler potatoes on June 12, and one acre was seeded to swede turnips on June 15, but owing to excessive rainfall which occurred shortly afterwards, both of these crops were drowned out, so that no results were obtained.

Field "D" was sown to Banner oats on May 28 and seeded out to grass and clover. The grass and clover made a good catch but the oat crop was very thin and light owing to late seeding and excessive moisture.

OPERATION PORQUIS JUNCTION—FOUR-YEAR ROTATION

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
				$ cts.	$ cts.
A	Clover hay	Aug. 7	2 tons	9 52 per ton	10 97
B	Timothy hay	Aug. 7	1·5 tons	8 42 per ton	9 87
D	Banner oats	Sept. 30	15 bush.	1 46 per bush.	—17 29

BOURGET, RUSSELL COUNTY

OPERATOR, NAPOLEON MARTEL

Crops were very good at this Station. Two varieties of corn were used, Wisconsin, No. 7 and Bailey. The Bailey was the taller and was more completely matured at harvest time. Crops were seeded under favourable soil conditions an excellent seed-bed had been prepared.

This crop of turnips yielded 20½ tons per acre costing $2.83 per ton, following method of cultivation employed on the Illustration Station, Bourget

The following table gives the results of the season's work:—

OPERATIONS AT BOURGET—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Corn, ensilage	May 29	Sept. 20	14 tons	2 55 per ton	13 30
A	Turnip	May 29	Oct. 26	20·70 tons	2 83 per ton	3 52
B	Oats, Reg. Banner	May 14	Aug. 26	56½ bush.	0 38¾ per bush	20 38
C	Clover hay, 2 cuts		June 26 Aug. 30	2¼ tons	8 43 per ton	1 28
C	Clover hay, 1st cut		June 26	1½ tons	7 81 per ton	1 47
C	Clover seed, 2nd cut		Sept. 25	92½ lbs.	0 09¾ per lb.	18 84
D	Timothy hay		July 26	1¾ tons	8 89 per ton	1 94

An effort is being made to popularize the growing of alfalfa at this Station. The field seeded two years ago is patchy in places, in other parts very promising. This spring another field was seeded to O.A.C. No. 21 barley along with five pounds of alfalfa, five pounds of red clover, two pounds of alsike and ten pounds of timothy. Part of the field received an application of hydrated lime at the rate of two tons per acre, to determine if an application of lime would be beneficial to the crop.

CASSELMAN, RUSSELL COUNTY

OPERATOR, HECTOR LAFLECHE

This is the second year that this Station has been in operation, hence the four-year rotation which is planned for this Station is not fully established. Considerable mustard was present in the oats on field "A" hence were cut for hay to prevent their ripening and dropping seed. The clover crop shows a loss on both first and second crop. This is accounted for in a measure, because of its being seeded last year on land ploughed out of sod, resulting in a thin stand.

The following table gives the yields and cost of growing the crops:—

OPERATIONS AT CASSELMAN—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Oat hay	May 24	July 30	1¾ tons	14 97 per ton	—9 55
B	Potatoes	May 27	Sept. 28	216 bush.	0 36¼ per bush	137 16
B	Turnip	May 27	Oct. 29	18·90 tons	2 89 per ton	2 08
B	Corn, fodder	May 31	Sept. 8	13·35 tons	2 46 per ton	8 44
C	Clover hay, 1 cut		July 24	1 ton	16 25 per ton	—7 25
D	Clover hay, 2 cuts		June 21 Aug. 26	1¾ tons	11 05 per ton	—3 28

Part of field "A" was seeded with a mixture containing five pounds of alfalfa, five pounds of red clover, two pounds of alsike, eight pounds of timothy. This will be compared with the standard mixture of eight pounds of red clover, two pounds alsike and ten pounds of timothy per acre. The alfalfa was very promising this fall, being in bloom in the oats at the time it was cut.

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CURRAN, PRESCOTT COUNTY

Operator, Aldege Dupont

With the exception of corn all crops show a profit over cost of production. Wireworms did considerable damage to the crop necessitating replanting, as also did crows, all of which contributed to the resulting low yield.

The following table gives the results of the season's work:—

Operations at Curran—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Clover hay, 1st cut		June 21	1½ tons	7 23 per ton	2 11
A	Clover seed, 2nd cut		Sept. 30	82 lbs.	0 10½ per lb.	16 29
B	Timotny hay		July 19	2 tons	7 45 per ton	5 10
C	Corn, ensilage	June 5 / June 12	Sept. 15	10 tons	3 76 per ton	—2 60
C	Turnips	June 12	Oct. 27	25 tons	1 60 per ton	35 00
D	Oats, Banner	May 15	Aug. 25	42 bush.	0 45½ per bush	6 19

Clover-seed growing is proving a profitable side line at this station. Dairy products supplying the main revenue. The operator is building up a pure-bred Ayrshire herd, some of which already qualified in the Record of Performance.

RUSSELL, RUSSELL COUNTY

Operator, J. A. Boyd & Son

This is the first year that Illustration Station work has been carried on in this district. The land was selected in the spring and immediate preparations were made for the establishment of a six-year rotation, which will be as follows: First-year, hoed crops; second-year, grain and seeded; third-year, clover and alfalfa hay; fourth-year, mixed hay; fifth-year, grain and seeded; sixth-year, clover hay.

The yield and cost of growing the crops were as follows:—

Operations at Russell—Six-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Barley, O.A.C. 21	May 26	Aug. 26	19½ bush.	1 31½ per bush	—8 03
B	Oats, Reg. Banner	May 26	Aug. 30	31 bush.	0 70½ per bush	1 31
C	Oats, Reg. Banner	May 27	Aug. 31	31 bush.	0 72½ per bush	0 81
D	Corn, fodder	June 12	Sept. 27	12½ tons	3 36 per ton	—3 25
D	Turnips	June 12	Oct. 25	13 tons	5 07 per ton	—26 91
E	Oats, Reg. Banner	May 29	Sept. 2	31 bush.	0 71½ per bush	1 16
F	Oats, Reg. Banner	May 29	Sept. 2	31 bush.	0 71½ per bush	1 08

In addition to the regular rotation work demonstrations are under way to determine the effect of lime on alfalfa, the suitability of alfalfa to this soil and the importance of seeding heavily to grasses and clovers.

ST. EUGENE, PRESCOTT COUNTY

OPERATOR, ALBERT SEGUIN

This is the first year that this Station has been in operation. During the year a number of improvements have been made, such as clearing away brush on the road front, building a silo and getting the land prepared for carrying on a rotation of crops. All fields were ploughed out of sod.

The yields obtained and the cost of growing the different crops were as follows:—

OPERATIONS AT ST. EUGÈNE—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Oat, hay	May 11	Aug. 5	1·67 tons	12 63 per ton	—6 06
A	Oats, Banner	May 11	Aug. 20	48 bush.	0 40½ per bush	9 36
B	Oats, Banner	May 13	Aug. 20	42¾ bush.	0 45¼ per bush	6 07
C	Oats, Banner	May 15	Aug. 21	45 bush.	0 43⅜ per bush	7 59
D	Corn, ensilage	May 31	Sept. 27	13 1/10 tons	3 14 per ton	4 70

REPORT OF THE ILLUSTRATION STATIONS IN WESTERN QUEBEC

W. L. Chauvin, Supervisor

Twenty Illustration Stations were in operation in western Quebec in 1926. In addition the supervisor for this district was responsible for the work on four stations in eastern Ontario. Generally speaking, seeding was late, due to frequent rains and cold weather. Late seeding combined with considerable rust injury reduced the oat yields. Corn crops made slow growth on the start but came on well later in the season, giving good average yields. Repeated rains delayed fall ploughing so that many farmers were unable to complete their fall work.

MEETING AND CONTESTS

Twenty field meetings were held on the Stations to acquaint the farmers of the districts with the work under way and the results obtained. In addition the supervisor assisted as judge at six ploughing matches. Three turnip-growing contests were organized in districts where they were not extensively grown in order to popularize the crop.

SALE OF SEED GRAIN AND POULTRY

The Stations in western Quebec are continuing to do useful work by growing improved varieties of grain, grasses and clover seed and offering it for sale to their neighbours at moderate prices. The sales this year amount to 3,032 bushels of seed grain, 5,010 pounds timothy and red clover seed, 100 bushels of potatoes. Along poultry lines 280 settings of a good laying strain of Barred Plymouth Rocks and 119 cockerels were disposed of in the different districts where these Stations operate.

DAIRY RECORDS

Commencing the beginning of the year all of the Illustration Station operators in western Quebec and eastern Ontario, who were not already doing so, started keeping individual milk records of the cows in their herds. Combining with this record work the use of well-bred sires should place these herds on a

more profitable basis. It will be observed that the average herd production does not represent the whole lactation period, due to some cows having freshened prior to starting weighing. When we examine the average production of the different herds, considering the number of days records were kept, a distinctly higher production is observed where milk records were kept in the past.

The average production of milk per cow at these different Stations is as follows:—

Stations	Breed	Average number of days in milk	Number of cows	Average production per cow
				lb.
Aubrey, Que	Ayrshire Grades	260	14	6,717
Bourget, Ont	Grades	273	12	5,440
Casselman, Ont	Ayrshire Grades	212	11	5,118
Curran, Ont	Ayrshire	237	14	4,115
Campoell's Bay, P.Q	Grades	197	10	4,820
Daveluyville, P.Q	Grades	221	15	4,356
Lachute, P.Q	Ayrshire	221	14	4,802
L'Assomption, P.Q	Ayrshire	238	12	5,812
Lac à la Tortue, P.Q	Grades	214	6	4,811
L'Annonciation, P.Q	Grades	178	21	3,482
Papineauville, P.Q	Grades	300	7	7,056
Ste. Brigide, P.Q	Ayrshire and Canadian	215	14	3,585
St. Casimir, P.Q	Grades	255	10	6,083
St. Clet, P.Q	Holstein Grades	229	9	4,447
St. Constant, P.Q	Ayrshire Grades	204	8	5,691
St. Etienne des Grès, P.Q	Grades	229	6	5,026
St. Eugène, Ont	Ayrshire Grades	236	11	5,390
St. Jérôme P.Q	Ayrshire Grades	276	5	3,480
Ste. Julie, P.Q	Ayrshire Grades	275	8	6,171
St. Léonard d'Aston, P.Q	Ayrshire	262	11	5,372
St. Paul de Joliette, P.Q	Ayrshire	236	8	5,326
St. Simon, P.Q	Ayrshire	284	10	7,042
Stanbridge East, P.Q	Holstein	197	16	3,391

AUBREY, CHATEAUGUAY COUNTY

Operator, Samuel Reddick

Although the spring was cool and backward, good cultivation stimulated growth, with the result that in all cases profitable crops were harvested. The results of the season's work are as follows:—

Operations at Aubrey—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit o. (−) loss per acre
					$ cts.	$ cts.
A	Oats, Banner	May 17	Aug. 25	56 bush.	0 36½ per bush	13 16
B	Clover hay, 1st cut		July 2	1·33 tons	6 76 per ton	2 97
B	Clover seed, 2nd cut		Oct. 23			
C	Corn, ensilage	June 1	Oct. 4	16 tons	2 60 per ton	14 40
D	Timothy hay		July 20	1·71 tons	8 77 per ton	2 10
D	Timothy seed		Aug. 10	275 lbs.	0 06⅝ per lb.	9 28

In the spring of 1924 two pounds of alfalfa was seeded on a portion of field "D", in addition to the regular amount of red clover, alsike and timothy, to determine the suitability of the soil for this crop. Last year when it was first year meadow, the alfalfa did not appear very vigorous. However, it was

interesting this year to note the increase in vigour, especially, after the removal of the timothy hay crop. A field outside the rotation was seeded this year to alfalfa only. An interesting demonstration on this Station was conducted on field "D", where one hundred pounds of nitrate of soda were applied early in the spring to the timothy meadow. The effect could be readily noted by the darker green colour and stronger growth of the crop. The increase in yield from its application being 1,062 pounds of cured hay, at a cost of $3.50.

CAMPBELL'S BAY, PONTIAC COUNTY

Operator, W. J. Hayes & Son

Seeding was ten days later at this Station than last year. However all fall work had been completed and the manure spread so that when favourable weather came seeding advanced quickly. On the whole crops were somewhat lighter than usual, particularly oats and corn.

The following table gives the yields and cost of growing the different crops:

Operations at Campbell's Bay—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Oats, Banner	May 19	Aug. 16	46½ bush.	0 49 per bush.	12 09
B	Clover hay, 2 cuts		July 5 Oct. 2	2⅔ tons	8 27½ per ton	1 88
C	Timothy hay		Aug. 2	1⅔ tons	10 25 per ton	−0 40
D	Corn, ensilage	June 7	Sept. 24	11 tons	3 36½ per ton	1 48

In addition to the rotation work a demonstration was started this spring, which should be of considerable practical value. A four-acre field was divided into four equal parts, plots were seeded with a mixture made up of eight pounds of home-grown red clover seed, two pounds of alsike and ten pounds of timothy at the rate of 10, 15 and 20 pounds per acre. On one plot the home-grown red clover seed was substituted for commercial seed, to demonstrate the superiority of home-grown seed. This fall there was a decidedly better stand on the heaviest seeded plots. Exact data will be available on the yields of these plots next year. The work with alfalfa has again been continued with the view of getting it more widely grown in the district. The value of lime for alfalfa embraces one feature of the work.

DAVELUYVILLE, ARTHABASKA COUNTY

Operator, Alphonse Poisson

This was the first year that Illustration Station work was carried on at this point. Considerable preparatory work was done in the way of clearing away stones, squaring out the fields and getting the land in shape for the establishment of the four-year rotation.

The yields and cost of growing the crops on this Station were as follows:—

OPERATIONS AT DAVELUYVILLE

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Turnip	June 7	Oct. 22	13·85 tons	3 70 per ton	—9 69
A	Corn, fodder	June 11	Sept. 17	4 tons	9 83 per ton	—26 92
B	Oats, Banner	June 4	Sept. 10	33½ bush.	0 52⅜ per bush	2 55
C	Oats, Banner	June 4	Sept. 10	33½ bush.	0 52⅜ per bush	2 55

KAZUBAZUA, WRIGHT COUNTY

OPERATOR, EPHRIAM ANDERSON

Considerable success has been achieved with the work at this Station. The soil is very sandy, lacking in humus to the extent that there is considerable drifting. In order to determine the best method by which to proceed in building up this soil a series of manure and fertilizer tests were layed out when the work started in the spring of 1925, at this time the field was in oats and seeded to grass and clovers. This year the field was in clover hay. Where the manure was used alone, the yield was 2,550 pounds of cured hay, where half manure and half fertilizer were used the yield was 1,419 pounds per acre, a complete fertilizer gave 707 pounds of hay, whereas the unfertilized plot gave 381 pounds of cured hay. As farmyard manure is not available in sufficient quantities, working in the above results a combination of manure and fertilizer is being used on the rotation fields, nitrogen and organic matter seem essential.

A group of farmers assembled on the Illustration Station, Kazubazua, to discuss the various crops and to see the results of the methods followed

The following table gives the results of the work in the rotation areas:—

OPERATIONS AT KAZUBAZUA—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Oats, Banner	May 12	Aug. 23	45 bush.	0 52 per bush.	3 60
B	Potatoes	June 4	Oct. 15	111 bush.	0 71½ per bush	31 91
B	Corn fodder	June 8	Sept. 15	8 tons	2 61 per ton	3 90
C	Oats and peas	May 13	Aug. 23	43 bush.	0 37½ per bush	22 57
D	Buckwheat	June 29	Sept. 15	20½ bush.	0 71½ per bush	3 79

Progress has been made with the plantation of raspberries and strawberries started two years ago. In the vicinity of $65 worth of berries being sold this summer. The Green Mountain potatoes passed field inspection, thus qualified as Certified Seed, and are being offered for sale in the district. The crop was sprayed five times with Bordeaux mixture which was effective in controlling late and early blight.

LACHUTE, ARGENTEUIL COUNTY

OPERATOR, S. R. SMITH

Although seeding was started at quite an early date on this Station, because of the sandy nature of the soil, crop growth was retarded with the cold backward weather during the early part of the growing season. Considerable loss resulted from damage done to the oat crop by blackbirds also from shelling due to persistent rains when in the stook.

The following table gives the results of the season's work:—

OPERATIONS AT LACHUTE—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Oats, Banner	May 11	Aug. 16	36½ bush.	0 63½ per bush	−1 15
B	Corn ensilage	June 2	Sept. 28	16½ tons	2 19 per ton	21 61
C	Pasture					
D	Clover hay		July 12	1½ ton	14 36 per ton	−6 70

LAC A LA TORTUE, CHAMPLAIN COUNTY

OPERATOR, JOSEPH DESSUREAULT

The sandy nature of the soil at this Station presents a difficult problem in profitable production of crops. The hoed crops, such as potatoes, corn, sunflowers are usually grown at a profit; with the hay crops, the same has not been the case. An effort has been made to grow sweet clover with the idea of ploughing it under to increase the humus content of the soil. For the past three years in succession this crop has failed to establish a satisfactory stand as may be seen from the yield on field "G".

The following table gives the results of the season's work:—

OPERATIONS AT LAC A LA TORTUE—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Clover hay		Aug. 5	⅔ ton	18 17 per ton	−5 50
B	Turnip	June 12	Oct. 10	4 tons	5 66 per ton	−10 24
B	Potatoes	May 28	Oct. 14	127 bush.	0 35 per bush.	82 55
B	Corn ensilage	June 12	Sept. 30	8 tons	3 05 per ton	3 60
B	Sunflower ensilage	June 12	Sept. 30	10 tons	2 56 per ton	4 40
C	Oats, Banner	May 11	Aug. 24	20 bush.	0 70 per bush.	−2 00
D	Timothy hay		Aug. 5	½ ton	11 53 per ton	−1 22
	Demonstration Test Fields					
E	Oats, Banner	May 11	Aug. 20	18 bush.	0 81¼ per bush	−3 93
F	Potatoes	May 18	Oct. 17	102 bush.	0 94½ per bush	5 61
F	Corn ensilage	June 15	Oct. 1	6 tons	3 01½ per ton	2 91
G	Mixed hay		July 27	½ ton	19 12 per ton	−5 06

A series of fertilizer demonstrations were conducted on the clover crop on field "A" (including nitrate of soda singly and in combination with potash and acid phosphate) without any noticeable increase in yield. The effect of each will be followed up next year when the field will be in timothy hay.

L'ANNONCIATION, LABELLE COUNTY

OPERATOR, DIDYME COTE

This is the first season that Illustration Station work has been carried on at this place. Considerable has been done in the way of removing stones and stumps to get the land in shape to lay out the fields and get them operating under a systematic rotation of crops. The low yield of corn is mainly accounted for by the killing frost received in this district on August 18.

The results of the season's work are as follows:—

OPERATIONS AT L'ANNONCIATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A, B	After harvest cultivated					
C	Corn fodder	June 1	Sept. 1	6 tons	4 95 per ton	−11 10
C	Turnip	June 1	Oct. 8	7½ tons	7 97½ per ton	−37 01
D	Clover hay		July 22	1670 lbs.	15 00 per ton	− 4 82

Fields "A" and "B" were summer-ploughed out of old sod and after harvest cultivated in preparation for cropping next spring.

L'ASSOMPTION, L'ASSOMPTION COUNTY

OPERATOR, HECTOR PAPIN

Crops as a whole were very good at this Station. It should be noted that while the first cut of clover hay shows a slight loss, this was due to its being cut early in order to give the second crop time to ripen for red clover seed, the combined crops show a profit of $22.74 per acre. The yields and cost of growing the crops are as follows:—

OPERATIONS AT L'ASSOMPTION—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Clover hay, 1 cut		June 24	1·15 tons	9 45 per ton	−0 51
A	Clover seed, 2nd cut		Oct. 4	124 lbs.	0 11¼ per lb.	23 25
B	Oats, Banner	May 24	Sept. 1	51½ bush.	0 42½ per bush	8 99
C	Corn ensilage	May 26	Sept. 24	16¾ tons	3 09½ per ton	6 78
C	Turnips	May 21	Oct. 25	33½ tons	2 63¼ per ton	12 22
D	Timothy hay		July 17	2 tons	8 13 per ton	3 74

When seeding down field "B" half the field was seeded with a mixture composed of eight pounds of red clover, two pounds of alsike and ten pounds of timothy; the other half with five pounds of alfalfa, five pounds of red clover, two pounds of alsike and eight pounds of timothy per acre. The idea was to compare the two mixtures for yields and to determine the suitability of the soil for alfalfa growing.

PAPINEAUVILLE, LABELLE COUNTY

OPERATOR, OVILA CLEMENT

Yields are considerably lower at this Station than usual due to unfavourable growing conditions, corn particularly suffered. Due to wet weather part of the corn field had to be planted the second time, thus delayed cultivation, necessitating considerable hand-hoeing.

The results of the season's work are as follows:—

OPERATIONS AT PAPINEAUVILLE—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Oats, Reg. Banner	May 4	Aug. 16	37½ bush.	0 64¾ per bush	3 93
B	Corn fodder	June 17	Sept. 17	12 tons	4 82 per ton	−20 64
B	Turnips	June 19	Sept. 26	25 tons	2 90 per ton	2 50
C	Clover hay, 1st cut		June 19	1½ tons	7 05 per ton	2 92
C	Clover hay, 2nd cut		Sept. 24	1¼ tons	8 47 per ton	0 66
D	Timothy hay		July 26	2¼ tons	7 07 per ton	6 59

The clover on field "C" was cut early with the intention of harvesting red clover seed from the second crop. The wet fall encouraged growth with the result that the crop did not ripen sufficiently to produce a profitable seed crop.

ST. BRIGIDE, IBERVILLE COUNTY

OPERATOR, ALPHONSE GOINEAU

Field operations have been carried out very extensively, all crops show a profit over their cost of production. The production and sale of registered Banner oats, red clover and timothy seed serve as cash crops and are the source of considerable revenue to the operator.

The results of the season's work are as follows:—

OPERATIONS AT ST. BRIGIDE—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Clover hay, 1st cut		June 22	1¼ ton	7 02 per ton	2 37
A	Clover seed, 2nd cut		Oct. 2	80 lbs.	0 13 per lb.	13 60
B	Corn ensilage	June 4	Sept. 25	15·92 tons	2 07 per ton	22 76
B	Turnips	June 4	Oct. 25	29 tons	1 97 per ton	29 87
C	Oats, Reg. Banner	May 29	Sept. 1	49½ bush.	0 32½ per bush	21 03
D	Timothy hay		July 26	2·33 tons	6 20 per ton	8 85
D	Timothy seed		Aug. 10	261½ lbs.	0 04⅞ per lb.	13 40

It will be noted on field "D" that the timothy seed crop gave a greater profit per acre than hay. The practice of growing timothy for seed on clean fields can often be followed to advantage, especially, in seasons when the hay crop is heavy and cheap.

The operator obtained a number of prizes on his crops as well as live stock. He is a firm believer, in keeping individual milk records of his cows, having built up an excellent herd of Ayrshires.

ST. CASIMIR, PORTNEUF COUNTY

OPERATOR, ELOI ST. GERMAIN

With the exception of corn, all crops did very well. The low yield is largely due to the cool backward spring. It will be noted that sunflowers thrived better under these conditions than corn. The average yield of corn here has been 13¾ tons on an average of the past six years, showing that this has been an off-year for the crop in this district.

The yields and cost of growing the crops are as follows:—

OPERATIONS AT ST. CASIMIR—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Pasture					
B	Clover hay		July 20	2·06 tons	8 46 per ton	1 11
C	Oats, Banner	June 2	Aug. 30	49 bushels	0 49½ per bush	5 14
D	Corn, ensilage	June 3	Sept. 30	9⅜ tons	4 43 per ton	−8 71
D	Sunflower, ensilage	June 10	Sept. 30	19·15 tons	2 48 per ton	9 95

In addition to the rotation work a demonstration was conducted at this Station to show the comparative value of manure and commercial fertilizer for potatoes. The treatment and yields were as follows:—

Plot	How fertilized per acre	Average yield per acre
1	20 tons manure	205 bushels
2	7½ tons manure, 750 pounds of 4–8–4 fertilizer	237 bushels
3	1500 pounds of 4–8–4 fertilizer	228 bushels
4	Not fertilized	115 bushels

ST. CLET, SOULANGES COUNTY

Operator, Louis Besner

A study of the past five years' yields shows the possibilities of growing a variety of crops, for stock feeding. During this time corn has been produced for $2.60 per ton, oats 43 cents per bushel, timothy hay $9.13 per ton. A profit of $21.95 per acre has been obtained from the clover crop. The first crop was cut early for hay, the second allowed to ripen red clover seed.

The results of the season's work are as follows:—

Operations at St. Clet—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Potatoes	June 3	Oct. 10	200 bush.	0 29½ per bush	141 50
A	Turnips	June 3	Oct. 22	25¾ tons	2 17 per ton	21 08
A	Corn, ensilage	June 4	Oct. 2	10 tons	3 50 per ton	....
B	Timothy hay	.....	July 5	1½ ton	11 66 per ton	—2 07
B	Timothy seed	.....	July 25	250 lbs.	0 08½ per lb.	4 37
C	Clover hay, 1st cut	.....	June 18	1 ton	8 74 per ton	0 26
C	Clover seed, 2nd cut	.....	Oct. 18	137 lbs.	0 08 per lb.	30 14
D	Oats, Banner	May 11	Aug. 25	51 bush.	0 45¾ per bush	7 26

The growing of clover as a cash-crop offers profitable inducements to the farmers of this district. The average yield at this Station being one hundred and twenty pounds per acre, costing ten cents per pound. Care must, however, be taken to only save for seed purposes, fields comparatively free from weeds. The presence of weeds lowers the grade and makes it difficult to sell. There is nevertheless a keen demand for first-quality common red clover seed.

ST. CONSTANT, LAPRAIRIE COUNTY

Operator, Roch Boule

The work at this Station is progressing very favourably, not only in the way of crop improvement but along livestock lines as well.

The results of the season's work are as follows:—

Operations at St. Constant—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Clover hay, 1st cut	.....	June 25	1 ton	9 85 per ton	—0 85
A	Clover seed, 2nd cut	.....	Sept. 28	102½ lbs.	0 10¾ per lb.	20 11
B	Timothy hay	.....	July 31	1½ ton	10 38 per ton	—0 57
C	Oats, Banner	May 19	Aug. 28	39½ bush.	0 56¾ per bush	1 27
D	Corn fodder	June 3	Sept. 28	13·90 tons	2 54 per ton	7 78
D	Turnip	June 3	Oct. 19	23 tons	2 33 per ton	15 41
D	Potatoes	May 29	Oct. 5	117 bush.	0 54 per bush.	53 82

When seeding down field "C" half the field was seeded at the rate of eight pounds red clover, two pounds alsike and ten pounds of timothy, the other half with five pounds alfalfa, five pounds red clover, two pounds alsike and eight pounds of timothy. A portion of the field that was seeded with the mixture containing alfalfa received an application of hydrated lime at the rate of two tons per acre. The alfalfa looked very promising in the fall, having a somewhat stronger growth on the part that received the lime.

ST. ETIENNE DES GRES, ST. MAURICE COUNTY

Operator, Origene Bournival

Progress is being made in building up the soil at this Station, because of its sandy nature yields of hay are not as high as at some of the other stations, where the soils are heavier and naturally more suited to this production. Potatoes, turnips, oats and corn, generally do best at this Station.

The results of the season's work are summarized in the following table:—

Operations at St. Etienne des Gres—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Clover hay		July 30	1½ ton	10 24 per ton	—1 48
B	Potatoes	May 17	Oct. 14	222 bush.	0 22½ per bush	162 42
B	Turnips	June 5	Oct. 21	13½ tons	2 51 per ton	6 61
B	Corn, Longfellow	June 7	Sept. 23	8 tons	3 12½ per ton	—0 20
B	Corn, Canadian	May 20	Sept. 23	8½ tons	3 25 per ton	2 12
C	Timothy hay		July 28	1¼ tons	7 21 per ton	3 90
D	Oats, Banner	May 22	Aug. 26	32 bush.	0 50⅛ per bush	3 24

The frequent use of fertilizer or manure on light sandy soil such as this seems necessary, as the land does not carry over sufficient to produce profitable crops of hay. To illustrate the most profitable type to apply as a top dressing on the hay crop, a portion of field "D" was staked out and fertilized. The mixture used and the yields obtained from each are as follows:—

Plot	Treatment per acre	Yield per acre
1	150 lbs. Nitrate of Soda	3,685 lbs.
2	150 lbs. Nitrate of Soda 300 lbs. Acid Phosphate Check Plot (no fertilizer)	4,557 lbs.
3	Check Plot (no fertilizer)	2,896 lbs.
4	150 lbs. Nitrate of Soda 150 lbs. Muriate of Potash	4,116 lbs.
5	150 lbs. Nitrate of Soda 300 lbs. Acid Phosphate 150 lbs. Muriate of Potash	4,879 lbs.

ST. JEROME, TERREBONNE COUNTY

Operator, Wilfrid Guay

Seeding was very late here this spring, the oats on field "B" were not sown until May 29 due to frequent cold rains. The seeding of corn was likewise delayed, however, the open fall allowed it to be left standing quite late, resulting in a profitable crop.

The results of the season's work are as follows:—

Operations at St. Jerome—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Potatoes, Green Mountain	June 5	Oct. 27	132 bush.	0 60¼ per bush	51 81
A	Potatoes	June 16	Oct. 27	220 bush.	0 37½ per bush	137 50
A	Turnips	June 10	Oct. 18	16 tons	3 12½ per ton	—2 00
A	Corn fodder	June 17	Sept. 28	14½ tons	2 62 per ton	7 08
B	Oats, Reg. Banner	May 29	Sept. 8	32½ bush.	0 72 per bush.	0 97
C	Timothy hay		Aug. 16	2 tons	9 10 per ton	1 80
C	Timothy seed		Aug. 20			
D	Clover hay, 1st cut		June 19	½ ton	19 64 per ton	—5 30
D	Clover seed, 2nd cut		Sept. 28	42 lbs.	0 19⅛ per lb.	4 35

STE. JULIE, VERCHERES COUNTY

Operator, Henri Delorme

All crops made satisfactory growth at this Station this year, even though seeding was late. The soil is a heavy clay requiring careful soil preparation to be assured a satisfactory seed-bed. The practise of after-harvest cultivation is being followed as a means of controlling weeds and preparing the land for hoed crops.

The following table gives the results of the season's work:—

Operations at Ste. Julie—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Corn, ensilage	June 12	Sept. 24	15½ tons	2 49½ per ton	15 57
B	Clover hay, 1st cut		June 19	¾ ton	13 18 per ton	−2 38
B	Clover seed, 2nd cut		Oct. 4	100 lbs.	0 10⅜ per lb.	29 62
C	Oats, Banner	May 18	Aug. 30	55 bush.	0 45½ per bush	8 18
D	Timothy hay		July 29	2 tons	7 40 per ton	5 20

In the standing field crop competition the operator of this Station took first prize on oats on field "C" and second on corn on field "A". He also entered his farm in the Agricultural Merit Competition, conducted by the Provincial Government and obtained a silver medal, all of which reflects favourably on the type of work being carried out on this farm.

ST. LEONARD D'ASTON, NICOLET COUNTY

Operator, E. Carter

Crops at this Station suffered from excessive moisture and rain at both seeding and harvest time. In the case of oats on field "D", seeding was not possible until June 3. It will be noted that growth was so slow, early in the season, that the first crop of clover was simply clipped off to prevent the maturing of annual weeds, which if allowed to ripen would spoil the succeeding crop for clover seed.

The results of the season's work are as follows:—

Operations at St. Leonard d'Aston—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Timothy hay		Aug. 3	2 tons	7 30 per ton	5 40
B	Turnips	June 11	Oct. 16	23 tons	1 75 per ton	28 75
B	Corn, ensilage	June 11	Sept. 27	15·91 tons	3 45 per ton	0 79
C	Clover, 1st crop clipped		June 23			
C	Clover seed, 2nd cut		Sept. 28	54 lbs.	0 32½ per lb.	−1 14
D	Oats, Banner	June 3	Sept. 3	28½ bush.	0 70½ per bush	−2 99

ST. PAUL DE JOLIETTE, JOLIETTE COUNTY

Operator, George E. Bazinet

In order to demonstrate the growing of different crops suitable for supplying succulence to the ration three crops, namely, corn, turnips and oats, and peas and vetches were planted on field "D". It will be noted that corn was produced the cheapest of these crops and is well suited generally for this district, when carefully looked after. It has been produced for $2.86 per ton for the three years the Station has been in operation.

The results of the season's work are as follows:—

Operations at St. Paul de Joliette—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Clover hay, 1st cut		June 22	½ ton	21 50 per ton	—6 25
A	Clover seed, 2nd cut		Oct. 15			
B	Timothy hay		July 24	1·30 tons	12 53 per ton	—3 28
C	Oats, Banner	May 17	Aug. 30	75½ bush.	0 37½ per bush.	16 63
D	Turnips	June 4	Oct. 20	13½ tons	4 42 per ton	—19 70
D	Corn, fodder	June 4	Oct. 1	15·06 tons	2 77½ per ton	4 89
D	Oats, peas, hay	June 5	Aug. 24	5 tons	7 42 per ton	7 90

ST. SIMON, BAGOT COUNTY

Operator, Donat Rivard

Although dairy-farming mainly engages the attention of this operator, considerable attention is directed to the growing of timothy seed red clover seed and registered Banner, oats as cash-crops.

The following table gives the results of the season's work:—

Operations at St. Simon—Four-Year Rotation

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Oats, Reg. Banner	May 21	Sept. 2	46½ bush.	0 45½ per bush	13 22
B	Timothy seed		Aug. 11	400 lbs.	0 03½ per lb.	26 66
C	Clover hay, 1st cut		June 21	1·09 tons	9 08 per ton	—0 08
C	Clover seed, 2nd cut		Oct. 5	267 lbs.	0 04 per lb.	69 42
D	Turnips	June 1	Oct. 27	24 tons	2 54 per ton	10 98
D	Corn, ensilage	June 7	Sept. 21	14 tons	2 72 per ton	10 92

A very well-balanced type of farming is being carried on here. A high class herd of Ayrshire cattle is kept, a systematic rotation of crop-growing is followed and a well kept flower and vegetable garden greatly improves the surroundings. The success of the farm methods adopted can be judged from the fact of this operator coming third in the Gold Medal Competition conducted by the Provincial Government, in connection with the Agriculture Merit Competition.

STANBRIDGE EAST, MISSISQUOI COUNTY

OPERATOR, B. MOORE

Two four-year rotations were established here to demonstrate the value of under-drainage; one is tile-drained, the other, surface-drained by water-furrows, as would be done under good farm practise.

The results of the season's work are as follows:—

OPERATIONS AT STANBRIDGE EAST—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
	Tile-drained land				$ cts.	$ cts.
A	Corn fodder	June 16	Sept. 14	16¾ tons	2 09½ per ton	16 74
A	Turnips	June 12	Oct. 27	12 tons	4 24 per ton	−14 88
B	Timothy hay		July 22	3¾ tons	4 21 per ton	20 84
C	Clover hay, 2 cuts		June 25 / Sept. 18	1¾ ton	11 13 per ton	−3 68
C	**Clover hay, 1st cut**		June 25	1¾ ton	8 99 per ton	
C	Clover seed, 2nd cut		Sept. 30	76 lbs.	0 13½ per lb.	12 54
D	Oats, Banner	May 27	Aug. 31	40⅝ bush	0 49⅜ per bush	4 25
	Surface-drained land					
E	Oats, Banner	May 27	Aug. 31	47 bush.	0 45¾ per bush	6 69
F	Clover hay, 2 cuts		July 19 / Sept. 18	3·05 tons	6 06 per ton	8 96
G	Timothy hay		July 19	3 tons	4 97 per ton	15 09
H	Corn, ensilage	June 13	Sept. 13	10 tons	3 28 per ton	−1 80

REPORT OF THE ILLUSTRATION STATIONS FOR EASTERN QUEBEC

J. H. Tremblay, B.S.A., Supervisor

A summary of the work carried out on the Illustration Stations in eastern Quebec for the year 1926 will be found in the following report with the costs of producing crops at the various places.

The general aim on these Stations, is to increase the yields and to produce economically by following a systematic rotation, by thoroughly working the land, by using high-grade seed, and by the heavy seeding of clover and timothy. For the second ear, alfalfa has been added to the grass seed mixtures at several Stations. It is already showing up very good on fields, where only two pounds of seed per acre had been sown.

Several new Stations were established this summer at Black Lake, Megantic county; Lake Megantic, Frontenac county; St. Alexandre, Kamouraska county; Causapscal, Matepedia county. Sites for new Stations were selected this fall at St. Jean L'Evangeliste, Bonaventure county; St. Alphonse de Caplan of the same county; St. Arsene and Riviere Bleue, Temiscouata county; St. Eleuthere, Kamouraska county. These will start operating in the spring of 1927.

SEASONAL CONDITIONS

Owing to the late season seeding was not possible until May and then only in the earliest sections. However, seeding was general in the last days of May and the first ten days of June. This resulted in low yields, especially for hoed crops.

Hay yields were quite satisfactory and the crop was saved in good condition, as the temperature during the latter part of July and the month of August was favourable for hay-making.

From September on, repeated rains rendered it very difficult to save the grain crop.

Most of the fall ploughing had been done during the last days of October and the beginning of November.

FERTILIZER DEMONSTRATIONS

Applying Nitrate of Soda to Hay Lands.—An application of 150 pounds of nitrate of soda per acre was put on the timothy fields at three Stations in the spring of 1926, to determine its affect in increasing the yields.

The soil at two of these Stations (Matane and Weedon) is a light sandy loam. At St. Fabien, it is a heavier loam, richer in plant food, but suffering by the water-table being too near the surface.

The yields obtained are given in the following table:—

Nitrate of Soda on Timothy Sod

—	Yields per acre			
	With Nitrate		Without Nitrate	
	tons	lb.	tons	lb.
Weedon	3		2	500
Matane	2		1	1,000
St. Fabien	1	1,000	1	
Average	2	333	1	1,166
Average increased hay yield		1,167 lb.		

Nitrate of soda was also applied at the rate of 150 pounds per acre to the clover field at the St. Michel Illustration Station. It proved to be very efficient, as on the one acre treated, the yield was two tons per acre, while on the untreated field one ton per acre was harvested. The acre which received the application of nitrate of soda was pure clover, while on the check plot, there was more timothy, the clover remained short.

Commercial Fertilizers on Roots.—In addition to the ordinary application of barnyard manure, commercial fertilizers were applied to the turnip fields at several Stations in the following proportions:—

Nitrate of soda—170 pounds per acre.
Superphosphate—330 pounds per acre.
Muriate of potash—90 pounds per acre.

On four of the Stations where they have been applied the commercial fertilizers have given profitable returns, and on two of them the increase in the yields was not sufficient to cover the extra expense, which was $10.55 for fertilizers on one acre.

A tabulated statement of the yields follows:—

COMMERCIAL FERTILIZERS ON ROOTS

Stations	Yield of Swede Turnips			
	With fertilizers		Without fertilizers	
	tons	lbs.	tons	lbs.
St. Michel	9	650	8	
Montmagny	26	800	11	440
St. Apollinaire	17	920	9	1,800
Notre Dame de Ham	11	1,330	9	660
Weedon	20		14	
Scott Junction	14		7	
Average	16	950	9	1,816

The average increased yield was quite significant, being 6 tons, 1,133 pounds. Evidently this experiment cannot be taken as conclusive, being the results of one year with only a small number of Stations. However, it will be followed up over a period of years, if possible, so as to get more definite information.

RASPBERRIES AND STRAWBERRIES

A small plantation was put out last spring on several Stations, where it was felt they would prove a profitable cash crop or would be useful in supplying fruits for home use. In the fall, all the new plantations were quite promising.

COST OF PRODUCING CROPS

In order to illustrate the method of calculating the costs of growing the crops on the Illustration Stations, a detailed statement of the various items which go to make up these costs, is given for the Station at Bromptonville:—

COST PER ACRE

—	Corn	Turnips	Barley	Clover	Timothy
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Rent of land 6 per cent of $75	4 50	4 50	4 50	4 50	4 50
Share of the cost of manure	16 00	16 00	12 00	8 00	4 00
Seed	2 75	1 00	4 00	2 06	2 06
Manual labour at 20 cts. per hour, including teamsters	13 73	27 73	4 04	1 95	2 16
Horse labour at 10 cents per hour	6 91	7 81	3 14	0 72	0 75
Threshing	.....	.....	1 88	.....	.....
Twine	.....	.....	0 38	.....	.....
Machinery	2 85	2 85	2 85	2 85	2 85
Total cost	$46 74	$59 89	$32 79	$20 08	$16 32
	tons	tons lb.	bush.	tons lb.	tons lb.
Yield per acre	11	23 380	37½	1 1,500	2 666
Cost per ton	$4 25	$2 58	.....	$11 48	$6 99
Cost per bushel considering value of straw	.....	.....	0 82	.....	.....

DAIRY HERDS

Illustration Station work would not be complete if the improvement of the dairy herds did not proceed in like proportion to that being made in the growing of crops. In this respect milk records have been kept on each of the Illustration Stations in eastern Quebec for three years. The poorest producers have been disposed of as quickly as was found practicable. By continuing this selection, the average milk production will increase considerably within a few years.

Increased attention is being given to herd improvements by better breeding. A pure-bred sire is now heading each herd and only calves from the best cows are raised. The disposal of a number of low-producing animals has increased the number of young stock in milk, hence a somewhat lower average production than is likely when these heifers will have reached their second or third period of lactation.

The annual milk production will be somewhat higher than what is reported in the following table due to the fact that it was totalled before the period of lactation was completed. Approximately one month production has not been taken into account for at the time this report was completed, only the milk reports up until December 31 were on hand.

EASTERN QUEBEC—MILK PRODUCTION ON THE ILLUSTRATION STATIONS

Stations	Breed	Average number of days in lactation	Number of cows	Total herd production	Average production per cow	Lowest cow production	Highest cow production
				lb.	lb.	lb.	lb.
Bromptonville	Ayrshire	284	15	92,326	6,155	3,737	8,999
Causapscal	Grade	247	10	41,123	4,112	3,384	4,758
Isle Verte	Grade	245	9	39,000	4,333	3,601	5,248
Metabetchouan	Canadians	260	10	51,627	5,162	4,168	6,498
Montmagny	Ayrshire	278	8	44,326	5,541	4,493	7,087
New Richmond	Grade	241	7	30,934	4,419	3,948	4,889
Notre Dame de Ham	Ayrshire	284	12	62,287	5,190	4,414	6,695
Plessisville	Grade	272	10	75,444	7,544	5,380	9,094
Scott Junction	Grade	247	10	46,097	4,609	3,435	5,399
St. Apollinaire	Ayrshire	295	13	52,422	4,032	2,621	5,748
St. Alexandre	Grade	238	13	60,590	4,661	3,213	6,081
St. Fabien	Grade	240	15	67,670	4,511	3,200	5,611
St. Honore	Grade	275	5	19,232	3,846	2,238	4,781
St. Michel	Ayrshire	292	7	40,742	5,820	4,643	7,445
Weedon	Grade	288	9	51,563	5,729	4,250	7,058

The average production of 153 cows reported is 5,068 pounds of milk in 265 days of lactation. The average production of the best cow of every herd is 6,359 pounds, while the average production of the poorest of every herd is 3,781 pounds.

BROMPTONVILLE, RICHMOND COUNTY

OPERATOR, VIRTUME MESSIER

The barley was sown on May 19, which is five days later than in 1925. The corn and turnips were sown June 8 and 10, being seven days later than in 1925. In addition to the clover yield reported on field "A," a crop of seed was harvested from the second growth. As it was not threshed at the time this report was being prepared, no information on the yield or cost is available. The corn yield is the lowest in four years. The average yield since 1923 is 17 tons per acre, which means that it is a profitable crop in this section.

The yields and cost of growing the crops on the rotation area are indicated in the following table:—

OPERATIONS AT BROMPTONVILLE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay, 1st cut	1 ton, 1,500 lbs.	11 48 per ton
B	Barley	37½ bush.	0 82 per bush.
C	Swede turnips	23 tons, 380 lbs.	2 58 per ton
C	Corn	11 tons	4 25 per ton
D	Timothy, hay	2 tons, 666 lbs.	6 99 per ton

A turnip-contest was again organized for the third year, and surpassed all previous years, for thoroughness in preparation of the land, and for better cultivating and hoeing. It seems to be well established that these contests are of considerable value when conducted for sufficient time to acquaint the farmers with the best method of growing the crop, they develop a better knowledge for producing crops.

A field day was held on the Illustration Station on August 13. Thirty farmers attended and all seemed interested in the work under way.

CAUSAPSCAL, MATAPEDIA COUNTY

Operator, Jos. Valois

This is the first year that this Station has been in operation. The work carried out was of a preparatory nature to the establishment of the regular rotation. The soil is a sandy loam with a gravel bottom, somewhat lacking in plant food. The field on which the Station is established was an old meadow, badly infested with weeds.

The results of the season's work are as follows:—

Operations at Causapscal

Field	Crops	Yield per acre	Cost
			$ cts.
A	Oats, Banner and seeded	37½ bush.	0 37½ per bush
B C D	Oats, peas and vetch, hay	1 ton, 666 lbs.	16 95 per ton

The season in this particular district was very unfavourable for the production of grain crops. Seeding was not possible until June. During the later part of September and October it rained almost continuously with the result that a great percentage of the grain was lost.

ISLE VERTE, TEMISCOUATA COUNTY

Operator, Alfred Michaud

The soil at this Station is a very light sandy loam, lacking in humus. However, its condition has been greatly improved since the rotation work started, in fact, no clover would grow at the start, whereas, medium crops are now obtained. This soil is especially adapted to potato-growing. In spite of the more or less unfavourable weather conditions good yields are obtained if proper care is given to the growing crop.

The results of the season's work are as follows:—

Operations at Isle Verte—Four-Year Rotation

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats, Banner	25 bush.	0 81 per bush.
B	Potatoes	250 bush.	0 18 per bush.
C	Timothy hay	1 ton, 250 lb.	10 00 per ton
D	Clover hay	1 ton.	13 66 per ton

Oats were sown on May 27 and cut on September 12.

LAKE MEGANTIC, FRONTENAC COUNTY

OPERATOR, ALCIDE TRUDEL

Illustration work started at this Station this spring. The field chosen has been in meadow for a number of years. To get the rotation work under way as quickly as possible, the whole field was seeded to oats, peas and vetches. The crop gave a yield of three tons, three hundred pounds, at a cost of $9.65 per ton.

The operator built a new modern barn during the summer as a start towards building up a purebred herd.

MATANE, MATANE COUNTY

OPERATOR, MICHEL PHILIBERT

Considering the poor state of fertility in which the sandy soil of this Station was when the work began in 1921, very satisfactory results have been obtained. Due to having followed the practice of after-harvest cultivation, the couch grass, which formerly occupied the greatest part of the fields, has practically all disappeared and is replaced by clover and timothy. The seeding of grasses and clovers at the rate of twenty pounds per acre has given good results. This mixture was made up in the proportion of eight pounds red clover, two pounds alsike and ten pounds of timothy.

At the start, it was the general opinion that clover could not be successfully grown, due to winter-killing. The use of home-grown seed has corrected this impression.

The yields and cost of growing the crops are as follows:—

OPERATIONS AT MATANE—FOUR-YEAR ROTATION

Field	Crops	Yield per acre	Cost
			$ cts.
A	Swede turnips	15 tons, 750 lb.	2 96 per ton
B	Timothy hay with 150 lbs. of nitrate of soda	2 tons	9 78 per ton
B	Timothy hay without nitrate of soda	1 ton, 1,000 lb.	9 70 per ton
C	Clover hay	1 ton, 1,333 lb.	12 89 per ton
D	Oats, Banner	56 bush.	0 34 per bush.

METABETCHOUAN, LAKE ST. JOHN COUNTY

OPERATOR, LOUIS HUDON

The soil of this Station and district seem to be especially adapted to the production of hay crops. It responds favourably to thorough soil preparation and the heavy seedings of clover and timothy. In fact the clover yielded three tons per acre in 1925, and over three tons in 1926. The timothy yielded three tons per acre in 1925 and two tons per acre in 1926. Oats, peas and vetches have proven very profitable, having yielded over five tons of cured hay per acre during the two last years.

The results of the season's work are reported in the following table:—

OPERATIONS AT METABETCHOUAN—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Wheat, Huron	35 bush.	1 05 per bush.
B	Oats, peas and vetches	5 tons, 666 lb.	10 35 per ton
B	Potatoes	180 bush.	0 51 per bush.
C	Timothy hay	2 tons	10 19 per ton
D	Clover hay, 2 cuts	3 tons, 666 lb.	9 78 per ton

Wheat was sown on June 3 and cut on September 21. In the fall, the catch of grass and clover was quite promising on field "A".

MONTMAGNY, MONTMAGNY COUNTY

OPERATOR, G. FORTUNAT FOURNIER

The land of this Station has been cultivated for a century, with the result that its fertility has been reduced. Through the Illustration Station's work, it has been improved a great deal; still, an application of commercial fertilizers in addition to the ordinary dressing of manure has shown itself very effective in the production of turnips. However, this test cannot be taken as conclusive, as it has only been conducted for the one year. Further work along this line will be carried on at this Station. Ground limestone was applied at the rate of three tons per acre, on two acres of field "B". A portion was left unlimed. Half the field was seeded with the standard mixture of eight pounds red clover, two pounds alsike and ten pounds of timothy. The other half contained alfalfa in addition to the other grasses and clovers. This mixture was made up of five pounds alfalfa, five pounds red clover, two pounds alsike and eight pounds of timothy. In the fall the clover and alfalfa catch was good all over the field; no difference was noticeable between the limed and unlimed portions.

The results of the season's work are reported in the following table:—

OPERATIONS AT MONTMAGNY—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay, 2 cuts	1 ton, 1,850 lb.	9 42 per ton
B	Oats, Banner	80 bush.	0 29 per bush.
C	Swede turnips with commercial fertilizers	26 tons, 800 lb.	2 19 per ton
C	Swede turnips without commercial fertilizers	11 tons, 440 lb.	4 22 per ton
C	Sunflowers	22 tons, 1,100 lb.	1 72 per ton
D	Timothy hay	1 ton, 437 lb.	10 86 per ton

Field "B" was sown on June 4 and cut on September 9.

The sunflowers have proven a very profitable silage crop, while corn is a very uncertain one in this district.

NEW RICHMOND, BONAVENTURE COUNTY

OPERATOR, JOHN B. CYR

This Station has been in operation for eight years and has made good progress. It has proven beneficial to many farmers along the coast by the introduction of after-harvest cultivation for the destruction of the numerous weeds which were growing in the district; by encouraging the growing of turnips and corn; and by the heavy seeding of grass and clover.

The following table gives the results of the season's work:—

OPERATIONS AT NEW RICHMOND—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay, 2 cuts limed	4 tons	7 24 per ton
A	Clover hay, 2 cuts not limed	2 tons	9 65 per ton
B	Huron wheat	22½ bush.	1 10 per bush.
C	Swede turnips	24 tons, 1,500 lb	2 46 per ton
C	Corn, Longfellow	10 tons	3 87 per ton
C	Potatoes, Green Mountain	360 bush.	0 20½ per bush.
C	Potatoes, Western Reds	300 bush.	0 24½ per bush.
D	Timothy, limed	2 tons	12 18 per ton
D	Timothy, not limed	1 ton	13 31 per ton

As shown in the table, the Green Mountain potatoes gave a better yield than the Western Reds. As the former variety always commands the highest price on the market, one may conclude that they are more profitable to grow.

GROUND LIMESTONE FOR HAY

The experiment with ground limestone for the production of hay crops began in 1924, was continued in 1925 and 1926. It consisted of applying ground limestone early in the spring at the rate of three tons per acre, on the field which was to be sown to grain and seeded down. No difference could be noted in the grain crops, but in two succeeding years the clover has shown up much better on the portion that was limed. The timothy crop in the second year of hay, on field "D" yielded twice as much as the unlimed portion.

Following is a table giving the yields obtained on the limed and unlimed plots.

Year	Field	Crop	Yield per acre			
			Limed plot		Unlimed plot	
			tons	lb.	tons	lb.
1925	D	Clover hay, 1st cut	1	1,200		1,600
		Clover seed, 2nd cut		165		85
1926	D	Timothy hay	2		1	
1926	A	Clover hay, 2 cuts	4		2	

The above table points out clearly that lime is lacking in the soil at this Station, and that it will pay to apply a certain quantity. In this demonstration the ground limestone was charged at $5.50 per ton, plus the time spent applying it to the land.

NOTRE DAME DE HAM, WOLFE COUNTY

OPERATOR, PIERRE TOUPIN

Although this Station has only been in operation two years, it has made good progress. The four-year rotation is now well established and the fields which formerly produced very poor crops are noticeably better. Commercial fertilizer was used on part of the turnip field, which resulted in an approximate increased yield of twenty-five per cent. However, this was not sufficient to pay the extra cost of the material.

The operator had some difficulty in saving his oat crop, due to unfavourable weather conditions. This caused some shelling on the field and affected the quality of the grain. The clover catch on this field was exceptionally good in the fall. However, the alfalfa that had been sown in the seed mixture on half of the field did not show up much.

The yields and cost of growing the crops in the rotation are as follows:—

OPERATIONS AT NOTRE DAME DE HAM—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay	2 tons, 920 lbs.	5 94 per ton
B	Oats, Banner	46⅔ bush.	0 55 per bush.
C	Swede turnips	10 tons, 1,000 lbs.	6 36 per ton
C	Corn and sunflowers	12 tons	4 56 per ton
D	Oats, peas and vetches	4 tons	6 74 per ton

Sunflowers were sown in a mixture with corn and contributed largely in making up the twelve-ton yield. The oats on field " B " were sown on May 29 and cut on September 15.

PLESSISVILLE, MEGANTIC COUNTY

OPERATOR, EUDORE JUTRAS

Yields are lower at this station than usual due in part to the late season. The barley was sown on May 29 and corn on June 5.

This year a demonstration was conducted to show the most economical methods of preparing the land for corn growing. Part of field " D " was after-harvest cultivated, part fall-ploughed and part spring-ploughed only. On each plot, the yields were practically the same. The cost of production was slightly highest on the fall-ploughed land and the lowest on the part that was after-harvest cultivated. This is due entirely to the fact that the fall- and spring-ploughed land required more manual labour to keep the crop clean of weeds. Field " B " produced a good second crop of clover and alfalfa, but it could not be saved on account of the unfavourable weather conditions in September.

OPERATIONS AT PLESSISVILLE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Timothy hay	2 tons	6 70 per ton
B	Clover hay	1 ton, 200 lbs.	14 85 per ton
C	Barley	46 bush.	0 52 per bush.
D	Turnips	26 tons	1 62 per ton
D	Corn on after-harvest cultivation	12½ tons	3 23 per ton
D	Corn on spring-ploughed land	12 tons	3 29 per ton
D	Corn on fall-ploughed land	12 tons	3 63 per ton

Last spring the operator of this Station purchased two pure-bred Ayrshire heifers to assist in building up a pure-bred dairy herd. He also owns a pure-bred Ayshire bull with R.O.P. qualifications.

SCOTT JUNCTION, DORCHESTER COUNTY

Operator, Elzear Lacroix

The commercial fertilizer test on turnips started in 1925 was continued this year. The barnyard manure was applied at the rate of 20 tons per acre on part of the field, the other part in addition to the manure, received an application of 170 pounds nitrate of soda, 330 pounds acid phosphate and 90 pounds of muriate of potash.

The following table gives the results of the season's work:—

Operations at Scott Junction—Four-Year Rotation

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats, peas and vetches, cured as hay	1 ton, 1,600 lb.	18 15 per ton
B	Clover hay	750 lb.	25 33 per ton
C	Oats, Banner and seeded	27½ bush.	0 93 per bush.
D	Swede turnips with commercial fertilizers	14 tons	5 23 per ton
D	Swede turnips without commercial fertilizers	7 tons	8 95 per ton

Alfalfa was sown on field "C" at the rate of five pounds per acre along with five pounds of red clover, two pounds of alsike and ten pounds of timothy. In addition half an acre received an application of 1½ tons of ground limestone. In the fall, no difference could be noted between the limed and unlimed portion, but on the whole the catch was satisfactory.

ST. ALEXANDRE, KAMOURASKA COUNTY

Operator, Alphonse Ouellet

This is the first year that illustration work was carried out on this farm. Operations were of a preparatory nature directed with the view of establishing a four-year rotation on this Station.

Field "A" and "B" were seeded to peas, oats and vetches and cured for hay, these two fields will be in grain next year and seeded to grass and clover. Field "C" and "D" were in hay.

ST. APOLLINAIRE, LOTBINIERE COUNTY

Operator, Joseph Cote

This Station is located one mile north of the St. Apollinaire village and fronts on a main road passed by many farmers on their way to St. Antoine and Quebec. Although it has been in operation for only two years, the four-year rotation is now well established on sixteen acres of land quite variable in texture. It varies from a sand to a sandy loam with the greatest part a black muck, which suffered from excessive moisture. It has been improved considerably by good open ditches between fields "A" and "B" and between fields "C" and "D". The farmers in the neighbourhood are quite interested in the work being carried on. Seventy-five farmers of the district took part in the turnip-contest, organized by the Division with the view of introducing the best varieties, and of encouraging the adoption of the best methods of growing the crops.

The results of the season's work are indicated in the table:—

OPERATIONS AT ST. APOLLINAIRE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay	1,750 lb.	12 47 per ton
B	Clover hay		
C	Oats, Banner and seeded	45 bush.	0 70 per bush.
D	Turnips with commercial fertilizer	17 tons, 920 lb.	2 92 per ton
D	Turnips without commercial fertilizer	9 tons, 1,800 lb.	4 09 per ton

Oats were sown on June 10. The operator purchased a good Ayrshire bull this season, with the idea of starting systematic grading-up work on his herd.

ST. FABIEN, RIMOUSKI COUNTY

OPERATOR, JOSEPH ALBERT

This Station has now been in operation for six years. Although very good results have been obtained on it, two fields have been added to the four-year rotation to make it a six-year rotation from next year on. The succession of crops will be as follows:—

First year: Hoed crops.
Second year: Grain and seeded.
Third year: clover hay.
Fourth year: Timothy hay followed by pasture.
Fifth year: pasture, summer ploughed.
Sixth year: Oats, peas and vetches, fall ploughing.

This type of rotation is likely to be more suitable for the farms of this district. It will facilitate the following of the practise of after-harvest cultivation, which will be caried out on the pasture in the fifth year. It will also increase the amount of succulent feed by the production of more oats, peas and vetches.

The report of the season's work follows:—

OPERATIONS AT ST. FABIEN—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Timothy hay, with 150 lb. nitrate of soda	1 ton, 1,000 lb.	12 20 per ton
A	Timothy, without nitrate	1 ton	13 30 per ton
B	Clover hay	2 tons	8 97 per ton
C	Oats, Banner and seeded	51½ bush.	0 49 per bush.
D	Swede turnips	16 tons	2 90 per ton
D	Potatoes	225 bush.	0 23 per bush.
D	Sunflowers	14 tons	2 58 per ton

ST. HONORE, TEMISCOUATA COUNTY

OPERATOR, JOSEPH DESCHENES

This Station has been in operation for two years. During that period, the seasons have been very unfavourable for growth and are greatly responsible with other factors for the low yields obtained. This year, no seeding was done until June 15. The general late date of seeding necessitates the use of early varieties of grain, such as Alaska oats. It has yielded 28 bushels per acre this year, which is an increase of 10½ bushels over 1925. Turnips were sown for the first year on this land, and yielded 10½ tons per acre.

Fields "C" and "D" were sown to oats, peas and vetches to get the land in shape to seed to grain, grasses and clovers next year.

ST. MICHEL, BELLECHASSE COUNTY

OPERATOR, FORTUNAT MORISSETTE

The nitrate of soda was very effective in the production of clover hay, as an application of 150 pounds per acre doubled the yield as indicated. About one-half of this field is suffering from lack of drainage which will be absolutely necessary before maximum yields can be expected especially with roots. The yields were good on the high spots, but the total yields per acre have been reduced considerably on account of the low portions. The results for the year on the rotation are as shown in the following table:—

OPERATIONS AT ST. MICHEL—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Timothy hay	1 ton, 1,500 lb.	7 46 per ton
B	Clover hay with 150 lb. of nitrate of soda	2 tons	10 68 per ton
B	Clover hay without fertilizers	1 ton	16 06 per ton
C	Swede turnips with fertilizers	8 tons, 666 lb.	6 75 per ton
C	Swede turnips without fertilizers	8 tons	6 57 per ton
D	Oats, Banner and seeded	44½ bush.	0 51 per bush.

The establishment of a pure-bred Ayrshire herd is well under way at this Station. The operator has some of his cattle on the Record of Performance Test.

WEEDON, WOLFE COUNTY

OPERATOR, E. JOS. ALLARD

The soil at this Station has been considerably improved since the Illustration Station was established. However, it needs to be frequently fertilized to assure good crops, as the soil is a light sand.

The yields and costs of growing the various crops in the rotation are as follows:—

OPERATIONS AT WEEDON—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay, 1st cut	1,333 lb.	23 37 per ton
B	Oats, Banner and seeded	60 bushels	0 38½ per bush.
C	Turnips, with fertilizers	20 tons	3 84 per ton
C	Turnips, without fertilizers	14 tons	4 74 per ton
C	Corn	13 tons	4 77 per ton
C	Sunflowers	19 tons	3 27 per ton
D	Timothy, with 150 lb. nitrate	3 tons	6 43 per ton
D	Timothy, without nitrate	2 tons, 500 lb.	6 36 per ton

In addition to the clover yield reported on field "A", a second crop was taken off and fed green to the dairy cattle, and has not been considered in the yield. The oats were sown on May 22, which is one week later than in 1925, and were cut on September 13. The sunflowers have produced six tons more silage per acre than the corn. Nitrate of soda was applied on one acre of field "D" and gave an increase in yield of 1,500 pounds timothy hay. During the year the operator purchased a pure-bred Ayrshire bull calf. This is the first step to be taken on this Station to improve the herd through better breeding.

REPORT OF THE ILLUSTRATION STATIONS FOR NEW BRUNSWICK

T. G. Hetherington, B.S.A., Supervisor

The 1926 season closed with much necessary fall work undone. This situation was due to broken fall weather. Possibly not more than half of the usual acreage was ploughed.

Crops throughout the province were on the whole good, and with fair prices prevailing for almost all crops excepting turnips. Farmers were able to sell potatoes direct from the field at $2, $2.50 and $3 a barrel. Some of the New Brunswick operators produced up to 1,200 barrels this year. The returns from potato sales is a very important part of the income of the New Brunswick farmer. Potato yields and prices are always an index to his prosperity.

The four new Stations selected last year at Siegas, Mount Middleton, Harvey Station and Jacquet River, made satisfactory progress. A new Station was selected this year at Petersville in Queens county, and initial operations started.

Four of the New Brunswick operators are keeping yearly milk records. The interest in live stock among farmers in the potato-growing sections is not marked, and with the good prices prevailing for potatoes during the last two years there has been little tendency toward an improvement.

ADAMSVILLE, KENT COUNTY

OPERATOR, JOSEPH CORMIER

Work was resumed at this Station after a lapse of two years due to a change in ownership. Under the direction of the former owner, J. A. Arsenault, the Station and farm progressed from practically a wilderness to one of the most productive farms in that part of the county. Under the new management the main rotation will be conducted as formerly. This land has been prepared for cropping in 1927, when a complete report on crop yields and costs will be available.

BAKER BROOK, MADAWASKA COUNTY

OPERATOR, FELIX DAIGLE

This is the fourth year that illustration work has been conducted on this farm. Good crops were produced notwithstanding adverse weather conditions, and the Station made a creditable showing as regards crops, workmanship, and cultural methods.

Fields "A" and "B" were both seeded to clover in 1925 with oats as a nurse-crop. Both plots were limed at the rate of three tons per acre before seeding in 1925, and this undoubtedly was responsible for the good clover stand here, as it was at many other Stations.

The oats on field "C" were short, due to insufficient moisture, which also accounted for lack of stooling.

The results of the season's work are as follows:—

OPERATIONS AT BAKER BROOK—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover	3 tons lime	1·7 tons	9 31 per ton	−2 22
B	Clover	3 tons lime	1·9 tons	8 03 per ton	−0 05
C	Banner oats		38 bush.	0 58½ per bush.	6 27
D	Potatoes	Manure and fertilizer combined	231 bush.	0 28 per bush.	143 22
D	Turnips	Manure and fertilizer combined	13·1 tons	4 47 per ton	−19 25

EAST FLORENCEVILLE, CARLETON COUNTY

OPERATOR, B. F. SMITH

A three-year rotation is conducted on this Station consisting of potatoes, oats and clover hay. This rotation is well suited to a district such as this where potato-growing is extensively engaged in and where the supply of farmyard manure is limited. By ploughing under the clover sod, the nitrogen and humus content of the soil is maintained to as great an extent as possible. All further plant food is supplied to the potato crop in the form of commercial fertilizers. Demonstrations dealing with the rate of applying fertilizers were carried out this year. Applications of 1,000, 1,500 and 2,000 pounds per acre were made.

THE WEED MENACE

The spread of such weeds as Paint Brush and Wild Mustard is increasing to an alarming extent. The control of such weeds is a problem that will require an increasing amount of attention. Their origin can be traced directly to deserted areas and waste land, gradually spreading to cultivated land and flourishing according to the system of farming in vogue. Close grazing by live stock accounts largely for the freedom from weeds in live stock districts, and the absence of live stock in many districts allows weeds to secure a foothold. Neglect to mow fence-corners, roadsides and other waste places two or three times a year is a sure passport to a weedy farm, just as ready attention to these features checkmates the spread of weeds.

GRAND FALLS, VICTORIA COUNTY

OPERATOR, GABE MORIN

This is the fourth year that illustration work has been conducted at this Station. The Station is located in a grain and potato-growing district and has had a wide influence in improving the quality of oats and potatoes grown, thereby increasing yields very materially. A ground limestone demonstration this year was a decided success, benefiting the clover crop very materially and serving as an educational feature for the general public.

Progress is being made in practically all branches of farming at this Station. An incubator was purchased this spring and in the fall a fine modern poultry house was built, with all modern conveniences and capable of housing one

hundred and twenty-five laying hens. A few hundred strawberry plants were set out this spring as an experiment, and if they do well a larger plantation will be established.

A small plot of registered Garnet wheat was tried out on this farm for the first time. The operator reports that it ripened ten to twelve days ahead of his own farm wheat. Early maturity is a very desirable feature in this section of the province as it is in the northeastern sections, and is equally desirable in the oat crop.

The importance of the potato crop in the farm scheme at this Station and in many other sections of the province can be estimated from the fact that 1,225 barrels of saleable potatoes were grown on this farm, swelling the farm revenue by $3,000.

The following table gives the yield and the cost of growing each crop in the rotation:—

OPERATIONS AT GRAND FALLS—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (—) loss per acre
				$ cts.	$ cts.
A	Potatoes	2,000 lb. fertilizer	324 bush.	0 21 per bush.	223 56
A	Turnips	12 tons manure*	13 tons		
A	Turnips	12 tons manure and 600 lb. acid phosphate*	17¾ tons		
A	Turnips	12 tons manure, 600 lb. acid phosphate, 200 lb. nitrate of soda*	21 tons		
B	Clover	3 tons lime	2·8 tons	5 68 per ton	6 49
C	Banner oats		53 bush.	0 51 per bush.	12 72
D	Timothy hay		2·1 tons	6 50 per ton	7 35

A check plot on field "B", unlimed, yielded 1·4 tons per acre as compared with a yield of 2·8 tons on the plot receiving 3 tons of lime. The lime cost $4 a ton, and placing a value of $8 a ton on clover hay the increased yield of 1·4 tons practically paid for the lime.

* Cost of producing turnips with manure and fertilizers will be given in next report.

HARVEY STATION, YORK COUNTY

OPERATOR, C. MELVIN GRIEVES

This Station was authorized in the late fall of 1925 and consequently operations could not be undertaken until 1926. The Station is situated in a region where considerable progress has been made in breeding dairy cattle. Cultural methods and other phases of farming have not, however, received the same attention. Lime and fertilizer have not been used to any appreciable extent, and very little clover is grown. There is also a great deal of room for improvement in the general workmanship such as ploughing, preparation of the seed-bed, etc.

The soil at the Station, which is characteristic of the region, is a damp, gravelly loam. The whole district is generally somewhat stony, possibly not as well adapted for potatoes and hoe crops as most districts. Ploughing narrower lands, opening up good dead furrows, providing outlets for the water, and more thorough cultivation, will dry out this soil and in a reasonable length of time conditions should be much more favourable for root crops.

Yields of crops and costs will be reported for this Station next year.

JACQUET RIVER, RESTIGOUCHE COUNTY

OPERATOR, ALEXANDER TURVEY

This Station was selected in the fall of 1925, and initial operations were begun in the spring of 1926. Some undesirable features present, such as couch grass and old sod, did not allow of much progress in the establishment of a definite rotation, and all work to date has been largely preparatory.

Fields "A" and "B" were sown to Victory oats, field "C" to hoed crop, and field "D" to oats, peas and vetches. Average crops were produced in all instances. Continual heavy rains after the grain was in stook practically ruined the crop, shelling, discolouring, and sprouting it.

The following table gives the results of the season's work:—

OPERATIONS AT JACQUET RIVER—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A & B	Victory oats		15·1 bush.	0 82 per bush.	−1 05
C	Turnips	15 tons manure*	14·5 tons		
C	Turnips	15 tons manure, 600 lb. acid phosphate*	17·4 tons		
C	Turnips	15 tons manure, 600 lb. acid phosphate, 200 lb. nitrate of soda*	20·3 tons		
D	Oats, peas and vetches		2·5 tons	7 06 per ton	2 35

* Cost of producing turnips with manure and fertilizers will be given in next report.

LOWER DERBY, NORTHUMBERLAND COUNTY

OPERATOR, W. R. TAYLOR

This is the sixth year that illustration work has been conducted on this farm. Each successive year marks an advancement in the general appearance and usefulness of this Station. The Station crops judged from all angles, including preparation of the ground, summer cultivation, workmanship, and yields, could not be faulted. The operator's very evident sincerity, supported by almost perfect management of his Station, has won for him and his work an enviable reputation among the farmers of the county. Such a Station cannot help but be a forceful object lesson to the community of what may be accomplished by modern methods.

Oats were seeded at this Station this year on May 22, as compared with May 29 in 1925. Early seeding where a field is seeded down is not only an advantage as regards yield of grain, but it also results in earlier removal of the crop, thus giving the young clover plants a better opportunity to get established to withstand the winter. A period of very wet and cold weather the last week in May and the first week in June delayed work, and as a result hoed-crop planting was not completed until June 15. Potatoes were planted on this latter date and yielded 374 bushels per acre.

The following table gives the yield and the cost of growing each crop in the rotation:—

OPERATIONS AT LOWER DERBY—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (—) loss per acre
				$ cts.	$ cts.
A	Victory oats		56 bush.	0 48¾ per bush.	14 70
B	Clover hay	3 tons lime	2·33 tons	9 39 per ton	3 23
C	Timothy hay		2·5 tons	5 44 per ton	11 40
D	Potatoes	Fertilizer and manure	374 bush.	0 27½ per bush.	233 75
D	Turnips	18 tons manure	27·1 tons	3 03 per ton	0 81
D	Corn (Longfellow)	18 tons manure	15·0 tons	4 71 per ton	—18 15
D	Sunflowers (Giant Russian)	18 tons manure	18 tons	3 27 per ton	4 14

FERTILIZER TESTS CONDUCTED ON FIELD "E"

Field "E" was seeded down in the spring of 1925 at the rate of ten pounds of timothy, eight pounds of red clover and two pounds of alsike with oats as a nurse-crop. The field consisted of five and one-half acres and was divided into plots and fertilized as described below. The object was to compare the different fertilizers and combination and their effect on the hay yields for two successive years. The following table shows the treatment and yields per acre for the year 1926:—

Plot No.	Size of plot	Treatment per acre	Yield per acre tons
1	1 acre	10 tons stable manure	1·8
2	1 acre	5 tons manure, 150 lb. acid phosphate, 50 lb. nitrate of soda, 25 lb. muriate of potash	1·7
3	1 acre	50 lb. nitrate of soda	1·0
4	½ acre	Check	1·0
5	1 acre	300 lb. acid phosphate, 100 lb. nitrate of soda	2·2
6	1 acre	300 lb. acid phosphate, 100 lb. nitrate of soda, 50 lb. muriate of potash	2·5

The fertilizer was applied when oats and grass seed were sown, and as would be expected, the nitrate of soda used on plot 3 was all absorbed the first year by the oat crop, and hence the yield of hay on plot 3 is exactly the same as on the check plot

A COMPARISON OF MANURE VERSUS MANURE AND FERTILIZER FOR TURNIPS

Plot No.	Size of plot	Treatment per acre	Yield per acre
			tons
1	⅓ acre	18 tons stable manure	24·0
2	⅓ acre	18 tons manure, and 600 lb. acid phosphate	30·6
3	⅓ acre	18 tons manure, 600 lb. acid phosphate and 200 lb. nitrate of soda	25·8

Under normal conditions it would be expected that plot 3 would produce the greatest yield. This was not the case and the explanation of the above apparently contradictory result of plot 3 is that the soil on this Station is in an exceptionally high state of fertility and nitrate of soda was not required. It stimulated top growth rather than root growth, to the detriment of the crop.

MILLVILLE, YORK COUNTY

OPERATOR, GORDON GRAHAM

Potatoes, turnips, hay and grain crops yielded much better than usual at this Station this year. Workmanship is showing a steady improvement.

The following table gives the yield and cost of growing the crops in the rotation:—

OPERATIONS AT MILLVILLE—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover hay		1·5 tons	9 52 per ton	−2 28
B	Potatoes	Manure and fertilizer combined	302½ bush.	0 24 per bush.	199 65
B	Turnips	Manure and fertilizer combined	12 tons	4 07 per ton	−12 84
C	Timothy hay		2 tons	5 63 per ton	8 74
D	Banner oats		(Threshing not completed)		

PERTH JUNCTION, VICTORIA COUNTY

OPERATOR, R. J. MCCREA

Very heavy crops were produced on all sections of the Station this year. The hoed crop was particularly good. Turnips were a great improvement over former crops. Formerly the crop was sown two or three times and then only a sketchy stand resulted. Potatoes were a good stand and an average yield was obtained. Scab was present in places, due no doubt to a too heavy application of lime.

Fields "B" and "C" produced one of the heaviest crops of clover yet harvested at this Station. The comparison between limed and unlimed plots amply demonstrate the need of using lime, if maximum or even average crops of clover are desired.

The following table gives the yields and costs of growing each crop in the rotation:—

OPERATIONS AT PERTH—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Banner oats		39 bush.		
A	Victory oats		61 bush.		
B	Clover hay	3 tons of lime	2·7 tons	6 09 per ton	5 15
B	Clover hay	Check plot	1·3 tons	.....	.....
C	Clover hay	3 tons of lime	3·7 tons	4 93 per ton	11 35
C	Clover hay	Check plot	1·4 tons	.....	.....
D	Potatoes	Manure and fertilizer combined	220 bush.	0 33½ per bush	124 30
D	Turnips	Manure and fertilizer combined	16·8 tons	3 56 per ton	−9 40

THE USE OF GROUND LIMESTONE

Ground limestone is now being used in practically all sections of the province. Its effectiveness in neutralizing acid soils, and thus creating a favourable condition for clover production, is quite common knowledge. Many farmers have purchased lime, however, without a complete knowledge of its other qualities. Ground limestone when applied at the rate of three tons or more per acre usually, if not always, scabs potatoes and as a result severe losses have been incurred due to ignorance on this subject on the part of the purchaser. As a rule it is applied in the fall previous to seeding down in the spring, and even when a crop of grain followed by two crops of hay precedes potatoes, the danger from scab still exists, although its effect is less marked from year to year.

Two solutions of the problem are open to farmers in the potato belt, viz., light and more frequent applications, or confining the use of lime to restricted areas of the farm which will not be required for potatoes. The latter policy is in effect on a number of farms where experience has taught the owner to be cautious. Some farmers apply one or one and a half tons per acre, which has a beneficial effect on the clover crop and apparently is not injurious to the potatoes.

THE EFFECT OF GROUND LIMESTONE ON CLOVER CROPS

Station	Amount of lime applied	Yield of clover	Increase in yield over check plot	Cost of lime	Value of increased crop at $8.00 per ton
		ton	ton	$ cts.	$ cts.
Perth	3 tons	2·7	1·4	12 00	11 20
	Check plot	1·3			
Perth	3 tons	3·7	2·3	12 00	18 40
	Check plot	1·4			
Grand Falls	3 tons	2·8	1·4	12 00	11 20
	Check plot	1·4			
Riordon	3 tons	2·5	1·75	12 00	14 00
	Check plot	·75			
Totals			6·85	48 00	54 80

It will be noted that the increase in clover yield the first year more than paid for the total cost of the lime. Lime is known to be effective ten or even fifteen years and therefore any increased yield in succeeding crops will be clear profit.

PETERSVILLE, QUEENS COUNTY

OPERATOR, JAMES BUTLER

This Station was selected in the late summer of 1926. The district was formerly considered a fairly prosperous one but due to loss of inhabitants, and an increase in the amount of land cultivated per man, soil-mining methods were gradually adopted and as a result the soil is impoverished, fields are growing up with bushes, and the land is gradually becoming polluted with weeds, many fields are purposely left unseeded after a grain crop, and allowed to grow up with volunteer grasses. Fields that are seeded are usually seeded very lightly, and as the soil is decidedly deficient in lime as well as fertility, good crops cannot be grown.

The rejuvenation of the district, and the same applies to countless other districts in the province, must begin with more intensive cultivation, a judicious

use of ground limestone and commercial fertilizers, and a greater variety of crops. The small area, proportionately, devoted to hoe crop is a decided weakness and must be remedied in some way. Much of the land in the district is suitable for potato-growing and the distance to a railway is not too great to prove a serious handicap.

The land selected for illustration work at Petersville is as impoverished as any in the community. The first step was to plough it carefully. The ground was inclined to be wet and heavy, consequently narrow lands were struck out and good clean dead furrows were provided so that water would not lie on the ground. A ditch at the bottom of the field was provided and the dead furrows discharge into this. This system provides an efficient means of draining and prevents the ground from becoming waterlogged.

REXTON, KENT COUNTY

Operator, J. G. Dickinson

This Station is situated in a district remote from a market and consequently there is little to stimulate heavy production or extensive operations. The Station, however, is doing quietly effective work and many farmers in a wide area are practising after-harvest cultivation and other new methods introduced by the Illustration Station.

Seeding is invariably late in this district. Grain was sown this year on June 4 as compared with May 22 at Lower Derby. The Rexton Station is handicapped by surface water without any natural outlet, and soil seepage and drying winds are relied on to take care of this surplus moisture. This lack of drainage, combined as it is with a heavy soil and with cold spring winds, not only delays seeding but also retards early growth. It is likewise always a menace to clover crops, and accounts for the frequent loss of clover stands both in the late fall and the early spring.

The following table gives the yield and cost of growing each crop in the rotation:—

Operations at Rexton—Four-Year Rotation

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover hay		1·8 tons	8 19 per ton	−0 34
B	Huron wheat		17½ bush.	0 85 per bush.	20 12
C	Potatoes	15 tons manure	295 bush.	0 24 per bush.	194 70
C	Turnips	15 tons manure	15 tons	3 19 per ton	−2 85
D	Timothy hay		1 ton	5 61 per ton	4 39

TURNIPS ON MANURE VERSUS MANURE AND FERTILIZER

A study of the yielding capacity of the turnip under different treatments is important in this province due to the large place it fills as a live stock food and as an export product.

The following table explains a standard experiment carried on at several of the Illustration Stations and the results obtained:—

TURNIPS ON MANURE VERSUS MANURE AND FERTILIZER

Operator	Plot No.	Treatment per acre	Yield per acre
			ton
Gabe Morin	1	12 tons stable manure	13
	2	12 tons manure, 600 lb. acid phosphate	17·7
	3	12 tons manure, 600 lb. acid phosphate, and 200 lb. nitrate	21·0
Felix Daigle	1	12 tons manure	7·6
	2	12 tons manure, 600 lb. acid phosphate	15·7
	3	12 tons manure, 600 lb. acid phosphate, 200 lb. nitrate	16·7
Alexander Turvey	1	15 tons manure	14·5
	2	15 tons manure, 600 lb. acid phosphate	17·4
	3	15 tons manure, 600 lb. acid phosphate, and 200 lb. nitrate	20·3
W. R. Taylor	1	18 tons manure	24·0
	2	18 tons manure, 600 lb. acid phosphate	30·6
	3	18 tons, manure, 600 lb. acid phosphate, and 200 lb. nitrate	25·8

RIORDON, GLOUCESTER COUNTY

OPERATOR, THOMAS W. RIORDON

This Station has been in operation three years. The transition from indifferent crops to heavy yields has been so rapid that the Station now enjoys the confidence of many farmers scattered over a large part of the county. Possibly three factors account for the rapid improvement here, viz., better tillage, the use of lime, and better seed.

Several practical demonstrations carried on at this Station this year have a far-reaching effect in this district. The clover yield on limed ground here was over three times that obtained from unlimed ground. The yield of timothy hay on land receiving an application of 125 pounds of nitrate of soda per acre was slightly more than double that obtained on an acre receiving no nitrate.

Growing conditions were very satisfactory at this Station throughout the season for all crops excepting corn, the season proving to be too cool and damp for this crop.

The effect of lime on a clover crop when applied to a soil such as that at Riordon, N.B.

The following table gives the yield and the cost of growing each crop in the rotation:—

OPERATIONS AT RIORDON—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (—) loss per acre
				$ cts.	$ cts.
A	Potatoes	15 tons manure	275 bush.	0 29 per bush.	167 75
A	Turnips	Manure and fertilizer combined	18·7 tons	3 48 per ton	—8 97
		75 lb. nitrate	1·9 tons		
		100 lb. nitrate	2·2 tons		
B	Timothy hay	125 lb. nitrate	2·8 tons		
		150 lb. nitrate	2·2 tons		
		Check plot	1·3 tons		
		Average yield	2·08 tons		
C	Clover hay	3 tons lime	3·2 tons	5 53	7 90
C	Clover hay	Unlimed	0·9 tons		
D	Banner oats		60 bush.	0 33	25 20

NITRATE OF SODA DEMONSTRATIONS

Nitrate of soda was again used on old meadows on several Stations this year as was also a comparison of nitrate of soda and cyanamid, another nitrogenous fertilizer.

NITRATE OF SODA DEMONSTRATION

Station	Material applied	Rate of application per acre	Crop	Yield per acre	Increase
		lb.		ton	ton
Grand Falls	Check plot		Timothy hay	1·6	
	Nitrate of soda	100	Timothy hay	2·7	1·1
	Check plot		Clover hay	2·8	
	Cyanamid	100	Clover hay	3·4	0·6
Baker Brook	Check plot		Clover hay	1·8	
	Nitrate of soda	150	Clover hay	2·6	0·8
	Cyanamid	100	Clover hay	3·2	1·4
Riordon	Check plot		Timothy hay	1·3	
	Nitrate of soda	75	Timothy hay	1·9	0·6
	Nitrate of soda	100	Timothy hay	2·2	0·9
	Nitrate of soda	125	Timothy hay	2·8	1·5
	Nitrate of soda	150	Timothy hay	2·2	0·9

ST. QUENTIN, RESTIGOUCHE COUNTY

OPERATOR, AUGUSTIN VIOLETTE

This Station has been in operation three years and a standard four-year rotation is fully established. Although considerable progress has been made at this Station in crop improvements and practical demonstrations, the operator finds it impossible to continue this work. Accordingly it is hoped to re-establish similar work another year on a closely adjoining farm.

SIEGAS, MADAWASKA COUNTY

Operator, Philias Ruest

This Station was selected in the fall of 1925. Station work this year was creditably done. Fields "A" and "B" were sown to Victory oats, field "C" was planted to potatoes, and field "D" was sown to oats, peas and vetches. This section of the province suffered severely from lack of moisture during the late summer and as a result grain crops were short.

There is considerable wild mustard in this district and its control in the growing crops, particularly grain, presents an embarrassing problem. It was held in check on the Station fields by hand picking. This is scarcely practicable where whole farms are badly infested.

The following table gives the yield and cost of growing each crop in the rotation:—

Operations at Siegas

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Oats, peas and vetches		2·0 tons	9 18 per ton	−2 36
B	Potatoes	Manure and fertilizer combined	241 bush.	0 28 per bush.	149 42
C & D	Victory oats		47 bush.	0 29 per bush.	21 62

SUSSEX, KINGS COUNTY

Operator, Matthew Robinson

This Station was selected in the fall of 1925. A certain amount of preparatory work was accomplished before winter. Spring work was slow in this district and crops were planted from five to ten days later than usual. Fields "A" and "B" were sown to Victory oats, with the crop developing favourably and uniformly. This stand of oats created considerable interest in the community and orders for upwards of 100 bushels of seed oats were booked before the crop was harvested. Field "C" was left in hay and ploughed in the fall of 1926. Field "D" was replanted to hoed crops. It is worthy of mention that the various crops in Field "D" including potatoes, turnips, corn, and sunflowers, compared very favourably with similar crops produced by operators who have been carrying on the work for five or six years, and superior to not a few of them.

The following table gives the yield and cost of growing each crop in the rotation:—

Operations at Sussex—Four-Year Rotation

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A & B	Victory oats		36·6 bush.	0 48 per bush.	9 88
C	Hay		0·5 ton	11 40 per ton	−0 70
D	Potatoes	Manure and fertilizer combined	275 bush.	0 27 per bush.	173 25
D	Turnips*	20 tons manure	13 ton	3 40 per ton	−5 20

*Extremely dry weather tended to reduce the yield of turnips.

TRACEY STATION, SUNBURY COUNTY

OPERATOR, JOHN PHILLIPS

The Station soil, as well as that in the surrounding district, is a light sandy loam. Hoed crops are usually good and the same applies to the succeeding grain crop, and usually a good first crop of hay is harvested. If a second or third hay crop is taken off it is usually light and unprofitable. It would therefore appear to be good practice to use a short rotation on such land; failing this the clover stubble should be top-dressed lightly to insure a fair second crop of hay.

This land is exceptionally well adapted for root crops, and if intelligent and well directed effort is put forth, bumper crops may be produced. Field " B " some years ago received a very heavy dressing of ground limestone and as a result potatoes usually scab when grown on this field.

Couch grass has always been present on this Station and its control has been one of the worst obstacles the operator has had to contend with. Each year, however, couch grass is becoming less and less evident. It still persists on a few dry knolls.

The following table gives the result of the season's work:—

OPERATIONS AT TRACEY—FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover hay	3 tons lime	3·6 tons	4 77 per ton	11 62
B	Potatoes	Manure and fertilizer combined	267 bush.	0 28 per bush.	165 54
B	Turnips	Manure and fertilizer combined	12·5 tons	4 99 per ton	−24 87
C	Oats (Banner)		55 bush.	0 53 per bush.	12 10
D	Clover hay		2·16 tons	5 70 per ton	4 96

REPORT OF THE ILLUSTRATION STATIONS FOR NOVA SCOTIA

F. B. Kinsman, B.S.A., Supervisor

The spring of 1926 was unusually late, and little seeding was done at the various Illustration Stations until after the first of June. This condition was due to cold northerly winds with few warm drying days during May, resulting in the soil remaining cold and unfit to work. The soil when ready to work did not mellow up readily and the preparation of a good seed-bed entailed much work. After the crops were planted, however, they came on rapidly without any set-back and but for the fact that August and September were unusually dry, good yields would have been obtained. This condition materially reduced root crops and affected the potato yields, but on the other hand was unfavourable to potato blight, and no loss resulted because of rot due to the disease. The grain crops, although influenced adversely by the dry weather, averaged better than anticipated. Clover, because of favourable weather for germination and growth following seeding time, made an even stand, and although the plants were small in the late summer, a favourable fall after the harvesting of the grain favoured good fall development with good prospects of a satisfactory clover crop next season.

Because of the dry August, summer ploughing was difficult and in some cases impossible. However, a favourable open fall, ploughing being possible to the first week in December, resulted in more than the usual fall ploughing being done. The rainfall during the late fall was even, and ample to soak the soil, and a shortage of water to supply wells and springs is not anticipated.

Records of rainfall at Granville, Annapolis Co., and Heatherton, Antigonish Co., follow. For the purpose of comparison, the rainfall at the Experimental Station, Kentville, is also given, and also for the summer months of 1925.

RAINFALL DURING THE SUMMER MONTHS

—	Heatherton 1926	Upper Granville 1926	Kentville	
			1926	1925
	inches	inches	inches	inches
May	3·34	2·86	3·75	2·37
June	3·34	5·44	3·33	4·97
July	1·35	4·41	2·98	3·34
August	1·37	1·14	1·85	1·42
September	1·58	2·21	1·00	2·11
October	5·13	4·37	4·63	6·44
Total	16·11	20·43	17·54	20·65
Average	2·68	3·40	2·92	3·44

NEW STATIONS

A new station was established at Mabou, Inverness county, N.S., on the farm of Mr. Edward Hawley, and on this excellent progress has been made under the capable management of the operator. At South Brookfield, Queens county, N.S., Mr. Robert Smith, a progressive farmer of this county, has interested himself in the work, and good progress is anticipated under his direction.

LIVE STOCK

The live stock on the Illustration Stations has remained about the same as last year. Mr. Grant at the Heatherton Station bought a Shorthorn bull calf from the Experimental Station at Kentville to use as a sire. All the operators have pure-bred Yorkshire sows for breeding purposes. The districts surrounding these Stations are getting fairly well supplied with pigs from the Stations. This has done a great deal of good. When this work was started it was impossible to get good boars for breeding purposes in the more remote sections. To-day plenty are kept for service. This is of itself a wonderful asset, as it has a very strong tendency to keep the farmers in this particular strain without mixing breeds.

More feed is being produced at the Stations for feeding the stock, thus doing away with buying so much mill feeds, and making possible the keeping of more stock with less cash outlay for feed.

POULTRY

This phase of the work developed very noticeably this last year. Most operators have increased their flocks. Advice has been given all operators as to the best method of remodelling their hen-houses to make them light and airy but not draughty. There has also been quite a marked improvement in the handling of the flocks in respect to weeding out the culls and to feeding. Where oats was practically the only grain fed to the poultry three years ago, to-day mixed grain are fed. Many cockerels and pullets have been sold or exchanged in the various districts.

TURNIP COMPETITIONS

Turnip competitions were conducted in the same districts as last year, namely, Tatamagouche, Heatherton, Middle Musquodoboit, N.E. Margaree, and McLellan's Brook. One of the objects is to get the farmers in the more remote districts to grow more turnips, as well as to get acquainted with the best and heaviest yielding varieties.

The varieties sent out to the various competitors were Hall's Westbury, Monarch or Elephant, and Bangholm. The Hall's Westbury variety has become very popular with the farming public, more so than any other variety that has been tried. Because of the dry weather during August and early September, when turnips need plenty of moisture, the yields were considerably lessened. In 1925 the average yield of Hall's Westbury was 24.5 tons per acre, and of Invicta, 22 tons. This season Hall's Westbury gave an average of 17 tons, with Monarch, 16.5 tons per acre.

FERTILIZER WORK ON PASTURE LAND

In 1924 tests were undertaken at the Stations to show the value of improving pastures by a surface application of limestone, slag, and acid phosphate.

A uniform area of one-quarter acre was used for this test at each Station. This area was divided into five one-twentieth-acre plots and received the following treatment per acre:—

Plot 1. Limestone, 2 tons.
" 2. Limestone, 2 tons; slag, 1,000 pounds.
" 3. Limestone, 2 tons; acid phosphate, 1,000 pounds.
" 4. Slag, 1,000 pounds.
" 5. Not fertilized.

All material was applied as soon as vegetation started in the spring. No noticeable change could be seen until early autumn when an abundance of clover could be noticed starting on these poor pasture areas. In the spring of 1925 two extra plots were added to this pasture demonstration, one receiving 1,000 pounds of Sydney slag, the other 1,000 pounds of Belgian slag. One-half of each area was ploughed and the slag harrowed into the soil, after which grass and clover seed were sown and followed by a light harrow.

These areas were fenced in the spring of 1925 with Page wire so that the plots could be protected and records in green weight obtained. From the results given in the table following, this test shows that applications of these materials successfully increased the green weight of grass. Not only did it produce a much greater yield but the quality of the herbage was superior because of an abundance of clover. During the first season the fertilized areas were closely grazed, while the untreated areas were hardly grazed on at all.

After these plots were cut and weighed this season cattle were allowed to feed over the areas. It was noticed that live stock kept continually grazing at the plots rather than roaming over the untreated pasture.

It will be seen from the records that follow that the weights obtained from the plots in 1926 were greater than those of 1925. In the case of Plot 1 the green weight has been more than doubled. Plots 2 and 3 apparently run very evenly, yet these plots too are nearly doubled in weight. It will be noticed in Plot 4 that there has not been the striking difference in weight found in Plots 2 and 3, yet the increase is very marked.

Comparing Plots 6 and 9, ploughed, with 7 and 8, not ploughed, it is evident that it did not pay to plough the pasture before applying the fertilizers. Where Sydney and Belgian slags were applied directly to the sod the increase has been, with the Belgian slag 1187.2 pounds in favour of the sod application, and 924.9 pounds in favour of the sod application where Sydney slag was used.

The influence of this work has been very beneficial in that many farmers are now applying slag, or limestone, and acid phosphate, with a corresponding increase in pasture growth and better milk yields.

GREEN WEIGHT OF GRASS ON PASTURE AREAS, 1925 AND 1926

—	Plot 1		Plot 2		Plot 3		Plot 4		Plot 5		Plot 6	Plot 7	Plot 8	Plot 9
	Lime		Lime and slag		Lime and acid phosphate		Slag		No fertilizer		Belgian slag; ploughed, 1926	Belgian slag; sod, 1926	Sydney slag; sod, 1926	Sydney slag; ploughed, 1926
	1925	1926	1925	1926	1925	1926	1925	1926	1925	1926				
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Newport	1,560	1,240	10,440	4,120	10,040	3,740	7,640	3,220	880	880	6,000	12,600	6,720	4,360
Middle River	1,000	1,560	1,500	1,980	1,680	2,230	1,240	1,325	800	780	3,240	3,500	2,780	2,480
Christmas Island	599	816	678	1,225	678	1,361	745	272	0	272	3,539	2,450	1,633	1,905
New Glasgow	2,210	6,300	2,370	6,500	2,320	5,880	2,340	4,620	1,860	2,840	3,740	6,420	4,100	2,680
Heatherton	680	1,140	860	4,000	1,150	4,780	1,060	3,020	420	720	4,060	4,420	2,500	2,980
Kennetcook	2,780	2,800	3,900	3,960	4,100	3,800	3,700	3,680	1,800	1,600	.....	5,760	5,360	.....
Middle Musquodoboit	320	.....	1,120	.....	1,660	.....	1,160	.....	340	No accurate records; cattle destroyed grass on plots.				
N. E. Margaree	985	6,360	1,360	10,180	1,425	10,920	1,050	8,740	560	6,280	.....	.....	.....	.....
Sydney	1,630	3,720	1,570	3,280	1,480	2,620	1,550	3,460	1,510	2,920	4,720	2,600	3,360	2,720
Average	1,307	2,992	2,644	4,406	2,725	4,416	2,284	3,542	908	2,037	4,205	5,393	3,779	2,854

HAY YIELDS ON LIMED AND UNLIMED AREAS

The purpose of the demonstration with limestone at the various Stations was to determine if this material would be beneficial in promoting a more uniform clover growth. Limestone has been applied at the rate of two tons per acre on areas sown with grain and seeded. The land where limestone has been used has generally been on the regular rotation area where a hoed crop has been raised. This hoed crop had received from fifteen to twenty tons of farmyard manure per acre. The area without lime received this same treatment, and all were in a fair state of fertility. Limestone, it has been observed, does not give the same beneficial results at all the Stations. For instance, at Newport Station the results are not as marked as at most Stations. It has been plainly observed that where limestone has been applied the young clover plants appear to form a stronger and deeper root system; consequently, the young plants are not so readily thrown out in the spring by the action of the frost. The table following shows the results of three successive years' work with limestone on the Stations in Nova Scotia. It will be seen that the gain from the application of lime was 0.67 tons in 1924; 0.33 tons in 1925; and 0.48 tons in 1926. The greatest gain, however, was in the quality of the hay produced, in that the growth on the limed area invariably contained more clover and was correspondingly of greater value for feeding stock.

HAY YIELDS ON LIMED AND UNLIMED AREAS

Station	1924		1925		1926	
	Limed	Unlimed	Limed	Unlimed	Limed	Unlimed
	tons	tons	tons	tons	tons	tons
Sydney	3·13	2·46	2·57	2·50	2·28	2·15
Christmas Island	2·48	1·65	1·83	1·27	3·70	1·91
Middle River	2·00	1·35	2·50	1·76	1·88	1·19
N. E. Margaree	1·56	0·50	3·96	3·70	3·94	3·63
Heatherton	1·77	1·11	2·18	1·60	2·46	1·99
Tatamagouche	2·11	1·44	2·56	2·32	2·16	2·10
Middle Musquodoboit	3·05	2·60	2·70	2·40	3·84	3·06
Upper Granville	2·55	2·22	2·86	2·60	2·44	2·36
Newport	.....	.....	3·52	3·37	3·42	3·30
Kennetcook	.....	.....	1·51	1·37	2·61	2·08
New Glasgow	.....	.....	2·90	2·47	1·70	1·48
Average	2·33	1·66	2·64	2·31	2·77	2·29
Average gain over unlimed areas	0·67	.....	0·33	.....	0·48	.....

EFFECT ON SUCCEEDING CROPS OF MANURE AND COMMERCIAL FERTILIZERS APPLIED TO POTATOES

This demonstration was undertaken in 1924 on all the Illustration Stations in Nova Scotia to show the comparative value of commercial fertilizers used alone and in combination with farmyard manure.

These tests were conducted on four one-eighth-acre plots on soil typical of that found in the different districts of Nova Scotia. The plots were treated as given in the following table. The manure was scattered on broadcast and harrowed into the soil. The commercial fertilizer was sown broadcast and also harrowed in. The variety of potatoes planted was Irish Cobbler.

These plots were ploughed late in the fall of 1924, sown the following spring with Banner oats, and 10 pounds of timothy, and 5 pounds each of alsike and common red clover per acre.

The table shows the three crops removed from the soil from these applications made in 1924. A survey of the table shows that 10 tons of manure and 750 pounds of 4-8-4 fertilizer has given to date the most economical yields; commercial fertilizer alone has given the next largest yield; manure alone, the next; and the unfertilized areas the least. This test appears to be an important one for the farmers in the different districts. Where manure is not plentiful not as large an area of root crops can be raised, but where a small amount of commercial fertilizer is substituted the hoed crop areas may be doubled with profit. The yields from the different Stations were as follows:—

EFFECT ON SUCCEEDING CROPS OF MANURE AND COMMERCIAL FERTILIZERS APPLIED TO POTATOES

Station	Manure, 20 tons			Manure, 10 tons; 4-8-4 fertilizer, 750 pounds			4-8-4 fertilizer, 1,500 pounds			No fertilizer		
	Potatoes, 1924	Grain, 1925	Clover hay, 1926	Potatoes, 1924	Grain, 1925	Clover hay, 1926	Potatoes, 1924	Grain, 1925	Clover hay, 1926	Potatoes, 1924	Grain, 1925	Clover hay, 1926
	bush.	bush.	tons	bush.	bush.	tons	bush.	bush.	tons	bush.	bush.	tons
Sydney River	164·0	45·0	1·60	232·0	51·0	1·60	120·0	40·0	1·50	63·0	19·0	1·30
Christmas Island	64·0	40·0	0·80	96·0	48·0	1·00	84·0	50·0	0·98	48·0	26·0	0·40
Middle River	222·0	38·0	1·01	268·0	39·8	1·42	255·0	41·2	1·30	78·0	30·6	0·50
N. E. Margaree	300·0	40·0	1·40	316·0	47·3	1·70	243·0	46·6	1·60	75·0	37·0	0·80
Heatherton	226·0	50·5	1·60	257·0	58·7	1·90	255·0	60·4	1·04	143·5	32·9	0·96
New Glasgow	236·0	48·0	0·90	309·0	54·3	1·71	284·0	56·1	1·53	198·0	29·0	1·20
Tatamagouche	200·0	38·5	1·09	212·0	40·3	1·58	218·0	30·4	1·81	100·0	20·1	0·90
Middle Musquodoboit	179·5	30·6	0·08	233·0	30·3	1·49	261·0	40·4	1·64	89·5	26·7	0·76
Kennetcook	160·0	52·0	1·21	192·5	60·0	1·48	200·0	55·3	1·44	145·0	41·1	0·99
Upper Granville	266·0	39·0	1·72	345·0	43·6	1·60	290·0	41·0	1·74	180·0	25·4	1·03
Belliveau Cove	116·2	23·0	0·42	117·2	25·1	0·49	114·0	21·0	1·12	43·0	15·0	0·30
Newport	186·5	20·7	1·98	220·0	24·9	1·84	255·0	22·1	1·04	176·0	14·0	1·04
Yarmouth	240·0	49·6	.....	150·0	44·0	.....	96·0	37·9	.....	40·0	29·0	.....
Average	196·9	39·6	1·15	226·7	43·6	1·48	205·8	41·7	1·39	103·1	26·6	0·85

EFFECT ON SUCCEEDING CROPS OF MANURE AND COMMERCIAL FERTILIZER APPLIED TO POTATOES

Similar tests to these were started in 1925, and it will be noted from the tables that follow that the results are very similar. These tests are proving fairly conclusively that a moderate application of commercial fertilizer judiciously applied can help solve the problem of spreading the farmyard manure over larger areas of land, thereby increasing crop yields.

EFFECT ON SUCCEEDING CROPS OF MANURE AND COMMERCIAL FERTILIZERS APPLIED TO POTATOES

Station	Manure, 20 tons		Manure, 10 tons; 4-8-4 fertilizer 750 pounds		4-8-4 fertilizer 1500 pounds		No fertilizer	
	Potatoes, 1925	Oats, 1926	Potatoes, 1925	Oats, 1926	Potatoes, 1925	Oats, 1926	Potatoes, 1925	Oats, 1926
	bush.	bush.	bush.	bush.	bush.	bush.	bush.	busb.
Sydney River	207·0	38·4	235·5	39·0	276·0	37·0	62·0	62·0
Christmas Island	80·0	27·0	96·0	29·2	100·0	31·0	53·0	16·0
Middle River	270·0	Frosted	290·0	.....	282·0	.....	53·0	.....
N. E. Margaree	385·0	41·0	412·5	47·4	375·0	45·0	118·2	23·0
Heatherton	138·6	32·0	221·3	39·6	195·8	42·0	134·2	19·0
New Glasgow	259·9	37·0	356·4	34·3	372·0	38·2	140·8	21·0
Middle Musquodoboit	168·7	Frosted	132·4	.....	140·0	.....	63·0	.....
Kennetcook	203·5	32·0	305·7	36·0	236·5	39·1	99·0	18·0
Newport	232·0	46·0	247·0	44·0	288·0	41·0	32·5	25·0
Upper Granville	249·0	38·0	275·0	34·0	263·0	37·5	145·0	22·0
Tatamagouche	198·0	29·0	209·0	31·0	171·5	28·6	88·0	18·0
Belliveau Cove	158·0	.....	148·1	.....	157·4	.....	73·6	.....
Average	212·4	35·6	244·1	37·1	238·1	37·7	88·5	24·8

COMPARISON OF COMMERCIAL FERTILIZER AND FARMYARD MANURE FOR POTATOES, 1926

A demonstration similar to that carried on in 1925 was undertaken in 1926 at the various Stations to show the comparative value of a complete commercial fertilizer, used alone and in combination with farmyard manure. Four one-eighth-acre plots were treated as shown in the table that follows. The stable manure was scattered broadcast and ploughed under; the commercial fertilizer was applied broadcast and harrowed in. Irish Cobbler potatoes were planted. The yields from the various plots were as follows:—

COMPARISON OF COMMERCIAL FERTILIZER AND FARMYARD MANURE FOR POTATOES, 1926

Station	Manure, 20 tons	Manure, 10 tons; 4-8-4 fertilizer, 750 lb.	4-8-4 fertilizer, 1,500 lb.	Check, not fertilized
	bush.	bush.	bush.	bush.
New Glasgow	162·0	238·0	240·0	79·0
N. E. Margaree	253·0	263·0	246·0	80·0
Middle River	210·0	230·0	205·0	60·0
Kennetcook	100·0	128·0	125·5	55·0
Newport	176·8	215·2	232·0	62·0
Christmas Island	96·0	124·0	84·0	64·0
Tatamagouche	154·0	220·0	198·0	110·0
South Brookfield	226·5	260·0	230·0	104·0
Heatherton	86·6	45·3	48·0	43·4
Middle Musquodoboit	140·0	152·5	168·0	104·8
Upper Granville	180·2	201·4	211·0	98·5
Sydney	185·0	225·3	241·0	104·2
Mabou	552·6	783·8	769·0	333·8
Belliveau Cove	198·0	220·0	285·8	132·0
Average	194·3	236·2	234·5	102·2

NITROGENOUS FERTILIZERS ON MEADOW LAND

The table following gives four years' work with sulphate of ammonia and nitrate of soda used as top-dressings on grass land on the Illustration Stations, and should indicate fairly accurately the gains that may be expected from such treatment made during the latter part of May to farm hay lands having a reasonably good stand of grass.

The land selected for this work at the different Stations has been the type of soil typical of the surrounding district. Care has been taken to select land that had previously been handled alike, thus avoiding lack of uniformity in the areas treated.

In most cases the applications have been made on land low in fertility and in no case on clover sod. Some applications have been made on two and three year old sod, but only where other fields lacked proper uniformity.

In surveying the results in the table it should be kept in mind that these applications were made in the majority of cases on acid soils, and it is apparent that these soils have responded to the sulphate of ammonia applications equally as well as to the nitrate of soda applications.

Nitrate of soda was applied at 150 pounds and sulphate of ammonia at 115 pounds per acre, each plot thus receiving the same amount of nitrogen. It may be seen from the results that there has been an average increase over the unfertilized plots of 1,370 pounds of cured hay per acre in favour of the sulphate of ammonia application, and 1,351.1 pounds in favour of the nitrate of soda application. When valuing hay at $10 per ton and charging $3 per cwt. for the fertilizers used, there is a profit over the cost of fertilizers of $3.40 per acre in favour of sulphate of ammonia, and $2.25 for nitrate of soda.

HAY YIELDS, POUNDS PER ACRE, WHEN NITRATE OF SODA OR SULPHATE OF AMMONIA WAS APPLIED TO SOD LANDS

Station	1923			1924			1925			1926		
	Nitrate of soda	Sulphate of ammoni	Unfertilized	Nitrate of soda	Sulphate of ammonia	Unfertilized	Nitrate of soda	Sulphate of ammonia	Unfertilized	Nitrate of soda	Sulphate of ammonia	Unfertilized
Sydney				6,750	6,510	5,850	5,490	4,640	3,140	3,040	3,120	2,240
Christmas Island				3,580	3,540	2,960	1,555	1,640	1,800	7,800	7,500	5,800
Middle River				5,840	5,440	5,960	6,004	5,510	3,520	3,855	3,250	3,052
N. E. Margaree				8,420	8,750	7,130	8,010	7,807	7,170	4,000	3,800	3,600
Heatherton	3,300	4,060	2,940	3,580	3,540	2,960	4,226	4,220	3,340	4,172	4,115	3,780
New Glasgow	4,850	5,350	3,200	4,120	3,600	1,520	7,807	7,410	6,600	3,216	3,642	2,976
Tatamagouche	2,230	2,770	1,310	3,800	3,400	1,640	6,803	7,680	4,640	4,232	4,260	3,415
Middle Musquodoboit	5,110	6,450	3,350	3,660	4,300	3,100	6,960	7,040	4,803	4,680	4,600	4,400
Kennetcook				3,000	3,160	1,800	5,010	4,807	3,005	3,420	3,312	2,160
Newport				4,720	5,080	3,541	5,960	5,900	3,860	3,620	3,240	2,500
Upper Granville	7,560	6,200	3,200	5,670	5,030	4,190	6,240	6,040	5,200	2,765	2,910	1,560
South Brookfield										5,715	5,472	4,120
Mabou										4,730	4,835	3,671
Belliveau Cove				4,565	4,850	4,000	3,850	3,400	3,140	3,846	4,371	3,140
Yarmouth				6,440	5,880	4,480	6,170	5,945	4,000			
Average	4,610	4,965	2,800	4,934·2	4,852·3	3,779·3	5,695	5,541·4	4,170·6	4,220·7	4,173·3	3,315·3

INFLUENCE OF BELGIAN SLAG VS. SYDNEY SLAG, WITH AND WITHOUT MALAGASH SALT, ON OATS AND CLOVER HAY

Field tests were conducted at all the Stations in 1925 with Belgian and Sydney slags, used alone and also in combination with Malagash salt. A uniform area of one-half acre was selected for this work. The land was ploughed in the fall of 1924, and disked the following spring. The fertilizers were sown broadcast and harrowed in. The slags were applied lengthwise of the plots, and Malagash salt applied crosswise over half of each plot. These areas were sown to oats, with grass and clover seed. The table below shows the amount of fertilizers applied per acre, and the yields of grain and clover hay.

It will be seen that the Belgian slag with Malagash salt has given the largest yield of oats as well as of clover hay. It is difficult to discuss each Station separately as to the results, so the general average is being taken in all cases. Although there are a few cases where Sydney slag has given the larger yield, yet on the whole the Belgian slag has given the better results.

Malagash salt on the average seems to have had a beneficial effect where slag was used, but this was not so great on the plots not treated with slag. The timothy yields will be obtained in 1927 from these plots. The results obtained from the different Stations were as follows:—

INFLUENCE OF BELGIAN SLAG VS. SYDNEY SLAG, WITH AND WITHOUT MALAGASH SALT, ON OATS AND CLOVER HAY

Station	Belgian slag, 1,000 pounds per acre		Sydney slag, 1,000 pounds per acre		Belgian slag, 1,000 pounds, Malagash salt, 400 pounds per acre		Sydney slag, 1,000 pounds; Malagash salt, 400 pounds per acre		Malagash salt, 400 pounds per acre		Not fertilized	
	Oats, 1925	Clover hay, 1926	Oats, 1925	Clover hay, 1926	Oats, 1925	Clover hay, 1926	Oats, 1925	Clover hay, 1926	Oats, 1925	Clover hay, 1926	Oats, 1925	Clover hay, 1926
	bush.	tons	bush.	tons	bush.	tons	bush.	tons	bush.	tons	bush.	tons
Sydney	48·3	2·38	46·3	2·38	48·1	2·38	47·0	2·31	32·0	2·20	31·2	2·26
Christmas Island	40·2	2·46	40·2	2·30	40·2	2·47	40·8	2·20	34·0	0·14	33·0	1·46
N. E. Margaree	58·8	1·33	56·6	1·01	60·0	1·46	57·0	1·20	50·0	0·66	47·0	0·73
Middle River	.....	1·20	.....	1·13	.....	1·26	.....	1·16	.....	0·83	.....	0·83
Heatherton	54·0	0·63	46·0	0·48	48·0	0·58	58·0	0·44	28·0	0·17	34·0	0·17
New Glasgow	42·3	0·85	44·7	0·77	31·7	0·86	38·7	0·55	35·2	0·39	37·6	0·48
Tatamagouche	35·0	2·34	28·2	1·44	36·3	3·12	30·0	2·50	19·8	0·73	18·0	0·80
Middle Musquodoboit	48·2	1·49	39·7	1·39	53·7	1·63	49·5	1·45	34·2	0·78	25·2	0·64
Kennetcook	46·1	1·96	44·1	1·44	47·0	1·90	45·5	1·56	41·1	0·98	40·3	0·87
Newport	50·5	1·92	41·0	0·88	48·2	1·98	45·8	0·76	41·0	0·57	36·1	0·41
Upper Granville	51·6	1·42	49·3	1·03	52·0	1·35	48·7	1·31	42·0	0·61	42·3	0·64
Belliveau Cove	37·8	0·99	36·1	0·82	38·4	1·13	37·0	0·95	31·1	0·53	32·5	0·61
Yarmouth	49·3	.....	48·0	.....	49·9	.....	48·5	.....	41·6	.....	42·0	.....
Average	46·8	1·58	43·3	1·25	47·8	1·68	45·5	1·37	35·8	0·72	34·9	0·83

LIMESTONE, ACID PHOSPHATE AND SLAGS USED WITH AND WITHOUT SULPHATE OF AMMONIA WHEN SEEDING DOWN

In the spring of 1926 tests were undertaken at all the Stations to show the comparative value of limestone, acid phosphate, and Sydney and Belgian slags used with and without sulphate of ammonia on land sown to grain and seeded down.

A uniform area of one and one-half acres was used at each Station. This area was divided into six one-quarter-acre plots, which were treated per acre as follows:—

Plot 1. Limestone, 2 tons.
" 2. Limestone, 2 tons; acid phosphate, 800 pounds.
" 3. Acid phosphate, 800 pounds.
" 4. Sydney slag, 800 pounds.
" 5. Belgian slag, 800 pounds.
" 6. Not fertilized.

In addition one-half of each plot received sulphate of ammonia at the rate of 115 pounds per acre. The land was worked when fit, and the materials applied and harrowed in before seeding to oats and seeding down with 8 pounds of timothy, 5 pounds of red clover, and 5 pounds of alsike clover per acre. Soon after the appearance of the grain a striking difference was noted in the increased growth of the plants on all plots where sulphate of ammonia was used. This gain was maintained throughout, and it will be noted that a yield of nearly 9 bushels per acre more was obtained from the area so treated over the area treated in the same way to which no nitrogenous fertilizer was applied.

As soon as the season advanced, a marked gain in favour of materials carrying phosphoric acid was noted, this gain being much more apparent at some Stations than at others. It will be seen that the acid phosphate gave better grain returns than did the slag. The yields favoured the Belgian slag, with an average increase of 2.5 bushels where no sulphate of ammonia was used, and 2.6 bushels where it was used. It should be pointed out that the Sydney slag is guaranteed to carry 14 per cent of phosphoric acid and would supply 112 pounds of this element per acre, while the Belgian slag is guaranteed to carry 16 per cent of phosphoric acid or 128 pounds of this element per acre, a difference of 16 pounds per acre.

A very apparent difference was noted in the clover growth in the fall in favour of the areas receiving limestone and acid phosphate. The areas receiving slag were also good, with no apparent difference in the growth of clover on the Belgian or Sydney slag plots. The yield of clover hay will be obtained from these areas in 1927 and 1928.

LIMESTONE, ACID PHOSPHATE AND SLAG, WITH AND WITHOUT SULPHATE OF AMMONIA

Station	Average yield per acre					
	Limestone	Limestone and acid phosphate	Acid phosphate	Sydney slag	Belgian slag	Not fertilized
Treated with Sulphate of Ammonia	bush.	bush.	bush.	bush.	bush.	bush.
Sydney	30·0	43·6	41·0	36·0	39·0	24·8
Christmas Island	26·1	52·5	48·3	20·4	27·0	12·5
Middle River	37·0	63·3	53·3	46·5	52·7	23·4
N. E. Margaree	48·0	66·0	60·0	61·0	45·2	16·4
Mabou	25·0	20·1	18·5	28·1	36·4	16·4
Heatherton	34·1	59·6	59·4	37·8	46·0	22·0
New Glasgow	60·8	60·7	60·5	60·9	55·2	50·1
Tatamagouche	27·1	45·0	43·6	32·0	40·6	22·0
Middle Musquodoboit	24·0	40·6	41·0	28·6	34·4	19·6
Kennetcook	44·1	54·1	50·8	47·1	48·5	32·0
Newport	24·0	24·6	24·8	28·5	28·5	28·7
Upper Granville	37·8	42·4	37·8	28·0	32·9	13·1
Belliveau Cove	16·4	25·0	24·6	19·0	21·0	14·6
Average	33·4	45·9	43·3	36·4	39·0	22·7
Not treated with Sulphate of Ammonia						
Sydney	23·4	38·0	36·2	26·1	29·8	14·0
Christmas Island	20·1	47·0	44·1	19·3	23·0	9·2
Middle River	23·4	50·0	45·4	36·6	40·0	16·9
N. E. Margaree	44·0	62·1	57·6	50·2	47·6	15·5
Mabou	20·1	29·4	28·3	22·0	26·4	13·2
Heatherton	18·2	32·3	29·8	21·4	27·0	14·0
New Glasgow	40·0	48·1	45·1	42·3	44·4	28·1
Tatamagouche	22·5	37·0	34·2	27·0	29·4	17·0
Middle Musquodoboit	20·0	26·1	25·0	22·4	24·0	15·9
Kennetcook	29·1	39·9	38·4	35·4	38·1	24·0
Newport	15·5	17·0	17·3	17·7	17·7	13·4
Upper Granville	30·6	34·4	27·0	24·8	28·0	11·5
Belliveau Cove	12·0	18·1	18·6	15·0	16·9	9·0
Average	24·5	36·9	34·4	27·7	30·2	15·5

Covering up potato plants when an inch high, in order to most effectively control weeds in the row and to retard damage by the potato-bug

BELLIVEAU COVE, DIGBY COUNTY

OPERATOR, ADOLPHE J. BELLIVEAU

Seeding began at this Station June 5. The season did not vary much from that of the previous year. The hoed crop did not give outstanding yields. Field "A" gave a good average yield of oats. There is also a splendid uniform clover catch. The hay crop on field "C" was uniform, while the yield on field "D" was a little patchy due to an excess of moisture.

OPERATIONS AT BELLIVEAU COVE: FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats and seeded	47·3 bush.	0 67 per bush.
B	Mangels	562 bush.	0 15 per bush.
B	Turnips	440 bush.	0 16 per bush.
C	Timothy hay	2 tons	7 85 per ton
D	Clover hay	1·5 ton	9 40 per ton

CHRISTMAS ISLAND, CAPE BRETON COUNTY

OPERATOR, J. A. MCNEIL

Seeding was possible at this Station June 5, because of little rain. It was possible to seed on the same date in 1925. The work at this Station has made marked progress during the past year. By the use of a little commercial fertilizer, particularly acid phosphate, the yields have shown a marked increase.

This season has been the most successful year the operator has experienced. On all the fields it was very difficult to obtain a stand of clover until acid phosphate was used. The hay crop was good for this section of the country, showing more than the usual amount of clover. The grain crop was good for this year, as the grain in this section in many cases was not worth threshing.

The potato and the turnip crops gave very low yields, but this was not the fault of the operator. The very dry season was largely responsible, although if these crops had received even a light application of a nitrogenous fertilizer and acid phosphate in addition to the manure the yield would undoubtedly have been much more satisfactory, as the operator applied sulphate of ammonia at the rate of 115 pounds per acre on one area and trebled the turnip yield.

This operator, as have all the operators, has been carrying on a great deal of work outside the four-year rotation area, and has worked up a good demand for small fruit, such as raspberries and strawberries. The poultry also have been greatly improved. Mr. McNeil was successful in securing prizes at small fairs with produce and stock from this Station.

OPERATIONS AT CHRISTMAS ISLAND: FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Turnips	140 bush.	0 41 per bush.
A	Potatoes	120 bush.	0 49 per bush.
B	Oats and seeded	38·5 bush.	0 64 per bush.
C	Timothy hay	1·4 tons	7 69 per ton
D	Clover hay	1·28 tons	8 30 per ton

HEATHERTON, ANTIGONISH COUNTY

OPERATOR, D. W. GRANT

Seeding is usually late at this Station, yet the grain and root crops are generally far above the average. The hay crops have not always produced large yields. This crop, however, is being somewhat improved. The want of phosphorus seems to be the limiting factor in preventing a more uniform clover stand, as well as developing a stronger and deeper root system in the early autumn. The clover crop on field "A" was outstanding this season. The root crop made very rapid growth late in the season, although materially checked by dry weather during the summer. The oats crop gave a good yield of splendid grain.

OPERATIONS AT HEATHERTON: FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay	2·46 tons	6 53 per ton
B	Timothy hay	1·99 tons	7 19 per ton
C	Turnips	627 bush.	0 06 per bush.
D	Oats and seeded	56 bush.	0 28 per bush.

FERTILIZERS ON UNPRODUCTIVE LAND

A uniform area of three acres on field " E " at Heatherton was used to determine the most profitable way to fertilize unproductive land. This land is a poor soil of clay loam character. The area was in pasture previous to 1922, when it was ploughed and seeded to oats. The crop was a complete failure, the land evidently not having enough available plant food to produce a crop. This area was fertilized in various ways in the spring of 1923, and very interesting results were obtained from the test. (See 1925 report, page 53.) The results obtained demonstrated very clearly the lack of phosphoric acid in the soil, and the supplementing of farm manures with materials supplying this element is now being practised by farmers in this district.

This area was ploughed in the fall of 1925 and in the spring before seeding 10 tons of manure per acre were applied across one-half of each section. The respective sections were again treated as stated in the table below. The land was disked and the plots seeded to oats with timothy and clover.

The yield of oats in 1926 confirms previous findings that available phosphoric acid is the limiting factor in producing a large yield from this area. A survey of the table shows that where acid phosphate has been applied on any of the plots the grain produced this season has not only paid for the fertilizer used but has given a good profit besides. From plots 1 and 3 it will be seen that an application of acid phosphate increased the yield of oats 14.3 bushels, whereas (plots 1 and 2) the increase due to Sydney slag is only 2.8 bushels. Where manure has been added the results have not been as one would naturally expect. In fact, the results are a little disappointing. We find that 10 tons of manure with marl have only brought about an increase over the marl of 10.3 bushels (plots 1 and 7), and where manure alone was used there were only 10.7 bushels above check plot (plots 5 and 6). And the interesting feature in this test is that acid phosphate added to manure has given (as is shown in comparing plots 6 and 10) 23.4 bushels more oats than the manure only.

The clover plants on this area upon examination shortly after the grain was removed appeared to have a splendid root system established throughout the whole area, excepting on the unfertilized plot. The young plants on that area were very small and had a very shallow root system. Judging from the

general appearance of the whole area there was a noticeable difference where marl and acid phosphate, and slag and marl, were applied. When the roots of the clovers were examined it was found that plots 3 and 9 showed the best developed root systems and stronger plants than any of the other plots.

This test will be conducted for two more seasons to obtain information in order to determine which fertilizers, singly or in combination, are the most economical to apply to these run-out and unproductive soils.

FERTILIZERS ON UNPRODUCTIVE LAND

Plot	How fertilized per acre	Yield of oats	Total value of produce	Cost of fertilizer	Profit or loss (−) above cost of fertilizer
		bush.	$ cts.	$ cts.	$ cts.
1	Marl, 3 tons	22·6	14 69	6 00	8 69
2	Marl, 3 tons; Sydney slag, 1,000 lbs.	25·4	16 51	16 00	0 51
3	Marl, 3 tons; acid phosphate, 1,000 lbs.	36·9	23 98	16 00	7 98
4	Acid phosphate, 1,000 lbs.	39·0	25 35	10 00	15 35
5	Not fertilized	7·0	4 55		
6	Manure, 10 tons	17·7	11 50	20 00	−8 50
7	Marl, 3 tons; manure, 10 tons	32·9	21 38	26 00	−4 62
8	Marl, 3 tons; Sydney slag, 1,000 pounds	24·4	15 86	16 00	−0 14
9	Manure, 10 tons; acid phosphate, 1,000 lbs.; marl, 3 tons	57·4	37 31	36 00	1 31
10	Manure, 10 tons; acid phosphate, 1,000 lbs.	41·1	26 71	30 00	−3 29
11	Manure, 20 tons	22·5	14 61	40 00	−25 38

KENNETCOOK, HANTS COUNTY

OPERATOR, WILLARD ETTINGER

Due to the late season grain could not be sown at this Station until June 22, this being three weeks later than in 1925. In spite of the lateness of the season all crops did exceptionally well. The operator deserves great credit for keeping the hoed crops absolutely free from weeds, also for general neatness in his field work. This Station when taken over by Mr. Ettinger was not in good shape, the fields being somewhat rough, with bushes growing by the roadside, etc. These eye-sores have disappeared.

The clover hay crop was exceptionally good, giving a yield of 2.2 tons of cured hay. Lime works well on this type of soil in promoting clover growth. This soil is quite deficient in phosphoric acid, as is shown from the field records. Timothy hay also gave a fair crop.

The potato crop was planted late, and, consequently with dry weather did not produce a bumper crop. The turnip crop, however, was good, there evidently being enough moisture in this heavier type of soil to withstand the drought.

OPERATIONS AT KENNETCOOK—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats and seeded	41 bush.	0 66 per bush.
B	Potatoes	160 bush.	0 36 per bush.
B	Turnips	1,020 bush.	0 05 per bush.
C	Clover hay	1·68 tons	10 90 per ton
D	Timothy hay	2·2 tons	6 66 per ton

MIDDLE MUSQUODOBOIT, HALIFAX COUNTY

OPERATOR, R. B. MCCURDY

At this Station seeding was not possible before June 15. All crops gave favourable yields, except the oats and seeded area. Oats on these rotation areas cannot give satisfactory yields until the fields receive some drainage. The clover hay, however, was a fair crop. Field "B", clover hay, gave a yield of 1.9 tons, considerably below former years, while field "C," timothy, gave an outstanding yield of 2.9 tons. The turnip crop was sown late but grew rapidly and produced a satisfactory crop.

Unfortunately the oats, because of being sown late, were badly frosted before they were ripe, and no records have been obtained.

OPERATIONS AT MIDDLE MUSQUODOBOIT—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Turnips	765 bush.	0 11 per bush.
B	Clover hay	1·9 tons	5 89 per ton
C	Timothy hay	2·9 tons	4 69 per ton
D	Oats and seeded (grain badly frosted; no records obtained)		

MIDDLE RIVER, VICTORIA COUNTY

OPERATOR, FORBES MCDONALD

Spring operations were not possible until June 5, this being sixteen days later than in 1925. Consequently, some of the Alaska oats, which are about ten days earlier than the Banner or Victory, were badly frosted. These oats were sown at this Station with the idea of giving the public in this and surrounding sections a variety of oats that would mature earlier in order to escape the very early frosts that often occur in this section of the country. Mr. McDonald, however, has approximately 70 bushels to dispose of to the farmers.

The hay crop did not give as large a yield as in former years. The operator could not obtain limestone, which seems to be very difficult to do without in this section if a satisfactory clover catch is wanted. The operator has in field "D" an area which has not been limed for eight years; benefit is still being obtained from the last application. The potato crop gave a good yield, although the plants died comparatively early with late blight. The mangel crop was small, due to the lateness in sowing. In order to obtain maximum yields mangels need to be sown very early, and it is impossible to do this on many of our Illustration Stations.

The operator has been successful in growing strawberries as an early cash crop for the market. Many interesting tests are being conducted at this Station, and a great deal of valuable information is being brought to light on how to handle cropping problems successfully, and what method of fertilization is best.

OPERATIONS AT MIDDLE RIVER—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats and seeded	35 bush. frosted	0 66 per bush.
B	Potatoes	210 bush.	0 34 per bush.
B	Mangels	200 bush.	0 31 per bush.
C	Clover hay	1·3 tons	10 32 per ton
D	Timothy hay	1·5 tons	8 16 per ton

MABOU, INVERNESS COUNTY

OPERATOR, EDWARD HAWLEY

This Station was started in the spring of 1926. The operator had to sow three fields in grain, two of which, fields C and D, were seeded with clover and timothy. Field B will be in hoed crop, 1927, and field A will be sown with oats, and seeded.

This operator has made a good start. Potato tests were started at this Station, as well as a pasture improvement test, and a three-year rotation, grain, clover and timothy, in addition to the rotation area. The potato yield is worthy of mentioning, the operator harvesting two hundred barrels per acre.

This Station is well located, with a splendid frontage, and the soil is typical of a large section of Inverness county.

OPERATIONS AT MABOU—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Turnips	760 bush.	0 08 per bush.
B	Oats		
C	Oats and seeded	43 bush.	0 65 per bush.
D	Oats and seeded		

NEWPORT, HANTS COUNTY

OPERATOR, CHAS. ZWICKER

Seeding was not possible at this Station until June 5. The soil, being a heavy clay loam, does not permit of early seeding.

All crops produced good yields but were not up to those of 1925. The hay crop gave a good yield notwithstanding the fact that vegetation started late. The grain crop was fair, giving a yield of 43 bushels per acre. The catch of clover, however, is outstanding. Although the clover growth was not as tall as in some years the uniformity of the stand on all fields at this Station is very pronounced. Lime at this Station does not promote clover growth to the extent that it does at the other Stations. The turnip crop, as will be seen, gave an outstanding yield for this year.

The operator was successful in obtaining many prizes at the County Exhibition.

OPERATIONS AT NEWPORT—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Turnips	821 bush.	0 10 per bush.
B	Oats and seeded	43·2 bush.	0 56 per bush.
C	Clover hay	2·7 tons	6 06 per ton
D	Timothy hay	2·8 ton	4 40 per ton

NEW GLASGOW, PICTOU COUNTY

OPERATOR, GEO. P. FRASER

Spring operations at this Station could not be started until June 12, this being twenty-two days later than in 1925. The soil at this Station is a little heavy, which usually prevents getting crops in early. The rotation fields are being helped by tile underdrains which have been put in. All crops did not give nearly the yields that were harvested in 1925. Interesting results have been obtained from this Station both in respect to the rotation area and outside the rotation fields on soils receiving different treatments of chemical fertilizers. Limestone has been used with profit whenever applied to the soil at this Station.

The operator has tried alfalfa growing with marked success. Alfalfa of the Ontario Variegated variety was sown on an area outside the rotation in the spring of 1926. The stand was very uniform. The growth was remarkable, so much so that the operator harvested a good crop in the early autumn. The operator has made valuable improvements at this Station in removing the remaining bushes by the roadside and building a wide, gravelled road to his house. The operator was successful in obtaining numerous prizes with horses, cattle, swine, and grain at the county exhibition this fall.

OPERATIONS AT NEW GLASGOW—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay	2·1 tons	7 28 per ton
B	Potatoes	163 bush.	0 34 per bush.
B	Turnips	544 bush.	0 07 per bush.
C	Oats and seeded	40 bush.	0 58 per bush.
D	Timothy hay	1·6 tons	5 44 per ton

INFLUENCE ON SUCCEEDING CROPS OF FERTILIZERS APPLIED TO POTATOES

The test as given in the table following was started at New Glasgow in the spring of 1923. The table shows four years' results from the application of fertilizers to the hoed crop. A general survey of the tables shows fairly conclusively that plot 4, receiving no farmyard manure, gave the greatest return. Plot 3 has given the next greatest profit, and plot 1 a greater profit than plot 2.

In calculating the value of these crops potatoes were valued at 60 cents and oats at 65 cents per bushel, and hay at $10 per ton.

NEW GLASGOW—INFLUENCE ON SUCCEEDING CROPS OF FERTILIZERS APPLIED TO POTATOES

Plot	How fertilized per acre	Yield of potatoes per acre, 1923	Yield of oats per acre, 1924	Yield of clover hay per acre, 1925	Yield of timothy hay per acre, 1926	Total value of for four years	Cost of fertilizer	Value of produce above cost of fertilizer
		bush.	bush.	tons	tons	$	$	$
1	Manure, 15 tons	238	36·1	2·8	2·03	214 56	30 00	184 56
2	Manure, 10 tons; nitrate of soda, 150 lb.; acid phosphate, 300 lb.; muriate of potash, 100 lb.	210	44·2	3·4	2·39	212 63	30 60	182 03
3	Manure, 10 tons; nitrate of soda, 200 lb.	220	42·1	3·4	2·25	215 86	26 00	189 86
4	Nitrate of soda, 300 lb.; acid phosphate, 600 lb.; muriate of potash, 150 lb.	270	38·2	3·3	2·20	242 03	19 95	222 08

NORTHEAST MARGAREE, INVERNESS COUNTY

OPERATOR, TOM E. ROSS

Seeding was possible June 3, this being thirteen days later than in 1925. The cold northeast winds prevented the soil from drying so that it could be worked. The rotation crops at this Station always present a good appearance, and are equal to the best that can be found in any part of Nova Scotia. Judging from the number of people who go over the various demonstration plots during the season the work has awakened considerable interest, and better farm methods are being practised by farmers generally as a result.

The timothy hay crop was unusually good, outyielding the clover crop by 1.1 tons per acre. The potato crop was unusually large. A test with Quebec-grown clover seed on a section of the rotation area proved it to be superior to the strain used on the other sections of the field, in that a more vigorous growth was apparent, and the second growth taller and thicker.

Mr. Ross has been successful in obtaining many prizes with sheep and lambs at the fall fairs.

OPERATIONS AT NORTH EAST MARGAREE—FOUR YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts
A	Oats and seeded	53 bush.	0 50 per bush.
B	Timothy hay	3·8 tons	4 17 per ton
C	Clover hay	2·7 tons	6 38 per ton
D	Potatoes	427 bush.	0 22 per bush.
D	Turnips	910 bush.	0 09 per bush.

FERTILIZER DEMONSTRATIONS ON UNPRODUCTIVE PASTURE LANDS AT NORTHEAST MARGAREE

In 1923 a test was undertaken to find out how pasture areas could be brought into grain and hay production most economically. The results of this test covering three years are found in the 1925 report of the Illustration Stations page 58. In the fall of 1925 this land was ploughed, and plots 1, 2, and 3, and half of plot 4 were used for further demonstrations, making seven one-half acre plots. Plot 1 had been limed in 1923, plot 2 treated with slag, plot 3 was the check plot, and plot 4 had been manured. This manuring would in part account for the good yield on the unfertilized plot in 1926.

These areas were seeded to oats in 1926, together with 10 pounds of timothy and 5 pounds each of common red clover and alsike clover, per acre. The results show a marked response to applications carrying phosphorus and lime, and this is particularly noticeable when compared with the stand of clover on plot 4, which has not received lime or phosphorus and which has a decidedly poor clover growth.

Records will be obtained of the hay produced on these plots, when the full result of the treatment given to bring in old pasture areas will be evident. The yield of oats in 1926 from these plots was as follows:—

FERTILIZERS ON UNPRODUCTIVE PASTURE AREAS

Plot	How traeted, per acre, in 1926	Yield of oats per acre, 1926	Value of oats at 65 cents	Cost of fertilizers
		bush.	$ cts.	$ cts.
1a	Ground limestone, 2 tons	41·0	26 65	8 00
1b	Ground limestone, 2 tons; acid phosphate, 1,000 lb	61·3	39 84	18 00
2a	Sydney slag, 1,000 lb	52·1	33 86	10 00
2b	Acid phosphate, 1,000 lb	53·2	34 58	10 00
3a	Manure, 16 tons	48·0	31 20	32 00
3b	Manure, 16 tons; ground limestone, 2 tons	48·0	31 20	40 00
4a	Not fertilized	40·0	26 00	.....

SYDNEY RIVER, CAPE BRETON COUNTY

Operator, Melvin Moreshead

Seeding at this Station was comparatively early. The operator goes in for producing considerable vegetable cash crops, for which there is a good demand. Field "A" gave a good average yield of oats. The hay crop was good. The operator has increased the hay yields on his farm by twenty-five tons. Previous to starting this work, usually twenty-five tons of hay were bought yearly; these last two years no hay has been purchased, and stock even greater in number than formerly is being kept. The operator, besides bringing about an increased production on his farm, has been exhibiting live stock, vegetables and apples and has been very successful in obtaining many first prizes.

Operations at Sydney River—Four-Year Rotation

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats and seeded	42 bush.	0 67 per bush.
B	Timothy hay	2·5 tons	6 96 per ton
C	Potatoes	217 bush.	0 36 per bush.
D	Clover hay	2·25 tons	7 97 per ton

Influence on Succeeding Crops of Fertilizers Applied to Potatoes

This test at Sydney River was started in the spring of 1924, the land being ploughed the previous fall. The plots were one acre each of uniform soil. It will be noted from the table below that the greatest net return over a period of four years has come from a complete fertilizer, while the next best return has been from plot 3 where manure and commercial fertilizers were used.

It is evident that the application of a commercial fertilizer reasonably high in available phosphoric acid, and containing nitrogen and potash, gives excellent yields of potatoes, and at the same time good grain and hay crops later. It is apparent from tests made at the various Stations that commercial fertilizer along with manure materially helps in getting the most profitable crops.

Sydney River—Influence on Succeeding Crops of Fertilizers Applied to Potatoes

Plot	How fertilized per acre	Yield of potatoes per acre, 1923	Yield of oats per acre, 1924	Yield of clover per acre, 1925	Yield of timothy per acre, 1926	Total value of produce for four years	Cost of fertilizer	Value of produce above cost of fertilizers
		bush.	bush.	tons	tons	$ cts.	$ cts.	$ cts.
1	Manure, 20 tons	178	41·0	3·5	1·49	183 35	40 00	143 35
2	Manure, 15 tons; sulphate of ammonia, 37½ lb.; nitrate of soda, 37½ lb.; acid phosphate, 150 lb.; muriate of potash, 50 lb.	193	53·3	3·4	1·90	202 14	35 48	166 66
3	Manure, 10 tons; sulphate of ammonia, 75 lb.; nitrate of soda 75 lb.; acid phosphate, 300 lb.: muriate of potash, 100 lb.	205	49·6	3·3	1·79	206 14	30 97	175 17
4	Sulphate of ammonia, 150 lb.; nitrate of soda, 150 lb.; acid phosphate, 600 lb.; muriate of potash, 150 lb.	260	45·2	3·3	2·10	239 38	20 70	218 68

SOUTH BROOKFIELD, QUEENS COUNTY

Operator, Robert Smith

This Station was started in the spring of 1926. The people of the county have in the past, and do at present engage extensively in lumbering, but are extending their farm operations considerably. It is, however, very difficult to obtain a good frontage for this work.

There have been established on this Station a demonstration on the improvement of pasture areas with lime and slag, a test with potatoes fertilized in different ways, and one with fertilizers applied to the grain crop and seeded to clover and timothy. This work is being conducted outside the regular rotation area.

The crops grown on this Station were good and the work was done with care and neatness. This season was the first time certified seed potatoes were grown in the county. It is hoped that this Station will be able to supply reliable seed to farmers of the county.

Operations at South Brookfield—Four-Year Rotation

Field	Crop	Yield per acre	Cost
			$ cts.
A	Potatoes	246 bush.	0 20 per bush.
B	Oats		
C	Oats and seeded	50 bush.	0 62 per bush.
D	Oats and seeded		

TATAMAGOUCHE, COLCHESTER COUNTY

Operator, G. B. Clark

Seeding was possible June 1 at this Station. The dry season affected the crops generally, but notwithstanding this good yields for the season were harvested. The hay crop was good, field "C", clover hay, giving a yield of 2.76 tons, while the timothy hay yield on field B was 2.44 tons. The hoed crop section was not so good as usual, the potato crop, field A, yielding only 176 bushels. Potatoes developed good tops but died early on account of dry weather. The clover catch was good and an examination made late in October would indicate a good crop next season. The young plants had developed a remarkable root system continuing an abundance of nodules on the roots.

Operations at Tatamagouche—Four-Year Rotation

Field	Crop	Yield per acre	Cost
			$ cts.
A	Potatoes	176 bush.	0 38 per bush.
B	Timothy hay	2·44 tons	6 90 per ton
C	Clover hay	2·76 tons	7 75 per ton
D	Oats and seeded	50 bush.	0 42 per bush.

TATAMAGOUCHE FERTILIZERS FOR SEEDING DOWN WITH OATS

In order to test the practicability of using acid phosphate or Sydney slag in hay production an area of land low in fertility was selected at Tatamagouche for this work. The soil in this test is typical of many acres of land in that district. The land was ploughed in the fall of 1924. In the spring a good seed-bed was prepared. The fertilizers were sown broadcast and harrowed in, after which oats were sown and seeded with clover and timothy. The table below shows the kind and quantity of fertilizers used. When the oat crop was harvested the largest yield was obtained where 500 pounds of acid phosphate was applied, and the next highest where 250 pounds of acid phosphate was used. The clover catch in 1925 was generally good except on the plot receiving no fertilizer. The table shows the yield from the different areas. It will be seen that in no case did any plot show a loss over the check plot.

It is evident that acid phosphate is preferable to slag if oats only were considered, but if seeding to clover and timothy better yields of hay are likely to be obtained where slag is used. Records from these plots will be obtained in 1927 to determine the yield of timothy hay on the different areas.

In calculating the profit from the different plots, oats have been valued at 60 cents per bushel, and clover hay at $10 per ton.

ACID PHOSPHATE AND SLAG FOR HAY PRODUCTION

Plot	How fertilized per acre	Yield of oats per acre, 1925	Yield of clover hay per acre, 1926	Total value of produce	Cost of fertilizer	Profit over plot not fertilized
		bush.	tons	$ cts.	$ cts.	$ cts.
1	Acid phosphate, 500 lb	51·1	0 90	39 66	5 00	11 32
2	Sydney slag, 750 lb	40·5	1·38	38 10	7 50	7 26
3	Acid phosphate, 250 lb	46·5	1·22	40 10	2 50	14 26
4	Sydney slag, 500 lb	35·9	1·72	38 74	5 00	10 40
5	Sydney slag, 250 lb	33·3	1·52	35 18	2 50	9 34
6	Not fertilized	29·9	0 54	23 34	.....	.....

UPPER GRANVILLE, ANNAPOLIS COUNTY

OPERATOR, J. G. CAMPBELL

The season opened fairly early at this Station, and all crops did fairly well. Field "D" did not look very promising for a time due to early wet weather, but threshed a fair yield of oats. Considerable nettle and pine weed showed during the first three weeks after seeding.

The hay crop was good on fields "B" and "C". The potato crop also gave a good yield. Some scab appeared, which will make a percentage unsaleable for seed purposes.

OPERATIONS AT UPPER GRANVILLE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Potatoes	265 bush.	0 38 per bush.
B	Timothy hay	2·1 tons	6 95 per ton
C	Clover hay	2·4 tons	7 15 per ton
D	Oats and seeded	49 bush.	0 61 per bush.

REPORT OF THE ILLUSTRATION STATIONS FOR PRINCE EDWARD ISLAND

J. A. Clark, M.S.A., Superintendent

Dominion Experimental Station, Charlottetown, P.E.I.

This report gives the details of the work on the seven Illustration Stations that were in operation throughout the year.

NOTES ON THE SEASON

The winter months of February and March, 1926, were cold and stormy; April was backward, and May was so cool that the planting season was fully two weeks late on all of the Illustration Stations in Prince Edward Island. The first harrowing was done at St. Peters on May 19, and on the other Stations the harrow was not started until after the 24th of May. At Rose Valley and West Devon work was started on the last day of May. Seeding was correspondingly late. The first grain was sown at Rustico and Montague on May 29, but it was the 10th of June before grain was sown on the Station at West Devon.

A late season has invariably produced crops above average for Prince Edward Island farms, and during the past season this has again proved true. There was plenty of moisture, and the very favourable growing months of June and July forced all crops along so rapidly that there was only a short time between haymaking and harvest. The autumn was open and favourable for the harvesting of potatoes and roots and for autumn work, which was well completed before the snow storm of December 3 stopped the plough.

PRECIPITATION AT THE ILLUSTRATION STATIONS, P.E.I., SEASON 1926

Month	Precipitation in Inches at Various Points								
	St. Peters	Montague	Iona	Rose Valley	Rustico	Richmond	West Devon	Charlottetown	Charlottetown average of 26 years
May	2·26	2·88	2·54	4·25	3·55	3·28	4·04	3·48	2·60
June	1·20	1·31	1·50	1·99	1·43	2·90	2·84	2·21	2·85
July	3·33	3·44	3·20	3·85	3·99	4·17	3·17	2·53	2·81
August	3·14	3·20	2·84	4·08	3·13	1·70	5·81	3·14	3·11
September	1·63	1·56	1·38	3·73	1·51	2·08	2·54	1·83	3·69
October	4·11	4·28	3·72	5·53	5·07	5·89	7·21	3·37	4·01
Total	15·67	16·67	15·18	23·43	18·68	20·02	25·61	16·56	19·07

For purposes of comparison, the record of rainfall at Charlottetown has been included, and also a twenty-six-year average.

The four-year rotation carried on in 1924 and 1925 was continued on all the Illustration Stations in the province during 1926. At all the Stations except Rustico, the hoed crop, for purposes of demonstration, included potatoes, turnips, corn and sunflowers. At Rustico, turnips alone were grown on the Illustration Station area. The other crops were grown in a neighbouring field on the operator's farm. The standard grass and clover mixture was 10 pounds of timothy, 8 pounds of red clover and 2 pounds of alsike per acre. There was some variation in this according to soil conditions.

The cost of production for the several crops on the various Stations is calculated from actual cost of supplies and wages in each district. These figures were supplied by the different operators, and those used in compiling these costs are to be found in the introduction of the report.

The Operators' Conference took the form of a two days' trip for each operator to all the Illustration Stations in the province. This was held on July 8 and 9, 1926. The weather was favourable, and about two hours were spent at each Station. The operators were at the Experimental Station at Charlottetown for lunch on both days, and had an opportunity to look over the stock and farm operations for a few hours each day. This was the most successful conference yet held, and the operators are looking forward to such another.

WEST DEVON, WEST PRINCE COUNTY

Operator, Cephas Grigg

The very late spring is indicated by the date of seeding oats, June 10, twenty-nine days later than in 1925. Other farm operations were correspondingly late, and harvest conditions were unfavourable when the oats were cut September 23 and the potatoes dug October 11.

Operations at West Devon—Four-Year Rotation

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (—) loss per acre
				tons lb.	per ton	$ cts.
A	Timothy hay	With wheat 1924	July 27	1 1,573	9 44	2 79
B	Clover hay	With wheat 1925	July 28	1 1,913	10 70	0 59
				bush. lb.	per bush.	
C	Banner oats	June 10	Sept. 23	39 7	0 81	—5 09
D	Potatoes	June 16	Oct. 11	311 31	0 30	154 95
				ton lb.	per ton	
D	Turnips	June 25	Nov. 5	14 1,969	3 73	16 10
D	Sunflowers	June 25	Oct. 23	9 1,008	3 98	—9 31

Fertilizer Experiments—Grain and Hoed Crop—West Devon

Crop	Variety	Fertilizers used per acre, 1926					Cost per acre of share manure and fertilizer 1923 to 1926	Yield per acre	Increase in yield per acre over check	Value of increase for 1926 over cost of share manure and fertilizer
		Nitrate of soda	Sulphate of ammonia	Acid phosphate	Muriate of potash	Barnyard manure				
		lb.	lb.	lb.	lb.	tons	$ cts.	bush. lb.	bush. lb.	$ cts.
Oats	Banner	100	.....	75	.....	14	16 82	39 7	20 17	2 81
Oats (check)	Banner	.....	.....	.....	.....	.....	5 69	18 24	.....	.....
Potatoes	Irish Cobblers	150	200	450	200	11	22 68	311 31	179 3	131 22
Potatoes (check)	Irish Cobblers	.....	.....	.....	.....	11	10 30	132	.....	.....
Turnips	Bangholm	50	.....	200	100	11	13 83	559 29	278 49	29 95
Turnips (check)	Bangholm	.....	.....	.....	.....	11	10 30	320 30	.....	.....
								tons lb.	tons lb.	
Sunflowers	Russian	50	.....	200	100	11	13 83	9 1,008	3 1,920	8 35
Sunflowers (check)	Russian	.....	.....	.....	.....	11	10 30	5 1,088	.....	.....

These experiments take into account the share of all manure and fertilizers that have been applied since the Station was started four years ago, the difference between the treatment of the fields and the checks being the amounts of fertilizers applied in 1926. This indicates that the fertilizers were applied with profit on all crops.

RICHMOND, CENTRAL PRINCE COUNTY

OPERATOR, THOMAS NOONAN

This Station has been established three years and produced good crops during the season of 1926.

The following table gives the details of the crops grown and the yields secured:—

OPERATIONS AT RICHMOND, 1926

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (−) loss per acre
				ton lb.	per ton	$ cts.
A	Clover hay	With wheat 1925	Aug. 5	1 1,564	13 79	−4 97
				bush. lb.	per bush.	
B	Wheat	May 31	Sept. 15	18 25	1 60	3 68
C	Potatoes	June 21	Oct. 20	411 24	0 18	253 40
C	Turnips	June 26	Nov. 2	693 24	0 12½	−5 34
				ton lb.	per ton	
C	Corn	June 11	Sept. 28	25 1,183	2 74	19 48
C	Sunflowers	June 11	Oct. 2	20 304	3 44	−8 78
				bush. lb.	per bush.	
D	Oats	June 4	Sept. 22	40 14	0 59	3 44

The clover crop was thick but it did not grow to average height. The potatoes were a splendid crop. The turnips were late sown and were not full grown when harvested. Fertilizer work consisted of applications of fertilizer to the hoed crops. The results show that judicious applications of fertilizer are profitable.

FERTILIZER EXPERIMENTS—RICHMOND

Crop	Variety	Fertilizers used per acre, 1926					Cost per acre of share manure and fertilizer 1924 to 1926	Yield per acre		Increase in yield per acre over check		Value of increase for 1926 over cost of share manure and fertilizer
		Nitrate of soda	Sulphate of ammonia	Acid phosphate	Muriate of potash	manure per acre						
		lb.	lb.	lb.	lb.	tons	$ cts.	bush.	lb.	bush.	lb.	$ cts.
Potatoes	Irish Cobblers	260	200	600	300	.....	17 68	411	24	299	7	223 85
Potatoes	Irish Cobblers (check)	.....	.....	.....	.....	.....	2 24	112	17	.....	.....	.....
Turnips	Bangholm	300	150	500	150	36	44 41	693	24	474	44	14 81
Turnips	Bangholm (check)	.....	.....	.....	.....	.....	2 24	218	30	.....	.....	.....
								tons	lb.	tons	lb.	
Corn	Longfellow	.....	100	300	160	36	36 72	25	1,183	12	176	36 63
Corn	Longfellow (check)	.....	.....	.....	.....	36	31 04	13	1,007	.....	.....	.....
Sunflowers	Russian	.....	100	300	160	36	36 72	20	304	7	168	14 57
Sunflowers	Russian (check)	.....	.....	.....	.....	36	31 04	13	136	.....	.....	.....

The use of fertilizer greatly increased the yields at Richmond. This was also true when it was applied with a very heavy application of manure for corn and sunflowers.

ROSE VALLEY, WEST QUEENS COUNTY

OPERATOR, MALCOLM MCKENZIE

The crops at Rose Valley were very satisfactory, except the wheat, which was very thin due to the seed not germinating. The field of clover was the finest in the district.

OPERATIONS AT ROSE VALLEY—FOUR-YEAR ROTATION

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (−) loss per acre
				ton lb.	per ton	$ cts.
A	Timothy	With wheat 1924	July 27	1 1,400	10 38	1 06
B	Clover	With wheat 1925	July 27	3	7 33	11 01
				bush. lb.	per bush.	
C	Wheat	May 31	Sept. 20	17 12	2 13	−5 71
D	Potatoes	June 16	Oct. 5	390	0 19	238 04
D	Turnips	June 19	Nov. 2	760	0 07½	33 58
				ton lb.	per ton	
D	Corn	June 19	Oct. 8	23 130	1 97	35 37
D	Sunflowers	June 19	Sept. 15	24 1,600	1 83	29 02

Fertilizer applied to turnips in addition to manure gave a very satisfactory return, as shown by the following table:—

FERTILIZER EXPERIMENTS—ROSE VALLEY—TURNIPS

Crop	Variety	Fertilizers used per acre, 1926					Cost per acre of share manure and fertilizer 1923 to 1926	Yield per acre	Increase in yield per acre over check	Value of increase for 1926 over cost of share manure and fertilizer
		Nitrate of soda	Sulphate of ammonia	Acid phosphate	Muriate of potash	Barnyard manure				
		lb.	lb.	lb.	lb.	tons	$ cts.	bush. lb.	bush. lb.	$ cts.
Turnips	Bangholm	50	125	450	100	25	27 70	760	253	23 82
Turnips check	Bangholm	.....	.....	.....	.....	25	21 16	507	.....	.....

RUSTICO, NORTH QUEENS COUNTY

OPERATOR, JOHN L. CLARK

The crops at Rustico were all good in 1926. Corn and sunflowers were not grown on the Illustration Station, but were grown mixed together on an area of land alongside. The sunflowers came along rapidly, and were fed as a soiling crop in August, when the corn was about three feet high. In the autumn Mr. Clark seemed to have a full crop of corn on the same land to feed to his cows.

OPERATIONS AT RUSTICO—FOUR-YEAR ROTATION

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (−) loss per acre
				ton lb.	per ton	$ cts.
A	Clover hay	With wheat 1925	July 26	2 1,000	6 95	10 12
				bush. lb.	per bush.	
B	E.R.F. wheat	May 29	Sept. 6	22 30	1 38	9 48
C	Turnips	June 15	Oct. 29	788	0 05¾	49 73
				ton lb.	per ton	
D	Timothy hay	With wheat 1924	July 26	2 517	7 37	8 19

There is now a very fine herd of pure-bred and grade Holstein cows at the Illustration Station at Rustico. They are housed in a very comfortable stable with modern equipment put in during the last few years. The flock of Barred Plymouth Rock hens is doing well, and won a good place at the neighbouring school fair. Plans for a new hen-house have been completed for use next year. A pen was entered in the ninth Prince Edward Island Egg-laying Contest.

ST. PETERS, NORTH KINGS COUNTY

Operator, Clifford McEwen

The work at this Station was very successful in 1926, with splendid fields of hay, grain, and turnips. Several acres of clover seed were saved on this farm, and sent to a huller for threshing. The potatoes passed as certified seed.

Operations at St. Peters—Four-Year Rotation

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (−) loss per acre
				ton. lb.	per ton	$ cts.
A	Timothy	With wheat 1924	Aug. 2	2 589	6 32	10 73
B	Clover	With wheat 1925	July 27	3 851	7 40	12 33
				bush. lb.	per bush.	
C	Oats	June 3	Sept. 11	69 29	0 53½	10 30
D	Potatoes	June 18	Oct. 5	399 49	0 24½	238 17
D	Turnips	June 24	Nov. 4	1,267 10	0 04½	90 90
				ton lb.	per ton	
D	Corn	June 24	Oct. 11	13 950	4 99	−20 13
D	Sunflowers	June 24	Oct. 11	17 1,750	4 09	−19 43

The corn and sunflowers were both injured by cutworms; poisoned bran was used and the amount of damage done was not great. Mr. McEwen has a very fine herd of eight milking Shorthorn cows. Their average daily production for the months of August, September, and October was 21.6 pounds of milk of 4.2 per cent butter-fat, or 1.13 pounds of butter per day per cow. His pens of birds in the 1925 and 1926 Prince Edward Island Egg-laying Contests won many prizes, and he has entered a pen in the 1927 contest.

Fertilizer Experiments at St. Peters with Potatoes and Turnips

Crop	Variety	Fertilizers used per acre, 1926					Cost per acre of share manure and fertilizer 1923 to 1926	Yield per acre	Increase in yield per acre over check	Value of increase for 1926 over cost of share manure and fertilizer
		Nitrate of soda	Sulphate of ammonia	Acid phosphate	Muriate of potash	Barnyard manure				
		lb.	lb.	lb.	lb.	tons	$ cts.	bush. lb.	bush. lb.	$ cts.
Potatoes	Irish Cobblers	354	160	480	200	.....	16 36	399 49	97 3	63 09
Potatoes	Irish Cobblers (check)	.....	.....	.....	.....	.....	1 81	302 46	.....	.....
								tons lb.	tons lb.	
Turnips	Bangholm (home-grown seed)	293	153	667	133	15	27 74	31 1,359	14 1,734	55 62
Turnips	Bangholm (Home-grown seed)	.....	153	667	133	15	22 28	25 1,820	0 201	33 40
Turnips	Bangholm (Home-grown seed)	.....	.....	.....	.....	15	12 00	16 1,625	.....	.....

These tests indicate that fertilizer used in addition to manure gave very satisfactory returns. The turnip plot that received nitrate of soda had been attacked by cutworms, and the addition of this fertilizer on July 10 to the surface of the drills was obxnoxious to the insects, and gave the roots a rapid growth that was beneficial.

MONTAGUE, WEST KINGS COUNTY

Operator, Fred McIntyre

The season was favourable at Montague for all crops except corn, and the returns for 1926 were exceptionally good. The soil of Section "D", used for hoed crops, was light, and in 1923 was in very poor condition. For this reason heavy applications of manure and fertilizer were used. The field responded and made large economical gains for the fertilizer used. Certified Irish Cobbler seed potatoes are now an outstanding feature on Mr. McIntyre's farm. He had very large returns from fifteen acres of seed potatoes grown in addition to those on the Illustration Station.

Operations at Montague—Four-Year Rotation

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (−) loss per acre
				ton lb.	per ton	$ cts.
A	Timothy	With wheat 1924	Aug. 3	3 621	4 35	22 03
B	Clover	With wheat 1925	July 28	3 1,100	5 62	19 11
				bush. lb.	per bush.	
C	Oats	May 29	Sept. 4	55 17	0 42	14 20
D	Potatoes	June 11	Sept. 3	509 6	0 19½	308 09
D	Turnips	June 23	Nov. 4	1,237 5	0 05½	80 92
				ton lb.	per ton	
D	Corn	June 12	Sept. 30	13 1,116	4 02	−7 07
D	Sunflowers	June 12	Sept. 15	19 1,857	3 02	−0 39

Mr. McIntyre has a very good grade Ayrshire herd of cows and has supplied a milk route in Montague for years. Mrs. McIntyre has had a pen of White Leghorns in the Prince Edward Island Egg-laying Contest for the three seasons ending 1924, 1925, and 1926, and now has a number of registered hens.

Fertilizer Experiments, Montague—Hoed Crops

Crop	Variety	Fertilizers used per acre, 1926					Cost per acre of share manure and fertilizer 1923 to 1926	Yield per acre	Increase in yield per acre over check	Value of increase for 1926 over cost of share manure and fertilizer
		Nitrate of soda	Sulphate of ammonia	Acid phosphate	Muriate of potash	Barnyard manure				
		lb.	lb.	lb.	lb.	tons	$ cts.	bush. lb.	bush. lb.	$ cts.
Potatoes	Irish Cobblers	167	100	600	200	22	30 89	509 6	166 4	121 92
Potatoes	Irish Cobblers (check)	.....	.....	.....	.....	22	19 96	343 2	.....	.....
Turnips	Hall's Westbury	100	200	600	100	28	35 14	1237 5	461 37	45 03
Turnips	Hall's Westbury (check)	.....	.....	.....	.....	28	24 76	775 18	.....	.....

The heavy applications of fertilizer on this field, in addition to a heavy dressing of manure, gave a very profitable return over the cost of the fertilizer. The careful, thorough cultivation of these crops and the regular spraying of the potatoes had a great influence in securing the exceptionally heavy yields.

The potatoes were planted, after preparing the land so that it was in good tilth, by the use of a marker made of 2-inch by 4-inch scantling. The marker made the rows 32 inches apart and in straight lines. They were covered with a horse hoe and the plants covered twice, after they appeared, with the horse hoe. They were kept clean throughout the season by the use of the horse cultivator, and were well hilled so that at harvest time the top of the drill would be more than a foot wide. The drills were cracked open in every direction by the growing potatoes. The photograph shows Mr. McIntyre's seven-acre field of potatoes. No disease was found by the inspector. The tops show a vigorous, healthy growth.

IONA, SOUTHERN QUEENS COUNTY

Operator, James E. Daly

The rainfall during the growing season at this Station was much below average, and the crops of hay, grain and corn were light. This Illustration Station has shown great improvement during the year. The soil is very light and sandy, and the potatoes were a good crop and free from disease. Green Mountains on Mr. Daly's farm and in the neighbourhood gave better yields than Irish Cobblers. The outstanding feature of this Station is the very great increase in clover since it was started, not only the illustration fields, but on other parts of the farm. A two-acre field of alfalfa gave a splendid crop.

Operations at Iona—Four-Year Rotation

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (−) loss per acre
				ton lb.	per ton	$ cts.
A	Timothy	With barley 1924	July 28	1,400	16 60	−3 92
B	Clover	With wheat 1925	July 28	1	15 19	−4 19
				bush. lb.	per bush.	
C	Barley	June 4	Sept. 4	17 3	1 28	−5 44
D	Potatoes	June 10	Oct. 5	386 34	0 23	221 80
				ton lb.		
D	Turnips	June 12	Oct. 30	20 731	0 08½	31 07
					per ton	
D	Corn	June 11	Oct. 5	8 971	6 39	−24 52
D	Sunflowers	June 11	Sept. 20	12 890	4 39	−17 27

A Guernsey breeding centre has been established through the efforts of the operator, and a big improvement in the live stock of the community may be looked for. Mr. Daly's flock of Barred Plymouth Rocks continue to improve. He built a first class hen-house for them. In a test of varieties of turnips the Millpond gave a much greater yield than Haszard's Improved or Magnum Bonum.

SUGAR BEETS GROWN IN CO-OPERATION WITH THE P.E. ISLAND ILLUSTRATION STATIONS

During the summer of 1926 six of the Illustration Stations co-operated with the Experimental Station in growing sugar beets. The yields were from 8 tons to a little over fourteen tons per acre, the average being about 11 tons per

acre. The heaviest yield was produced at Richmond. The operator, Mr. Thomas Noonan, applied 36 tons of barnyard manure per acre, which increased his yield, but seems to have greatly reduced the percentage of sugar in the juice. Heavy applications of organic manure are not recommended because of this tendency.

The following table gives the data secured by the Dominion Chemist who analysed the roots:—

SUGAR BEETS GROWN IN CO-OPERATION WITH ILLUSTRATION STATIONS

Grower	Locality	Sugar in juice	Coeff. of purity	Average weight of one root	
		%	%	lb.	oz.
John Clark	Rustico	18·35	87·52	..	14
Clifford McEwen	St. Peters	18·11	88·92	..	11
J. E. Daly	Iona	17·50	84·96	2	2
Cephas Grigg	West Devon	17·15	87·04	..	11
Malcolm McKenzie	Rose Valley	17·87	88·35	..	14
Thomas Noonan	Richmond	14·96	81·82	1	4

Dr. Shutt, commenting on these sugar beets, stated that they would be quite satisfactory for factory purposes for the production of sugar.

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1927