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 1925

AN ILLUSTRATION STATION IN QUEBEC

Better methods of farming are demonstrated on these farms where the findings of the Dominion Experimental Farms are put into practice.

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

Ottawa, 1926

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PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1926

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ILLUSTRATION STATIONS

IN

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

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REPORT OF THE CHIEF SUPERVISOR, JOHN FIXTER

During the past year one hundred and forty-two Illustration Stations have been in operation and work of a progressive nature carried on. Eight of these Stations are located in Prince Edward Island, thirteen in Nova Scotia, thirteen in New Brunswick, thirty-eight in Quebec, eight in Ontario, nine in Manitoba, twenty-three in Saskatchewan, sixteen in Alberta and fourteen in British Columbia.

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, Que.	J. H. Tremblay, Ste-Anne de la Pocatière, Que.
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.	

PRICES CHARGED WHEN MAKING UP PRODUCTION COSTS

In this report will be found the cost of growing each crop on each Station. In determining these costs, the following charges have been made against them:—

Rent of land per acre	Based on value of land at prevailing rate of interest.
Horse and manual labour, spray material	Based on prices in the district.
Cost of twine and threshing	
Use of machinery	$2 per acre.
Manure	$2 per ton.

COST OF SEED

—	Ontario		Western Quebec	Eastern Quebec	New Brunswick	Nova Scotia	Prince Edward Island
	Northern	Eastern					
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Oats, Banner (Reg.) per bushel	1 40	1 00	1 00	0 90	1 25	1 20	1 50
Oats, Alaska (Reg.) per bushel	.....	.....	.....	1 00	.....	.....	.....
Wheat, Huron, per bushel	.....	.....	.....	3 50	.....	.....	3 00
Wheat, Early Red Fife, per bushel	.....	.....	.....	.....	.....	.....	3 00
Barley, O.A.C. No. 21, per bushel	1 50	1 60	1 60	1 85	.....	.....	.....
Barley, Charlottetown No. 80, per bushel	.....	.....	.....	.....	.....	.....	1 50
Potatoes (Certified) per bushel	1 50	1 50	1 50	0 65	.....	0 60	0 75
Corn, Leaming, per bushel	.....	2 50	2 50	2 65	.....	.....	.....
Corn, Longfellow, per bushel	.....	2 75	2 75	2 75	2 60	.....	3 92
Corn, Wisconsin, per bushel	.....	2 50	2 50	2 50	.....	.....	.....
Vetches, per bushel	.....	4 00	4 00	4 00	3 60	.....	3 25
Peas, Arthur, per bushel	.....	.....	2 90	3 00	2 80	.....	3 00
Sunflowers, per pound	.....	.....	.....	0 10	0 10	.....	0 12
Timothy, per pound	0 10½	0 10½	0 10½	0 12½	0 12	0 14½	0 12
Red clover, per pound	0 40	0 40	0 40	0 38	0 38	0 22½	0 40
Alsike, per pound	0 19½	0 19½	0 19½	0 20	0 20	0 12½	0 19
Alfalfa, per pound	.....	.....	.....	.....	0 25	.....	.....
Swedes (Hall's Westbury and Perfection), per pound	0 45	0 45	0 45	0 55	0 45	0 36	.....
Swedes, Bangholm, per pound	.....	.....	.....	.....	.....	.....	1 00
Mangels, per pound	.....	0 30	0 30	.....	.....	0 25	.....

RETURN VALUES

—	Ontario		Western Quebec	Eastern Quebec	New Brunswick	Prince Edw'd Island
	Northern	Eastern				
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Timothy hay, per ton	12 00	10 00	10 00	10 00	10 00	10 00
Clover hay, per ton	12 00	9 00	9 00	9 00	8 00	10 00
Oats, peas and vetch hay, per ton	.....	.....	9 00	9 00	.....	.....
Oat straw, per ton	.....	4 00	4 00	4 00	.....	4 00
Wheat and barley straw, per ton	.....	.....	.....	2 00	.....	.....
Threshed clover, per ton	.....	5 00	5 00	.....	.....	.....
Corn fodder, dry, per ton	.....	.....	7 00	.....	.....	.....
Corn fodder, green, per ton	.....	.....	3 10	.....	3 10	3 50
Corn ensilage, per ton	.....	3 50	3 50	3 50	.....	.....
Sunflowers, fodder, green, per ton	.....	.....	.....	3 50	.....	3 00
Sunflower ensilage, per ton	.....	.....	.....	.....	3 50	.....
Oats, peas, and vetch ensilage, per ton	.....	.....	.....	.....	3 50	.....
Turnips, per ton	5 00	3 00	3 00	3 00	3 00	3 00
Mangels, per ton	.....	3 00	3 00	.....	.....	.....
Wheat, per bushel	.....	.....	.....	2 00	2 00	2 00
Oats, per bushel	0 75	0 75	0 75	0 75	0 75	0 50
Barley, per bushel	1 00	0 90	0 90	0 90	1 50	0 96
Potatoes, per bushel	2 50	1 00	1 00	0 80	1 00	1 00
Red clover, seed, per pound	.....	0 30	0 30	0 25	.....	.....
Timothy seed, per pound	.....	0 10	0 10	.....	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 value of chemical fertilizers is charged to the different crops as follows:—

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

PRODUCTION AND SALE OF SEED

The growing of crops for seed is increasingly becoming an important line of work on many of the Illustration Stations. These crops include the most suitable varieties of cereals for each district, also such crops as hardy strains of clover and certified potatoes. The Stations serve as centres on which these crops are first grown and where the farmers may observe their characteristics and suitability to the district. The surplus seed of such crops is offered for sale at moderate prices. This year, such sales made by the different Illustration Station operators, amounted to 28,646 bushels of seed grain, 3,504 bushels of potatoes and 7,660 pounds of grass and clover seed.

POULTRY IMPROVEMENT

The breeding, housing and feeding of poultry has received considerable attention during this year. A number of operators made their first steps towards establishing pure-bred flocks. Others have directed attention to the question of housing, some having remodelled their old poultry-house, whilst others built new, up-to-date houses. At the present time, poultry-keeping is functioning as an important side-line on all the Illustration Stations. A good laying strain of Barred Rocks has already been developed on the Stations that have been in operation for a few years, the foundation stock originally having been procured from the different Experimental Farms. By so doing, these Illustration Stations are now in a position to supply the requests of their neighbours for bred-to-lay poultry and hatching eggs. During the past year they sold in their respective districts 484 pure-bred pullets, 576 cockerels and 987 settings of eggs; in this way contributing to the improvement of the poultry in these districts.

REPORT OF THE ILLUSTRATION STATIONS IN ONTARIO

Eight Illustration Stations are now in operation in Ontario. Three are located in the eastern part of the province, and are supervised by the Supervisor for Western Quebec, and five in Northern Ontario, under the supervision of the Superintendent, Experimental Station, Kapuskasing. An additional site has been located and a Station will be in operation at St. Eugene in 1926.

The season was very favourable for crops on the Stations in the eastern part of the province, whereas those in the northern part suffered a great deal from excess moisture, and on this account the hoed crops could not be planted until it was late. However, some of the crops were good and the land is getting in better condition each year.

A brief description of the work under way at each of these Stations, the yields obtained, and the cost of producing each crop follows:—

BOURGET, RUSSELL COUNTY

OPERATOR, NAPOLEON MARTEL

The season started early and seeding was possible on April 30. Rain during the first week in May delayed further seeding considerably. Frequent rains through May and June made corn cultivation difficult. At this Station, the

corn crop was harrowed to June 24, at which time it was twelve inches high. The yield indicates that this treatment did not damage the crop. In any case it kept down weeds at a time when the land was too wet to use the cultivator.

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

OPERATIONS AT BOURGET: FOUR-YEAR ROTATION

Field	—	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Timothy hay	.....	Aug. 4.....	3¼ tons....	4·87 per ton....	16 67
B	Corn ensilage	May 27....	Sept. 22....	15½ tons....	2·70 per ton....	12 64
B	Turnips	June 5....	Oct. 22....	20½ tons....	2·49 per ton....	10 32
C	Oats, Banner	April 30....	Aug. 15....	71¼ bush...	0·32½ per bush.	30 28
D	Clover hay, 1st cut	.....	June 18....	1¾ tons....	5·58 per ton....	5 98
D	Clover seed	.....	Sept. 11....	110 lbs.....	0·07¾ per lb....	24 47

Although the season was not particularly favourable for the production of red clover seed from the second cut of clover, a profit of $24.47 per acre was obtained this year. There is considerable clover seed produced in this district, it is therefore important that all possible care be taken to put this seed on the market in as good condition as possible. Careful cleaning and fanning should follow threshing, for the prevalence of weed seeds will certainly lower the grade and likewise the sale price.

CASSELMAN, RUSSELL COUNTY

OPERATOR, HECTOR LAFLECHE

This is the first year that Illustration Station work has been carried on in this district. The soil ranges from a loam to gravelly loam. The land was after-harvest cultivated in preparation for seeding to oats, barley and the hoed crops.

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

OPERATIONS AT CASSELMAN: FOUR-YEAR ROTATION

Field	—	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Corn, fodder	May 27....	Sept. 3....	17¾ tons	2 05 per ton	18 62
A	Turnips	May 27....	Oct. 14....	24½ tons	3 21 per ton	—5 09
A	Potatoes	May 25....	Sept. 14....	318 bush.	0 29 per bush.	225 78
B	Barley	May 8....	Aug. 8....	20 bush.	1 21 per bush.	—6 20
C	Oats, Banner	April 21....	Aug. 18....	52 bush.	0 48¼ per bush	13 87
D	Oats, Banner	April 22....	Aug. 18....	52 bush.	0 48¼ per bush	13 87

CURRAN, PRESCOTT COUNTY

OPERATOR, ALDEGE DUPONT

During the two years that work has been under way on this Station, the rotation has become well established and all crops were produced this year at a profit. In a dairy district such as this, clover hay, corn and grain are required in abundance, and the economical production of these is receiving primary attention on this Station. As a cash-crop red clover seed has given quite satisfactory returns.

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

OPERATIONS AT CURRAN: FOUR-YEAR ROTATION

Field	——	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Oats, Banner	April 25	Aug. 13	48 bush.	0 45¼ per bush	14 28
B	Clover hay, 1st cut		June 27	1½ tons.	6 73 per ton	2 84
B	Clover seed (2nd cut)		Oct. 13	100 lbs.	0 07 per lb.	23 00
C	Timothy hay		July 11	1¾ tons	7 52 per ton	4 34
D	Corn, ensilage	June 5	Sept. 26	12 tons	2 95 per ton	6 60

COCHRANE, TIMISKAMING DISTRICT

OPERATOR, E. D. CARRERE

Field " A " was fall-ploughed in 1924, as the oat crop was removed. During the winter it was manured at the rate of 16 tons per acre for potatoes and turnips. The potatoes were planted on June 15 and the turnips seeded on June 16. Owing to frequent rains, both crops were almost a complete failure. Fields "B" and "C" were in hay. Field "D" was seed to Banner oats on May 27, along with eight pounds of red clover, two pounds of alsike and ten pounds of timothy per acre.

The yields and production costs are as follows:—

HAY AND CEREALS AT COCHRANE

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
				$ cts.	$ cts.
B	Mixed hay	Aug. 3	2 tons	7 01 per ton	9 98
C	Mixed hay	Aug. 3	1·5 tons	8 89 per ton	4 66
D	Oats, Banner	Sept. 24	29 bush.	1 25 per bush.	—14 50

GENIER, TIMISKAMING DISTRICT

OPERATOR, OLIVER GENIER

Field " A " was seeded to Banner oats on May 14. Some areas were drowned out, making the yield somewhat light.

Fields " B " and " C " were both in new meadow. Field " D " was used for one acre each of potatoes, turnips, and oats, peas, and vetch. These could not be planted until very late, and were partly drowned out so that the crop was very light in each case. The yields and costs of the hay and oats are as follows:—

HAY AND OAT CROPS AT GENIER

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
				$ cts.	$ cts.
A	Oats, Banner	Sept. 14	33·3 bush.	1 04 per bush.	—9 65
B and C	Mixed hay	July 27	2 tons	6 15 per ton	11 70

PORQUIS JCT., TIMISKAMING DISTRICT

OPERATOR, JOHN MACDONALD

Field "A" was sown to Banner oats on May 13, and seeded out for hay with the usual mixture of red clover eight pounds, alsike two pounds and timothy ten pounds per acre. Excessive rainfall soon after seeding caused several thin spots in the crop, so that a small yield of grain was obtained. Fields "B" and "C" were in second-year meadow and gave a nice crop.

Field "D" was intended for a hoed crop of potatoes and turnips, but owing to the heavy rainfall no results were obtained.

The yields and costs of growing the hay and oats are as follows:—

HAY AND OATS AT PORQUIS JCT.

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Oats, Banner	Sept. 14	65 bush.	0 49 per bush.	16 90
B and C	Mixed hay	Aug. 8	2 tons	7 13 per ton	9 75

VAL GAGNE, TIMISKAMING DICTRICT

OPERATOR, H. LABRECHE

Field "A" was sown to Alaska oats on May 15, and developed into a nice crop which matured well. Fields "B" and "C" were in first-year meadow, which gave fair yields of good-quality hay.

One acre of field "D" was planted to Irish Cobbler potatoes on May 30, and one acre was seeded to turnips on June 16. Both of these crops suffered from excessive moisture. A reasonably good yield of potatoes was obtained, but only a fair yield of turnips.

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

HAY, OATS AND HOED CROPS AT VAL GAGNÉ

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Oats, Alaska	Aug. 28	44 bush.	0 81 per bush.	−2 64
B and C	Mixed hay	" 5	1·5 tons	9 15 per ton	4 28
D	Potatoes, Irish Cobbler	Sept. 28	219 bush.	0 37 per bush.	466 47
D	Turnips	Oct. 6	7 tons	7 13 per ton	−14 90

The profit obtained from the potato crop on this Station, forms a good example of the wisdom in growing a fair area of potatoes if suitable soil is available.

In addition to the regular rotation at Mr. Labreche's, arrangements were made with him to plough one and one-half acres of sod immediately after haying in 1924, and disk it occasionally until the freeze up, and compare the crop obtained from this with the crop on a similar-sized area which was not ploughed until just before the freeze up. These three acres were seeded to Alaska oats on May 28. The crop on the early ploughing had a more even appearance and was a better colour throughout the season. The oats also matured four days earlier on the earlier ploughing and gave a larger yield, which indicates the benefits which may be obtained from after-harvest cultivation.

The following table gives the details of the test.

EARLY PLOUGHING AND DISKING VERSUS FALL PLOUGHING

Crop	Treatment	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
Oats, Alaska....	Ploughed early and disked in autumn.	Aug. 31....	44·0 bush.	0 65 per bush.	4 40
Oats, Alaska....	Ploughed late.....	Sept. 4....	33·3 bush.	0 76 per bush.	−0 33

MATHESON, TIMISKAMING DISTRICT

OPERATOR, WALTER KIRSTINE

A part of field "A" was planted to potatoes turnips and sugar mangels. Owing to the late date on which these were planted and to too much rain afterwards, the crop was very light in each case. Two and one-half acres of this field were seeded to barley on May 15.

This crop grew reasonably well and gave a fair yield of good quality grain. Field "B" was in third-year meadow and field "C" in new meadow. The crop on both of these was good, particularly the latter. Field "D" was seeded to Banner oats on May 15, and although the crop suffered from excessive moisture, a fair yield was obtained.

The yields and costs of growing the hay and cereals are as follows:—

HAY AND CEREAL CROPS AT MATHESON

Field	Crop	Date of harvesting	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Barley.....	Aug. 31....	24·8 bush.	1 31 per bush.	−7 68
B	Three-year-old meadow.....	Aug. 3....	1·25 tons	9 73 per ton	2 84
C	New meadow.....	Aug. 5....	1·75 tons	7 78 per ton	7 37
D	Banner oats.....	Sept. 14....	33·8 bush.	0 95 per bush.	−6 76

REPORT OF THE ILLUSTRATION STATIONS IN WESTERN QUEBEC

W. L. Chauvin, Supervisor

Eighteen Illustration Stations were in operation in the western part of the province of Quebec in 1925. In addition, a site was selected at L'Annonciation in Labelle county, for a new Station. Early in the season, the weather was very cool and rainy; however, seeding was possible in most districts during the last week in April. A splendid supply of moisture was sustained throughout the growing season with the result that hay and grain crops particularly gave more than an average yield. In a number of cases the second crop of clover grew so rank that it did not mature sufficiently before frost to produce profitable crops of red clover seed.

MEETINGS AND CONTESTS

In connection with the work on the Station, twenty-three field-meetings were held to explain the work under way and to discuss the results obtained. In addition, the supervisor assisted as judge at four ploughing-matches. In five districts surrounding Illustration Stations, turnip or corn-growing competi-

tions were conducted to popularize the growing of these crops in districts where they had not been generally grown. As a result, ninety-three farmers took part in these contests, and undertook to grow these crops in accordance with the methods prescribed by the division.

SALES OF SEED GRAIN AND POULTRY

It has been the aim of the division to develop the Stations along seed-producing lines, so that they could serve as seed-producing centres, and make it possible for neighbouring farmers to procure pure, clean seed, if they so desired. The stations in western Quebec have been useful to the extent that they distributed 1,672 bushels of seed grain, 313 bushels of potatoes, 1,565 pounds of red clover seed, 726 pounds of timothy seed, 224 settings of hatching eggs and 51 cockerels for breeding purposes during the year.

The application of 150 pounds of nitrate of soda per acre increased the yield of clover, shown on the left of the picture, by 1,024 pounds over the yield of the area on the right that received no fertilizer. St. Etienne des Gres Station.

LIVE STOCK IMPROVEMENT WORK

Definite steps have been taken by a number of the Illustration Station operators in western Quebec to improve the milk-production of their herds. The operators at the following points have co-operated in the work, with this Division, during the past season, making the following summary report possible. Three others have undertaken R. O. M. work under the supervision of the Live Stock Branch. Two others are supplying this division with reports regularly. However, their herds have not completed an entire lactation period, hence it is impossible to summarize their herd production at this time.

As can be noted, there is considerable variation in the average production of the different herds, showing opportunities for continued work and improvement. Four operators have this year pure-bred sires heading their herds for the first time. Of the nineteen operators in this section, sixteen now have pure-bred bulls.

MILK-PRODUCTION ON ILLUSTRATION STATIONS

Station	Breed	No. of cows	Total herd production	Average production per cow
			lb.	lb.
Aubrey	Ayrshire Grades	7	44,240	6,320
Bassin du Lievre	Ayrshire Grades	12	48,828	4,069
Lachute	Ayrshires	12	87,640	7,303⅓
Lac a la Tortue	Ayrshire Grades	4	20,434	5,108½
St. Constant	Holstein Grades	14	96,177	6,869½
St. Etienne des Gres	Grades	5	29,341	5,868
St. Jerome	Ayrshire Grades	10	46,805	4,680½
St. Paul de Joliette	Ayrshire Grades	9	54,274	6,030

AUBREY, CHATEAUGUAY COUNTY

OPERATOR, SAMUEL REDDICK

Seeding was general in this district at quite an early date. The oats on field "B" were seeded on April 23. Following seeding, the weather remained cold and rainy for some time; however, all crops came along well and showed a profitable return for overhead charges and labour expended.

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

OPERATIONS AT AUBREY: 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 20	Sept. 7	16 tons	2 38 per ton	17 92
B	Oats, Banner	April 23	Aug. 11	66 bush.	0 31¾ per bush.	28 54
C	Timothy hay		July 13	2½ tons	6 46 per ton	7 78
C	Timothy seed		July 28	210 lbs.	0 05½ per lb.	8 66
D	Clover hay, 1st cut		June 29	1·30 tons	6 35 per ton	3 44
D	Clover seed, 2nd cut		Oct. 2	56 lbs.	0 10⅜ per lb.	10 85

Part of field "D" was after-harvest cultivated in preparation for corn and yielded 15¾ tons per acre; the remainder was fall-ploughed and yielded 18¾ tons. The cool, damp spring may account for the corn on the fall-ploughed land coming along more rapidly. It should be remembered that this is the result of only one year's experience and is not in accordance with expectations.

In 1923, basic slag and lime demonstrations were started on field "C" when in grain and seeded. The field had been manured when in hoed crop the previous year. The treatment and yield of timothy hay this year are as follows:—

	Yield per acre lb.
Basic Slag, 400 lbs	4,643
Check (no fertilizer)	4,835
Basic Slag, 700 lbs	4,835
Check (no fertilizer)	5,270
Lime, 3 tons per acre	5,632
Check (no fertilizer)	4,787

BASSIN DU LIEVRE, HULL COUNTY

OPERATOR, EDWARD BRADY

Early in April, indications pointed to a very early seeding. This was possible on field "A" during the last week of the month; following this date, there was considerable wet weather which delayed operations. Wireworms did considerable damage to the stand of oats, somewhat reducing the yield.

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

OPERATIONS AT BASSIN DU LIEVRE: 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	April 30	Aug. 24	56 bush.	0 34½ per bush	22 89
B	Timothy hay		July 30	2½ tons	5 80 per ton	10 24
C	Clover hay, 2 cuts		June 29 / Sept. 30	3¾ tons	5 66 per ton	11 35
D	Corn, Ensilage	May 29	Sept. 16	14¾ tons	2 88 per ton	9 05
D	Turnips	June 5	Oct. 16	14 tons	4 39 per ton	−19 46

It will be noted that two crops of clover and alfalfa hay were cut on field 'C." When one acre of this field was seeded down in 1923 two pounds of Grimm alfalfa were added to the regular grass and clover mixture; the whole being seeded at twenty pounds per acre. The results were very encouraging as, in the second cutting, 40 per cent of the growth was alfalfa. Indications are that alfalfa has very promising possibilities on this Station.

CAMPBELL'S BAY, PONTIAC COUNTY

OPERATOR, W. J. HAYES & SON

Seeding started at this station on May 7 and it is seldom one sees better seed-bed preparation than that done on these fields. This was particularly the case with field "C." It had been ploughed on August 4, shortly after the hay had been removed, cultivated four times with the spring-tooth cultivator during the summer and fall, and finally fall-ploughed on October 30. This treatment practically destroyed all couch grass present.

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

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	Corn, ensilage	May 26	Sept. 24	12 tons	2 90 per ton	7 20
B	Oats, Banner	May 7	Aug. 25	46 bush.	0 41½ per bush.	15 41
C	Clover hay, 2 cuts		June 25 / Oct. 22	2¼ tons	5 93 per ton	1 59
D	Timothy hay		July 27	2 tons	6 60 per ton	6 80

When one acre of field "C" was seeded down in 1924, two pounds of alfalfa were added to the regular grass-seed mixture, the whole being seeded at twenty pounds per acre with the idea of determining the adaptability of this soil to alfalfa-growing. Part of the field had received lime at three tons per acre, and part was left untreated as a check. Only about two per cent alfalfa was showing in the hay mixture this year. No difference was noted on the limed and unlimed areas.

On field "C" the second cut of clover was harvested for hay as it did not mature sufficiently for seed. Unfavourable weather at this time damaged the hay considerably, hence in the above calculations, a value of $4 per ton was placed on the crop. In this way, the profit from this crop was considerably reduced.

KAZUBAZUA, WRIGHT COUNTY

Operator, Ephriam Anderson

This is the first year that Illustration Station work has been carried on in this district. The soil here is of a very sandy nature, with a tendency to drift. There were a number of pine stumps in the fields taken over for this work. They have all been removed, and the fields are now in good cropping condition. The lack of organic matter and fertility are the two chief drawbacks to be contended with and solved in the work to be carried on here.

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

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	Potatoes	May 27	Oct. 2	90 bush.	0 71½ per bush.	25 87
A	Corn fodder	May 21	Aug. 28	9 tons	3 22 per ton	−1 08
B	Oats, and Peas	May 6	Aug. 17	26 bush.	0 53½ per bush.	16 05
C	Oats, Banner	May 6	Aug. 18	53 bush.	0 25½ per bush.	26 36
D	Oats, Banner	May 6	Aug. 18	53 bush.	0 25½ per bush.	26 36
	Demonstration Test Fields					
E	Oats, Banner (fertilized)	April 27	Sept. 13	61 bush.	0 26 per bush.	29 89
E	Oats, Banner (no fertilizer)	April 27	Sept. 13	45 bush.	0 27½ per bush.	21 37

The soil at this Station is particularly suitable to producing a good quality potato. This year, however, the crop was light, due to a severe attack of early blight. By September 1, the tops had all dried off and over a month's growth lost. This could have been prevented by spraying with Bordeaux mixture, but there is no suitable sprayer available in the district to do the work. Attention is to be given this matter during the coming season.

LAC A LA TORTUE, CHAMPLAIN COUNTY

Operator, S. T. Lupien

On the rotation fields, all but the hay crops show a profit. The clover, especially, was seriously damaged by heavy spring frosts. The roller was passed over the meadow after the heaving took place, firming the soil around the roots again, nevertheless, by May 26, at least 40 per cent of the stand had

been destroyed. If the roller could have been run over the field earlier, it might have prevented heaving. Throughout the summer there were frequent rains, which were favourable for this soil which is of a very sandy nature. almost void of humus. The precipitation from April 1 to Oct 31, was 17·78 inches.

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	Oats, Banner	May 1	Aug. 20	33 bush.	0 61¾ per bush.	4 37
B	Timothy hay		July 8	¾ ton	11 13 per ton	−0 85
C	Potatoes	May 28	Oct. 6	75 bush.	0 65¼ per bush.	24 68
C	Turnips	May 28	Oct. 15	14½ tons	2 47 per ton	7 68
C	Corn, ensilage	May 29	Sept. 18	9¼ tons	2 85 per ton	6 01
D	Clover hay		July 6	0·45 tons	20 45 per ton	−5 15
	Demonstration Test Fields					
E	Oats, Peas	May 15	Aug. 24	6 bush.	3 06 per bush.	−7 86
E	Corn, Ensilage	May 28	Sept. 18	6 tons	4 49 per ton	−5 94
E	Potatoes	May 15	Oct. 8	55 bush.	0 84 per bush.	8 80
F	Oats, Banner	May 5	Aug. 21	21⅛ bush.	0 68 per bush.	1 51

Field "B" will be in hoed crops in 1926. In an effort to determine the most profitable way to handle this soil, one-half of the field was ploughed early in the summer and kept cultivated, whereas, the remainder was fall-ploughed. An effort is being made to increase the humus content of fields "E" and "F" by seeding down with sweet clover. It has been found very difficult in the past to get a satisfactory catch on these fields. However, this work is to be continued under different methods of treatment.

LACHUTE, ARGENTEUIL COUNTY

OPERATOR, S. R. SMITH

The frequent fall rains produced such late growth that the red clover did not mature sufficiently to properly ripen seed. However, a sufficient quantity of clean home-grown seed was produced to supply home needs at a price lower than it could be purchased elsewhere.

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	Corn, Ensilage	May 27	Sept. 5	14¾ tons	2 54 per ton	6 78
B	Pasture					
C	Clover hay, (1st cut)		June 29	1½ tons	6 30 per ton	4 05
C	Red clover seed (2nd cut)		Sept. 26	36 lbs.	0 24½ per lb.	1 98
D	Oats, Banner	April 29	Aug. 11	32 bush.	0·69 per bush.	1 92

Considerable progress is being made at this Station in the way of live stock improvement, a number of individuals have qualified in the Record of Performance and a fully accredited herd of Ayrshires has now been established.

L'ASSOMPTION, L'ASSOMPTION COUNTY

Operator, Hector Papin

At this Station there was a continued period of wet weather following seeding. This delayed the corn cultivation and encouraged weed-growth to the extent that considerable work was necessary later on to clean up the field properly. These two factors contributed largely to the small loss obtained in corn-growing.

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

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	Oats, Banner	April 30	Aug. 14	53½ bush.	0 44 per bush.	16 50
B	Corn, ensilage	May 28	Sept. 9	13⅜ tons	3 65 per ton	−1 96
B	Turnips	May 29	Oct. 16	23·26 tons	3 00 per ton	0 00
C	Timothy hay		July 6	2¼ tons	7 27 per ton	5 80
D	Clover hay, 1st cut		June 22	1⅜ tons	5 23 per ton	6 24
D	Red clover seed, 2nd crop		Sept. 21	88⅓ lbs.	0 14 per lb.	14 13

PAPINEAUVILLE, LABELLE COUNTY

Operator, Ovila Clement

The soil at this Station is very early and gives a quick growth. With the abundant supply of moisture during the growing-season all crops were produced at a substantial profit with the exception of corn. Wet weather made the couch grass, which was present in this field, even more aggressive and difficult to control than usual, necessitating considerable hand-hoeing. The extra labour thus required, to keep the field clean, is responsible for the increased cost of producing corn on field "A."

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

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	Potatoes	May 11	Sept. 15	220 bush.	0 52 per bush.	105 60
A	Turnips	May 20	Oct. 12	40 tons	2 12 per ton	35 20
A	Corn, fodder	May 22	Aug. 28	14 tons	3 80½ per ton	−9 87
B	Timothy hay		July 2	2½ tons	6 08 per ton	8 82
C	Oats, Banner	April 30	Aug. 15	49⅔ bush.	0 53⅜ per bush.	10 73
D	Clover hay, 1st cut		June 16	1¾ tons	5 54 per ton	6 05
D	Red clover seed, 2nd cut		Sept. 17	102 lb.	0 10¾ per lb.	19 63

The first crop of red clover was ready to cut for hay on June 16, about a week earlier than at most of the other Stations. The combined profit obtained from the hay and clover seed on field "D" shows a profit of $25.68 per acre. The early cutting of the first crop of clover was particularly important this year because of the abundance of moisture, which tended to promote growth, making the crop slow to ripen.

THRESHING RED CLOVER WITH THE ORDINARY GRAIN-THRESHER

In many districts the production of red clover seed is retarded because of the lack of modern clover-threshing machinery, causing many promising seed-crops to be harvested for hay. This need not be the case, for in a number of districts surrounding the Illustration Stations, the ordinary grain threshers were used until a sufficient number of growers had undertaken the work to warrant the purchase of a clover-huller. When the ordinary thresher is used, and it is desired to save the fodder for feeding, it is best to pass the clover fodder through the thresher the same as one would oats, this would separate the heads from the stalks. Before the heads and short material are passed through the mill the second time, it is necessary to fasten a piece of sheet iron or a piece of a hard-wood board, very firmly, behind the cylinder, closing up all the back except about nine inches on the left end of the cylinder. The front of the cylinder is also blocked up in the same way, with the exception of about one foot on the right end. Such an arrangement forces all the material to pass from one end of the cylinder to the other, thus hulling the seed more satisfactorily than if it passed directly through the cylinder.

When there are two hundred acres of clover grown for seed in a district, the purchase of a clover-huller becomes a practical consideration.

STE-BRIGIDE, IBERVILLE COUNTY

OPERATOR, ALPHONSE GOINEAU .

Crops were again good at this Station and show a substantial profit over cost of growing. The seeding down with home-grown red clover seed, in a mixture made up of 8 pounds of red clover, 2 pounds of alsike and 10 pounds of timothy is giving very satisfactory results at this, as on the other Stations.

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

OPERATIONS AT STE. BRIGIDE: 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	April 28	Aug. 10	67 bush.	0 31½ per bush.	29 39
B	Timothy hay		July 20	3½ tons	4 18 per ton	18 62
C	Turnips	May 27	Nov. 2	22½ tons	1 65½ per ton	29 26
C	Corn, Ensilage	May 27	Sept. 15	16¼ tons	2 01 per ton	24 21
D	Clover hay		June 19	1·90 tons	4 33 per ton	8 87

The five-year average results obtained on this Station clearly show that provided good stock is kept, profit should be derived from the growing of crops in this district. The yields and cost of production over this period were:—

—	Yield	Cost
		$ cts.
Corn	15 tons	2 13 per ton
Oats, Banner	64 bush.	0 43 per bush
Clover hay	1¾ tons	5 45 per ton
Timothy hay	1¾ tons	5 95 per ton

ST. CASIMIR, PORTNEUF COUNTY

OPERATOR, ELOI ST. GERMAIN

The spring season opened up about two weeks earlier this year than usual. Wet weather during the latter part of April and the first part of May delayed seeding until May 29. It is interesting to note that corn and turnips were again produced at a profit on this Station. They are crops which should be more generally grown in the district, than they are at present. Corn has yielded 13½ tons per acre, at a cost of $2.81 per ton, on a six-year average, and turnips 24 tons per acre at a cost of $2.86 per ton on a five-year average.

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

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	Clover hay	.....	July 11	2 tons	8 15 per ton	1 70
B	Oats, Banner	May 29	Sept. 8	54 bush.	0 38½ per bush.	19 71
C	Corn, ensilage	June 2	Sept. 15	13½ tons	2 64 per ton	11 39
C	Turnips	May 30	Oct. 16	32½ tons	1 90 per ton	35 75
D	Timothy hay	.....	Aug. 4	2·09 tons	6 49 per ton	7 24

ST. CLET, SOULANGES COUNTY

OPERATOR, LOUIS BESNER

Seeding was very early on this Station. Field "C" was seeded on April 25 to Banner oats at the rate of 2½ bushels per acre with 8 pounds of red clover, 2 pounds of alsike, and 10 pounds of timothy. The first cut of clover gave only an average yield. The seed crop although giving only a medium yield gave a profit of $22 per acre, showing a clear profit on field "B" of $21.95 per acre.

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

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	Timothy hay	.....	July 14	1½ tons	9 13 per ton	1 39
B	Clover hay, 1st cut	.....	June 16	1 ton	9 05 per ton	−0 05
B	Red clover seed, 2nd cut	.....	Sept. 15	110 lbs.	0 10 per lb.	22 00
C	Oats, Banner	April 25	Aug. 8	43 bush.	0 59 per bush.	6 88
D	Corn, ensilage	May 27	Sept. 12	16 tons	2 60 per ton	14 40
D	Potatoes	May 26	Oct. 15	120 bush.	0 52 per bush.	57 60
D	Turnips	May 27	Oct. 21	23½ tons	2 75 per ton	5 87

Aside from the return from the live stock and poultry, a substantial return is obtained annually at this Station through the sale of cash-crops, red clover seed, and seed-oats being the two main lines. The sales last season amounted to 900 pounds of red clover seed and 200 bushels of seed-oats. A sample of this red clover seed obtained first prize at the Quebec Seed Fair.

ST. CONSTANT, LAPRAIRIE COUNTY

Operator, Roch Boule

The reverse of 1924 conditions, fortunately, were experienced at this Station. That season's crops were light due to a very dry period during June and July. This year growing conditions were good and profitable crops have been harvested. The different branches of farming are now becoming well organized here. A start in the keeping of pure-bred Ayrshires has been made and a flock of pure-bred poultry has been established. The sales from this farm other than dairy-products, include registered Banner seed-oats, Green Mountain seed-potatoes, and Barred Rock hatching-eggs.

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

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	Oats, Banner	April 23	Aug. 17	65½ bush.	0 34 per bush.	26 95
B	Clover hay, 1st cut		June 26	1¼ tons	7 25 per ton	2 18
B	Red clover seed, 2nd cut		Sept. 24	53¾ lbs.	0 13½ per lb.	8 86
C	Corn, fodder	May 29	Sept. 7	15 tons	2 15 per ton	14 25
C	Turnips	May 19	Oct. 30	10⅝ tons	4 93 per ton	−20 84
C	Potatoes	May 19	Sept. 4	140 bush.	0 51 per bush.	68 60
D	Timothy hay		July 31	2¼ tons	6 79 per ton	7 22

A year ago the operator at this Station started keeping daily milk-records feeling that there was little use attempting to grow crops economically if the feed was given to cattle that could not show a profit for the food consumed. In the herd of fifteen cows it was found that there was room for improvement, the individual productions ranging from 4,989 to 8,944 pounds, the average being 6,813 pounds of milk. In addition to effecting an improvement by weeding out the low-producers, the operator purchased Ottawa Lord Kyle 23, a bull from high-producing stock, whose dam gave 19,071 pounds of milk and 855 pounds of butter fat in 365 days.

ST. ETIENNE DES GRES, ST. MAURICE COUNTY

Operator, Oregene Bournival

It will be noted that the yields at this Station are considerably lower than at many others; this is largely due to the sandy nature of the soil. Heavy frost on June 23 also did damage to corn and vegetable crops.

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

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	Oats, Banner	May 6	Aug. 20	32⅛ bush.	0 53½ per bush.	7 00
B	Timothy hay		July 21	¾ tons	11 62 per ton	−1 21
C	Clover hay		July 21	¾ tons	13 64 per ton	−2 91
D	Potatoes	May 9	Oct. 9	200 bush.	0 27 per bush.	146 00
D	Corn, Canadian	May 18	Oct. 8	7 tons	3 44 per ton	−2 38
D	Corn, Longfellow	May 27	Sept. 3	9 tons	2 63 per ton	4 23
D	Turnips	June 4	Sept. 28	16 tons	3 97½ per ton	−15 60

An interesting demonstration was conducted here this year. Field "C" in clover hay, was in part top-dressed with commercial fertilizers on May 29. The mixture used and yields from each are as follows:—

Plot	Treatment per acre	Yield per acre
1	Check (no fertilizer)	2,296 lb.
2	150 lb. nitrate of soda	3,320 lb.
3	150 lb. nitrate of soda 150 lb. potash	3,588 lb.
4	150 lb. nitrate of soda 300 lb. acid phosphate	3,877 lb.
5	150 lb. nitrate of soda 300 lb. acid phosphate 150 lb. potash	4,300 lb.

ST. JEROME, TERREBONNE COUNTY

Operator, Wilfrid Guay

Seeding was about a month later in the district than in many others where Illustration Stations are located in this part of Quebec. The wet weather continued well into July, making a rather unfavourable season for corn. It will be noted however, that turnip-growing shows a profit. This is one of the advantages of growing the two crops, the hot dry seasons, being more favourable for corn and the more humid ones for turnips.

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

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	Timothy hay		Aug. 10	3 tons	5 40 per ton	13 80
B	Potatoes, Green Mountain	June 9	Oct. 2	210 bush.	0 32½ per bush.	141 22
B	Potatoes, Eureka	June 9	Sept. 30	264 bush.	0 26¾ per bush.	193 38
B	Turnips	June 9	Oct. 16	24 tons	2 71 per ton	6 96
B	Corn fodder	June 10	Sept. 15	15 tons	3 96 per ton	−12 90
C	Clover hay, 1st cut		June 26	0·95 tons	10 44 per ton	−1 36
C	Red clover seed, 2nd cut		Sept. 23	50 lbs.	0 16½ per lb.	6 83
D	Oats, Banner	May 23	Aug. 27	40 bush.	0 59½ per bush.	6 20

The first cut of clover hay was light this year, although it has always shown a profit in previous years. The four-year average of 1⅓ tons, gives a profit over the cost of production of $2.14 per acre.

STE. JULIE, VERCHERE COUNTY

Operator, Henri Delorme

The season was favourable and has resulted in all crops being produced at a profit at this Station, this being particularly the case with oats, corn and red clover seed. The corn field took first prize in the corn-growing competition. It has been found a good pratice to harrow the corn-field lightly with the smoothing-harrows before the corn is up and frequently until it is five inches high; in this way weeds are more readily destroyed while small and before their root-system becomes fully established.

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	Timothy hay		Aug. 1	2 tons	6 56 per ton	6 88
B	Oats, Banner	May 8	Aug. 17	60 bush.	0 39¼ per bush.	21 15
C	Corn ensilage	June 6	Sept. 28	15 tons	2 13 per ton	20 55
D	Clover hay, 1st cut		June 23	1¼ tons	6 94 per ton	2 57
D	Red clover seed, 2nd cut		Oct. 5	110 lb.	0 10⅜ per lb.	21 58

ST. SIMON, BAGOT COUNTY

OPERATOR, DONAT RIVARD

Due to the large percentage of timothy and alsike clover coming up in the second crop of clover on field "B," the yield of red clover seed was somewhat light. However, it gave a profit of $20.22 per acre.

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	Turnips	May 12	Oct. 27	25 tons	2 54 per ton	11 50
A	Corn, ensilage	June 2	Sept. 29	11 tons	3 50 per ton	0 00
B	Clover hay, 1st cut		June 17	1¼ tons	7 54 per ton	1 82
B	Red clover seed, 2nd cut		Oct. 1	98 lbs.	0 09¾ per lb.	20 22
C	Oats, Banner	May 11	Aug. 24	50½ bush.	0 42¾ per bush.	16 28
D	Timothy hay		July 6	2⅛ tons	7 17 per ton	6 01

An interesting demonstration here was that comparing after-harvest cultivation with fall ploughing when seeding to grain. Four acres of land were prepared for this purpose, two acres being summer-ploughed, kept cultivated frequently during the late summer and fall, and again ploughed in the late fall; the other two acres were simply fall-ploughed; both being seeded in the spring to Banner oats at 2½ bushels per acre along with 8 pounds of red clover, 2 pounds of Alsike and 10 pounds of timothy. The part which was fall-ploughed yielded 47¾ bushels per acre and the summer-cultivated land, 52½ bushels.

ST. PAUL DE JOLIETTE, JOLIETTE COUNTY

OPERATOR, GEORGE E. BAZINET

This is the second year that Illustration Station work has been conducted on this farm. In order to get the rotation established as quickly as possible, it was found necessary to plough up fields "B" and "D" out of sod and to seed them back to grasses and clovers with a nurse-crop of oats. A June frost did considerable damage to the turnip crop particularly. At first it seemed necessary to reseed the field but moist weather brought the crop along.

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

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	Oats, Banner	May 12	Aug. 18	40 bush.	0 71⅛ per bush	1 55
B	Clover, hay		June 27	0·95 tons	11 55 per ton	— 2 42
C	Corn, fodder	May 20	Sept. 5	14 tons	2 96 per ton	1 96
C	Turnips	May 14	Oct. 14	18 tons	4 49 per ton	—26 82
C	Oats, peas, hay	May 23	Aug. 17	2½ tons	14 96 per ton	—14 90
D	Timothy hay		July 20	1 ton	13 44 per ton	— 3 44

STANBRIDGE EAST, MISSISQUOI COUNTY

OPERATOR, B. MOORE

Two four-year rotations are 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 practice. A good season has been experienced in this district and all crops grown excepting corn on the undrained land show a profit.

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

OPERATIONS AT STANBRIDGE EAST—FOUR-YEAR ROTATION

Field	Crop	Date of seeding	Date of harvesting	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
	Tile-drained land—					
A	Timothy hay		July 30	2 tons	5 95 per ton	8 10
B	Clover hay		July 13	3 tons	5 25 per ton	11 75
C	Oats, Banner	April 28	Aug. 10	56 bush.	0 35¼per bush.	21 91
D	Corn, fodder	June 6	Sept. 9	14½ tons	2 42 per ton	9 86
D	Turnips	June 5	Nov. 3	22 tons	2 05 per ton	20 90
	Surface-drained land—					
E	Corn, fodder	June 4	Sept. 8	8¾ tons	3 61 per ton	— 4 46
F	Oats, Banner	April 29	Aug. 19	47½ bush.	0 46¼ per bush	13 71
G	Clover hay		July 6	2 tons	7 55 per ton	2 90
H	Timothy hay		July 9	2 tons	6 29 per ton	7 42

The following table gives the average yields obtained from the different crops on the tile-drained and surface-drained rotation, also the increase in yield due to tile-drainage.

YIELDS ON TILE AND SURFACE-DRAINED LAND—SIX-YEAR AVERAGE

Crop	Yield, tile-drained rotation	Yield, surface-drained rotation	Increased yield due to under-drainage
Corn	10·33 tons	8·78 tons	1·55 tons
Oats, Banner	45·29 bush.	36 bush.	9·29 bush.
Clover hay	5,039 lb.	3,722 lb.	1,317 lb.
Timothy hay	3,411 lb.	3,333 lb.	78 lb.

REPORT OF THE ILLUSTRATION STATIONS FOR EASTERN QUEBEC

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

In this report an effort has been made to illustrate the cost of producing the various crops on the Illustration Stations and the possibilities for increasing the farm revenue. During the year, twenty Illustration Stations were in operation in eastern Quebec; three of these only started operations in the spring.

The growing season started out somewhat cold and rainy; however, the latter part of May and the month of June were favourable to the normal development of crops. On the Stations northeast of the St. Lawrence river, grain was sown by May 25, and on the Stations south of the river, seeding was general around May 15. Hay-making was delayed, by a considerable rainy spell in July, which also rendered it very difficult and in some cases, impossible, to store the crop in as good condition as usual.

On the whole, the yields for the present year are above the average.

The clover growth on the New Richmond Station responded to the application of lime. The area to the left of the picture received an application of three tons of ground limestone, while the area to the right was not treated.

DAIRY HERDS

Special attention has been directed to improving the herds on the various Illustration Stations. Dairy records are being kept to determine the production of each cow, thus it will be possible for the operators to dispose of the lowest producers. By so doing, the average milk-production will be increased each year as also would the profit. In addition, better feeding will be possible, due to the growing of more suitable crops for milk-production on the rotation areas.

Of the twenty herds reported on here, six are pure-bred Ayrshires, seven others have pure-bred Ayrshire herd-bulls, one has a pure-bred Holstein bull, and another a pure-bred French Canadian bull.

The following table indicates the standing and performance of each of the herds on the Illustration Stations in eastern Quebec:—

Stations	Breed	Average number of days in milk	Number of cows	Total herd production	Average production per cow	Lowest cow production	Highest cow production
				lb.	lb.	lb.	lb.
Jonquière	Holstein	295	11	103,148	9,377	6,252	14,677
Plessisville	G. Shorth'n	281	11	82,005	7,455	4,586	8,769
Matane	Grade	287	11	69,207	6,291	4,585	7,518
Notre Dame de Ham	Ayrshire	263	15	89,886	5,992	4,724	7,521
Bromptonville	Ayrshire	262	11	65,651	5,968	5,074	7,419
St. Léonard Aston	Ayrshire	280	8	47,647	5,956	4,840	7,231
Metabetchouan	Grade	283	10	56,603	5,660	4,124	6,691
Weedon	Grade	285	13	71,646	5,511	4,369	7,221
Montmagny	Ayrshire	271	8	43,418	5,427	4,454	7,430
St. Michel	Ayrshire	279	7	36,320	5,188	3,880	6,269
New Richmond	Grade	259	10	50,128	5,012	3,450	7,083
St. Fabien	Grade	283	15	74,327	4,955	4,083	5,700
Scott Jct.	Grade	260	6	28,537	4,756	3,358	6,087
St. Jean Chrysostôme	Grade	268	6	28,328	4,721	3,990	4,965
St. André	Grade	226	10	45,513	4,551	3,853	5,320
St. Apollinaire	Ayrshire	270	10	40,646	4,064	3,399	5,194
St. Jules	Grade	256	11	44,677	4,061	2,740	5,035
Baie St. Paul	Grade	255	11	43,035	3,912	2,892	4,753
Isle Verte	Grade	284	11	37,479	3,407	2,796	3,966
St. Honoré	Grade	240	5	12,265	2,453	2,098	3,083

In looking over this table, it will be noted that there is a great margin between the best and the poorest herd; consequently, great possibilities for improvements. The average production per cow, of the twenty herds reported, is 5,352 pounds of milk. In 1924, the average was 5,245 pounds. There is no doubt but that by better feeding and breeding, the average production can be increased from year to year.

POULTRY

The poultry work on the Illustration Stations in eastern Quebec is progressing favourably. With the exception of the recently established Stations, all have pure-bred Barred Plymouth Rock flocks and are in a position to sell their surplus bred-to-lay poultry and hatching-eggs to others in the district at moderate prices.

Several of the operators started trap-nesting their poultry on December 1, so as to weed out any of the unproductive birds before hatching-time. Only the best-producing will be placed in the breeding-pen.

BAIE ST. PAUL, CHARLEVOIX COUNTY

Operator, Johnny Larouche

The hay crop at this Station has been seriously retarded because of the very dry spell that occurred in the growing-season of 1923 and 1924, which prevented the establishment of a satisfactory clover catch.

The use of commercial fertilizers in addition to the regular application of manure shows a profitable return again this year. The fertilizer was applied broadcast and harrowed in before planting, 100 pounds of nitrate of soda, 300 pounds of acid phosphate, and 75 pounds of muriate of potash being used per acre.

The results of the season's work is as shown in the following table:—

OPERATIONS AT BAIE ST. PAUL—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Mixed hay	1 ton	16 84 per ton	— 6 84
B	Oats, peas and vetch hay	3 tons	13 96 per ton	—14 88
B	Turnips, manure and fertilizer	25 tons 1,700 lb.	2 96 per ton	1 04
B	Turnips, manure alone	24 tons	3 22 per ton	— 5 28
C	Oats, Banner	84 bush.	0·37½ per bush.	31 50
D	Clover hay	1 ton	20 84 per ton	—11 84

The cost of growing turnips has been increased by the fact that they were grown on very heavy soil, which required a great deal of manual labour.

BROMPTONVILLE, RICHMOND COUNTY

OPERATOR, VIRTUME MESSIER

During the three years that this Station has been in operation, crops have been good.

Farmers in the surrounding district have shown a great deal of interest in the work under way. For the second year the turnip-growing competition conducted at this point gave most encouraging results, and as a result, approximately 664 tons of turnips were produced by the contestants.

In addition to the improvements made on the rotation area, considerable progress has been made in building up the dairy herd. When the work began in 1923, the herd was composed of cross-bred cows of medium quality. A careful selection has been made and tested with the view of establishing an accredited herd. The individuals disposed of have been replaced by pure-bred Ayrshires. At the present time the operator owns ten pure-bred milch cows and has a good quality pure-bred Ayrshire bull heading the herd.

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

OPERATIONS AT BROMPTONVILLE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Barley	40 bush.	0 75 per bush.	6 00
B	Corn, Wisc. No. 7	20 tons	2 29 per ton	24 20
B	Turnips	38 tons	1 58 per ton	53 96
C	Timothy hay	2½ tons	5 74 per ton	10 65
D	Clover hay	1¼ tons	8 18 per ton	1 02

Considerable improvements have also been made with poultry. A flock of fifty Barred Plymouth Rocks is kept, and trap-nesting began on the 1st of December.

ISLE VERTE, TEMISCOUATA COUNTY

Operator, Alfred Michaud

Potatoes do very well on the soil at this Station. As there are a great number of farms of this type in the district, an effort is being made to produce certified seed-potatoes at this Station. The crop was good this year and gave a substantial profit for labour expended. Clover and other crops were not as satisfactory due to dry weather which proved serious on this light sandy soil.

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

Operations at Isle Verte—Four-Year Rotation

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Potatoes	266 bush.	0·19½ per bush.	160 93
B	Timothy hay	½ ton	18 86 per ton	− 4 43
C	Clover hay	½ ton	22 48 per ton	− 6 74
D	Oats, Banner	20 bush.	0 79 per bush.	− 0 80

The operator has purchased a typey young bull whose dam qualified in the R.O.P. test. This marks the first definite step towards improving the dairy herd at this Station.

JONQUIERE, CHICOUTIMI COUNTY

Operator, Emile Brassard

This Station has done a great deal of good work in its section, along such lines as the introduction of turnip-growing. A few years ago this crop was not grown outside of the home garden, and at present, it is grown on large areas by several farmers.

The oats, peas and vetch yield appears very low considering that they were sown on well-prepared land. The principal cause for this was that the crop lodged badly. However, it seems a necessary crop for a better type feeding of dairy cattle in a district such as this where corn does not do well.

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

Operations at Jonquière—Four-Year Rotation

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Wheat, Huron	17½ bush.	1 77 per bush.	4 02
B	Turnips	26½ tons	2 65 per ton	9 19
B	Oats, peas and vetch hay	2 tons		
C	Timothy hay	3 tons		
		280 lb.	5 88 per ton	12 94
D	Clover hay	2 tons		
		1,140 lb.	8 01 per ton	2 54

The Holstein dairy herd at this station has improved by the introduction of a high-quality bull purchased at the Central Experimental Farm, Ottawa. Better care and feeding has also increased production considerably. The best cow produced during her last period of lactation, 14,677 pounds of milk. The average production of the herd for the fiscal year was 9,377 pounds; two years ago it was 5,509 pounds of milk.

MATANE, MATANE COUNTY

Operator, Michel Philibert

The commercial fertilizer test which was started on turnips in 1924, was continued again this year. Part of the field received 12½ tons of manure per acre. The rest of the field received an application of 75 pounds of nitrate of soda, 300 pounds of acid phosphate, and 50 pounds of muriate of potash in addition. Although the turnip crop increased in yield by 2½ tons per acre, due to the application of commercial fertilizers, it was not sufficient to pay for the additional cost of the fertilizers. Further work is to be done along this line at this Station.

The results of the season's work will be found in the following table:—

Operations at Matane—Four-Year Rotation

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Timothy hay	2 tons 1,400 lb.	4 16 per ton	15 76
B	Clover hay	2 tons 500 lb.	6 00 per ton	6 75
C	Oats, Banner	71 bush.	0 29 per bush.	32 66
D	Turnips, manure and fertilizer	15 tons 888 lb.	3 11 per ton	—1 70
	Turnips, manure alone	12 tons 1,872 lb.	3 09 per ton	1 16

When the work began at this Station, in 1921. only five cows were kept on the whole farm. Through better farming, the crops have increased to the extent, that the farm now carries a herd of twelve cows, with a pure-bred Ayrshire bull heading the herd.

METABETCHOUAN, LAKE ST. JOHN COUNTY

Operator, Louis Hudon

The soil at this Station while naturally fertile is apt to be cold and late in the spring; yet it seems to be particularly well adapted to the production of hay and grain crops.

Progress has been made this year in the growing of turnips. Although the yield appears low, it should be borne in mind that this is the first crop of turnips to be grown on this farm.

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

Operations at Metabetchouan—Four-Year Rotation

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Potatoes	150 bush.	0 44 per bush.	54 00
A	Turnips	12 tons	6 31 per ton	—39 72
A	Oats, peas and vetch	5 tons	8 41 per ton	2 95
B	Timothy hay	3 tons	6 08 per ton	11 76
C	Clover hay	3 tons 200 lb.	6 60 per ton	7 44
D	Barley, O.A.C. No. 21	33½ bush	0 84 per bush.	2 00

MONTMAGNY, MONTMAGNY COUNTY

OPERATOR, G. F. FOURNIER

Crops were all good here this year, yields being well above the average. In addition to the hay yields reported, for fields "C" and "D," a second crop of two tons green clover per acre was cut and put in the silo.

In addition to the results obtained on the rotation area, noticeable improvements have been made in the Ayrshire herd. This year, all the cows are entered in the Record of Performance test. Mr. Fournier has also purchased a high-quality bull, the son of the famous cow Beaver Meadow Beauty Six—74584—which in the senior four-year-old class produced 16,051 pounds of milk in 305 days.

The result of the season's work is as follows:—

OPERATIONS AT MONTMAGNY—FOUR-YEAR ROTATION

Field	Crops	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Banner oats	78 bush.	0 23½ per bush.	40 17
B	Turnips	28½ tons	1 64 per ton	38 42
C	Clover hay	2¼ tons	6 16 per ton	6 39
D	Clover hay	2¼ tons	6 16 per ton	6 39

NEW RICHMOND, BONAVENTURE COUNTY

OPERATOR, JOHN B. CYR

This Station has been doing good work in various lines, since its establishment. These include the introduction of after-harvest cultivation, as the most efficient means of destroying the numerous weeds which existed in this district; the encouraging and growing of such crops as turnips and corn, and the growing of red clover for seed.

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

OPERATIONS AT NEW RICHMOND—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Oats, Banner	50 bush.	0 42 per bush.	16 50
B	Corn, Longfellow	20 tons	2 06 per ton	28 80
B	Turnips	27 tons	2 53 per ton	12 69
B	Potatoes	240 bush.	0 23 per bush.	136 80
C	Clover hay	1 ton, 1,000 lb.	11 42 per ton	— 3 63
D	Clover hay with lime	1 ton, 1,200 lb.	9 57 per ton	— 0 91
D	Clover hay without lime	1,600 lb.	12 90 per ton	— 3 12
D	Clover seed with lime	165 lb.	0 11 per lb.	23 10
D	Clover seed without lime	85 lb.	0 16 per lb.	7 65

In the spring of 1924 part of field "D" received an application of 3 tons of ground limestone with the idea of determining its value for the soils of this district. The field was then seeded to oats, grasses and clovers. The results this year are very conclusive when we consider the two crops which were taken from this field, namely a cut of hay and later a crop of red clover seed. From the two crops, the part that received lime gave a profit of $22.09 per acre as compared with $4.53 where no lime was applied.

NOTRE DAME DE HAM, WOLFE COUNTY

Operator, Pierre Toupin

This is the first year that illustration station work has been carried out at this Station. As the land is very rough and stony, considerable cleaning up work was necessary. The fields are in a rather low state of fertility and are badly infested with weeds, particularly devil's paint brush.

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

Operations at Notre Dame de Ham—Four-Year Rotation

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Oats, Banner	22 bush.	1 07 per bush.	— 7 04
B	Corn	10 tons	5 43 per ton	—19 30
C	Oats, peas and vetch hay	4 tons	8 66 per ton	1 36
D	Old meadow			

PLESSISVILLE, MEGANTIC COUNTY

Operator, Eudore Jutras

This Station has been very helpful to the farmers in the surrounding district due to the fact that it has introduced to a large extent the growing of corn and turnips. Both have proven profitable crops for the district. It has also encouraged the preparation of land for these two crops by after-harvest-cultivation methods.

This year, 375 pounds of acid phosphate and 100 pounds muriate of potash per acre, were applied to the turnips and potatoes in addition to the manure. Although a slightly higher yield has been obtained, the application did not prove profitable as the increased yield was not sufficient to cover the cost of the fertilizers.

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

Operations at Plessisville—Four-Year Rotation

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Clover hay	1 ton, 1,900 lb.	8 34 per ton	1 29
B	Barley	47 bush.	0 51 per bush.	18 33
C	Corn	19½ tons	2 09 per ton	27 49
C	Turnips, manure and fertilizer	35 tons, 1,800 lb.	1 59 per ton	50 62
C	Turnips, manure alone	34 tons	1 51 per ton	50 66
C	Potatoes, manure and fertilizer	146 bush.	0 36½ per bush.	63 27
C	Potatoes, manure alone	132 bush.	0 36 per bush.	58 08
D	Timothy hay	2 tons, 500 lb.	5 60 per ton	9 90

ST. ANDRE, KAMOURASKA COUNTY

Operator, Alphonse Ouellet

This Station has been in operation for three years. It will be noted that all crops, excepting turnips, were produced at a profit this year.

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

OPERATIONS AT ST. ANDRE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Timothy hay	3 tons, 1,200 lb.	4 78 per ton	18 79
B	Clover hay	2 tons, 600 lb.	6 00 per ton	9 90
C	Oats, Banner	56 bush.	0 45½ per bush.	16 52
D	Potatoes	316 bush.	0 20 per bush.	189 60
	Turnips	20 tons, 1,200 lb.	3 11 per ton	— 2 26

ST. APOLLINAIRE, LOTBINIERE COUNTY

OPERATOR, JOSEPH COTE

Although this is the first year that this Station has been in operation, considerable improvements have been made on the rotation fields by cleaning away stone-piles, digging, ditches, and making a farm road between fields "B" and "C."

The yields and cost of production are as follows:—

OPERATIONS AT ST. APOLLINAIRE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Oats, Banner	40 bush.	0 52 per bush.	9 20
B	Oats, Banner	40 bush.	0 50 per bush.	10 00
C	Turnips	12 tons	5 54 per ton	—30 48
C	Oats, peas and vetch hay	2 tons	15 52 per ton	—13 04
D	Mixed hay	1 ton 700 lb.	7 68 per ton	3 13

A pure-bred Ayrshire herd is kept at this Station. The average milk-production per cow is somewhat low. There is little doubt but that better feeding and breeding will increase the average milk-production.

ST. FABIEN, RIMOUSKI COUNTY

OPERATOR, JOSEPH ALBERT

The fields on this Station, which were badly infested with couch grass, are now growing very nice crops of grain, clover, etc. This has been obtained by following a systematic rotation of crops, by after-harvest cultivation, and by the heavy seedings of clover and timothy. The opening of ditches between each field to carry off the surplus moisture has been very beneficial, making seeding earlier and cultivation easier.

The commercial fertilizer demonstration on sunflowers, started in 1924 and was continued this year. One hundred pounds of nitrate of soda, 300 pounds of acid phosphate, and 60 pounds of potash were applied to part of the field in addition to the regular application of manure. The fertilizer was effective in increasing the yield 6½ tons, and likewise the profit.

The following table outlines the yields and the cost of growing each crop:—

OPERATIONS AT ST. FABIEN—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Clover hay	2 tons, 800 lb.	7 45 per ton	3 72
B	Banner oats	66 bush.	0 32 per bush.	28 38
C	Sunflowers, manure and fertilizer	19½ tons	2 93 per ton	11 11
C	Sunflowers, manure alone	13 tons	3 88 per ton	− 4 94
C	Turnips	11 tons	6 83 per ton	−42 13
C	Potatoes	250 bush.	0 33⅓ per bush.	116 00
D	Timothy hay	1 ton, 1,143 lb.	7 56 per ton	3 83

The average milk-production per cow shows an increase of 700 pounds of milk over 1924, due to better feeding. A pure-bred Ayrshire bull has headed this cross-bred herd since the spring of 1924. Undoubtedly the milk-production will increase more and more through better breeding combined with continued better feeding.

ST. HONORE. TEMISCOUATA COUNTY

OPERATOR, JOSEPH DESCHENES

The land at this Station is very rough and stony. During this first year of operation, most of the work was preparatory to the four-year rotation.

Field "A" was sown on June 5 to oats, peas and vetches, and yielded 1 ton, 666 pounds per acre.

Field "D" was sown to Alaska oats on June, 6 and yielded 17½ bushels per acre.

Field "B" was after-harvest cultivated for turnips in 1926.

Considerable preparatory work such as the deepening and straightening of ditches has been performed.

ST. JEAN CHRYSOSTOME, LEVIS COUNTY

OPERATOR, T. H. CANTIN

Since the work started at this Station crops have steadily increased in yield under the systematic rotation, by practising after-harvest cultivation and by the heavy seeding of grasses and clovers.

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

OPERATIONS AT ST. JEAN CHRYSOSTOME—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Oats, Banner	52 bush.	0 47½ per bush.	14 39
B	Corn	18 tons	2 56 per ton	16 92
B	Turnips	40 tons	2 06 per ton	37 60
C	Clover hay	3 tons	5 96 per ton	9 12
D	Timothy hay	4 tons	4 31 per ton	22 76

ST. JULES, BEAUCE COUNTY

Operator, Georges Cliche

The fields at this Station are inclined to be springy and wet, delaying seeding operations considerably. This was particularly the case this year. The wet nature of the soil combined with heavy June rains resulted in the hoed crops on field " D " being a failure. For this reason no yields appear for this field.

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

Operations at St. Jules—Four-Year Rotation

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Oats, Banner	20½ bush.	1 12 per bush.	7 58
B	Clover hay	1 ton, 1,150 lb.	8 80 per ton	0 31
C	Timothy hay	1 ton, 700 lb.	9 40 per ton	0 71

ST. LEONARD D'ASTON, NICOLET COUNTY

Operator, E. Carter

As previously mentioned, a turnip-competition was organized in the district surrounding this Station for the second time, with the result that due to the better care and management of this crop, the total yield increased from approximately 440 tons in 1924 to 760 tons in 1925.

The producing of red clover seed from the second growth has proven a satisfactory practice in this district, provided the first cut is made before June 25. The average yield for the three last years being 114 pounds per acre, costing 13 cents per pound.

It will be noted that the part of the field which was cut for hay and clover seed yielded a greater profit than the part that was cut for hay only.

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

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

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Clover hay	3 tons	4 85 per ton	12 45
A	Clover hay, 1st cut	1 ton	7 42 per ton	1 58
A	Clover seed	138 lb.	0 09½ per lb.	35 19
B	Timothy hay	4 tons	3 05 per ton	27 80
C	Banner oats	39½ bush.	0 45 per bush.	11 85
D	Corn, Bailey	10 tons	2 72 per ton	7 80
D	Corn, Wisconsin No. 7	10 tons	2 70 per ton	8 00

A bred-to-lay strain of Barred Plymouth Rock poultry is now well established at this Station, and over twenty settings of eggs were sold for hatching purposes in the neighbourhood in the spring of 1925.

ST. MAXIME, DORCHESTER COUNTY

Operator, Elzear Lacroix

Although this Station only started operations in 1924, the four-year rotation is now well under way and the work is progressing rapidly.

In order to illustrate to what extent this soil was lacking in plant food, commercial fertilizers were applied on part of the turnip field at the rate of 100 pounds nitrate of soda, 300 pounds of acid phosphate, and 65 pounds of potash, in addition to the regular application of 15 tons of manure per acre. The results obtained, are quite in favour of the additional use of fertilizers for turnips as there was an increase of over 20 tons per acre where commercial fertilizers were used. As this is the result of only one year's experience this information cannot be taken as conclusive. This test will be continued so that we may obtain definite information in this regard.

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

OPERATIONS AT ST. MAXIME—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Clover hay	1 ton 1,240 lb.	9 14 per ton	− 0 22
B	Banner oats	45 bush.	0 54 per bush.	9 45
C	Turnips, manure and fertilizer	34 tons	2 32 per ton	23 12
	Turnips, manure alone	13 tons 1,324 lb.	5 21 per ton	−30 19
D	Oats, peas and vetch hay	2 tons 200 lb.	16 40 per ton	−15 54

ST. MICHEL, BELLECHASSE COUNTY

OPERATOR, FORTUNAT MORISSETTE

The clover crop was light this year due largely to the poor stand obtained last year. Part of the turnip field suffered from excessive moisture resulting in a considerable lowering of the average field. Oats were sown on May 26 and harvested on August 8.

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

OPERATIONS AT ST. MICHEL—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
A	Clover hay	1½ tons	10 02 per ton	− 1 53
B	Oats, Banner	33⅓ bush.	0 62 per ton	4 33
C	Timothy hay	3 tons	4 31 per ton	17 07
D	Turnips	16 tons	3 82 per ton	−13 12
D	Oats, peas and vetch hay	4 tons	7 65 per ton	5 40

When the work began at this Station three years ago, no pure-bred poultry was kept. At the present time, a flock of 75 birds, pure-bred Barred Rocks, is well established and the operator began trap-nesting his birds on December 1.

The operator has five pure-bred Ayrshire cows and has purchased a high-quality bull calf to improve his stock.

WEEDON, WOLFE COUNTY

OPERATOR, JOSEPH ALLARD

The soil is steadily improving at this Station under its present method of handling. A short rotation of crops including a clover crop, careful handling of the manure, and thorough cultivation are essential considerations which con-

tribute greatly to the economical production of crops. In districts where weeds such as couch grass are prevalent, the ploughing of the land lightly as soon as the hay is removed, cultivating sufficiently to keep down all growth and ploughing the land again in the fall as deep as the nature of the soil will allow is a practice to be strongly recommended.

The report of the season's work is as follows:—

OPERATIONS AT WEEDON—FOUR-YEAR ROTATIONS

Field	Crop	Yield per acre	Cost	Profit or (—) loss per acre
			$ cts.	$ cts.
A	Oats, Banner	66 bush.	0 43¼ per bush.	20 62
B	Corn, Longfellow	8¾ tons	7 23 per ton	—32 63
B	Corn, Wisconsin No. 7	9¼ tons	6 81 per ton	—30 61
B	Turnips	18 tons	3 27 per ton	— 4 86
B	Potatoes	120 bush.	0 79 per bush.	37 20
C	Timothy hay	2 tons	6 97 per ton	6 06
D	Clover hay	1¾ tons	9 36 per ton	— 0 63
D	Clover seed	110 lb.	0 15 per lb.	11 00

REPORT OF ILLUSTRATION STATIONS FOR NEW BRUNSWICK

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

The 1925 season closed with farmers feeling decidedly optimistic. Farm finances are in a more buoyant condition than has been the case for some years, due to good prices for many of the staple farm products including potatoes, turnips, hogs, lambs, poultry and dairy products.

During the year, new Stations were selected at Jacquet River, Restigouche county; Mount Middleton, Kings county; Siegas, Madawaska county; and Harvey Station, York county. The new Stations vary in size from eight to twelve acres and are admirably located for illustration work.

SEASONAL CONDITIONS

Spring seasonal conditions favoured an early seeding on all except the east coast stations. Summer growing conditions were favourable for hay and grain crops but unfavourable for potatoes and root crops. One of the best oat crops in the history of the province developed, but heavy winds and rains lodged grain so badly that harvesting was a laborious task with a heavy loss from shelling, weathering, etc. Haymaking, grain and root-crop harvesting was a tedious process on account of dull weather, frequent wind and rain storms.

Potato yields were much lower than those of 1924. Fall ploughing was delayed, in common with other operations. The acreage prepared for crop next year is much less than in 1924.

BAKER BROOK, MADAWASKA COUNTY

OPERATOR, FELIX DAIGLE

This is the third year that illustration work has been conducted on this farm. Improvements in cultural methods, workmanship and farm management have been marked in this period. General farm improvements include the erection of a modern piggery, painting the farm buildings, the keeping of farm accounts, the use of pure-bred rams and boars, the establishment of a large flock of bred-to-lay Barred Rock poultry, and a general improvement in the quality of seed used and in the crops produced.

Progress in establishing the rotation has, however, been slow until this year. Fields "A" and "B" were seeded in 1923 and 1924, but poor stands of timothy and clover were secured. In the spring of 1925 both fields were again seeded with clovers, timothy and alfalfa, with oats as a nurse-crop. Both fields were given a dressing of ground limestone at the rate of three tons per acre. A good stand of clover and timothy was secured, but whether due to favourable seasonal conditions or as the result of the ground limestone cannot be determined until next year when crops on limed ground and check plots will be compared.

The hoed-crop section of this Station was an improvement over that of previous years. The turnips stood first in the Baker Brook Turnip Club contest. Corn and sunflowers were a good crop. Due to a high percentage of misses in the potato field, the yield was light.

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	Oats (Banner)		46 bush.	0 35 per bush.	18 40
B	Oats (Banner)		46 bush.	0 35 per bush.	18 40
C	Potatoes (Green Mountain).	1,500 lb. of a 4-8-6 commercial fertilizer.	220 bush.	0 18 per bush.	180 40
	Potatoes (Green Mountain).	15 tons manure	165 bush.	0 24 per bush.	125 40
	Sunflowers	10 tons manure	18·7 tons		
	Corn (fodder)	10 tons manure	10·8 tons		
D	Turnips	15 tons manure	23·1 tons	2 44 per ton	12 93
	Turnips	15 tons manure with 300 lb. acid phosphate.	36·3 tons	1 65 per ton	49 00

GROUND LIMESTONE

Ground limestone is used to a greater or lesser extent in practically all parts of the province. Its effectiveness and popularity apparently varies in different sections.

It was applied in the spring of 1925 at the following Illustration Stations: Baker Brook, Grand Falls, Perth, Woodstock and Rexton. Check plots were left unlimed at each of these Stations so that comparative yields may be obtained. It is not considered profitable to apply in excess of three tons per acre, and in potato-growing sections, two tons per acre is safer because of its liability to scab potatoes. The land now occupied at the Tracey Station was limed very heavily (4-5 tons per acre) some years ago. Since then potatoes have scabbed to a considerable extent each year.

EAST FLORENCEVILLE, CARLETON COUNTY

OPERATOR, B. F. SMITH

A three-year crop-rotation is being demonstrated at this Station. Other demonstrations this year included a convincing nitrate of soda experiment on hay ground that resulted in many inquiries regarding the treatment this strip of land received. Some fertilizer experiments were also conducted with potatoes. Details of this experiment will be noted in the table following:—

Field "B" was planted to registered Banner oats and field "C" to certified Green Mountain potatoes. The object was to demonstrate their superiority over common sorts as well as to make available good seed for the farmers of the district.

OPERATIONS AT EAST FLORENCEVILLE—THREE-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover hay	Without nitrate	1·9 tons	6 94 per ton	5 81
		100 lb. nitrate	2·28 tons	7 10 per ton	6 61
B	Oats, Banner		72 bush.	0 35½ per bush.	28 35
C	Potatoes	2,000 lb. fertilizer	302 bush.	0 16½ per bush.	251 86
		1,500 lb. fertilizer	288 bush.	0 16 per bush.	241 92
		1,000 lb. fertilizer	233 bush.	0 18 per bush.	191 06

GRAND FALLS, VICTORIA COUNTY

OPERATOR, GABE MORIN

This completes the third year of illustration work at this Station with a rotation practically established. Good clean crops were grown on the Station as well as on the farm proper. Potatoes, grain and hay are the principal products of the farms of this district.

More live stock is required on the Station and surrounding farms to maintain soil-fertility. The operator is improving the quality and increasing the number of his swine herd and is contemplating a beginning in pure-bred Jersey cattle. The poultry at this Station are of good qpality. An incubator and brooder will be installed next spring.

Ground limestone was used this year for the first time. Field "B" was given a dressing of three tons per acre in the spring and seeded down with clovers, timothy and alfalfa, with oats as a nurse-crop. A strip in the centre of the field was left unlimed to serve as a check plot.

The farm garden at this Station (which is about one-tenth of an acre in extent) yielded, after supplying the farm table, a revenue of $65 from the sale of cabbages, cauliflowers, green peas, and other garden truck. Other Stations in proximity to towns could derive a considerabel revenue from the sale of garden truck, strawberries, raspberries, etc.

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 acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Timothy hay		0·8 tons	14 64 per ton	− 3 72
B	Oats (Banner)		75 bush.	0 41⅜ per bush.	24 94
C	Potatoes (Green Mountains).	2,000 lb. fertilizer	198 bush.	0 20¾ per bush.	157 74
C	Potatoes	1,500 lb. fertilizer	187 bush.	0 19¼ per bush.	151 20
C	Potatoes	1,000 lb. fertilizer	170 bush.	0 18½ per bush.	138 55
C	Potatoes	12 tons manure	165 bush.	0 19½ per bush.	132 82
C	Turnips		16 tons	3 23 per ton	− 3 68
C	Sunflowers		15·1 tons		
C	Corn (fodder)		12·3 tons		
D	Timothy hay		0 66 tons	13 03 per ton	− 2 00

LOWER DERBY, NORTHUMBERLAND COUNTY

OPERATOR, W. R. TAYLOR

This Station, due to the high standard of workmanship with resultant good crops, is making of itself a guide in agricultural practice to farmers in all parts of the country. The summer meeting at this Station attracted the best farmers from a radius of twenty miles. The crop-rotation work was admirably done, and maximum yields were obtained on all crops grown on the Station.

Heavy wind and rain storms lodged the grain on fields "C" and "E" so badly that much of it had to be cut by hand. The oats on field "E" were down so badly that they were mown for green feed.

The success that has attended the demonstration work at this Station, leaving out the factor of energy and good judgment on the part of the operator, can be attributed to the following factors: (1) thorough preparation of the soil; (2) the use of high class seed, (3) cultivation in the growing season; (4) the adoption of such modern preventative measures against disease as treatment of seed grain to control smut, treatment of seed potatoes to prevent scab, the spraying of potatoes with Bordeaux to prevent blight, and finally the use of ground limestone as a soil corrective to encourage clover growth, which in turn has an influence on succeeding crops.

The following table gives the yield and 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	Potatoes, Green Mountain.	10 tons manure, ½ ton fertilizer.	275 bush.	0 36½ per bush.	174 62
	Turnips	18 tons manure, ½ ton fertilizer.	21 tons	3 61 per ton	−12 81
	Corn	14 tons manure	15 tons	4 14 per ton	−9 60
B	Oats (Banner)		60 bush.	0 58 per bush.	10 20
C	Clover hay		2·66 tons	7 08 per ton	2 45
D	Timothy hay		2·5 tons	4 36 per ton	13 15
E	Oats (Banner)		50 bush.	0 52 per bush.	11 50

TROPHIES

Two trophies are competed for annually by the New Brunswick Illustration Station operators, viz. the John Fixter Silver Trophy for best hoed crop section, and the Bailey-Hetherington Silver Trophy for Illustration Station work and general farm management.

W. R. Taylor, operator of the Lower Derby Station, won for the second year in succession the Bailey-Hetherington Trophy, and as well, the John Fixter Trophy. The Stations conducted by T. W. Riordan, Felix Daigle and Gabe Morin were the closest competitors. The work carried on at these Stations was of a high order.

The above trophies serve as an incentive to better workmanship, cleaner fields, etc., and thus have a tendency to elevate the standard on practically all of the stations.

MILLVILLE, YORK COUNTY

OPERATOR, GORDON GRAHAM

An effort is being made to increase the farm revenue at this Station. Potatoes, hay and poultry products at the present time constitute the main sources of farm revenue. This year a half acre was planted to strawberries. There is a ready market for this crop and the returns come in at a time when the average farm is barren of saleable products.

Potatoes, hay and grain crops were good at the Station. Part of field "A" was sown to wheat for use as poultry feed, the balance of the field was sown to Banner oats. Some Charlottetown No. 80 barley is also grown on the farm proper. The production of wheat, oats and barley on the farm practically makes it self supporting as regards poultry feeds.

A start has been made with pure-bred Yorkshire swine. The farm is much better adapted for sheep than it is for cattle, and a start in sheep will be made at an early date. A pen of ten Barred Rock pullets from the Millville Station produced 1,863 eggs and stood eighth in the New Brunswick Egg-Laying Contest with twenty-three pens competing.

The following table gives the yield and cost of growing each crop 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	Banner oats		40 bush.	0 63 per bush.	4 80
A	Wheat		25 bush.	1 22 per bush.	19 50
B	Timothy hay	Nitrate 100 lb.	2·0 tons	6 98 per ton	6 03
	Timothy hay	Without nitrate	1·05 tons	9 83 per ton	0 17
C	Clover hay		1·75 tons	8 58 per ton	—1 02
D	Potatoes (Green Mountain).	15 tons manure	217 bush.	0 28 per bush.	156 24
D	Potatoes	7½ tons manure and 750 lb. fertilizer.	239 bush.	0 25½ per bush.	178 05
D	Potatoes	1,000 lb. fertilizer	226 bush.	0 25 per bush.	169 50
D	Potatoes	1,500 lb. fertilizer	263 bush.	0 23 per bush.	202 51
D	Turnips	15 tons manure	(Not kept)		

PERTH JUNCTION, VICTORIA COUNTY

OPERATOR, R. J. MCCREA

The usual sequence of crops typical of a four-year rotation could not be followed at this Station this year. Two fields, viz. "B" and "C", were sown to barley and wheat respectively. Field "B" was in grain last year and seeded down, but did not develop a stand of clover and timothy in 1924, and hence was reseeded in 1925. A good stand of clover and timothy developed on both fields this year.

The hoed-crop section of the Station was not as good as in previous years. Cutworms did considerable damage to the turnip crop, necessitating three seedings on parts of the field. Potatoes developed good tops but only average yields were obtained.

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

OPERATIONS AT PERTH JUNCTION: FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Potatoes, Green Mountain.	20 tons manure	222 bush.	0 21½ per bush.	174 27
A	Potatoes	1 ton 4-8-6 fertilizer	247 bush.	0 15½ per bush.	208 71
A	Potatoes	½ ton fertilizer	261 bush.	0 15½ per bush.	220 54
A	Turnips	15 tons manure	13·5 tons	3 00 per ton	0 00
B	Barley		20 bush.	0 79 per bush.	14 02
C	Wheat (White Russian)		15·5 bush.	1 40 per bush.	9 30
D	Timothy hay	Without nitrate	2·0 tons	5 57 per ton	8 86
D	Timothy hay	100 lb. nitrate	2·4 tons	5 90 per ton	9 84

NITRATE OF SODA FOR HAY LAND

In the spring of 1925 one-acre plots in the hay fields at the Millville, Riordon, Lower Derby, Perth, East Florenceville, Woodstock and Welsford Stations were treated with a one-hundred-pound-application of nitrate of soda per acre. Visual evidence of its value was apparent a very short time after it had been applied.

The following is a statement of yields on nitrated and check plots:—

NITRATE OF SODA ON HAY LANDS

Station	Yield of hay (with nitrate)	Yield of hay (without nitrate)	Increase in yield	Cost of nitrate per cwt.	Profit or (−) loss
	tons	tons	tons	$ cts.	$ cts.
Millville	2·0	1·05	0·95	3 00	6 50
Riordan	1·95	0·75	1·20	3 00	9 00
Lower Derby	2·0	1·0	1·0	3 00	7 00
Perth	2·4	2·0	0·4	3 00	1 00
E. Florenceville	2·28	1·9	0·38	3 00	0 80
Woodstock	1·5	1·0	0·5	3 00	2 00
Welsford	2·7	1·7	1·0	3 00	7 00
Average	2·16	1·34	0·77	3 00	4 75

Judging from results it would appear as good practice to use nitrate of soda in the spring on hay fields that do not show much promise. It will undoubtedly thicken up such fields and promote a ranker growth. The value of a nitrate application on poor hay ground is pronounced. The land at Welsford, Lower Derby, Riordon and Millville, where nitrate was applied, ranged in fertility from very poor to average. Soils in good heart show little profit from the use of nitrate.

REXTON, KENT COUNTY

OPERATOR, J. G. DICKINSON

The year's rotation work carried on here was similar to that of past years. Commercial fertilizer was used on potatoes and turnips for the first time. Farm manure has always been used, but this has only been of fair quality. The scant grain ration fed to the live stock during the winter months results in manure

light in fertilizing elements. This is probably a factor in the crop yields at the Station being as a rule only medium.

Seeding and spring operations are late in this section. Cold, damp spring winds tend to keep the clay soil wet, and hence early season growth is slow.

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

OPERATIONS AT REXTON: FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Oats (Banner)		53 bush.	0 33 per bush.	14 31
A	Wheat		20 bush.	1 16 per bush.	16 80
B	Potatoes (Green Mountains).	15 tons manure	226 bush.	0 29 per bush.	160 46
	Potatoes	15 tons manure with 400 lb. fertilizer.	266 bush.	0 26⅓ per bush.	195 95
	Turnips	15 tons manure	13·8 tons	5 89 per ton	−39 88
	Turnips	15 tons manure with 400 lb. acid phosphate.	19·8 tons	4 34 per ton	−26 53
C & D	Timothy hay		1·16 tons	9 17 per ton	0 96

ACID PHOSPHATE ON TURNIPS

For several years the turnip crops at some of the Stations have not been satisfactory. Yields have been low and the turnips small in size. This year acid phosphate was used at two Stations, in combination with barnyard manure. The results obtained, and the treatment, are outlined in the following table:—

Station	Crop	Manure used	Acid phosphate used	Yield	Increase
		tons	lb.	tons	tons
Rexton	Turnips	15	400	19·8	6·0
Rexton	Turnips	15	0	13·8	
Baker Brook	Turnips	15	300	36·3	13·2
Baker Brook	Turnips	15	0	23·1	

The 700 pounds of acid phosphate on the two acres of turnips increased the yield by 19·2 tons.

RIORDAN, GLOUCESTER COUNTY

OPERATOR, T. W. RIORDAN

Several practical demonstrations along with the rotation work made this an interesting and useful Station for the farmers of the district. This land, when taken over for illustration work two and a half years ago, was in a poor state of cultivation, in poor heart, and very weedy, couch grass and bindweed predominating. This year fields "A" and "B" were in clover hay. To insure a fair crop both fields were given an application of nitrate of soda at the rate of 100 pounds per acre and at a cost of $3 per acre. Several check plots were left without nitrate. The nitrated areas gave an average yield of 1·95 tons per acre, the check plots yielded 0·75 tons, or a difference of 1·2 tons per acre in favour of nitrated land. The lime sludge demonstration on field "B" was also a very convincing demonstration. One-half acre received two tons of wet lime

sludge. Besides producing a good first crop of clover, the plot receiving lime sludge produced a second crop of clover that would yield from one-half to one ton per acre and with no second crop on the check plot.

The following table gives the details of yield, cost of growing etc., for each crop in the rotation:—

OPERATIONS AT RIORDAN: FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Clover hay	100 lb. nitrate	1·95 tons	8 33 per ton	−0 64
B	Clover hay	100 lb. nitrate	1·95 tons	8 33 per ton	−0 64
B	Clover hay	100 lb. nitrate and 4 tons wet lime sludge.	2·17 tons	7 64 per ton	0 78
B	Clover hay	Without nitrate or lime sludge.	0 75 tons	17 33 per ton	6 99
C	Oats (Banner)		50 bush.	0 41½ per bush.	16 87
D	Potatoes (Green Mountain).	750 lb. 4-8-6 fertilizer	272 bush.	0 18¾ per bush.	221 00
	Potatoes	750 lb. 4-8-6 fertilizer and 7½ tons manure.	289 bush.	0 20 per bush.	231 20
	Potatoes	15 tons manure	187 bush.	0 31 per bush.	129 03
	Turnips	15 tons manure	11·2 tons	4 08 per ton	−12 09

ST. QUENTIN, RESTIGOUCHE COUNTY

OPERATOR, AUGUSTINE VIOLETTE

With the completion of this year's work, a definite four-year rotation is established on this Station. Next year will show a typical four-year crop-rotation with fields in timothy hay, clover hay, grain, and hoed crop respectively.

Uncommonly good crops of potatoes and grain were grown on the Station this year. The field of registered Banner oats won first prize in the standing field-crop competition for Restigouche county. The hay on Fields "A" and "B" was light, due to a mistake on the part of the operator in not including any red clover in the mixture sown.

This district has just recently been opened up for settlement, and while good crops are being produced at the present time, it is merely a matter of a few years before the virgin fertility will be sapped unless more live stock are maintained to consume the roughage crops such as hay and straw that are produced on the farms and to a great extent are sold for export at the present time.

Some noxious weeds, including Paint Brush and Wild Mustard, are gaining a strong foothold in the district. Their control will be an embarrassing problem in a few years unless prompt action is taken to combat them at once.

The yield and cost of growing each crop in the rotation are as follows:—

OPÉRATIONS AT ST. QUENTIN: FOUR-YEAR ROTATION

Field Crop	Yield per acre	Actual cost	Profit or (−) loss per acre
		$ cts.	$ cts.
A. Potatoes (Green Mountain)	275 bush.	0 22¾ per bush.	213 58
B. Oats (Banner)	59 bush.	0 43 per bush.	18 87
C. Clover hay	1·16 tons	7 89 per ton	0 12
D. Clover hay	1·16 tons	7 89 per ton	0 12

TRACEY STATION, SUNBURY COUNTY

OPERATOR, FRED PHILLIPS

The oats and hay crops were unusually good at this Station. Turnips and potatoes were a very inferior crop. Corn and sunflowers were outstanding crops.

A good percentage of the farmers in this district are adopting on their own farms, some of the practices in vogue on the Illustration Station. The fodder-corn and turnip-growing competition in the Tracey district was also instrumental in bringing the station work to the attention of the farmers. One result of the competition was that fodder corn was grown for the first time on many of the farms. Six or seven of the contestants will work their farms along definite rotation lines next year.

The following table gives the results 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	Oats (Banner)	.....	60 bush.	0 35½ per bush.	23 70
B	Timothy hay	.....	2·3 tons	4 94 per ton	11 64
C	Sunflowers	15 tons manure	20 tons	.....	.....
	Corn (fodder)	15 tons manure	18 tons	.....	.....
	Turnips	Manure 10 tons and fertilizer 10 cwt.	5·6 tons	13 00 per ton	—56 00
	Potatoes (Green Mountain)	1 ton fertilizer	159 bush.	0 54 per bush.	73 14
D	Oats (Banner)	.....	62 bush.	0 34 per bush.	25 42

CROP COMPETITIONS

Crop competitions among farmers in the vicinity of Illustration Stations was undertaken for the first time this year. In the Welsford district fourteen farmers competed in an acre turnip-growing contest. Due to the prevalence of club-root in this district the Bangholm strain of club-root-resistant turnip seed was used. Yields varied from 21 to 31 tons per acre, with an average yield of 27·2 tons. In the Tracey district eleven farmers competed in a turnip- and fodder-corn-growing contest. Each farmer grew for comparison two varieties of turnips, viz. Hall's Westbury and Magnum Bonum. In the majority of cases Hall's Westbury returned the greater yield, and likewise was a smoother and better-shaped turnip, much preferred by the growers. Turnip yields in the Tracey competition ranged from 11 to 42 tons per acre, with only two fields below 22 tons, and with an average yield for all fields of 26·6 tons. The fodder-corn-growing contest was a distinct success. With one exception the fields yielded a good tonnage. In practically all cases this was the first effort to grow fodder corn, and the farmers found it very useful in the short pasture season and for late fall feeding.

In the Baker Brook contest eight farmers competed in a turnip and corn-growing contest. The crops here were not as good on the average as at Tracey and Welsford. This district is rather far north to grow corn successfully.

The competitions had a well-defined value in the respective districts. The tonnage of corn grown on a small area was a revelation to some of the farmers in the Tracey contest. A study of varieties, especially from a yield standpoint, should be of first concern to a farmer. The extension work in connection with the Illustration Stations has enabled the supervisor to get acquainted with farmers in the district and in turn for farmers to become acquainted with the work under way on the Illustration Station. As a concrete instance it is worthy of note that six farmers in the Tracey district are undertaking to practise a definite rotation on a section of their farms.

WELSFORD, QUEENS COUNTY

OPERATOR, J. L. MACDONALD

The Welsford Station is the only one in the province possessing a silo. Corn is not a reliable crop in the district, due to late spring and early fall frosts. The oats, peas and vetch mixture and sunflowers, with some second crop clover, are the crops relied upon to fill the silo.

Basic slag has proven very effective at this Station and in the entire district as a clover promoter, and likewise effective in producing peas and vetches in the silage mixture. Ground limestone has been used to some extent at the Station and on other farms in the valley, but with apparently little effect as a clover promoter.

A turnip competition was successfully conducted in this district. The winning field yielded 37 tons per acre. A nitrate of soda demonstration was carried out on field "B". Turnips, sunflowers, clover and O.P.V. yielded good crops at this Station.

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

OPERATIONS AT WELSFORD: FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Turnips		38·2 tons	1 44 per ton	59 59
	Sunflowers (ensilage)		20 tons	2 65 per ton	17 00
	Oats, peas and vetches (for silage)		6·0 tons	4 05 per ton	−3 30
B	Timothy hay	100 lb. nitrate	2·7 tons	6 76 per ton	8 73
	Timothy hay	Without nitrate	1·7 tons	8 98 per ton	1 73
C	Clover hay	1,000 lb. basic slag in 1924.	3·54 tons	5 31 per ton	9 52
D	Oats, peas and vetches (for silage)		6·0 tons	6 25 per ton	−16 49

WOODSTOCK, CARLETON COUNTY

OPERATOR, W. A. GIBSON

A three-year crop-rotation similar to that at East Florenceville is being demonstrated here. The Station crops were much better than for several years. Some difficulty has been experienced in getting a clover stand here and this year two acres in the centre of field "B" were given a dressing of ground limestone at the rate of three tons per acre. A nitrate of soda demonstration on hay ground was carried on this year as well as various fertilizer experiments with potatoes.

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

OPERATIONS AT WOODSTOCK: FOUR-YEAR ROTATION

Field	Crop	Treatment per acre	Yield per acre	Actual cost	Profit or (−) loss per acre
				$ cts.	$ cts.
A	Timothy hay	100 lbs. nitrate	1·5 tons	5 60 per ton	6 60
	Timothy hay	Without nitrate	1·0 tons	5 40 per ton	4 60
B	Banner oats		50 bush. (est.)	0 50 per bush.	12 50
C	Potatoes	1,300 lb. fertilizer	302 bush.	0 15½ per bush.	255 19
		1,500 lb. fertilizer	316 bush.	0 15½ per bush.	267 02
		2,000 lb. fertilizer	330 bush.	0 16⅔ bush.	276 10

REPORT OF THE ILLUSTRATION STATIONS FOR NOVA SCOTIA

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

The season of 1925, although bad in many respects for ideal crop growth, as a whole gave very satisfactory yields on the Illustration Stations. There was 1·70 inches more rainfall during the month of May, 1925, than in May, 1924. This did not retard seeding materially. The most serious drawback at many Stations was the dull weather in July for haymaking, and for the harvesting in August and September.

LIVE STOCK

Ten of the thirteen operators have pure-bred bulls. The three without pure-bred bulls have access to a community-bull. Three of the operators have pure-bred herds, while most of the others have one or more pure-bred cows of the particular breed they desire. Work is being carried on in this line to encourage the operators to obtain a few more heifers to get a good foundation started.

Many of the operators keep pure-bred Yorkshire sows for breeding purposes. A good demand has been worked up through these Stations for this breed, and they are now prevalent in the more outlying districts where none were kept previously.

POULTRY

There has been a marked improvement in the poultry work on all the Illustration Stations. Barred Plymouth Rock eggs of a good laying strain, were procured by the operators, from the Experimental Station, Kentville, three years ago. Since then good foundation stock has been developed.

This season all pullets that began laying early were leg-banded and the number of the band recorded in order that the operator might observe more closely the best laying hens so that they could be identified in the spring, and separated to form the breeding pen. Illustration Stations serve as centres from which hatching-eggs, cockerels and surplus pullets may be purchased at a reasonable price. Two of the operators have shipped eggs to Ontario for hatching-purposes.

Some of the operators are contemplating erecting up-to-date poultry-houses next season and expanding this important phase of their work.

FLAX AND HEMP

One pound each of flax and hemp seed was sent to Newport, Musquodoboit and Middle River Stations, the object being to see if flax and hemp could be grown commercially in different sections of Nova Scotia.

The results were very encouraging. At Middle Musquodoboit and Middle River both the flax and hemp did exceptionally well. The hemp at Middle Musquodoboit grew to a height of twelve feet. The field at Middle River also gave a good crop. Flax did well at Newport, but the soil was too damp for the proper development of hemp.

FERTILIZER WORK ON PASTURE LAND

In 1924 tests were undertaken at all the Stations to show the value of improving pastures by a surface application of fertilizers.

A uniform area of one-quarter acre was used 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;
Plot 2. Limestone, 2 tons; slag, 1,000 pounds;
Plot 3. Limestone, 2 tons; acid phosphate, 1,000 pounds;
Plot 4. Slag, 1,000 pounds;
Plot 5. Not fertilized.

All material was applied as soon as vegetation started in the spring. No noticeable change could be seen until about the middle of August when an abundance of clover could be noticed starting on these poor pasture areas. In the early spring of 1925 two extra plots of the same area 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 seed was sown and followed by a light harrow. This will be compared with slag applied directly to the unploughed soil.

From the results given below this demonstration shows that these poor pastures can be rapidly and successfully improved by a treatment of limestone to correct the acidity, and phosphoric acid to furnish plant food. Livestock will feed from these areas when other pastures not fertilized will supply but little grass during July and August. These plots were not pastured but the grass was cut and weighed so that any variation in growth due to the different treatment could be determined.

GREEN WEIGHT OF GRASS ON PASTURE AREAS, 1925

—	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5
	Lime	Lime and slag	Lime and acid phosphate	Slag	No fertilizer
	lb.	lb.	lb.	lb.	lb.
Newport	1,560	10,440	10,040	7,640	880
Middle River	1,000	1,500	1,680	1,240	800
Christmas Island	599	677·5	677·5	745	0
New Glasgow	2,210	2,370	2,320	2,340	1,860
Heatherton	680	860	1,150	1,060	420
Kennetcook	2,780	3,900	4,100	3,700	1,800
Middle Musquodoboit	320	1,120	1,660	1,160	340
North East Margaree	985	1,360	1,425	1,090	560
Sydney	1,630	1,570	1,480	1,580	1,510
Totals	11,764	23,797·5	24,532·5	20,555	8,170

NOTE.—The increased yields of grass in tons on the areas receiving fertilizer are: plot 1, 1·79 tons; plot 2, 7·81 tons; plot 3, 8·18 tons; plot 4, 6·19 tons.

HAY YIELDS ON LIMED AND UNLIMED AREAS

The purposes of the demonstration with limestone on the rotation areas was to determine if limestone would be beneficial in promoting a more uniform clover growth. The limestone was applied at the rate of two tons per acre on the grain and seeded sections of the rotation areas, leaving a section unlimed. The land had a year previous to this application of limestone received twenty tons of stable manure per acre.

The following table gives the hay yields on the limed and unlimed areas in 1924 and 1925:—

HAY YIELDS ON LIMED AND UNLIMED AREAS

Station	1924		1925	
	Limed	Unlimed	Limed	Unlimed
	tons	tons	tons	tons
Sydney	3·13	2·46	2·57	2·50
Christmas Island	2·48	1·65	1·83	1·27
Middle River	2·00	1·35	2·50	1·76
North East Margaree	1·56	0·5	3·96	3·70
Heatherton	1·77	1·11	2·18	1·60
Tatamagouche	2·11	1·44	2·56	2·32
Middle Musquodoboit	3·05	2·60	2·70	2·40
Upper Granville	2·55	2·22	2·86	2·60
Newport	.....	.....	3·52	3·37
Kennetcook	.....	.....	1·51	1·37
Yarmouth	.....	.....	2·98	2·39
New Glasgow	.....	.....	2·90	2·47
Average	2·33	1·66	2·67	2·31

Average yield on limed plots for the two years ..... 2·5 tons
Average yield on unlimed plots for the two years ..... 1·98 tons
Average increase yield of hay per acre in favour of liming ..... 0·52 tons

COMPARISON OF COMMERCIAL FERTILIZERS AND FARMYARD MANURE FOR POTATOES

This demonstration was undertaken on all the Illustration Stations in Nova Scotia to show the comparative value of commercial fertilizers, singly and in combination with farmyard manure. Four one-eighth-acre plots were used. In this test the soil varied from sandy loam to clay loam according to the districts in which the Stations were located. These plots were treated as stated in the table following. The stable manure was scattered broadcast and ploughed under; the commercial fertilizer was applied broadcast and harrowed into the soil, Irish Cobbler potatoes being planted.

POTATOES FERTILIZED IN VARIOUS WAYS, 1925

Station	Yield per acre			
	20 tons manure	10 tons manure; 750 pounds of 4-8-4 fertilizer	1,500 pounds of 4-8-4 fertilizer	No fertilizer
	bush.	bush.	bush.	bush.
Sydney River	207·0	235·5	276·0	62·0
Christmas Island	80·0	96·0	100·0	53·0
Middle River	270·0	290·0	282·0	53·0
N. E. Margaree	385·0	412·5	375·0	118·2
Heatherton	138·6	221·3	195·8	134·2
New Glasgow	259·9	356·4	372·0	140·8
M. Musquodoboit	168·7	132·7	140·0	63·0
Kennetcook	203·5	305·7	236·5	99·0
Newport	232·0	247·0	288·0	32·5
Upper Granville	249·0	275·0	263·0	145·0
Tatamagouche	198·0	209·0	171·5	88·0
Belliveau Cove	158·0	148·1	157·4	73·6
	212·4	244·1	238·1	88·5

SUMMARY, 1925, POTATOES FERTILIZED IN VARIOUS WAYS

How fertilized per acre	Average yield per acre	Value of crop at 60 cents per bushel	Cost of fertilizer	Profit above cost of fertilizer
	bush.	$	$	$
20 tons manure	212·4	127·44	40·00	87·44
10 tons of manure; 750 pounds of 4-8-4 fertilizer	244·1	146·46	35·00	111 46
1,500 pounds of 4-8-4 fertilizer	238·1	142 86	30 00	112 86
Not fertilized	88·5	53 10	.....	.....

In 1924 a similar demonstration to that just outlined was conducted with fertilizers and manure on potatoes. To determine the effects of these on succeeding crops, the four plots were seeded this spring, to oats, along with 5 pounds red clover, 5 pounds of alsike and 10 pounds of timothy. The yield of potatoes in 1924 and this season's grain crop is as given below and indicates the treatment which each plot received.

EFFECT OF MANURE AND FERTILIZERS APPLIED TO POTATOES ON SUCCEEDING CROPS

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

TURNIP COMPETITIONS

Turnip competitions were conducted in the districts surrounding the Illustration Stations at Tatamagouche, Heatherton, Middle Musquodoboit, North East Margaree, and McLellans Brook, the object being to encourage farmers in the more remote districts to grow more turnips as well as to get acquainted with the heavier-yielding varieties of turnips. The results of the work have been very satisfactory.

Each grower was required to pay an entry fee and to grow at least one-half-acre of turnips to enter the contest, two varieties were planted, namely the Invicta and the Hall's Westbury. Sections of each field were weighed at the time of judging and the yields recorded. On the thirty-three farms where both varieties were grown, Invicta gave an average yield of 22 tons, and Hall's Westbury, 24.5 tons per acre.

CLOVER AND TIMOTHY HAY YIELDS FOUR-YEAR AVERAGE

The table below shows the clover and timothy hay yields from 1922 to 1925, inclusive. Unfortunately, all the Stations were not established to give the hay yields in 1922.

This table demonstrates one outstanding fact, namely, that under proper cultural methods and by practicing a rotation of crops, yields may be materially increased. The rotations where these yields were obtained were not fertilized nearly as heavily as many farmers fertilize. Twenty tons of stable manure have been applied every four years, with the exception of a few Stations receiving an application of 400 pounds of acid phosphate per acre.

CLOVER AND TIMOTHY HAY YIELDS, 1922-1925

Station	1922		1923		1924		1925	
	Clover hay 1st year	Timothy hay 2nd year	Clover hay 1st year	Timothy hay 2nd year	Clover hay 1st year	Timothy hay 2nd year	Clover hay 1st year	Timothy hay 2nd year
	tons	tons	tons	tons	tons	tons	tons	tons
Sydney River	1·6	1·09	3·0	4·2	2·0	3·1	3·8	3·1
Christmas Island	0·9	.....	1·4	1·5	2·5	1·0	1·4	0·9
Middle River	.....	.....	3·2	2·4	2·0	2·8	2·5	1·7
N.E. Margaree	2·4	.....	3·3	2·0	4·0	3·02	3·9	3·75
Heatherton	1·5	1·0	2·1	1·4	1·6	2·07	2·9	1·6
New Glasgow	1·3	1·6	1·6	2·1	1·8	1·1	3·4	2·1
Tatamagouche	2·0	1·7	3·0	2·0	3·0	2·7	2·5	2·3
M. Musquodoboit	.....	.....	.....	.....	3·8	1·7	3·4	2·4
Kennetcook	.....	.....	1·7	1·5	1·4	1·5	2·4	1·5
Newport	.....	.....	2·5	2·1	2·8	2·2	3·3	1·9
Upper Granville	.....	.....	3·4	2·2	2·5	2·9	3·1	2·8
Belliveau Cove	2·3	2·0	3·2	2·0	2·3	2·01	2·6	2·3
Yarmouth	2·0	.....	3·0	3·0	1·9	3·0	3·0	2·0
Average	1·75	1·48	2·61	2·04	2·45	2·15	2·95	2·14

NITROGENOUS FERTILIZERS ON MEADOW-LAND

In order to determine the effect of applying nitrate of soda and sulphate of ammonia to meadow lands, demonstrations comparing their value, have been under way on all Stations in Nova Scotia for the past two years and on some for three years. The application of each was made just at the time vegetation started in the spring.

The average yield of hay for the three-year period was 2.53 tons where nitrate of soda was applied, 2.55 tons where sulphate of ammonia was applied, and 1.79 tons per acre where no fertilizer was used.

The following table gives the yields of hay from the different treatments on each Station:—

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

Station	1923			1924			1925		
	Nitrate of soda plot	Sulphate of ammonia plot	Unfertilized plot	Nitrate of soda plot	Sulphate of ammonia plot	Unfertilized plot	Nitrate of soda plot	Sulphate of ammonia plot	Unfertilized plot
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Sydney	.....	.....	.....	6,750	6,510	5,850	5,490	4,640	3,140
Christmas Island	.....	.....	.....	3,580	3,540	2,960	1,555	1,640	1,800
Middle River	.....	.....	.....	5,840	5,440	5,960	6,004	5,510	3,520
N.E. Margaree	.....	.....	.....	8,420	8,750	7,130	8,010	7,807	7,170
Heatherton	3,300	4,060	2,940	3,580	3,540	2,960	4,226	4,220	3,340
New Glasgow	4,850	5,350	3,200	4,120	3,600	1,520	7,807	7,410	6,600
Tatamagouche	2,230	2,770	1,310	3,800	3,400	1,640	6,803	7,680	4,640
M. Musquodoboit	5,110	6,450	3,350	3,660	4,300	3,100	6,960	7,040	4,803
Kennetcook	.....	.....	.....	3,000	3,160	1,800	5,010	4,807	3,005
Newport	.....	.....	.....	4,720	5,080	3,541	5,960	5,900	3,860
Upper Granville	7,560	6,200	3,200	5,670	5,030	4,190	6,240	6,040	5,200
Belliveau Cove	.....	.....	.....	4,565	4,850½	4,000	3,850	3,400	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

SLAG TESTS

Field tests were conducted at all the Illustration Stations this season with Belgian and Sydney slag, singly and in combination with Malagash salt, with the idea of determining the effect of each on succeeding crops. A uniform area of one-half acre was carefully selected at each Station, the soil being ploughed in the autumn of 1924. The land was disked in the spring and the slag applied. Malagash salt was applied cross-wise on one-half of each plot, and harrowed in. These areas were sown with oats and seeded with clover and timothy.

The table following shows the amount applied per acre, and the yield of grain obtained.

YIELD OF OATS WITH AND WITHOUT FERTILIZERS

Station	Belgian slag 1,000 lb. per acre	Sydney slag 1,000 lb. per acre	Belgium slag 1,000 lb. malagash salt 400 lb. per acre	Sydney slag 1,000 lb. malagash salt 400 lb. per acre	Malagash salt 400 lb. per acre	Not fertilized
	bush.	bush.	bush.	bush.	bush.	bush.
Sydney River	48·3	46·3	48·1	47·0	32·0	31·2
Christmas Island	40·2	40·2	40·2	40·8	34·0	33·0
N. E. Margaree	58·8	56·6	60·0	57·0	50·0	47·0
Heatherton	54·0	46·0	48·0	58·0	28·0	34·0
New Glasgow	42·3	44·7	31·7	38·7	35·2	37·6
Tatamagouche	35·0	28·2	36·3	30·0	19·8	18·0
M. Musquodoboit	48·2	39·7	53·7	49·5	34·2	25·2
Kennetcook	46·1	44·1	47·0	45·5	41·1	40·3
Newport	50·5	41·0	48·2	45·8	41·0	36·1
Upper Granville	51·6	49·3	52·0	48·7	42·0	42·3
Belliveau Cove	37·8	36·1	38·4	37·0	31·1	32·5
Yarmouth	49·3	48·0	49·9	48·5	41·6	42·0
Average	46·8	43·3	47·8	45·5	35·8	34·9

It will be seen that the Belgian slag plot gave an increased yield of 3.5 bushels of oats over the Sydney slag plot. It may be noted that by applying Malagash salt with these slags there has been an average yield of 1.5 bushels more than where slags alone were used. Where Malagash salt was used alone there has been an increase of 0.9 bushels over the non-fertilized plot. This test will be conducted for two more years in order to arrive at some definite conclusion as to which slag is more economical for our Illustration Station work.

BELLIVEAU COVE, DIGBY COUNTY

OPERATOR, ADOLPHE J. BELLIVEAU

Seeding was possible at this Station June 3. The cold winds and rains prevented the operator from preparing a suitable seed-bed earlier. The crops were good and gave large yields, except field " A." The continued wet weather did not allow the operator to cultivate properly. Most of the cultivation had to be done by hand, which, along with the low yields, accounts for the high cost of production. The fields " B " and " C " gave exceptionally good yields of hay. Field "D" produced 64 bushels of oats per acre. This is exceptionally clean seed and will be utilized by the farmers in that section, where it is badly needed.

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

OPERATIONS AT BELLIVEAU COVE: FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Turnips	412 bush.	0 15 per bush.
A	Mangels	300 bush.	0 25 per bush.
B	Timothy hay	2·3 tons	7 60 per ton
C	Clover hay	2·67 tons	7 35 pr ton
D	Oats and seeded	64 bush.	0 69 per bush.

CHRISTMAS ISLAND, CAPE BRETON COUNTY

OPERATOR, J. A. MCNEIL

Seeding was not possible at this Station until June 5. This Station, like the district in which it is situated, is not suitable for growing most hoed crops on account of a wet subsoil. It will be seen from the table and from previous work at this Station that a rotation system is gradually building up this soil. Hay was a poor yield, especially on the timothy area, while the clover area was a fair crop. Potatoes rotted badly at the last of the season. Oats gave the largest yield since the Station started. The clover stand on the grain and seeded area this season was the most uniform so far at this Station.

From work conducted outside this rotation area it would seem the one outstanding fertilizer needed to produce a good stand of clover and produce larger crops is a phosphate fertilizer.

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

OPERATIONS AT CHRISTMAS ISLAND: FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Timothy hay	0·86 tons	17 00 per ton
B	Clover hay	1·4 tons	12 32 per ton
C	Potatoes	85 bush.	0 60 per bush.
C	Turnips	550 bush.	0 09 per bush.
D	Oats and seeded	48 bush.	0 51 per bush.

LIME AND SLAG APPLIED WHEN SEEDING DOWN—CHRISTMAS ISLAND

The object of this test was to determine whether limestone or slag could be profitably used in hay-production. In the fall of 1922 a field of fair uniformity was ploughed and in the spring was divided into five one-half-acre plots, which were treated as given in the table following. The limestone and slag was sown broadcast and harrowed into the soil, after which sulphate of ammonia was spread broadcast and harrowed in. Oats were sown and the land seeded with timothy and clover.

Records were obtained from the oats, as well as the clover hay and timothy hay, and these are given in the table for the three-year period. It will be noticed in the profit-or-loss column, extended over the three-year period, that the greatest profit was obtained where an application of 600 pounds of slag was applied, while the next best returns were obtained where slag and sulphate of ammonia were applied. Limestone alone gave a small profit, $1.84, over a three-year period, and limestone used with sulphate gave a loss of 14 cents.

From this test, and from similar work which is being carried on at this Station, the results demonstrate beyond a doubt that the soil is very deficient in phosphoric acid, and that slag or acid phosphate will give greater profits than will limestone.

In calculating the profit or loss on these areas, oats has been valued at 60 cents per bushel, and hay at $10 per ton.

LIME AND SLAG APPLIED WHEN SEEDING DOWN

Plot	How fertilized per acre, spring of 1923	Yield of oats per acre 1923	Yield clover hay per acre 1924	Yield timothy hay per acre 1925	Total value of product for three years	Cost of fertilizer	Profit or loss (−) over plot not fertilized
		bush.	tons	tons	$ cts.	$ cts.	$ cts.
1	2 tons limestone	11·7	1·30	1·87	38·72	9·00	1 84
2	2 tons limestone; 200 lb. sulphate of ammonia	13·4	1·45	2·12	43 74	16 00	− 0 14
3	600 lb. slag, Sydney, 14 per cent	14·1	1·90	2·25	49 96	6 00	16 08
4	600 lb. slag, Sydney, 14 per cent 200 lb. sulphate of ammonia.	15·3	2·17	2·55	56 38	13 00	15 50
5	Not fertilized	9·3	0·96	1·27	27 88	.....	.....

HEATHERTON, ANTIGONISH COUNTY

OPERATOR, D. W. GRANT

Seeding could not be done at this Station until May 29, due to cold northeast winds, which prevented this type of soil from drying. All crops grew well and large yields were obtained, except from the timothy hay fields. This was due chiefly to adverse conditions in 1924, when the clover roots were heaved out by the spring frosts.

The results of the season's work on the rotation areas are given below:—

OPERATIONS AT HEATHERTON—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats and seeded	56 bush.	0 51 per bush.
B	Clover hay	2·9 tons	6 90 per ton
C	Timothy hay	1·6 tons	10 28 per ton
D	Turnips	1,064 bush.	0 08 per bush.

FERTILIZERS TO IMPROVE UNPRODUCTIVE PASTURE LAND

An effort has been made at this Station to determine and demonstrate, to the farmers in the Heatherton district, the most successful method of fertilizing and bringing under crop unproductive pasture lands. For this two and one-half acres of pasture land was fall-ploughed in 1922. The following spring it was fertilized in the manner indicated in the table following and seeded to peas, oats and vetches, along with the regular grass and clover mixture.

The results of three years' work are interesting, as they show a great deficiency of phosphoric acid in this soil, as in most run-out fields. It will be noticed that marl or slag did not give the results expected, both showing a loss from their use, except on the 2B plot. Where acid phosphate was used, it will be noted that a small application, together with a small amount of marl, gave the largest gain, and acid phosphate alone the next largest gain.

In calculating the total value of the product from these areas, green feed is charged at $5 and hay at $10 per ton.

FERTILIZERS TO IMPROVE PASTURES

Plot	How fertilized per acre	Yield green feed per acre 1923	Yield clover hay per acre 1924	Yield timothy hay per acre 1925	Total value of product for three years	Cost of fertilizer	Profit or loss (—) over plot not fertilized
		tons	tons	tons	$ cts.	$ cts.	$ cts.
1	Marl, 3 tons, for all plots—						
	A. 150 lb. nitrate of soda	2·5	0·42	0·30	19 70	18 00	−10 70
	B. 115 lb. sulphate of ammonia	2·1	0·41	0·34	18 00	17 52	−11 92
	C. No nitrogenous fertilizers	1·4	0·40	0·31	14 10	13 50	−11 80
2	Marl, 3 tons; slag, 350 lb. on all plots—						
	A. 150 lb. nitrate of soda	3·8	0·51	0·45	28 60	21 50	− 5 30
	B. 115 lb. sulphate of ammonia	6·1	0·49	0·40	39 40	21 02	5 98
	C. No nitrogenous fertilizers	2·3	0·46	0·38	19 90	17 00	− 9 50
3	Marl, 3 tons; acid phosphate, 350 lb., on all plots—						
	A. 150 lb. nitrate of soda	7·2	2·22	1·01	68 30	21 50	34 40
	B. 115 lb. sulphate of ammonia	6·5	2·16	0·98	63 90	21 02	30 48
	C. No nitrogenous fertilizers	5·4	2·08	0·77	55·50	17 00	26 10
4	Acid phosphate, 300 lb. on all plots—						
	A. 150 lb. nitrate of soda	6·5	1·06	0·74	50 50	7 50	30 60
	B. 115 lb. sulphate of ammonia	6·0	1·08	0·68	47 60	7 02	28 18
	C. No nitrogenous fertilizers	4 6	1·03	0·66	39 90	3 00	24 50
5	Manure, 10 tons (Sweet clover, 1922, alsike, red clover and timothy)	0·92	1·08	0·80	23 40	20 00	− 9 00
6	Not fertilized	1·1	0·38	0·31	12 40	.....	.....

RESULT OF DEMONSTRATION WITH SLAG AND MARL WHEN APPLIED TO IMPROVED LAND

In the spring of 1923 one and one-half acres of improved land were seeded to wheat, clover, and timothy, after slag and marl had been applied and harrowed in. Plots 1A, 2A and 3A received nitrate of soda in addition to the slag and marl. The wheat yields are given in the table following as well as those of clover hay and timothy.

It will be seen from the table that over a three-year period marl alone gave the largest profit, while marl and nitrate of soda gave the next largest return. Where nitrate of soda was used alone the crops were produced at a loss of $2.60. It is quite apparent that on soil of this character, applications of marl or slag will not only pay for their application but give a fair profit besides.

In calculating the profit on these areas wheat is valued at $1 per bushel, and hay at $10 per ton.

SLAG AND MARL ON IMPROVED SOILS

Plot	How fertilized per acre	Yield wheat per acre 1923	Yield clover hay per acre 1924	Yield timothy hay per acre 1925	Total value of product for three years	Cost of fertilizer	Profit or loss (—) over plot not fertilized
		bush.	tons	tons	$ cts.	$ cts.	$ cts.
1a	1,200 lb. slag; 200 lb. nitrate of of soda	12·8	2·60	1·50	53 80	16 00	2 60
1b	1,200 lb. slag	10·7	2·58	1·38	50 30	12 00	3 10
2a	1½ tons marl; 200 lb. nitrate of soda	15·4	2·60	1·61	57 50	12 75	9 55
2b	1½ tons marl	13·8	2·51	1·58	54 70	6 75	12 75
3a	200 lb. nitrate of soda	14·4	1·54	0·88	38 60	6 00	−2 60
3b	Not fertilized	11·7	1·51	0·84	35 20	.....	.....

KENNETCOOK, HANTS COUNTY

Operator, Willard Ettinger

Seeding could not be commenced until May 29 at this Station, this being eight days later than in 1924. The crops were exceptionally good, as will be seen from the table. Of all the Stations in Nova Scotia, this has shown the greatest improvement during 1925.

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

Operations at Kennetcook—Four-Year Rotation

Field	Crop	Yield per acre	Cost
			$ cts.
A	Potatoes	209 bush.	0 30 per bush.
A	Turnips	898 bush.	0 10 per bush.
B	Timothy hay	1·51 tons	8 56 per ton
C	Oats and seeded	58·8 bush.	0 52 per bush.
D	Clover hay	2·4 tons	8 12 per ton

MIDDLE MUSQUODOBOIT, HALIFAX COUNTY

Operator, R. B. McCurdy

Seeding at this Station was not possible until May 28, eight days later than in 1924. The wet weather on this heavy soil made farm operations difficult. For nearly three weeks, the operator could not cultivate his hoed crop. This not only added to the cost but lowered the yield. The oat yield was disappointing giving only 35 bushels per acre. The turnip crop gave a much larger yield than was expected the first of the season. The hay yields have been exceptionally good. The clover hay crop gave 3·6 tons per acre. Underdrainage has been started at this Station and it is already showing beneficial results. The operator has been growing corn outside the rotation area on intervale land. The soil is a light loam. This is the third successful crop grown by the operator. This year corn gave a yield of 22½ tons per acre.

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

Operations at Middle Musquodoboit—Four-Year Rotation

Field	Crop	Yield per acre	Cost
			$ cts.
A	Timothy hay	2·4 tons	5 73 per ton
B	Clover hay	3·6 tons	5 07 per ton
C	Oats and seeded	35 bush.	0 78 per bush.
D	Turnips	905 bush.	0 07 per bush.

MIDDLE RIVER, VICTORIA COUNTY

Operator, Forbes McDonald

Seeding in 1925 was possible a few days earlier at this Station than last year. Oats were sown May 19, but in August the grain was killed by a severe frost, compelling the operator to harvest most of his grain as oat hay. The hay crop was considerably better than 1924. The turnips did not give a heavy yield

but were uniform. The potato crop gave the largest yield since the Station was started.

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

OPERATIONS AT MIDDLE RIVER—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Potatoes	294 bush.	0 31 per bush.
A	Turnips	620 bush.	0 12 per bush.
B	Timothy hay	2·5 tons	6 28 per ton
C	Oat hay	3·1 tons	8 45 per ton
D	Clover hay	2·25 tons	7 34 per ton

RESULTS OF LIMESTONE AND SLAG DEMONSTRATION AT MIDDLE RIVER

This test was conducted on old pasture land, low in fertility, which was ploughed in the fall of 1922. The object of this test was to obtain information as to whether it would pay to apply limestone or slag to the soil when seeding down.

One and one-quarter acres of land were treated as stated in the table following. The plots were one-quarter acre each. The limestone and slag were applied broadcast and harrowed in before seeding. Sulphate of ammonia was sown broadcast and harrowed in on plots 2, 4, and 5. This area was then sown with Charlotetown No. 80 barley along with clover and timothy.

It will be noted in the table that the barley was not threshed on account of being badly injured by frost, but the material was dried and made into hay. It is seen from three years' results that both limestone and slag have not only paid for themselves but have given a good profit besides. The slag with sulphate of ammonia gave the greatest profit, limestone with sulphate of ammonia the next, and slag alone the next. Sulphate of ammonia alone did not pay for its application.

In calculating the profit from these areas the hay crops were valued at $10 per ton.

LIMESTONE AND SLAG ON OLD PASTURE LAND

Plot	How fertilized per acre	Yield barley hay per acre 1923	Yield clover hay per acre 1924	Yield timothy hay per acre 1925	Total value of product for three years	Cost of fertilizer	Profit or loss (—) over plot not fertilized
		tons	tons	tons	$ cts.	$ cts.	$ cts.
1	4 tons limestone	1·8	1·40	1·50	47 00	9 00	13 30
2	2 tons limestone; 200 lb. sulphate of ammonia	2·2	1·80	1·95	59 50	16 00	18 80
3	1,200 lb. slag, Sydney, 14 per cent	2·2	1·48	1·55	52 30	12 00	15 60
4	1,200 lb. slag, Sydney, 14 per cent; 200 lb. sulphate of ammonia	2·8	1·88	2·02	67 00	19 00	23 30
5	200 lb. sulphate of ammonia	0·6	1·12	1·18	29 00	7·00	—2·70
6	Not fertilized	0·4	1·0	1·07	24 70	.....	.....

NEWPORT, HANTS COUNTY

OPERATOR, CHARLES ZWICKER

Seeding was possible at this Station May 22. Great credit is due the operator for the crops produced at this Station. He is fortunate in always getting a good seed-bed established for seeding at the proper time. The oats at this

Station gave a yield of 78 bushels per acre. The hoed crop of two and one-half acres of turnips gave 2,810 bushels. The hay yields were good; clover produced 3·5 tons per acre. The operator will have about 500 bushels of registered Banner oats for sale this season.

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

OPERATIONS AT NEWPORT—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Timothy hay	1·56 tons	7 36 per ton
B	Turnips	1,124 bush.	0 06 per bush.
C	Oats and seeded	78 bush.	0 40 per bush.
D	Clover hay	3·5 tons	5 32 per ton

NEW GLASGOW, PICTOU COUNTY

OPERATOR, GEO. P. FRASER

Seeding started at this Station May 21, and the crop was harvested in ninety-one days from the date of seeding. Oats matured earlier at this Station this year than at any other in Nova Scotia. All crops were good except the clover hay on field "B." The young clover roots were thrown out by the freezing and thawing in the early spring. The operator has now underdrained most of this field, which will be a great improvement. The grain crop was exceptionally good, yielding 558 bushels of Banner oats from ten acres. In the spring the operator is putting in a few lines of tile in one corner of field "C." Interesting results were shown on field "D," on the areas receiving limestone and no limestone. It was demonstrated beyond a doubt that limestone is greatly needed on these soils.

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

OPERATIONS AT NEW GLASGOW—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Oats and seeded	55·8 bush.	0 57 per bush.
B	Clover hay	0·93 tons	14 91 per ton
C	Potatoes	236 bush.	0 25 per bush.
C	Turnips	862 bush.	0 07 per bush.
D	Clover hay	3·3 tons	5 22 per ton

INFLUENCE OF FERTILIZERS ON SUCCEEDING CROPS WHERE APPLIED TO POTATOES

In order to determine the comparative value of manure alone and in combination with commercial fertilizers for potatoes and succeeding crops, a demonstration was started at New Glasgow in 1923, as outlined in the following table. This table shows three years' results from the one application of fertilizer made at that time. A general survey of the results shows that over a three-year period, plot 4, where chemical fertilizer alone was applied, has given the largest returns. Plot 3 has given the next greatest returns, and plot 1 the next. This demonstrates fairly clearly that chemical fertilizer alone or chemical fertilizer with a light dressing of stable manure is practical and profitable on some of our poorer soils.

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

INFLUENCE OF FERTILIZERS APPLIED TO POTATOES ON FOLLOWING CROPS

Plot	How fertilized per acre	Yield potatoes per acre 1923	Yield oats per acre 1924	Yield clover hay per acre 1925	Total value of produce for three years	Cost of fertilizer	Value of produce above cost of fertilizers
		bush.	bush.	tons	$ cts.	$ cts.	$ cts.
1	15 tons manure	238	36·1	2·8	194 26	30 00	164 26
2	10 tons manure; 150 lb. nitrate of soda; 300 lb. acid phosphate; 100 lb. muriate of potash	210	44·2	3·4	188 73	30 60	158 13
3	10 tons manure; 200 lb. nitrate of soda	220	42·1	3·4	193 36	26 00	167 36
4	300 lb. nitrate of soda; 600 lb. acid phosphate; 150 lb. muriate of potash	270	38·2	3·32	220 03	19 95	200 08

NORTH EAST MARGAREE, INVERNESS COUNTY

OPERATOR, TOM E. ROSS

Seeding operations were a little later at this station than the year previous. Oats could not be sown until May 20. The season was favourable, with the exception of nearly two weeks of rainy weather which occurred just after the operator had cut his grain. All crops were exceptionally good. Clover hay gave nearly four tons, dry weight, per acre. The operator has most of his seed sold to the farmers in the county. He was successful in capturing first prize and sweepstakes in this district for the second time on a pen of lambs, in a class of six hundred lambs.

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

OPERATIONS AT NORTH EAST MARGAREE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Turnips	1,180 bush.	0 06 per bush.
A	Potatoes	308 bush.	0 25 per bush.
B	Clover hay	3·9 ton	5 57 per ton
C	Oats and seeded	58 bush.	0 54 per bush.
D	Timothy hay	3·75 ton	4 66 per ton

RESULTS OF FERTILIZER DEMONSTRATIONS ON UNPRODUCTIVE PASTURE LAND AT NORTH EAST MARGAREE

To determine the most suitable fertilizers to build up the unproductive lands of this district, a uniform area of five acres was selected and spring-ploughed in 1923. This area was then divided into five one-acre plots and fertilized as follows:—

Plot 1, Burnt lime	2 tons
Plot 2, Slag	1,200 lb.
Plot 3, Not fertilized	....
Plot 4, Manure	10 tons
Plot 5, Manure	10 tons
Lime	2 tons

Each acre-plot was again divided into three sections. Section "A" received nitrate of soda, "B" no nitrogenous fertilizer, and "C" sulphate of ammonia.

The fertilizers were applied broadcast and harrowed in and the land seeded to oats, grasses and clovers.

The following table shows the yields and profit from the various fertilized plots as well as the profit over the unfertilized plot. It will be noted that the yield of oats show a gain from the use of nitrogenous fertilizers, sulphate of ammonia giving a little higher yield than the nitrate of soda. Although the yields of clover and timothy hay were low in 1924 and 1925, it will be seen that the profit from some of the plots is quite marked, burnt lime giving the largest profit, followed by slag. Manure at 10 tons per acre produced crops at a loss. Winter-killing caused by ice gathering on plot " 5 " resulted in a considerable lowering of the yield and profit as compared with plot 1.

In calculating the profit from the various areas oats has been valued at 60 cents per bushel, and hay at $10 per ton.

FERTILIZERS ON UNPRODUCTIVE PASTURE AREAS

Plot	How fertilized per acre	Yield oats per acre 1923	Yield clover hay per acre 1924	Yield timothy hay per acre 1925	Total value of product for three years	Cost of fertilizer	Profit or loss (−) over plot not fertilized
		bush.	tons	tons	$ cts.	$ cts.	$ cts.
1	Burnt lime, 2 tons on all plots—						
	A. 200 lb. nitrate of soda.....	58·7	1·5	1·4	64 22	15 00	23 96
	B. No nitrogenous fertilizer...	47·5	1·2	1·2	52 50	9 00	18 24
	C. 150 lb. sulphate of ammonia	65·6	1·36	1·4	66 96	14 25	27 45
2	Slag, 1,200 lb. (Sydney 14 per cent) on all plots—						
	A. 200 lb. nitrate of soda.....	41·6	1·52	1·28	52 96	18 00	9 70
	B. No nitrogenous fertilizer...	34·8	1·2	1·05	43 38	12 00	6 12
	C. 150 lb. sulphate of ammonia	41·5	1·3	1·6	53 90	17 25	11 39
3	No lime, manure or slag on any plots—						
	A. 200 lb. nitrate of soda.....	35·3	0·50	0·60	32 18	6 00	0 92
	B. No nitrogenous fertilizer...	30·1	0·42	0·30	25 26	.....	.....
	C. 150 lb. sulphate of ammonia	44·1	0·70	0·40	37 46	5 25	6 95
4	Manure, 10 tons on all plots—						
	A. 200 lb. nitrate of soda.....	47·5	0·60	0·48	39 30	26 00	−11 96
	B. No nitrogenous fertilizer...	51·1	0·72	0·62	44 06	20 00	− 1 20
	C. 150 lb. sulphate of ammonia	52·1	0·62	0·70	44 46	25 25	− 6 05
5	Manure, 10 tons; burnt lime, 2 tons; on all plots—						
	A. 200 lb. nitrate of soda.....	58·7	1·9	1·4	68 22	35 00	7 96
	B. No nitrogenous fertilizer...	65·1	0·87	1·0	57 76	29 00	3 50
	C. 150 lb. sulphate of ammonia	47·5	1·30	1·98	61 30	34 25	1 79

SYDNEY RIVER, CAPE BRETON COUNTY

OPERATOR, MELVIN MORESHEAD

Seeding is generally early at this Station, but was delayed this year until June 1, because of the wet condition of field " D ". It will be noticed the yield of oats was not as heavy as usual, due to this late date of seeding.

The results of the season's work are as given in the table below:—

OPERATIONS AT SYDNEY RIVER—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Potatoes	237 bush.	0 29 per bush.
A	Turnips	902 bush.	0 07 per bush.
B	Clover hay	3·8 tons	5 97 per ton
C	Timothy hay	3·1 tons	5 40 per ton
D	Oats and seeded	42 bush.	0 59 per bush.

THE COMPARATIVE VALUE OF DIFFERENT FERTILIZERS FOR POTATOES AND THEIR EFFECT ON SUCCEEDING CROPS

The test carried on at Sydney River was started the same time as that at New Glasgow in 1923. The table following shows that plot 4, where chemical fertilizers alone were applied, gave the greatest return, and plot 1, the least.

VALUE OF FERTILIZERS AND THEIR EFFECT ON SUCCEEDING CROPS

Plot	How fertilized per acre	Yield potatoes per acre 1923	Yield oats per acre 1924	Yield clover hay per acre 1925	Total value of product for three years	Cost of fertilizer	Value of produce above cost of fertilizers
		bush.	bush.	tons	$ cts.	$ cts.	$ cts.
1	20 tons manure	178	41·0	3·5	168 45	40 00	128 45
2	15 tons manure; 37½ lb. sulphate of ammonia; 37½ lb. nitrate of soda; 150 lb. acid phosphate; 50 lb. muriate of potash	193	51·3	3·4	183 14	35 48	147 66
3	10 tons manure; 75 lb. sulphate of ammonia; 75 lb. nitrate of soda; 300 lb. acid phosphate; 100 lb. muriate of potash	205	49·6	3·3	188 24	30 97	157 27
4	150 lb. sulphate of ammonia; 150 lb. nitrate of soda; 600 lb. acid sulphate; 150 lb. muriate of potash	260	45·2	3·3	218 38	20 70	197 68

TATAMAGOUCHE, COLCHESTER COUNTY

OPERATOR, G. B. CLARK

Seeding does not vary more than two or three days in this district. Oats were sown this year on May 25. All crops were supplied with plenty of moisture during the growing season. The crops at this Station were outstandingly better than any others in the district. The turnip yield was exceptionally good, as were grain and hay. The increase is better than in 1924, when the operator thought he had reached the maximum production per acre on his soil. The operator has most of his surplus seed sold to the farmers in the district.

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

OPERATIONS AT TATAMAGOUCHE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay	2·5 tons	8 06 per ton
B	Turnips	825 bush.	0 07 per bush.
C	Oats and seeded	56 bush.	0 55 per bush.
D	Timothy hay	2·32 tons	7 73 per ton

FERTILIZERS FOR SEEDING DOWN WITH OATS

In order to determine whether acid phosphate or Sydney slag could be used profitably in hay production, a uniform field low in fertility was ploughed for this work in the fall of 1924. In the spring, a good seed-bed was prepared. The fertilizer was sown broadcast and harrowed in after which oats were sown with clover and timothy. The oats were harvested and each plot threshed separately. The clover catch was good and a very uniform stand was obtained, except on the plot not fertilized (No. 6). A survey of the results shows that plots 1 and 3 have paid a profit over the cost of the acid phosphate, while plots 2, 4, and 5, which received slag, show a loss. This may be due to the phosphorous in the

acid phosphate being more readily available. The hay yields from these plots will be kept for the next two years to determine which fertilizer is the most valuable over a period of years.

ACID PHOSPHATE AND SLAG FOR HAY PRODUCTION

Plot	How fertilized per acre	Yield per acre	Increase over plot not fertilized	Value of increase at 60 cents per bush.	Cost of fertilizer	Profit or loss (—) per acre
		bush.	bush.	$ cts.	$ cts.	$ cts.
1	500 pounds acid phosphate	51·1	21·2	12 72	5 00	7 72
2	750 pounds Sydney slag	40·5	10·6	6·36	7 50	— 1 14
3	250 pounds acid phosphate	46·5	16·6	9 96	2 50	7 46
4	500 pounds Sydney slag	35·9	6·0	3 60	5 00	— 1 40
5	250 pounds Sydney slag	33·3	3·4	2 04	2 50	— 0 46
6	Not fertilized	29·9	.....	.....	.....	.....

UPPER GRANVILLE, ANNAPOLIS COUNTY

OPERATOR, J. G. CAMPBELL

Seeding was finished at this station on May 15. This lighter soil allows the operator to begin operations early and keep up with all farm work. All crops were good except turnips, sown on land badly infested with club-root. The clover hay crop gave an exceptionally good yield, 3.1 tons, being 0.6 tons mor eclover hay per acre than in 1924. The wet season was favourable for all crops on this type of soil.

The table following gives the results of the season's work on the rotation areas.

OPERATIONS AT UPPER GRANVILLE—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Timothy hay	2·8 tons	7 50 per ton
B	Clover hay	3·1 tons	7 56 per ton
C	Oats and seeded	72·3 bush.	0 55 per bush.
D	Potatoes	251 bush.	0 39 per bush.
D	Turnips	554 bush.	0 12 per bush.

YARMOUTH, YARMOUTH COUNTY

OPERATOR, DR. I. M. LOVITT

Seeding was possible May 13, making this the earliest Station in the province. All crops were good at this Station. Unfortunately no hoed crop was put in in 1925. The clover catch is exceptionally good. Clover apparently is well suited to this soil.

The following results show the season's work on the rotation areas:—

OPERATIONS AT YARMOUTH—FOUR-YEAR ROTATION

Field	Crop	Yield per acre	Cost
			$ cts.
A	Clover hay	3 tons	6 05 per ton
B	Clover hay	3·5 tons	7 08 per ton
C	Oats and seeded	57·5 bush.	0 58 per bush.
D	Timothy hay	2 tons	5 96 per ton

REPORT OF THE ILLUSTRATION STATIONS FOR PRINCE EDWARD ISLAND

J. A. Clark, B.S.A., Superintendent, Dominion Experimental Station, Charlottetown

The number of Illustration Stations in the province still remains at eight, no new ones having been added during 1925. It is felt that these demonstration stations are doing a very great deal of good in their various communities.

SEASONAL NOTES

The autumn of 1924 was mild and quite favourable for the harvesting of roots, etc. The autumn farm work was well completed, and cattle went into winter quarters in good order. The mean temperature for January was 7° below the average mean for the previous sixteen years. During the latter part of February the weather turned very mild, and during the remainder of the season little snow lay on the ground. The frost came out of the land early in April, but no seeding was done until May. Seeding started somewhat earlier than usual, but cold, rainy weather held up the work, making planting operations finish at a date later than is common for the province.

Grasses and clovers came through the winter in fairly good order. The weather was favourable for growing crops, but the harvesting of hay and grain crops proved difficult owing to heavy rains. At Charlottetown the rainfall for June, July, August, September and October totalled 21.08 inches compared with an average for the twenty-four preceding years of 16.41 inches. Harvesting conditions continued poor throughout the entire autumn season, and it was with some difficulty that potato and root crops were saved.

PRECIPITATION AT THE ILLUSTRATION STATIONS, P.E.I., SEASON 1925

Month	Precipitation in Inches at Various Points								
	Charlottetown**	St. Peters	Montague	Iona	Rose Valley	Rustico	Richmond	West Devon.	Tignish
June	4·80	3·59	5·65	4·23	*	*	*	*	0·70
July	1·87	1·38	1·57	1·68	2·66	*	1·63	2·48	1·15
August	2·00	1·96	1·41	1·48	2·66	*	2·46	2·60	1·75
September	5·92	5·05	5·82	6·67	6·18	*	5·24	7·78	*
October	6·49	6·47	7·04	8·94	6·67	*	7·07	6·75	*
November	1·89	2·21	1·86	1·96	1·36	*	*	3·12	*
Total	22·97	20·66	23·35	24·96					

*No record available.

**For purposes of comparison the record of rainfall at Charlottetown has been included.

The following plan indicates the four-year rotation that has been established at all of the Stations:—

FOUR-YEAR ROTATION

—	Field A	Field B	Field C	Field D
First year	Hoed crop	Timothy hay	Clover hay	Grain seeded to clover and timothy
Second year	Grain seeded to clover and timothy	Hoed crop	Timothy hay	Clover hay.
Third year	Clover hay	Grain, seeded to clover and timothy	Hoed crop	Timothy hay.
Fourth year	Timothy hay	Clover hay	Grain, seeded to clover and timothy	Hoed crop.

For purposes of demonstration the hoed crop usually includes potatoes, turnips, corn and sunflowers. The standard clover and grass mixture was: eight pounds of early red clover, 2 pounds alsike clover and 10 pounds of timothy per acre. Where soils were heavy or inclined to be wet the red clover was decreased and the alsike increased.

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 for 1925 were as follows:—

COST OF PRODUCTION FACTORS

Item	St. Peters	Montague	Iona	Rose Valley	Rustico	Richmond	West Devon	Tignish
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Rent of land per acre	1 75	1 96	1 05	2 45	2 80	4 20	2 10	1 75
Manual labour per hour	0 20	0 20	0 15	0 20	0 15	0 20	0 20	0 15
Horse labour per hour	0 08	0 10	0 10	0 10	0 10	0 10	0 07½	0 07½
Nitrate of soda per ton	62 80	63 20	62 60	62 60	62 20	64 00	64 80	65 60
Sulphate ammonia per ton	70 80	71 20	70 60	70 60	70 20	72 00	72 80	73 60
Acid phosphate per ton	22 80	23 20	22 60	22 60	22 20	24 00	24 80	25 60
Muriate potash per ton	39 80	40 20	39 60	39 60	39 20	41 00	41 80	42 60
Cost of twine per lb	0 15¾	0 16	0 16	0 16½	0 16½	0 15¾	0 15	0 17

TIGNISH—NORTHWEST PRINCE COUNTY

OPERATOR, REUBEN E. CADIGAN

This Station is situated on the Palmer Road about six miles from Tignish.

Wheat was planted on May 16, or eight days earlier than last year, while turnips were sown on June 3, ten days earlier than the preceding season.

Some interesting work was done with fertilizers at this Station. The following table gives a summary of the results of this work:—

FERTILIZER EXPERIMENT—HOED CROP—TIGNISH

Crop	Fertilizers used				Cost per acre fertilizer and manure	Yield per acre	Value of crop	Value of crop over cost of fertilizer and manure
	Sulphate of ammonia	Acid phosphate	Muriate of potash	Stable manure				
	lb.	lb.	lb.	tons	$ cts.	lb.	$ cts.	$ cts.
Turnips	200	400	83	15	19 84	43,299	64 95	45 11
Turnips	.....	.....	.....	15	12 00	24,219	36 33	24 33
Turnips	.....	.....	.....	.....	.....	12,458	18 69	18 69
Corn	350	800	150	15	26 47	32,931	57 63	31 16
Corn	.....	.....	.....	15	12 00	25,788	45 13	33 13
Sunflowers	350	800	150	15	26 47	38,159	57 24	30 77
Sunflowers	.....	.....	.....	.....	.....	15,987	23 98	23 98

*Forty per cent of manure and 55 per cent of fertilizer cost charged against these crops.

OPERATIONS AT TIGNISH—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	Clover hay	With wheat 1924.	July 24	2 683	7 71	5 36
				bush. lb.	per bush.	
B	Huron wheat	May 16	Aug. 25	26 15	1 01	25 98
				tons lb.	per ton	
C	Turnips	June 3	Nov. 3	21 1,299	2 68	6 92
C	Corn	June 3	Oct. 15	16 931	3 18	5 28
C	Sunflowers	June 8	Oct. 15	19 159	2 88	2 29
D	Timothy hay	With wheat 1923.	July 24	2 1,399	4 65	14 37

WEST DEVON, WEST PRINCE COUNTY

OPERATOR, CEPHAS GRIGG

Seeding operations were much earlier than last season; wheat was sown on May 12 as compared with May 21 last season; potatoes were planted seven days earlier, and turnips were sown five days earlier than in the preceding year. The crops at this Station were excellent, particularly the new meadows.

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	Clover hay	With wheat 1924.	July 13	3 958	6 18	13 27
				bush. lb.	per bush.	
B	E. R. Fife wheat	May 12	Aug. 26	20 ..	1 74	5 20
C	Potatoes	May 14	Oct. 14	272 15	0 25	204 19
				tons lb.	per ton	
C	Turnips	June 8	Nov. 3	24 787	2 49	12 44
C	Corn	June 8	Oct. 2	11 1,336	4 64	—13 30
C	Sunflowers	June 8	Oct. 2	30 984	1 91	32 93
D	Timothy hay	With oats 1923.	July 13	2 1,445	5 48	12 30
					per bush.	
D	Timothy seed	With oats 1923.	Aug. 12	.. 225	2 62	10 33

At this Station also, some work was done with fertilizers on the hoed crop. The following table shows the benefit to be derived from a judicious use of commercial fertilizer as a supplement to stable manure:

FERTILIZER EXPERIMENTS—HOED CROP—WEST DEVON

Crop	Variety	Fertilizers used per acre				Manure per acre	Yield per acre	Increase of yield over check	Value of inc. over cost of fertilizer
		Nitrate of soda	Sulphate of ammonia	Acid phosphate	Muriate of potash				
		lb.	lb.	lb.	lb.	tons	bush. lb.	bush. lb.	$ cts.
Turnips	Bangholm	.....	100	450	150	14	975 37	418 9	12 74
Turnips (check)	Bangholm	.....	.....	.....	.....	14	557 28	.. ..	.....
Potatoes	Irish Cobbler	130	100	300	150	14	272 15	166 4	145 40
Potatoes (check)	Irish Cobbler	.....	.....	.....	.....	14	106 11	.. ..	.....

Clover was excellent on the new meadows, and a second crop was cut in September.

RICHMOND, CENTRAL PRINCE COUNTY

OPERATOR, THOMAS NOONAN

This is only the second year of work at this Station, and already there is a noticeable improvement in yields and consequently in profit per acre.

The following table indicates that this season a profit was made on all crops except the corn and oats:—

OPERATIONS AT RICHMOND—FOUR-YEAR ROTATION

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or or (−) loss per acre
				bush. lb.	per bush.	$ cts.
A	Huron wheat	May 16	Aug. 26	26 17	$1 54	12 09
B	Potatoes	June 10	Oct. 20	243 49	0 29	173 11
				tons lb.	per ton	
B	Turnips	June 11	Nov. 6	26 925	2 31	18 26
B	Corn	June 9	Oct. 8	18 953	4 05	10 16
B	Sunflowers	June 9	Oct. 9	19 1,930	2 82	3 59
				bush. lb.	per bush.	
C	Banner oats	May 16	Aug. 26	42 8	0 60	−4 22
				ton lb.	per ton	
D	Clover hay	With oats 1924.	July 27	1 1,629	7 27	4 96

Fertilizer work at this Station consisted of applications of chemicals to potatoes, turnips, corn, sunflowers and hay. The results were very gratifying, and a strong recommendation for the use of commercial fertilizers.

FERTILIZER EXPERIMENT—RICHMOND

Crop	Fertilizer used per acre					Cost per acre for fertilizer and manure*	Yield per acre	Value of crop	Value of crop over cost fertilizer and manure
	Nitrate of Soda	Sulphate of ammonia	Acid phosphate	Muriate of potash	Stable manure				
	lb.	lb.	lb.	lb.	tons	$ cts.	lb.	$ cts.	$ cts.
Potatoes	184	80	480	160	.....	9 78	14,629	243 82	234 04
Potatoes	.....	.....	.....	.....	.....	.....	6,607	110 12	110 12
Turnips	.....	267	400	200	15	22 19	52,925	64 39	42 20
Turnips	.....	.....	.....	.....	15	12 00	20,328	30 49	18 49
Corn	240	200	400	200	15	25 08	36,953	64 67	39 59
Corn	.....	.....	.....	.....	15	13 08	25,410	44 47	31 39
Sunflowers	240	200	400	200	15	25 08	39,930	59 90	34 82
Sunflowers	.....	.....	.....	.....	15	13 08	26,717	40 08	27 00
Hay	120	.....	.....	.....	.....	1 95	3,629	18 15	16 20
Hay	.....	.....	.....	.....	.....	.....	2,281	11 41	11 41

*40 per cent of manure and 55 per cent of fertilizer cost charged against these crops.

ROSE VALLEY, WEST QUEENS COUNTY

OPERATOR, MALCOLM MCKENZIE

This Station is coming on nicely, and is showing the effect of good handling.

OPERATIONS AT ROSE VALLEY—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	Clover hay	With wheat 1924.	July 29	2 600	$6 78	7 40
				bush. lb.	per bush.	
B	Huron wheat	May 18	Aug. 28	18 ..	2 11	— 1 98
C	Potatoes	May 23	Sept. 30	330 ..	0 19	267 30
				tons lb.	per ton	
C	Turnips	June 12	Oct. 5	16 500	3 85	—13 81
C	Corn	June 11	Sept. 30	19 400	2 23	24 38
C	Sunflowers	June 11	Sept. 30	24 800	1 72	31 33
D	Timothy hay	With wheat 1923.	July 29	1 400	9 75	0 30

RUSTICO, NORTH QUEENS COUNTY

OPERATOR, JOHN L. CLARK

This is another Station that has been in operation for only two years. The work, however, is being well cared for, and the rotation is making good progress.

OPERATIONS AT RUSTICO—FOUR-YEAR ROTATION

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (—) loss per acre
				bush. lb.	per bush.	$ cts.
A	E. R. F. wheat	May 14	Aug. 28	30 10	$0 95	31 67
				tons lb.	per ton	
B	Turnips	June 5	Oct. 26	22 ..	3 13	— 2 86
C	Clover hay	With oats 1924.	July 24	2 62	7 08	5 94
D	Clover hay	With barley 1924.	July 24	2 62	7 08	5 94

ST. PETERS, NORTH KINGS COUNTY

OPERATOR, CLIFFORD MCEWEN

As mentioned in earlier reports, this land, previous to the installation of the Illustration Station was in a somewhat run-down condition. It is responding readily to careful handling and good cultural methods, and should shortly show greater profit per acre.

OPERATIONS AT ST. PETERS—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	Clover hay	With wheat 1924.	July 21	2 1,720	$7 01	8 55
				bush. lb.	per bush.	
B	E. R. F. wheat	May 14	Aug. 31	17 12	2 30	— 5 16
C	Potatoes	May 30	Sept. 22	328 25	0 19	266 01
				tons lb.	per ton	
	Turnips	June 10	Nov. 3	19 905	3 07	— 1 36
	Corn	June 6	Oct. 12	13 1,500	4 86	—19 01
	Sunflowers	June 6	Sept. 23	22 1,100	2 71	6 53
D	Timothy hay	With oats 1923.	July 22	1 333	10 57	— 0 66

MONTAGUE, WEST KINGS COUNTY

Operator, Fred McIntyre

This Station, under the careful guidance of the operator, is making excellent progress.

Operations at Montague—Four-Year Rotation

Field	Crop	Date seeded	Date harvested	Yield per acre	Cost of production	Profit or (—) loss per acre
				bush. lb.	per ton	$ cts.
A	Clover hay	With wheat 1924.	July 22	.. 1,503	$22 00	— 9 01
					per bush.	
B	E.R.F. wheat	May 9	Aug. 28	14 45	2 05	— 0 73
C	Potatoes	May 28	Sept. 22	286 3	0 23	220 60
				tons lb.	per ton	
C	Turnips	June 15	Nov. 3	33 833	1 74	42 20
C	Corn	June 9	Sept. 20	21 1,164	2 46	22 44
C	Sunflowers	June 9	Sept. 2	18 1,620	2 67	6 20
				bush.	per bush.	
D	Banner oats	May 25	Aug. 29	28 ..	0 61	— 3 08

Some excellent demonstrations with fertilizers were conducted at this Station this year. The following table gives a resume of this work.

Experiment with Fertilizers on Potatoes—Montague

Plot Number	Manure per acre	Fertilizers applied per acre				Yield of potatoes per acre	Increase in yield over check	Value per acre of increase over cost of fertilizer
		Nitrate of soda	Sulphate of ammonia	Acid phosphate	Muriate of potash			
	tons	lb.	lb.	lb.	lb.	bush. lb.	bush. lb.	$ cts.
1. Check plot	18	.....	.....	.....	.....	226 31	.. ..	.....
2	18	130	100	300	150	267 10	40 39	32 86
3	18	195	150	450	225	229 7	72 36	60 91
4	18	260	200	600	300	394 57	168 26	152 85
5	18	390	300	900	450	412 22	185 51	162 48

The results of this test show that the soil on this Station responds readily to fairly generous applications of commercial fertilizers.

A test was also made of the value of chemical fertilizers on turnips with the following results:—

Experiment with Fertilizers on Turnips—Montague

Plot Number	Manure per acre	Fertilizers used per acre—1925			Yield per acre	Increase of yield over check	Value of increase over cost of fertilizer
		Sulphate of ammonia	Acid phosphate	Muriate of potash			
	tons	lb.	lb.	lb.	tons lb.	tons lb.	$ cts.
Plot 1 (check)	25	.....	.....	.....	18 1,524	.. ..	.....
Plot 2	25	115	450	50	33 833	14 1,309	38 28

This is a highly profitable increase for the amount of fertilizer applied.

IONA, SOUTHERN QUEENS COUNTY

OPERATOR, JAMES E. DALY

The type of soil at this Station is a light sand, somewhat difficult to handle. It is, however, gradually responding to the careful treatment of the operator, Mr. Daly. This Station is situated in an area of light, rather poor soils. The work is being closely watched by the neighbouring farmers, and it is felt that the demonstration will accomplish a considerable amount of good in the locality.

OPERATIONS AT IONA—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	Clover hay	With barley 1924.	July 31	1 ..	$14 01	− 4 01
				bush.	per bush.	
B	Huron wheat	May 14	Aug. 25	6 25	3 36	− 8 70
C	Potatoes	May 19	Sept. 29	203 17	0 28	146 30
					per ton	
	Turnips	May 20	Nov. 2	20 1,946	2 18	17 19
				tons		
	Corn	May 30	Oct. 8	7 288	5 99	−17 68
	Sunflowers	May 30	Oct. 8	8 901	4 94	−16 39
D	Clover hay	With O.P.V 1924.	July 31	.. 1,000	23 00	− 6 50

DEMONSTRATIONS AND MEETINGS

Demonstrations were held during the month of August at the following places; Rustico, Rose Valley, Richmond, West Devon, Tignish, Montague, Iona, St. Peters.

An Operators' Conference was held at Charlottetown on August 20, and proved to be a useful and interesting meeting. All the Prince Edward Island operators of Illustration Stations save one were in attendance.