DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE
DOMINION EXPERIMENTAL FARMS

REPORT OF THE CHIEF SUPERVISOR

JOHN FIXTER

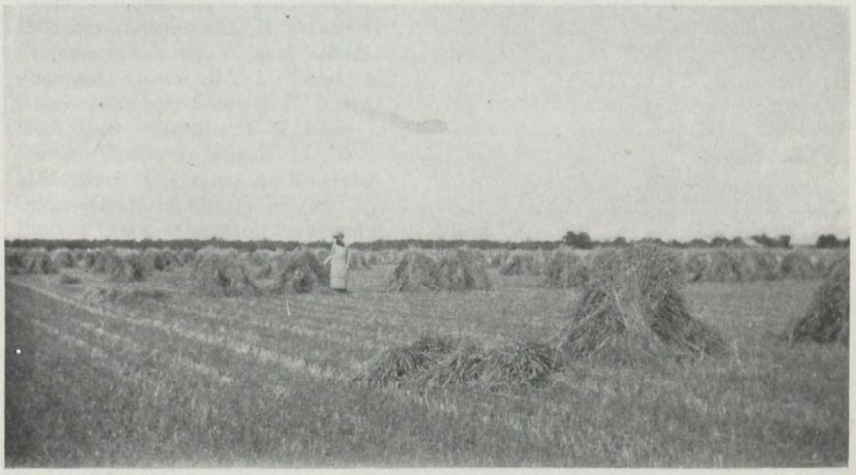
ON

THE ILLUSTRATION STATIONS

IN

BRITISH COLUMBIA, ALBERTA, SASKATCHEWAN and MANITOBA

FOR THE YEAR 1926



A 42½-bushel crop of Marquis wheat on the Illustration Station, Dauphin, Man.

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ILLUSTRATION STATIONS

IN

BRITISH COLUMBIA, ALBERTA, SASKATCHEWAN AND MANITOBA

REPORT OF THE CHIEF SUPERVISOR, JOHN FIXTER

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

For the collection of data and recording of results which have made 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.

Superintendents

W. T. Hunter,
Summerland, B.C.
W. H. Fairfield,
Lethbridge, Alta.
J. G. Taggart,
Swift Current, Sask.
M. J. Tinline,
Brandon, Man.
W. D. Albright,
Beaverlodge, Alta.

Supervisors

A. E. Richards,
Summerland, B.C.
R. E. Everest,
Lethbridge, Alta.
E. C. Sackville,
Swift Current, Sask.
J. D. Guild,
Brandon, Man.

PRODUCTION AND SALE OF SEED

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

SALE OF BREEDING STOCK AND HATCHING EGGS

During the past year the Illustration Station operators have directed considerable attention to improving their poultry flock as well as their housing conditions. The development of a strong and high producing strain of poultry on these Stations is of considerable importance financially to the operator, and is also far reaching in its influence on the general quality of the poultry kept in

these districts, when we consider the annual sales of hatching eggs and breeding stock which takes place on these stations. During the past year 379 pullets, 637 cockerels and 1,345 settings of eggs were sold to be used in breeding stock.

LIVE STOCK WORK

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

REPORT ON THE ILLUSTRATION STATIONS IN BRITISH COLUMBIA

A. E. Richards, B.S.A., M.S., Supervisor

Thirteen Illustration Stations were in operation in British Columbia during the year 1926 under the direction of the Experimental Station at Summerland. Seven Stations serve the central interior, comprising the Bulkley Nechako and Upper Fraser River valleys. The remaining six are located in the southern portion of the province, three on Vancouver island. Three demonstration plots were established this season in the Grand Forks valley in southern interior of the province. In addition to the Illustration Station work, clover, alfalfa, corn and sunflower competitions, in which 126 farmers took part, have been conducted throughout the province. This method of extension work has been popular and will be continued. Requests for new Stations have been received from several sections of the province. A number of these points were visited during the year and possibilities for carrying on Illustration Station work were investigated.

THE SEASON

The northern portion of the province was favoured with splendid growing conditions this season. An open, mild winter and early spring permitted land to be worked at an earlier date than usual. Seeding was general by April 25. Rain was well distributed through the spring and summer months as indicated in the meteorological table for the year. In the southern interior weather conditions were less favourable. Spring moisture was sufficient for an excellent first cut of hay and the fall wheat crop but the summer months were dry. Meadows yielded a very light second growth and spring-seeded crops returned less than usual. Somewhat similar conditions prevailed on Vancouver island. With the temperature seldom dropping to the freezing point and no snow, work could be performed on the land throughout the winter months. Abundant spring moisture assured a heavy hay crop. Summer months were very dry and although potatoes yielded fair returns, the grain crop was below normal.

PRECIPITATION FOR 1926 AT THE ILLUSTRATION STATIONS IN BRITISH COLUMBIA

Month	Armstrong	François Lake	Kamloops	McBride	Prince George	Salmon Valley	Smithers	Telkwa	Vanderhoof
	inches	inches	inches	inches	inches	inches	inches	inches	inches
January	2·80	1·06	1·30	0·67	1·25	0·40	0·95	1·20	0·68
February	0·76	0·52	0·42	1·55	1·15	1·59	1·75	0·94	0·40
March	0·42	0·61	0·15	0·91	1·04	0·81	0·10	0·27	0·84
April	0·83	0·51	0·90	1·84	0·67	0·72	0·63	0·75	0·91
May	1·51	1·07	1·44	1·61	2·05	1·05	0·77	1·77	1·92
June	0·75	2·50	0·91	1·88	1·97	2·35	1·72	2·05	2·74
July	0·34	1·22	0·18	1·32	0·79	0·79	1·04	2·36	1·04
August	1·67	1·85	1·68	.....	2·15	2·06	0·60	1·78	1·55
September	2·75	0·70	1·04	0·89	1·30	0·58	0·90	0·52	0·32
October	1·52	1·72	1·90	2·29	2·94	2·29	2·54	1·47	1·99
November	1·90	1·16	0·89	.....	1·48	1·23	.....	1·38	0·75
December	3·26	2·08	1·53	.....	2·43	1·31	1·45	2·45	1·67
	18·51	15·00	12·34	.....	19·22	15·18	.....	16·94	14·81

MAXIMUM AND MINIMUM TEMPERATURES AT ILLUSTRATION STATIONS IN BRITISH COLUMBIA, 1926

(In Degrees Fahrenheit)

Month	Armstrong		François Lake		Kamloops		McBride		Prince George		Smithers		Telkwa		Vanderhoof	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
January	58	8	41	11	38	6	38	8	39	4	42	10	49	12	44	2
February	60	17	49	10	48	8	50	5	48	6	54	8	50	12	52	7
March	73	18	55	19	58	14	61	16	56	15	58	16	63	17	56	13
April	79	18	70	9	82	12	80	6	78	14	72	10	64	8	72	6
May	79	31	79	25	80	26	80	23	86	26	78	22	76	25	82	19
June	90	37	84	28	96	32	86	28	93	32	90	32	81	31	90	29
July	99	40	85	36	101	36	94	34	94	33	68	38	83	37	92	30
August	84	39	82	33	89	32	.....	.....	82	32	82	36	83	33	72	30
September	78	21	79	3	82	18	72	14	76	12	74	6	73	8	77	2
October	64	26	56	18	60	20	62	12	64	19	62	14	60	20	54	18
November	50	17	47	8	50	2	.....	.....	52	0	.....	.....	51	5	47	0
December	44	−4	44	− 8	42	−11	.....	.....	49	−22	42	−12	43	−12	47	−24

PRICES CHARGED IN CALCULATING PRODUCTION COSTS

Rent and taxes	Based on value of land at prevailing rate of interest plus taxes.
Horse and manual labour	Based on prices in the district.
Cost of twine and threshing	Based on prices in the district.
Use of machinery	$2.85 per acre.
Manure	$2 per ton.

COST OF SEED

(British Columbia)

	$ cts.
Oats, Banner (reg), per bushel	1 20
Oats, Victory (reg), per bushel	1 20
Wheat, Marquis (reg), per bushel	2 40
Wheat, Garnet (reg), per bushel	2 40
Fall Wheat, Kharkof, per bushel	2 00
Barley, O.A.C. No. 21, per bushel	1 25
Potatoes, per bushel	2 10
Peas, Golden Vine, per bushel	4 20
Spring Vetch, per bushel	5 40
Corn, North West Dent, per pound	0 10½
Corn, Longfellow, per pound	0 10½
Sunflowers, per pound	0 08
Timothy, per pound	0 14½
Orchard Grass, per pound	0 26½
Western Rye, per pound	0 17½
Meadow Fescue, per pound	0 27½
Clover, Common Red, per pound	0 36
Clover, Alsike, per pound	0 28
Clover, White Sweet, per pound	0 14½
Alfalfa, Ontario Variegated, per pound	0 25½
Alfalfa, Grimm, per pound	0 40

RETURN VALUES

(British Columbia)

	$ cts.
Clover and Timothy hay, per ton	16 00
Alfalfa hay, per ton	18 00
White Sweet Clover hay, per ton	14 00
Peas and Oats hay, per ton	15 00
Oat hay, per ton	14 00
Oat straw, per ton	6 40
Wheat straw, per ton	3 20
Sunflower fodder, green, per ton	5 50
Sunflower ensilage, per ton	6 00
Corn ensilage, per ton	7 00
Oats and Peas, ensilage, per ton	7 00
Potatoes, commercial, per bushel	1 00
Oats, per bushel	0 70
Wheat, per bushel	1 55
Field Peas, per bushel	3 50
Spring Vetch, per bushel	4 00

The cost of farm manure is distributed over the crops in the four-year rotation in the following proportions: 40 per cent to the hoed crop; 30 per cent to the grain crop; 20 per cent to the first-year hay crop; 10 per cent to the second-year hay crop.

The value of chemical fertilizers is charged to the different crops as follows: first-year crop 55 per cent; second-year crop 30 per cent; third-year crop 10 per cent; fourth-year crop 5 per cent.

Yields of hay and mixed crops are estimated throughout the report.

ALBERNI, VANCOUVER ISLAND

Operator, C. Chase

This Station is located on the west coast of Vancouver island at the head of the Alberni canal. Native vegetation is very heavy and clearing costly. Soil is a reddish clay loam. Weather records at Alberni show a ten-year average precipitation of sixty-eight inches per annum.

Results of the season's work are given in the following table:—

Operations at Alberni, Four-year Rotation

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Hay, first year	.....	June 29	2 tons, 1,550 lbs.	10 28 per ton	15 73
B	Oats, Victory	April 5	July 31	69 bush., 4 lb.	0 48 per bush.	14 82
C	Oats, Victory	April 5	July 31	72 bush., 2 lbs.	0 56 per bush.	10 46
D	Potatoes, Sir Walter Raleigh	April 29	Oct. 21	183 bush., 20 lbs.	0 71 per bush.	53 15

Neighbouring farmers have shown considerable interest in the heavy seeding of clover and timothy. This mixture consists of common red clover—6 pounds, alsike—6 pounds, alfalfa—4 pounds, and timothy—8 pounds, making a total of 24 pounds per acre. Under the heavy annual precipitation this land is well able to support a heavy seeding of clovers and grasses. This practice safeguards against heaving of the plants due to the fact that the roots intertwine, forming a matted sod which is able to withstand the alternate freezing and thawing of opening spring.

Thick seeding will also help in smothering down troublesome weeds such as the Hawkweed which is rapidly spreading through meadows here and elsewhere on Vancouver island.

ARMSTRONG, NORTH OKANAGAN

Operator, W. B. McKechnie

Particular attention is given to the alfalfa crop on this Station where a seven-year rotation with alfalfa is maintained. Interest in the crop is being stimulated throughout the district by means of an alfalfa-growing competition. Preparation of land, seeding and harvesting methods are studied and compared with a view to reducing the hazards of growing this crop.

Results of the season's work are given in the following table:—

Operations at Armstrong, Seven-Year Rotation

Field	Crop	Date sown	Date cut	Yield per acre	cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Alfalfa hay	.....	June 10	1 ton, 1,500 lb.	8 98 per ton	15 78
B	Alfalfa hay	.....	June 10	1 ton, 1,500 lb.	8 98 per ton	15 78
C	Alfalfa hay	.....	June 14	1 ton, 1,500 lb.	8 98 per ton	15 78
D	Alfalfa—new seeding	.....	.....	.....	.....	.....
E	Alfalfa—new seeding	.....	.....	.....	.....	.....
F	Fall Wheat, Jones' Fife	Oct. 6	July 10	33 bush.	1 04 per bush.	16 78
G	Mixed, peas and oats	April 13	July 12	1 ton, 1,000 lb.	21 00 per ton	−9 00

First crop of alfalfa was very good but dry weather was ruinous to second growth. Cutworms and grasshoppers have caused serious loss in newly seeded fields throughout the district. On the Station it was necessary to re-seed fields D and E in early June on account of cutworm depredations. Germination at this time was quite good over the major portion of the re-seeded area and a fairly strong stand established.

ALFALFA-GROWING COMPETITION IN THE NORTH OKANAGAN

For the purpose of encouraging the growing of alfalfa and to obtain more definite information on the culture of this important fodder crop, the Division has conducted an alfalfa competition during the past two years in the Armstrong district. There is much difference of opinion among the farmers in the valley in regard to the time and method of seeding. Methods followed with success in other sections of British Columbia cannot be recommended generally as suitable for the soil and climatic conditions peculiar to the North Okanagan.

In an endeavour to arrive at the most satisfactory method of growing this important crop, tests are being carried out over a comparatively wide area. Twenty farmers are co-operating in this work which is conducted as a competition.

Alfalfa is sown on a two-acre block, one acre is grown following a standard method while the method followed on the adjoining acre is left to the option of the farmer. This project will be continued for another year or two before any definite recommendations are advanced.

COMOX, VANCOUVER ISLAND

Operator, J. A. Carthew

Frost did not interfere with work on the land during the winter months. The hoed and grain crop fields were ploughed in January and by the middle of April most of the seeding was completed.

A four-year rotation is conducted on the Station. This type of rotation which is suited for dairying and mixed farming districts is working out very satisfactorily on the Illustration Station here.

Results of the season's work are given in the following table:—

Operations at Comox, Four-Year Rotation

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Hay, second year	.....	June 15	3 tons	8 64 per ton	22 08
B	Oats, Banner	April 16	Aug. 3	61 bush, 26 lb.	0 63 per bush.	4 17
C	Corn, Longfellow	May 29	Sept. 29	10 tons	5 92 per ton	10 80
D	Hay, first year	.....	June 21	3 tons	11 09 per ton	14 73

Manure was applied at the rate of 20 tons per acre on C, the hoed crop field.

An abundant supply of soil moisture in early spring permits clovers and grasses to be grown with a nurse-crop of grain. The nurse-crop of oats is sown at the rate of 3 bushels per acre and the clover and grass mixture at 24 pounds to the acre.

COURTENAY, VANCOUVER ISLAND

Operators, Halliday Bros.

Spring ploughing was completed by March 15. Summer ploughing is practised on the Station in preparing meadow land for the hoed crop in the succeeding year. This is an effective way of controlling weed growth and putting the soil into friable condition. Immediately after the hay crop was removed the land was ploughed shallow, then disked and harrowed periodically throughout the summer and autumn. Under this treatment weeds are germinated and killed and old timothy soil decomposed. A second ploughing in early spring puts the land in splendid condition for the hoed crop.

Results of the season's work are given in the following table:—

Operations at Courtenay, Four-Year Rotation

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Hay, first year	.....	June 28	3 tons	10 74 per ton	15 78
B	Oats, Banner	April 22	Aug. 2	49 bush.	0 98 per bush.	−13 66
C	Corn, Longfellow	May 14	Sept. 20	16 tons	3 71 per ton	52 64
	Potatoes, Burbank	May 6	Oct. 30	249 bush., 20 lb.	0 48 per bush.	129 65
D	Hay, second year	.....	June 29	2 tons, 100 lb.	11 16 per ton	12 10

The Burbank has been selected from a number of varieties for planting in Field D in 1927. This potato is well adapted to the Island conditions and is a favourite on the market. Through " hill selection " the operators are steadily improving their type and yield.

From a flock of thirty pure-bred Barred Rocks the operators sold thirty dozen eggs for setting and eight cockerels for breeding purposes during the year.

FRANCOIS LAKE, CENTRAL B.C.

Operator, J. R. Stanyer

Work on the land commenced April 12 and seeding was general by April 20. Two and one-half inches of rain in June, 1.22 inches in July, and 1.73 inches in August provided excellent moisture conditions throughout the season.

Results of the season's work are given in the following table:—

Operations at Francois Lake, Four-year Rotation

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Alfalfa hay	.....	July 12	2 tons	6 40 per ton	23 20
	Wheat, Ruby	April 22	Sept. 4	33 bush.	0 71 per bush.	27 67
	Wheat, Garnet	April 23	Sept. 8	38 bush.	0 90 per bush.	24 55
B	Field peas, Golden Vine	May 2	Oct. 2	18 bush.	2 25 per bush.	22 52
	Mixed, oats, peas and vetch	May 3	Sept. 6	3 tons	10 65 per ton	13 05
	Potatoes, Gold Coin	May 11	Sept. 17	166 bush., 30 lb.	0 76 per bush.	39 96
C	Hay, first year	.....	July 24	1½ tons	10 00 per ton	7 50
D	Hay, first year	.....	July 24	1½ tons	10 00 per ton	7 50

Ruby and Garnet wheat were grown on adjacent plots on this Station. In July they showed no appreciable difference in growth and appearance. When inspected August 29 both varieties showed a heavy growth of straw and were well headed. A gale and rain had put half of the crop down. Ruby appeared a little stronger in the straw. At that time Ruby was in the early dough while Garnet was slightly milky. The ground was moist, which retarded ripening. When harvested and threshed Garnet outyielded Ruby by 5 bushels per acre.

DEMONSTRATION PLOTS AT GRAND FORKS

Three demonstration plots were laid out at Grand Forks in the southern interior of the province this year, where an irrigation system has been recently established. This project is planned to demonstrate to the growers in the district the proper utilization of irrigation water on orchard cover crops and on alfalfa. Two orchard blocks of three acres each were selected and seeded to vetch. The third block was chosen from a one-year-old stand of alfalfa. Weir boxes were installed and measurement taken of the water used.

Alfalfa gave three heavy cuttings. The vetch was seeded May 1 and by the end of the season a heavy mat of green growth covered the plots. Very little seed formed, so that for that reason the vetch will be left over winter. Provided the stand lives through the winter, it will be disked under as soon as seed ripens. Following this practice from year to year, the stand is perpetuated, the covering of vetch safeguards against winter injury, and plant food is conserved and increased.

KAMLOOPS, THOMPSON VALLEY

OPERATOR, C. R. GREEN

This Station is located in the Rose Hill dry farming area lying to the south of Kamloops. Weather conditions were very unfavourable for crop growth in this district, with the result that crop returns have been unusually low this year. No irrigation water is available, so that farmers are dependent on natural precipitation. This for four years has averaged under fourteen inches per annum. All farming operations revolve around the question of making the best use of the limited soil moisture and at the same time maintaining the fertility of the soil.

Results of the season's work are given in the following table:—

OPERATIONS AT KAMLOOPS, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Sweet clover hay	.....	June 29	14.000 lb.	16 44 per ton	−1 71
B	Sunflowers, Mammoth Russian (ensilage)	May 5	Sept. 15	3 tons, 1,100 lb.	11 28 per ton	−18 74
	Corn, N. W. Dent (ensilage)	May 15	Sept. 9	3 tons, 1,500 lb.	10 46 per ton	−12 97
C	Sweet clover hay	.....	July 13	1,700 lb.	18 62 per ton	− 3 93

Of the leguminous crops tested on the Station sweet clover has given most satisfactory results. Experience and observation show that a cover-crop of grain should not be used in seeding down to clover or alfalfa.

The limited supply of moisture in the soil will not support a heavy seeding. Wheat is sown at the rate of 50 pounds per acre, barley at 48 pounds, corn 12

pounds, sunflowers 6½ pounds, and sweet clover at 9 pounds. Most satisfactory stands of sweet clover have been obtained by drilling in the seed on cultivated corn and sunflower stubble in the late fall or early spring.

THE CROP ROTATION

The cropping system of the Illustration Station is based on a definite rotation which aims to fit the natural conditions and the needs of the locality in which it is conducted. On Vancouver island and other mixed farming and dairying sections the four-year rotation is adaptable. In the Okanagan with and without irrigation the seven-year rotation with alfalfa is giving good results. Three- and four-year rotations with sweet clover and drought-resistant crops are under trial in the Kamloops dry farming area. In the north central portion of the province four- and five-year rotations appear most suited to the requirements of the district.

Crop rotation means the proper utilization of land by alternating various types of crops. The exhaustive crops such as grains and hoed crops are followed by soil-building crops consisting of clovers and other legumes. It permits of clean cultivation and weed control by means of the hoed crop. Years of experimenting have shown that the introduction of a proper rotation increases the output of the land and at the same time reduces acre costs, and ordinarily all of this can be accomplished without extra monetary cost to the farmer. Although it is not always practicable to lay out the cropping area of the farm under a systematic rotation, it should be the aim of every farmer to work towards that end.

McBRIDE, CENTRAL B.C.

OPERATOR, J. T. OAKLEY

Work commenced on the land April 13. The growing period for this district on a five-year average is estimated at 183 days. This is five to eight days longer than points west along the line on the Canadian National Railway.

A second crop of alfalfa was cut on several competition plots in the district this year. Seed blocks of straight alsike and common red clover were set out under the direction of the Division this spring in order to encourage the growing of "home-grown" clover seed. Spring vetch produced a splendid crop of well matured seed this year.

Results of the season's work are given in the following table:—

OPERATIONS AT McBRIDE, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (—) loss per acre
					$ cts.	$ cts.
A	Hay, second year	.....	July 12	2 tons 666 lbs.	6 91 per ton	21 21
B	Oats, Banner	May 1	Aug. 26	79 bush.	0 32 per bush.	30 00
	Wheat, Garnet	April 30	Aug. 26	14 bush. 4 lbs.	1 32 per bush.	3 15
C	Hay, third year	.....	July 13	2 tons 1,000 lbs.	3 67 per ton.	30 82
D	Mixed, oats and vetch (grain)	May 1	Aug. 27	79 bush.	0 51 per bush.	35 40
	Sunflowers, Mammoth Russian (green fodder)	April 30	Sept. 22	8 tons	5 01 per ton	3 92
	Potatoes, Early St. George.	April 26	Oct. 13	66 bush. 36 lbs.	0 95 per bush.	3 33

Fall ploughing is consistently practised on this Station. On account of the dry weather which is usually experienced during the spring months in the

central interior everything possible should be done to conserve the moisture in the autumn rains and winter snows. When the soil is turned up by the plough in the spring, much of the stored-up moisture is lost through evaporation. Fall-ploughed land on the other hand can be worked down immediately spring opens and the seeding date advanced several days. The comparatively short season in the central interior makes this an important consideration.

CLOVER AND ALFALFA COMPETITIONS IN CENTRAL BRITISH COLUMBIA

One of the most satisfactory pieces of work that the Dominion Experimental Farms Branch has undertaken in the Central Interior of British Columbia is the Clover and Alfalfa Competition. Seed was supplied by the Department in the spring of 1925 to over ninety farmers situated along the line of the Canadian National Railway from McBride to Hazelton. Under a wide range of soil types the men undertook to test out these fodder plants under field conditions. The plots were inspected and judged by the Superintendent of the Summerland Experimental Station and the Supervisor before harvest. Results have been most encouraging for the success of the trials has given confidence to farmers to extend their seedings in these crops.

Work with clovers and alfalfas from a hay-production standpoint is now well beyond the experimental stage. Tests under plot and field conditions have shown quite conclusively that these forage plants are adaptable to the central interior climate and soil conditions. The Division is now turning its attention to commercial clover and alfalfa seed-growing which seems to offer a good future as a cash-crop throughout central British Columbia. Alsike clover looks especially promising. There is a heavy bloom on clover this season and the heads are well filled with seed.

The Division of Illustration Stations distributed pure strains of clover and alfalfa seed this spring to thirty-five farmers along the line of the Canadian National Railway in order to test out these crops for the production of seed under central British Columbia conditions. A portion of the plots are seeded in rows and the balance broadcast. The favourable season has given good germination and growth is strong.

PRINCE GEORGE, CENTRAL BRITISH COLUMBIA

Operator, R. J. Blackburn

Work on the land commenced April 22. The growing period over a five-year average is estimated at 175 days for this district. Fields of five acres each have been seeded down to clovers and grasses every year since the Station was established in 1922. Each year over ninety per cent catch has been obtained and so far clovers have wintered without injury.

All clovers grown on the Station are produced from Canadian-grown seed.

An exceptionally fine crop of Banner oats which matured in 127 days was harvested on the Station this season. This grain was sown at the rate of two bushels an acre as a nurse-crop for the clovers and grasses. The clover and grass mixture was drilled in at the rate of seventeen pounds per acre following the sowing of the oats. This fall a strong even stand four to six inches high covers the whole field.

To harvest sixty-four bushels of grain to the acre and on the same field to obtain a 100 per cent stand of clover and grasses speaks well for the productive qualities of this soil and the good farming methods practised by the Operator. The remarkable strength of the clover stand is due in some measure no doubt to the fact that the four-year rotation is now on its second cycle and clover seed has been put back on the field which produced clover in 1923 and 1924 and a cultivated crop in 1925.

Nurse-crop of Banner oats which yielded 64 bushels to the acre on Illustration Station, Prince George. Excellent catch of clovers and grasses over the whole field.

OPERATIONS AT PRINCE GEORGE, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Mixed peas and oats (ensilage)	April 28	Aug. 26	3 tons 1,500 lbs.	9 63 per ton.	−9 86
	Field peas, Arthur	April 29	Aug. 30	7 bush. 3 lbs.	4 02 per bush.	−3 64
	Sunflowers, Mammoth Russian (ensilage)	May 10	Aug. 26	7 tons 1,000 lbs.	4 87 per ton	8 47
B	Oats, Banner	April 28	Sept. 2	64 bush. 6 lbs.	0 14 per bush.	36 17
C	Hay, first year	.....	July 19	1 ton 400 lbs.	14 28 per ton	2 06
D	Hay, second year	.....	July 15	1 ton 800 lbs.	7 33 per ton	12 14
	Demonstration fields					
E	Alfalfa and western rye hay	.....	July 15	1 ton	10 34 per ton	5 66
F	Oats, Banner	April 28	Sept. 1	47 bush. 7 lbs.	0 15 per bush.	25 80
G	Wheat, Garnet	April 27	Aug. 27	12 bush.	1 16 per bush.	4 65
	Fall wheat	Sept. 29	Aug. 23	15 bush. 40 lbs.	0 92 per bush.	9 83

Sunflowers and a mixture of oats and peas are grown for ensilage on the Station. Both crops seem well adapted to the district. Sunflowers are sown at the rate of 10 pounds per acre. The mixed crop is sown at the rate of one

Results of the season's work are given in the following table:—

and one-half bushels Banner oats and one bushel Golden Vine field peas. Comparative yield and cost per ton for four years is given in the table following.

—	—	Yield per acre	Cost per ton
			$ cts.
1923	Sunflowers, Mammoth Russian	7 tons 1,768 lbs.	6 37
	Mixed, oats and peas	4 tons 500 lbs.	6 45
1924	Sunflowers, Mammoth Russian	5 tons 500 lbs.	5 93
	Mixed, oats and peas	9 tons 500 lbs.	3 51
1925	Sunflowers, Mammoth Russian	4 tons 1,300 lbs.	5 12
	Mixed, oats and peas	2 tons 1,568 lbs.	7 48
1926	Sunflowers, Mammoth Russian	7 tons 1,000 lbs.	4 87
	Mixed, oats and peas	3 tons 1,500 lbs.	9 63

SALMON ARM, B.C.

OPERATOR, A. V. CLARKE

Spring work commenced April 1. An unusually dry season made growing conditions unfavourable with resulting low yields.

Results of the season's work are given in the following table:—

OPERATIONS AT SALMON ARM, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Oats, Banner (cut for hay)..	April 28	July 16	1 ton 1,330 lbs.	18 47 per ton.	−7 90
B	Corn, North West Dent....	May 10	Sept. 13	10 tons	5 96 per ton	10 40
C	Mixed, peas and oats (fodder).....	April 28	July 16	1 ton 1,330 lbs.	18 74 per ton	−6 22
D	Oats, Banner.....	April 23	July 16	1½ tons	16 00 per ton	−3 33

The mixed crop of peas and oats was sown at the rate of one bushel peas and two bushels oats per acre. After-harvest cultivation was practised after the crop was cut in order to germinate weed seeds and kill all growth.

CORN-GROWING COMPETITION IN SALMON ARM DISTRICT

The corn-growing competition instituted last year in the Salmon Arm district for the purpose of encouraging the growing of corn by a larger number of farmers as an ensilage and cleaning crop was repeated this season. It was carried a step further this year by judging a sample sheaf from the plots at the Salmon Arm Fall Fair. The Directors of the Fair showed their interest in the competition by putting up a special prize of ten dollars for the best sheaf of green fodder. The competition also served to test the comparative suitability of the two varieties, North West Dent and Minnesota Thirteen, in this locality.

Last year the North West Dent and Longfellow varieties were grown. In that test North West Dent made the better showing. The tests this year with North West Dent and Minnesota Thirteen were conducted on nineteen farms. The farms included upland and lowland soils in various localities so that the information obtained through the tests is applicable to the corn-growing possibilities of the district as a whole.

In estimating the yield of green fodder, Minnesota Thirteen led on eight plots, North West Dent on six, and no apparent difference on four plots. From the standpoint of maturity North West Dent led on eleven plots, Minnesota Thirteen on one. These varieties showed no marked difference in degree of maturity on six plots.

The interest that farmers showed in the work was very encouraging, acreages have been increased and two or three new silos erected since the competitions started.

SALMON VALLEY, CENTRAL B.C.

OPERATOR, J. S. JOHNSON

Work on the land commenced on this Station April 23. The growing period for the district over a five-year average is estimated at 173 days. Splendid growing conditions were experienced throughout spring and early summer. The hay crop was harvested without loss and gave good returns. Grain made strong growth up to July 30 when a severe hailstorm, quite local in effect, destroyed the entire crop.

Results of the season's work are given in the following table:—

OPERATIONS AT SALMON VALLEY, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Wheat, Garnet (destroyed by hail)	April 26	.....	.....	.....	.....
B	Sunflowers, Mammoth Russian (green fodder)	April 30	Sept. 11	6 tons	5 91 per ton	0 54
C	Hay, second year	.....	July 20	1 ton 1,500 lb.	5 53 per ton	18 32
D	Hay, second year	.....	July 20	1 ton 1,500 lb.	5 53 per ton	18 32

New seedings of clover and grasses are going into the winter in excellent shape this season. On this Station satisfactory stands have been obtained by using a nurse-crop of grain. This year wheat sown at the rate of one and one-quarter bushels to the acre was used for the nurse-crop. This was drilled in on fall-ploughed land April 26. A few days later the grass and clover mixture was drilled in crosswise to the grain.

In arriving at the rate of seeding consideration must be given to the amount of standing crop that the land is able to support. This will depend on the type and condition of the soil and the soil moisture. In the Salmon valley and throughout central British Columbia generally, soil moisture is a very important limiting factor to crop growth and must be carefully utilized. For that reason seeding is comparatively light. The following constituents and amounts per acre are used in making up field mixtures of clovers and grasses: Timothy 4 pounds, orchard grass 1 pound, meadow fescue 2 pounds, western rye grass 1 pound, common red clover 4 pounds, alsike 3 pounds, and alfalfa 2 pounds, making a total of 17 pounds to the acre.

SMITHERS, BULKLEY VALLEY

OPERATOR, GEORGE OULTON

Work in the fields commenced March 29 on this Station. The growing period over a five-year average for this section of the Bulkley valley is estimated at 180 days.

This Station is located on river bottom land where the soil is a light silty loam. Grain usually produces a good crop but owing to lack of surface moisture some difficulty was experienced during the early years of the rotation in obtaining a catch of clovers and grasses. Heavy application of manure considerably improved the organic content of the soil thereby increasing its power to hold moisture. Broadcasting was discontinued and the clover and grass seed drilled to a depth of one to two inches. The seed is thus brought into contact with moist soil which is necessary for germination. The nurse-crop was cut early for hay and ensilage which permitted all the available soil moisture of late summer to be used by the young seedlings. This practice enabled the clovers to form a good covering growth for winter protection.

Results of the season's work are given in the following table:—

OPERATIONS AT SMITHERS, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Hay, first year	.....	July 5	1 ton 750 lb.	8 69 per ton	10 05
B	Hay, first year	.....	July 3	1 ton 500 lb.	10 59 per ton	6 76
C	Oats, Banner (ensilage)	April 20	Aug. 3	4 tons 400 lb.	5 19 per ton	7 60
	Wheat, Marquis	April 21	Aug. 18	29 bush. 25 lb.	0 55 per bush.	29 38
D	Potatoes, Gold Coin	May 6	Sept. 18	239 bush. 27 lb.	0 33 per bush.	160 40
	Potatoes, Green Mountain	May 6	Sept. 16	163 bush.	0 48 per bush.	84 76
	Sunflowers, Mammoth Russian	May 18	Aug. 12	4 tons 1,000 lb.	4 93 per ton.	4 81
	Field peas, Golden Vine	May 18	Sept. 8	21 bush.	0 79 per bush.	56 89
	Fall wheat, Kharkov	Sept. 18	Aug. 4	16 bush.	0 79 per bush.	12 10

Field peas produced an excellent crop of large well-filled grain. The Golden Vine, Arthur and Chancellor varieties have been grown on the Illustration Stations in Central British Columbia for the past four years with satisfactory results. They have been a reliable and profitable crop and should hold a larger place on the farms in this district. Not only does the field pea provide grain, fodder and ensilage of high quality but due also to its nitrogen-gathering powers it is an excellent soil improver.

ALFALFA, CLOVER AND GRASS VARIETY TESTS

The primary function of the Illustration Station is to apply, under field conditions, the results of investigations and experiments conducted on the Dominion Experimental Farms. There are certain agricultural localities, however, which are remote from the Experimental Stations and which have natural conditions peculiar to themselves. Such is the situation in Central British Columbia. Here with the co-operation of interested operators, the Illustration Station is conducting experimental work on a small scale with various farm crops.

For the purpose of testing the adaptability of varieties of grasses, clovers and alfalfas to central interior soil and climate conditions the operator on each Illustration Station in central British Columbia has set aside a plot of ground for this work. From twenty-five to thirty varieties are tested on each Station in sixty-six-foot rows. The grasses and clovers were sown in the spring of 1924 and notes are made periodically on germination, comparative growth, strength of stand, winter hardiness and second growth.

This work has important educational value in acquainting the farmers in the district with the different types and varieties of grasses where they can compare their growth and behaviour under natural conditions. The tests serve also as a preliminary to making up suitable mixtures for the field.

Grasses which appear most adaptable to natural conditions and have been selected for hay mixtures in the field are meadow fescue, timothy, western rye and orchard grass.

All the common clover and alfalfa varieties are making satisfactory growth and so far have survived the winter without serious injury.

In order to more nearly approximate field conditions a number of plots a drill in width and one-half chain in length were sown in 1925 with the grain-drill on two of the Stations. The plots contain straight varieties and mixtures of grasses, clovers, and alfalfas.

TELKWA, BULKLEY VALLEY

OPERATOR, F. M. DOCKRILL

Seeding commenced in this district as early as March 15. A very light snowfall in the Bulkley valley during the winter afforded little sub-surface moisture, but frequent heavy showers throughout the spring months relieved the situation and for the season as a whole growing conditions were very satisfactory.

Profitable returns have been received from the growing of certified seed potatoes on this Station. The average yield per acre over a four-year period is 266 bushels 19 pounds per acre grown at an average cost of 49 cents per bushel. Careful preparation of the land, seed selection and thorough cultivation have helped to maintain this high average.

Results of the season's work are given in the following table:—

OPERATIONS AT TELKWA, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Potatoes, Early St. George	May 20	Oct. 1	233 bush. 6 lb.	0 49 per bush.	118 88
B	Hay, third year		July 15	2 tons 500 lb.	4 80 per ton	25 20
C	Hay, first year		July 15	2 tons 500 lb.	6 09 per ton	22 29
D	Wheat, Garnet	April 24	Aug. 17	27 bush. 40 lb.	0 74 per bush.	22 53
	Demonstration field					
E	Hay, first year		July 20	1 ton 500 lb.	10 59 per ton.	6 76

In preparation for the potato crop Field "A" was ploughed immediately after the hay crop was removed in the summer of 1925. This plot was cultivated during the summer and ploughed again in the late fall. Manure was applied at the rate of twenty tons per acre and thoroughly disked under the surface. The crop received three harrowings, the final on June 11 after the plants were well above the surface of the ground, followed by three cultivations. In this way weeds were effectively controlled and hand labour almost entirely eliminated.

VANDERHOOF, NECHAKO VALLEY

OPERATOR, D. TURCOTTE

Spring opened earlier than usual; preparation of land and seeding were completed in record time. Growing conditions were favourable throughout the season.

Very gratifying results have been obtained with clover and alfalfa on the Illustration Station and in the district by means of the clover and alfalfa competitions. Alfalfa shows particular promise, and as a result of the good showing on the Illustration Station and test plots several farmers are seeding down a part of their farms to this crop. This year a good second crop of one ton to the acre was harvested on the Station fields. The operator now has forty acres sown to this valuable fodder crop and this year shipped the first carload of alfalfa out of the district.

Results of the season's work are given in the following table:—

OPERATIONS AT VANDERHOOF, FOUR-YEAR ROTATION

Field	Crop	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
					$ cts.	$ cts.
A	Hay, second year	.....	July 8	1 ton, 500 lb.	11 95 per ton	5 06
B	Hay, first year	.....	July 8	1,750 lb.	21 15 per ton.	−4 51
C	Potatoes, Green Mountain	May 22	Oct. 5	82 bush 6 lb.	1 06 per bush.	−4 93
	Sunflowers, Mammoth Russian	April 28	Sept. 6	6 tons	4 39 per ton	15 66
	Mixed, oats, peas and sunflowers (fodder)	April 27	Aug. 9	2 tons	13 89 per ton	2 22
D	Oats, Banner	April 27	Aug. 30	88 bush 18 lb.	0 15 per ton	49 05
	Demonstration fields					
E	Alfalfa, second year (2 crops)	.....	July 6 Sept. 3	2 tons	9 99 per ton	16 02
F	Alfalfa, first year (2 crops)	.....	July 7 Sept. 3	2 tons 750 lb.	8 21 per ton	23 50
G	White sweet clover hay	.....	July 13	1 ton 666 lb.	9 37 per ton	6 17
	Oats, Banner	April 29	Aug. 30	93 bush. 23 lb.	0 07 per bush.	59 34
	Wheat, Garnet	April 29	Aug. 30	44 bush 28 lb.	0 26 per bush.	57 23

The practice of growing sweet clover as a preparatory crop for alfalfa has much to recommend it and has given good results on the Vanderhoof Illustration Station. Sweet clover appears to adapt itself to a wider range of conditions than alfalfa and observations show that it is more thrifty on new land. No other common leguminous crop increases the nitrogen content of the soil to such an extent as sweet clover. At the same time its mass of decaying roots add fibre and improve the body of soil. The organisms which work on the root system of sweet clover are the same as those on alfalfa. By following this method soil is inoculated through the sweet clover crop, making it receptive for alfalfa. The usual practice on the Illustration Station is to sow sweet clover at 15 pounds per acre with a nurse-crop of grain. The succeeding year a crop of hay is removed and the second growth ploughed under. Alfalfa is sown the following spring without a nurse-crop at the rate of 12 pounds to the acre. As a safeguard to more thrifty growth it is found advisable to inoculate the seed of both the sweet clover and alfalfa with artificially prepared nitro-culture.

ILLUSTRATION STATIONS' EXHIBIT

Local fairs in central British Columbia and the Provincial Potato, Seed and Bulb Show at Victoria were attended with an Illustration Stations' exhibit. The exhibit consisted mainly of grains and grasses in sheaf from Stations in central British Columbia. Glass jars containing this year's threshed seed were on display and a supply of Dominion Government bulletins were on hand for distribution. The exhibit was largely educational, illustrative of the work of the Division. Enlarged photographs with suitable legends showing crop growth and various features of the work throughout the province greatly interested the visitors. The supervisor judged at the Victoria Seed Fair and assisted at two Interior Fall Fairs. Assistance was also given with the Dominion Experimental Farms Exhibit at the Vancouver Fall Fair in August.

REPORT OF THE ILLUSTRATION STATION, PEACE RIVER

W. D. Albright, Superintendent, Experimental Sub-Station, Beaverlodge, Alta.

FORT ST. JOHN, PEACE RIVER DISTRICT

OPERATOR, J. W. ABBOTT

The season opened comparatively early. Work commenced on the land on April 16. Conditions generally throughout the growing season were not particularly favourable, though somewhat better than in the preceding years. The total precipitation from April to August inclusive was 7.32 inches. The first frost registered on the Station occurred on September 15. The Fort St. John district suffered from an unprecedented plague of grass-hoppers, the worst in the operator's experience.

WHEAT

Garnet wheat seeded on April 26, was harvested on August 15 and yielded 19½ bushels, whereas, Marquis seeded on the same date was seven days later in maturing and yielded 18 bushels per acre. Kharkov fall wheat seeded on August 21 yielded 1¾ bushels per acre. In addition, two demonstration plots of Marquis and Reward were sown on breaking summer-fallow, Marquis yielded 24 and Reward 26½ bushels per acre. The Reward matured from seven to eight days earlier than the Marquis.

OATS

Banner oats sown on April 27 at the rate of 2½ bushels per acre was harvested on August 23 yielding 4½ bushels per acre. The plot was good until it headed out. From then it was attacked by grasshoppers. Practically nine-tenths of the crop lay on the ground because of their attack on the crop.

BARLEY

A plot of Eureka barley sown on May 10 was the first to be attacked by the grasshoppers. Fifty per cent of the crop had been eaten before it headed out; with the result that only 1½ bushels was harvested to the acre.

PEAS

The grasshoppers did not molest the plot of Chancellor peas until the pods were formed. The crop was sown on May 10 at the rate of two bushels per acre, and harvested on August 23 yielding 17 bushels per acre.

POTATOES

Irish Cobbler potatoes planted on May 24 yielded 93 bushels and County Gentleman 66 bushels per acre. The yields were considerably reduced because of a mid-September frost.

DEMONSTRATION HAY PLOTS

Trials with the following grasses and clovers were made, seeding them on land ploughed out of stubble and also on summer-fallow land. The yields were as follows:—

AFTER SUMMER-FALLOW	Yield per acre
Western rye grass	1¾ tons
Brome	2 tons
Brome and western rye grass	1⅞ tons
Brome and sweet clover	1⅝ tons
Rye and alfalfa	1½ tons
Alfalfa	¾ tons
AFTER STUBBLE	
Western rye grass	1¼ tons
Brome	1⅛ tons
Brome and western rye grass	1¼ tons
Brome and sweet clover	1⅛ tons
Alfalfa	1 ton

REPORT OF THE ILLUSTRATION STATIONS IN ALBERTA

R. E. Everest, B.S.A., Supervisor

THE SEASON

For the three winter months a very light snowfall was received and temperatures ran from moderate to high. Work on the land commenced from March 20 at the earliest point, Milk River, to April 20 at Empress and Wainwright, the latest date. From the wet autumn of 1925 there was a good carry over of moisture, hence germination and early growth of crops was satisfactory in 1926. The months April and May were low in precipitation and June was entered with a certain amount of apprehension that was accentuated by searching winds which at the end of May took considerable moisture out of the surface soil. Early in June light rains with coolness and cloud followed by heavier rains from the 11th to the end of the month saved the crop situation over the major part of the province. A considerable area in the southeast which is regarded as being subject to serious drought was again visited with a partial to complete crop failure.

Harvesting was generally early and some first threshing had been done by the end of August. On August 31, however, the weather broke and from heavy warm rains early in September to later cold rains and snow with frosts, the grain was kept so constantly damp that it was well into October before headway could be made by way of getting threshing cleared up. For those who waited the weather out, 1926 was similar to 1925 in that eventually a fine period was experienced that gave ample time for the completion of threshing.

That the moisture conditions for the crop year 1926 may be more clearly depicted, the autumn precipitation of 1925 appears in tabular form followed by the precipitation records of 1926.

PRECIPITATION AUTUMN MONTHS, 1925

—	Bindloss	Delacour	Empress	Foremost	Glenwoodville	Grassy Lake	High River	Jenner	Kipp	Orion	Pincher Creek	Sunnynook	Wainwright	Whitla	Youngstown	Lethbridge
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
September	2·60	5·36	1·71	2·40	3·83	3·00	4·86	2·42	5·25	3·94	6·22	2·76	1·13	3·33	1·16	4·86
October	0·54	1·60	0·39	0·38	1·95	0·39	1·05	1·35	1·48	0·72	2·23	0·31	0·70	0·80	0·48	1·08
November	0·20	0·60	0·20	Nil	0·33	Nil	Nil	0·18	0·20	Nil	0·72	Nil	Nil	Nil	0·25	0·16
December	0·40	0·50	0·20	0·50	0·10	0·70	0·40	0·60	0·40	0·60	0·15	0·70	0·50	0·40	0·65	0·62
Totals	3·74	8·06	2·50	3·28	6·21	4·09	6·31	4·55	7·33	5·26	9·32	3·77	2·33	4·53	2·54	6·72

MONTHLY PRECIPITATION AT POINTS IN ALBERTA, 1926

—	Bindloss	Cessford	Delacour	Empress	Foremost	Glenwoodville	Grassy Lake	High River	Jenner	Kipp	Milk River	Orion	Pincher Creek	Sunnynook	Wainwright	Whitla	Youngstown	Lethbridge
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January	0·60	.....	0·60	1·0	0·20	0·20	0·22	1·0	1·07	0·50	0·50	0·46	0·25	0·55	0·45	Nil	0·80	0·24
February	1·00	.....	1·60	1·0	0·25	0·31	0·76	Nil	1·10	0·64	0·20	0·34	0·54	0·45	1·10	Nil	0·80	0·76
March	Nil	.....	0·60	0·22	Nil	0·29	0·19	Nil	0·48	0·10	0·17	0·42	0·89	0·15	0·25	0·40	Nil	0·11
April	Nil	..... (15th)	0·15	Nil	Nil	0·50	0·27	0·50	0·46	0·51	0·10	Nil	1·14	0·15	0·35	0·20	0·19	0·34
May	1·32	0·39	0·22	1·18	0·55	0·14	1·04	0·06	0·97	0·26	0·61	0·74	0·17	1·05	1·94	1·33	1·24	0·64
June	0·62	0·68	4·85	0·36	1·55	3·48	1·00	5·36	1·01	4·56	1·86	0·66	5·23	1·27	3·34	1·53	1·33	4·67
July	1·53	0·95	1·45	1·58	Nil	1·48	0·25	1·06	1·58	1·98	0·34	0·48	0·63	3·08	1·56	1·93	3·13	1·15
August	1·49	0·78	1·58	1·88	3·45	2·54	2·62	2·93	0·85	1·81	1·09	3·19	2·83	1·93	2·48	2·50	2·42	2·31
September	0·97	0·69	7·47	0·57	0·80	4·25	1·98	4·28	1·11	4·42	3·00	1·57	7·17	1·80	4·41	1·23	0·84	4·62
October	0·03	Nil	0·60	0·22	Nil	0·56	0·09	0·40	0·44	0·34	Nil	0·16	0·45	0·15	0·20	0·25	0·30	0·31
November	0·55	1·22	1·80	0·85	2·20	0·25	0·64	0·60	1·30	0·30	0·20	0·65	0·36	1·80	0·80	0·80	1·52	0·52
December	0·15	0·93	0·90	0·40	0·40	0·44	0·28	1·10	0·65	0·80	0·45	0·30	0·80	0·30	1·30	0·40	0·50	0·56
Total	18·26	*	22·12	9·26	9·40	14·24	9·34	17·29	11·02	16·22	9·32	8·97	20·46	12·48	15·48	10·57	13·07	16·23

* Incomplete.

During the year 1926 seventeen Illustration Stations were operated in the province of Alberta and one near the border in Saskatchewan was included in the Alberta territory, making eighteen Stations in all that were supervised from the Experimental Station at Lethbridge. Fifteen of these Stations are located within the dry farming areas and the other three are irrigated. One new dry land Station was added in 1926, this was at Cessford and at Jenner a change of location and operator was made.

CORN AND SUNFLOWERS

What the ultimate position that these crops will hold in the farm program of Alberta will be, it is difficult to forecast.

In Illustration Station work, their star is in the descendent again. The original plan of work inaugurated in 1915 included corn as a fodder crop at all Stations. Single-horse cultivators in certain instances were provided the operator with which to keep the crop clean. After four years' effort, the enthusiasm of men for, and the scope of this work, had dwindled considerably. With the introduction of the sunflower for ensilage about the year 1919, a renewed interest was given to inter-cultivated crops. Pressure was brought to bear, and in Illustration Station work sunflowers and corn for stock feed were emphasized.

This effort took concrete form in 1922 when by a considerable cash outlay an endeavour was put forth not only to demonstrate but to put within the means of farmers in the Station locality the handling of the corn and sunflower crop in the making of ensilage by way of the trench silo method. Even with the work made financially possible for them, from 1923 forward sunflowers and corn for silage purposes have been a diminishing crop on the farms. Until in 1926 on Illustration Stations these crops were sown to comply with crop order requirements more than to meet the operators' desire to grow them. Then as if to support this apathy, 1926 was in climatic conditions not conducive to even average growth of these crops, and as a consequence some of the fields of corn and sunflowers that were planted had to be taken out as fallow, and most of those remaining were not cut owing to lack of growth and early fall frost. Apart from weather making these crops hazardous, the young plants of corn and sunflowers have to run the gauntlet of worm pests, gophers and Jack rabbits thus the growing of these crops cannot be advocated as an unqualified success. Nevertheless, land is plentiful, feed for milking cows is scarce, and five to ten acres of corn or sunflowers on the half-section farm for silage or fodder purposes may well receive consideration.

WHEATS

Garnet wheat was grown on four of the Stations this past season. The yield of this variety did not come up to that of Marquis but in each instance the quality was good, and at Pincher Creek where Marquis suffered from early frost, the Garnet was far enough advanced to have a decided edge in the grade of grain threshed.

Registered Marquis wheat from the Experimental Farm, Indian Head, was supplied to eight Stations for the crop of 1926. This seed gave a good account of itself in resulting crops and will furnish these Stations with favourable foundation stock for their general crop in 1927. The highest yield of wheat in Station fields during 1926 was obtained from the Indian Head seed grown by Mr. Kiser on the High River Station. This yield was 46 bushels per acre.

SWEET CLOVER

This crop was employed again for hay purposes with varying results. In the most cases it was necessary to supplement the crop by sowing in oats on account of the stand of clover being poor. The variation came in the fact

that west toward the mountains where the catch of clover has usually been good, this year the stand was thin and in some of the out districts where the crop has never been successful, this season's growth gave the closest approximation to a hay yield that has yet been received. In the main, however, the farmer is not justified in buying Sweet clover seed in other than small amounts until he has proved it out to be a satisfactory crop to include in his own farm program.

SUMMER-FALLOWS

Disking in spring, ploughing by the middle of June, and keeping clean of weed growth for the balance of the season are practices old in enunciation, yet as useful in the production of good wheat as any methods so far discovered or put into practice in Station work.

From available data of the past five years on Illustration fields, there cannot be assigned any advantage in residual effect of sweet clover sod fallow, or western rye grass sod fallow, over a straight grain stubble fallow when the yields of wheat obtained in the succeeding year are compared.

CROP SEASON—1926

In compiling this report the cost of production and profit or loss are based on the figures that are given below.

COST VALUES

Rent, Dry land Stations	8 per cent of land value.
Rent, Irrigated Stations	$8 per acre.
Use of machinery	$1 per acre.
Horse labour	10 cents per hour.
Manual labour per hour, Threshing per bushel, Binder twine per pound	Rates prevailing in the district.
Wheat per bushel	$1 50
Oats per bushel	0 85
Barley per bushel	0 96
Corn per pound	0 08
Sunflowers per pound	0 08½
Sweet clover per pound	0 10
Western rye grass, Alfalfa	The price paid the season the field was seeded, divided equally over years the meadow will remain down.

RETURN VALUES

Wheat per bushel	$ 1 15
Oats per bushel	0 45
Barley per bushel	0 55
Alfalfa hay per ton	10 00
Sweet clover hay per ton	10 00
Oat sheaf hay per ton	10 00
Corn fodder green (weight when harvested) per ton	3 50

COST OF SUMMER-FALLOWING

Two-thirds charged to the first crop and one-third charged to the second crop.
The yields given for hay and fodder crops are estimated weights.

Dry Land Stations

BINDLOSS, ALBERTA

OPERATOR, JOHN BARNES

In 1926 work on the land commenced at this Station, April 19. For a time spring crops were favourable in appearance. Lack of moisture, however, was soon felt, and with only 0.62 inches of rain for the whole month of June, growth of plants suffered seriously and a comparatively light crop was harvested. Wheat was sown at the rate of one and one-quarter bushels on fallow and one bushel per acre on second-crop land. Rainfall for the five months, April to August inclusive, totalled 4.96 inches.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT BINDLOSS

Rotation and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (—) per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow	.....	.....	.....	4 85 per acre	
Wheat, Marquis after fallow	May 8	Aug. 18	10 bush. 12 lb.	1 05 per bush.	1 02
Wheat, Marquis after wheat	May 14	Aug. 18	9 bush. 12 lb.	1 05 per bush.	0 92
Three-year Rotation—					
Summer-fallow	.....	.....	.....	4 85 per acre	
Wheat, Marquis after fallow	May 8	Aug. 18	13 bush. 36 lb.	0 80 per bush.	4 76
Sweet clover hay	.....	June 30	1,000 lb.	11 42 per ton	—0 71
Two-year Rotation—					
Wheat after corn and sunflowers	May 8	Aug. 18	12 bush.	0 59 per bush.	6 72
Corn and sunflowers	May 18	Frosted	1 ton	7 27 per ton	—3 77
Demonstration Test Fields—					
Western rye grass hay	.....	July 15	1,000 lb.	8 13 per ton	0 93

The crop at Bindloss was again a Header proposition. Consequently, the date of cutting is not significant as the time depended upon when the Header machine was available for use on Mr. Barnes' farm.

Vegetable garden in the corner of a wheat field; Bindloss, Alta.

The vegetable garden located in a depression of the wheat field proved to be an excellent idea; this hollow had evidently caught moisture, contained soil of good tilth and the wheat afforded protection to the garden crops from wind and drift.

CESSFORD

OPERATOR, G. E. GRIFFITH

This Station was selected and preparatory work commenced in the spring of 1926.

Wheat on corn ground yielded up to twelve bushels to the acre, and land was summer-fallowed in readiness for 1927 work at a cost of $6.36 per acre.

Mr. Griffith, though an experienced corn man, failed to get a reasonable growth of stalk, or cobs to a maturing stage this past season.

Cessford is well out of the rough land as it is the second railway station north of the Red Deer river on the C.N.R. branch that links up with the Goose Lake line at Hanna.

Work for this Illustration Station will be more fully reported on in 1927 when the cropping order of fields is further established.

DELACOUR

OPERATOR, A. H. FENNESSEY

In 1926 work on the land commenced at this Station on April 8. Spring moisture was light for rapid growth, April and May together giving only 0.37 of an inch of rain. June, however, gave a total of 4.85 inches which placed the grain crops well on the road to a good harvest.

Unfortunately, the farm on which the Station is located was in the tracks of a severe hail storm on July 27 which resulted in the Operator receiving a total loss from insurance companies on hail adjustment. The crop recovered wonderfully and to the eye looked as though it would thresh out around 25 bushels per acre. At threshing time this idea was dissipated for, as is not unusual with a hailed crop, the real out turn at the separator was scarcely sufficient to pay the handling costs of grain for this one operation.

Wheat was sown at the rate of one and one-quarter bushels per acre. Rainfall for the five months, April to August inclusive, totalled 8.55 inches.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT DELACOUR

Rotation and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (—) per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				9 40 per acre	
Wheat, Marquis after fallow	April 13	Aug. 20	10 bush.	1 64 per bush.	—4 90
Wheat, Marquis after wheat	May 16	Aug. 20	5 bush.	2 87 per bush.	—8 60
Four-year Rotation—					
Summer-fallow				8 45 per acre	
Wheat, Marquis after fallow	April 13	Aug. 20	9 bush.	1 83 per bush.	—6 12
Western rye grass and oat hay		April 2	1 ton 1,200 lb.	7 54 per ton	3 94
Western rye grass (2nd year)		July 26	1 ton 400 lb.	6 42 per ton	4 30
Three-year Rotation—					
Summer-fallow				9 40 per acre	
Wheat, Marquis after fallow	April 13	Sept. 18	10 bush.	1 64 per bush.	—4 90
Sweet clover and oat hay		Sept. 18	1 ton 1,000 lb.	7 57 per ton	3 64

EMPRESS, ALBERTA

OPERATOR, WILLIAM ROWLES

In 1926 work on the land commenced at this Station on April 20. In this month precipitation was nil, in May 1.18 inches and in June when much is expected, only 0.36 of an inch of rain was recorded.

This adverse drought coupled with searching, drifting winds curtailed and restricted crop growth to such an extent that only a light yield was obtained at threshing time.

Wheat was sown at the rate of one bushel per acre. Rainfall for the five months, April to August inclusive, totalled 5.00 inches.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT EMPRESS

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
Four-year Rotation—					
Summer-fallow	.....	.....	.....	5 30 per acre	
Wheat, Marquis after fallow	April 21	Aug. 10	16 bush.	0 70 per bush.	7 20
Corn for ensilage	.....	Failure	.....	9 83 per acre	−9 83
Wheat, Marquis after corn	April 21	Aug. 10	5 bush.	1 23 per bush.	−0 40
Five-year Rotation—					
Summer-fallow	.....	.....	.....	5 19 per acre	
Wheat, Marquis after fallow	April 10	Aug. 10	27 bush. 30 lb.	0 76 per bush.	10 72
Corn for ensilage	.....	Failure	.....	8 03 per acre	−8 03
Western rye grass hay	.....	July 1	900 lb.	8 07 per ton	0 87
Sweet clover	.....	June 23	1,100 lb.	6 60 per ton	1 87
Brome grass	.....	June 23	750 lb.	10 59 per ton	−0 22

The corn crop at this Station was well cared for and kept clear of weeds. The treatment given was: harrowed four times, cultivated twice, and finally, hoed by hand. Mr. Rowles states that timely use of the harrow had much to do with keeping the corn crop clean. Owing to the disappointing season for corn the operator had no crop fit for ensiling; what growth was on the field would pasture down by stock in the autumn.

The grain crop at this point was cut with the header. Harvest was early and a good grade of wheat was obtained as the threshing on Mr. Rowles' farm was completed before the wet weather came on at the end of August.

FOREMOST, ALBERTA

OPERATOR, T. H. FRANKISH

In 1926 work on the land commenced at this Station on April 10. Moisture conditions early in the season were poor indeed. March and April had no precipitation, May 0.55 of an inch, June 1.55 inches and July no rain. August was fair for rainfall with 3.45 inches but this came too late to benefit the 1926 crop as failure at this time was almost complete. Added to the drought there were high winds in May which drifted a neighbour's fenceless summer-fallow to a depth of some feet at fence line of Station fields and to several rods in width over the growing crop border. These conditions resulted in a discouraging situation, and any crop that was harvested showed a loss in the balance column.

GRASSY LAKE

OPERATOR, J. E. JAMES

In 1926 work on the land commenced at this Station on April 13. The carry over of moisture from the autumn of 1925 was good. By auger test moisture was found to a depth of four feet on well-fallowed land and to a depth of two feet, nine inches on spring-ploughed stubble land. These tests were taken on the 28th of April.

Grain crops made a good uniform start giving promise early in the season of a favourable harvest. This district was also short of rain for May and June and almost rainless in July with the result that a crop below the average was gathered when harvesting actually took place.

Wheat was sown at the rate of one bushel per acre. Rainfall for the five months April to August inclusive totalled 5.18 inches; 2.62 inches of this amount came in August while the wheat had ripened and was mostly all cut in July.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT GRASSY LAKE

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				4 87 per acre	
Wheat, Marquis after fallow	April 24	July 26	13 bush.	0 88 per bush.	3 51
Wheat, Marquis after wheat	April 23	Aug. 2	7 bush.	1 18 per bush.	−0 21
Three-year Rotation—					
Summer-fallow				4 87 per acre	
Wheat, Marquis after fallow	April 24	July 27	10 bush. 30 lb	1 01 per bush.	1 47
Sweet clover hay		June 9	1,000 lb.	10 40 per ton	−0 20
Two-year Rotation—					
Wheat after corn and sunflowers	April 22	July 29	8 bush.	0 84 per bush.	2 48
Corn and sunflowers	May 11	Failure		11 29 per acre	−11 29

The statement is sometimes made that with a good moisture content of soil carried over from autumn to spring a fair crop is assured. In more than one instance the 1926 results have failed to bear out this theory. From the past season's work it appears that a certain amount of summer rain is essential if a good crop is to be harvested.

Corn failed to reach a height and stage of maturity before frost came that would make the crop worth while cutting. Sunflowers early in their life history were preyed upon so persistently by rabbits that the land allotted to them resolved itself into a summer-fallow through the work required to keep weed growth down.

HIGH RIVER

OPERATOR, B. F. KISER

In 1926 work on the land commenced at this Station on April 20. At the end of May surface moisture was somewhat scant. June came on with 5.36 inches of rain which brought the crops along giving a reasonable assurance of a good harvest. This anticipated result was realized, one Station field of Marquis yielding 46 bushels per acre.

Marquis wheat was sown at one and one-quarter bushels per acre while Garnet (owing to small supply) was seeded at the rate of one bushel per acre. Rainfall for the five months, April to August inclusive, totalled 9.91 inches.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT HIGH RIVER

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				9 24 per acre	
Wheat, Marquis after fallow	April 27	Aug. 26	46 bush.	0 48 per bush.	30 82
Wheat, Marquis after wheat	April 26	Aug. 21	32 bush.	0 62 per bush.	16 96
Three-year Rotation—					
Summer-fallow				9 72 per acre	
Wheat, Garnet after fallow	April 26	Aug. 18	40 bush.	0 53 per bush.	24 80
Sweet clover and oat hay		Sept. 24	2 tons	8 36 per ton	3 28
Two-year Rotation—					
Wheat, Marquis after corn and sunflowers	April 26	Aug. 21	26 bush.	0 53 per bush.	16 12
Corn and sunflowers	May 31	Not cut		12 55 per acre	−12 55

During the summer the operator made a marked improvement to the Station's appearance by cleaning up and levelling the roadside at the time he constructed a substantial new fence along the highway end of the fields.

Sweet clover in its stand and subsequent hay crop was more disappointing this year than at any time since it has been grown at this point.

Garnet wheat, though falling below in yield produced a favourable crop of good quality grain which harvested five days earlier than Marquis.

In wheat yield per acre, High River led the Stations in 1926.

JENNER

Operator, Nels Klein

At this point a change of location was made in 1926. From the Fisher farm lying east of town our work was taken to the farm of Mr. Klein, which is almost one and one-half miles south of Jenner.

The new operator proved himself to be a good workman and when the fields are fully established a neat Station will be the result. Drought was again prevalent in this district and a very short crop was harvested.

MILK RIVER

Operator, Joe Wachtler

In 1926 work on the land commenced at this Station on March 20. Rainfall throughout the growing season was light with the result that a crop below the average was harvested. Wheat was sown at the rate of one bushel per acre. Rainfall for the five months, April to August inclusive, totalled 4.80 inches.

Table Giving Results of the Season's Work at Milk River

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				6 11 per acre	
Wheat, Marquis after fallow	April 20	Aug. 8	16 bush. 50 lb.	0 67 per bush.	8 08
Wheat, Marquis after wheat	April 20	Aug. 8	11 bush.	1 03 per bush.	1 32
Three-year Rotation—					
Summer-fallow				6 11 per acre	
Wheat, Marquis after fallow	April 23	Aug. 21	10 bush. 12 lb.	1 09 per bush.	0 61
Sweet clover hay		June 30	1 ton	6 18 per ton	3 82
Two-year Rotation—					
Wheat after corn and sunflowers	April 23	Aug. 8	10 bush. 40 lb.	0 65 per bush.	5 33
Corn and sunflowers	May 19	Destroyed by cut worms.		7 31 per acre	−7 31
Demonstration Test Field—					
Alfalfa in rows		June 16	1 ton	6 16 per ton	3 84

Cutting dates are not significant, as the crop was all gathered by the header method when the grain was fully ripe.

For the past three years alfalfa in rows at this station has been safer for yield as a feed crop than sweet clover or corn and sunflowers.

ORION

Operator, George Wagar

In 1926 work on the land commenced at this Station on April 14. The year goes down as about the poorest yet experienced in this moisture-short district. For the four months, April, May, June and July, 1.88 inches of rain fell. August was wet, 3.19 inches of moisture being received. This was of no benefit however, as the header crop of wheat was harvested in July.

Wheat was sown at the rate of one bushel per acre. Rainfall for the five months, April to August inclusive, totalled 5.07 inches.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT ORION

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				3 60 per acre	
Wheat, Marquis after fallow	April 20	July 30	10 bush. 36 lb.	0 83 per bush.	3 39
Wheat, Marquis after wheat	April 26	July 30	2 bush. 48 lb.	2 80 per bush.	−4 62
Three-year Rotation—					
Summer-fallow				4 00 per acre	
Wheat, Marquis after fallow	April 19	July 30	11 bush.	0 77 per bush.	4 18
Sweet clover after oat hay		July 19	800 lb.	15 45 per ton	−2 18
Two-year Rotation—					
Wheat after corn and sunflowers	April 20	July 30	5 bush. 48 lb.	0 76 per bush.	2 26
Corn and sunflowers	May 18	Not cut		7 26 per acre	7 26
Demonstration Field Test—					
Banner oats	May 4	Aug. 17	8 bush. 17 lb.	0 58 per bush.	−1 10

Western rye grass and alfalfa failed to give a stand of hay from the 1925 seeding.

Wheat after fallow and wheat on corn and sunflower land were the only fields to show a profit and of these the wheat on fallow was the larger.

Poultry improvement work was again a pleasing feature of this Station's operations.

For the 1926 breeding season, Mr. Wagar sold to district residents 10 cockerels, and for hatching purposes 83 settings of eggs.

These stocks were from the Barred Plymouth Rock flock built up upon the Lethbridge Experimental Farm winter egg-laying blood. With a view to registration Mr. Wagar has a pen in the 1926 Egg-Laying Contest for Alberta.

PINCHER CREEK

OPERATORS, SANDGREN AND CARLSON

In 1926 work on the land commenced at this Station on April 17. The early part of the season was short of moisture, the month of May being very dry; for this period only one small shower was recorded. June gave a plentiful rain supply, but the combined effect of May drought, late growth and early frost cut the yields and grade greatly so that for this foot-hill district a poor crop year was the result.

Rainfall for the five-month period, April to August inclusive, totalled 10 inches.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT PINCHER CREEK

Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
Summer-fallow				9 58 per acre	
Garnet wheat after fallow	April 17	Aug. 4	26 bush.	0 71 per bush.	11 44
Sweet clover hay		July 5	1 ton	9 29 per ton	0 71
Alfalfa hay		June 25 / July 26	1 ton 1,400 lb.	5 95 per ton	6 88

Contrary to its usual habit sweet clover failed to make a good stand for hay on the Station fields at this point.

Alfalfa gave more tonnage per acre than the sweet clover, and it should be stated that the alfalfa field has given a crop of hay each year since it was seeded in 1916.

Garnet wheat, owing to its early maturing characteristic resulted in a fair yield of grain that was superior in quality to the Marquis variety grown on nearby fields.

The question of devoting a percentage of the wheat crop area on the farms of the Pincher district to this earlier variety is worthy of consideration. The Garnet wheat ripening ten days ahead of Marquis would speed up the harvesting to an earlier start and in years of early frost such as 1926, would assure an amount of good quality grain.

A feature of the general farm work at this Station during the past summer was the rearing of litters of pure-bred Yorkshire pigs which comprised 200 individuals. Of this herd some 40 young sows were selected for breeding purposes.

A dozen milch cows continued to give good returns by way of a high-price cream market. And the possibility of converting low-grade wheat into high-grade beef was being considered by the operators when the last seasonal visit was made.

SUNNYNOOK

Operator, Robert Montgomery

In 1926 work on the land commenced at this Station on April 14.

A discouraging condition of the Station fields at this point has always been the sandy nature of soil and its tendency to blow. The light moisture receipts of winter and spring left this surface soil in a loose state and when continued searching winds occurred at the end of May havoc was again wrought with our work and the whole situation became so serious that the owner, Mr. Montgomery, decided to abandon the farm. Moisture throughout the summer would have given an average crop had it not been for the drift problem of the early part of the season.

The operator purchased a new farm about three miles to the southwest which comprises a soil of more consistency than was found on the old site. Wheat was sown at one bushel per acre. Rainfall for the five months, April to August inclusive, totalled 8.17 inches.

Table Giving Results of the Season's Work at Sunnynook

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				Unfinished	
Wheat, Marquis after fallow	April 20	Aug. 30	12 bush.	0 87 per bush.	3 36
Wheat, Marquis after wheat	May 19	Sept. 7	7 bush. 12 lb.	1 11 per bush.	0 29
Three-year Rotation—					
Summer-fallow				Unfinished	
Wheat, Marquis after fallow	April 20	Aug. 30	14 bush.	0 78 per bush.	5 18
Sweet clover and oat hay		Sept. 20	400 lb.	27 83 per ton	−3 57
Two-year Rotation—					
Wheat after corn and sunflowers	April 20	Aug. 30	2 bush.	2 05 per bush.	−1 80
Corn and sunflowers	May 29	Sept. 14	1 ton 1,000 lb.	4 69 per ton	−1 78
Demonstration Test Fields—					
Alfalfa in rows		July 1	600 lb.	14 17 per ton	−1 25

WAINWRIGHT

OPERATOR, G. C. BOYD

In 1926 work on the land commenced at this Station on April 20.

Precipitation for autumn and winter was light but the summer rains came along favourably. May gave 1.94 inches, the highest figure for the month of any Station reported on; June followed with 3.34 inches and the five months' total, April to August, amounted to 9.97 inches, which is only exceeded by 0.03 rainfall for this period at Pincher Creek.

Marquis wheat was sown at one and one-quarter bushels per acre on fallow land and one bushel on second-crop land. Garnet wheat was seeded at one bushel per acre and oats at the rate of two bushels per acre.

Wheat on the differing soil treatments shows but little variation in the yield or cost of production. Wheat on fallow leads in yield while wheat on rowed crop land is produced at the lowest cost and returned by fifty-one cents the largest profit per acre.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT WAINWRIGHT

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-Year Rotation—					
Summer-fallow	.....	.....	.....	5 92 per acre	
Wheat Marquis after fallow	April 26	Aug. 30	32 bush.	0 50 per bush.	20 80
Wheat, Marquis after wheat	April 26	Aug. 23	26 bush., 36 lb.	0 54 per bush.	16 23
Four-year Rotation—					
Summer-fallow	.....	.....	.....	7 28 per acre.	
Wheat, Marquis after fallow	April 27	Aug. 23	29 bush.	0 54 per bush.	17 69
Western Rye Grass hay (1st year)	.....	July 26	2 tons, 1,000 lb.	3 99 per ton	15 02
Western Rye Grass hay (2nd year)	.....	July 26	1 ton, 600 lb.	5 58 per ton	5 75
Three-year Rotation—					
Summer Fallow	.....	.....	.....	5 96 per acre	
Oats, Victory after fallow	May 19	Sept. 25	65 bush., 14 lb.	0 26 per bush.	12 44
Sweet clover hay	.....	July 14 / Sept. 25	1 ton, 1,600 lb.	4 46 per ton	9 97
Two-year Rotation—					
Wheat after corn and sunflowers	April 26	Aug. 23	29 bush., 36 lb.	0 43 per bush.	21 31
Corn, N. W. Dent	May 26	Sept. 23	1 ton, 1,000 lb.	6 89 per ton	−5 08
Sunflowers	May 26	Sept. 23	3 tons	3 44 per ton	0 18
Demonstration Test Fields—					
Garnet wheat on alfalfa sod	April 27	Aug. 9	30 bush., 12 lb.	0 46 per bush.	20 84
Banner Oats following oats	May 19	Sept. 13	65 bush.	0 24 per bush.	13 65

Garnet wheat gave a good account of itself in yield and quality of grain. Then in earliness of ripening it was outstanding, being harvested two weeks ahead of Marquis. This field of Garnet was the first wheat to ripen in the locality, hence suffered from the congregating of blackbirds and crows upon it. Though well ripe when cut, Mr. Boyd stated that he did not find Garnet wheat bad for shattering.

Western rye grass in comparison with corn and sunflowers was the more profitable feed crop in 1926.

That the whole Station area may come into the rotation of grass and clover crops, the fields comprising the different rotations were given a shift in 1926 in order to bring about this change of treatment.

WHITLA

OPERATOR, R. H. BABE

In 1926 work on the land commenced at this point on March 25. Winter precipitation was light and summer rains were not sufficient in amount to insure good growth, which condition resulted in a short crop being harvested again in this district.

Wheat was sown at one bushel per acre. Rainfall for the five months, April to August inclusive, totalled 7.49 inches. Two and one-half inches of this sum came in August, too late for value as the early ripened crop was off the stem in July.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT WHITLA

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				6 48 per acre	
Wheat, Marquis after fallow	April 28	July 29	15 bush., 24 lb.	0 79 per bush.	5 54
Wheat, Marquis after wheat	April 28	July 29	6 bush., 36 lb.	1 78 per bush.	−4 16
Three-Year Rotation—					
Summer-fallow				6 18 per acre	
Wheat, Marquis after fallow	April 28	July 30	13 bush., 36 lb.	0 93 per bush.	2 99
Sweet clover hay		June 14	1,600 lb.	10 40 per ton	−0·32
Two-year Rotation—					
Wheat after corn and sunflowers	April 28	July 30	11 bush.	0 68 per bush.	5 17
Corn and sunflowers	May 15	Not cut		8 21 per acre	−8 21

In twelve years' work at Whitla, corn has given a profitable feed crop in two seasons, 1916 and 1923.

From observations, Mr. Babe concludes that their soil locally is not well suited to the growth of winter wheat, winter rye nor corn.

Garnet wheat on a two-acre lot gave a yield of nine and one-half bushels per acre. This wheat will be tried out again in 1927.

During the past season, sweet clover gave the best promise of a crop of any year since it has been grown upon this Station. As a result it was allowed to stand without a supplementary crop of oats sown in. The hay cut, however, was not of tonnage enough to class as a paying crop.

Wheat was the only crop which was grown at a profit on the Station fields in 1926; and this only when grown on fallow or rowed crop land.

YOUNGSTOWN

OPERATOR, G. S. COAD

In 1926 work on the land commenced at this Station on April 19. With light precipitation, winter, spring and summer to the end of June, the district had not the most favourable conditions for a good crop year. July with 3.13 inches of rain saved the situation to a certain extent and a fair average crop was harvested.

Wheat was sown at the rate of one bushel per acre. Rainfall for the five months April to August inclusive totalled 8.31 inches.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT YOUNGSTOWN

Rotation and Crops	Date sown	Date cut	Yield per acre	Cost	Profit or (—) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Summer-fallow				3 62 per acre	
Wheat, Marquis after fallow	April 22	Aug. 9	21 bush.	0 65 per bush.	10 50
Wheat, Marquis after wheat		Aug. 19	12 bush.	0 93 per bush.	2 64
Four-year Rotation—					
Summer fallow				5 04 per acre	
Wheat, Marquis after fallow	April 22	Aug. 3	15 bush.	0 57 per bush.	8 70
Western Rye Grass hay —					
First year		July 23	1 ton	9 26 per ton	0 74
Second year		July 22	1,500 lb.	6 78 per ton	2 41
Three-year Rotation—					
Summer-fallow				6 93 per acre	
Wheat, Marquis after fallow	April 23	Aug. 9	22 bush., 30 lb.	0 60 per bush.	12 37
Sweet clover and oat hay		July 23	1 ton	8 32 per ton	1 68
Two-year Rotation—					
Wheat after corn and sunflowers	April 22	Aug. 3	13 bush., 30 lb.	0 58 per bush.	7 69
Corn and sunflowers	May 14	Sept. 3	9 tons	1 39 per ton	18 99
Demonstration Test Fields—					
Garnet wheat	May 14	Aug. 19	11 bush.	1 02 per bush.	1 43
Banner oats	May 5	Aug. 6	30 bush.	0 39 per bush.	1 80
Alfalfa		June 24 / Aug. 10	1 ton, 500 lb.	5 52 per ton	5 60

Barn built by Mr. Coad and Sons during the summer.

Wheat on fallow had a distinct advantage in yield and in profit per acre over second crop wheat or wheat following a cultivated crop.

This Station is the only point where a silo is in use for the crop of 1926, and here also the crop had a close shave for its existence. On August 12 the

sunflowers were so wilted that Mr. Coad was considering cutting them at once. The following day it rained and the crop revived greatly and added considerable tonnage by September 3, when the plants were ensiled acceptably.

Western rye grass continues to give a fair account of itself as a feed crop at this Station. A field of alfalfa is also building itself up into a reliable stand as a safe proposition for a certain amount of high-class forage.

Irrigated Stations

GLENWOODVILLE

OPERATOR, GLEN WOOD

Work in irrigation was started in an illustration way in 1924. Ten fields of two acres each were put down to a rotation that for fifteen years has proved itself to be one of the most profitable under irrigation of those employed on the Dominion Experimental Farm, Lethbridge. This rotation consists of six fields in alfalfa, one field in wheat, one field in hoed crop, one field in oats, and the tenth field in barley, seeded back to alfalfa.

RATES OF SEEDING

Alfalfa	15 pounds per acre.
Wheat	1¾ bushels per acre.
Oats	2½ bushels per acre.
Barley	2 bushels per acre.

In addition to the rotation a permanent pasture of ten acres is laid out with a border system of irrigation. Rate of seeding on pasture is twenty-two pounds per acre: Kentucky blue grass, six pounds; English blue grass, six pounds; western rye grass, four pounds; alfalfa, four pounds; and timothy, two pounds.

In 1926 the alfalfa fields and permanent pasture received three applications and the hoed crop and grain fields two applications of water.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT GLENWOODVILLE

Crop	Date cut	Yield per acre	Cost	Profit or (−) loss per acre
			$ cts.	$ cts.
Alfalfa {first cutting	June 28	1 ton, 1,333 lb.		
Alfalfa {second cutting	Aug. 6	1 ton, 500 lb.	5 50 per ton	13 12
Corn and sunflowers	Not cut		22 92 per acre	−22 92
Wheat, Marquis	Oct. 29	30 bush.	0 94 per bush.	6 30
Oats, Banner	Oct. 29	24 bush., 17 lb.	0 91 per bush.	−11 27
Barley, O.A.C. No. 21	Oct. 29	5 bush.	3 26 per bush.	−13 55

On the twenty acres occupied by the rotation a profit of $74.56 is shown for the season's operations.

The weather breaking in August made harvesting very difficult in this territory. Owing to rain and snow, the land got in such shape that it was well nigh impossible to gather the crops, and unusual devices and excessive horsepower were employed in order to operate the harvesting machinery.

On June 1 the permanent pasture was put to grazing purposes, when eighteen head of horses were turned in noons and nights for their subsistence. This continued for sixteen days. Later in the season the pasture gave excellent service again and proved quite satisfactory in its carrying capacity.

IRON SPRINGS

OPERATOR, J. C. DOHERTY

The advent of irrigation water in 1924 and the construction of a railroad in 1925 led to an influx of settlers and unprecedented development for this district in 1926.

The Illustration Station at Iron Springs was subject to a change of operator within the year. The new owner, James C. Doherty, came with experience of dry farming from the Manyberries country, and in the past season put forth a good effort to acquire ability in the handling of irrigation water on his new location.

The alfalfa fields responded with heavy crops of good hay; wheat and oats were favourable, but barley and potatoes suffered somewhat from belated and inadequate operations.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT IRON SPRINGS

Field	Crop	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
A	Alfalfa—				
	First cutting	June 30	2 tons		
	Second cutting	Aug. 7	2 tons, 500 lb.	6 44 per ton	15 13
B	Alfalfa—				
	First cutting	June 29	2 tons, 1,000 lb.		
	Second cutting	Aug. 7	2 tons, 1,000 lb.	5 56 per ton	22 20
C	Alfalfa—				
	First cutting	June 29	2 tons, 1,500 lb.		
	Second cutting	Aug. 5	2 tons, 500 lb.	5 28 per ton	23 60
D	Alfalfa—				
	First cutting	June 28	2 tons, 500 lb.		
	Second cutting	Aug. 5	2 tons, 500 lb.	5 37 per ton	20 83
E	Alfalfa—				
	First cutting	June 26	2 tons		
	Second cutting	Aug. 5	2 tons	5 41 per ton	18 36
J	Alfalfa—				
	First cutting	June 30	1 ton, 750 lb.		
	Second cutting	Aug. 4	1 ton, 1,500 lb.	7 46 per ton	7 94
	Wheat, Marquis	Aug. 26	28 bush.	0 79 per bush.	10 08
	Oats, Banner	Aug. 26	71 bush., 17 lb.	0 32 per bush.	9 29

Fields " A " and " J " may be scanned for results of sowing alfalfa without and with a nurse-crop. When these fields were put down in 1925, A was sown to alfalfa alone and J to alfalfa with a crop of barley.

The permanent pasture was the one handy field that this new operator had for running his cow and work horses in. Consequently, this area was almost over-pastured throughout the season.

KIPP

OPERATOR, C. M. NICOL

The Irrigation Station work was further developed and established at this point during the year 1926. The alfalfa fields gave a larger hay return than in 1925. Difficulty was encountered, however, in curing the second cutting owing to the wet weather of late August and September.

TABLE GIVING RESULTS OF THE SEASON'S WORK AT KIPP

Field	Crop	Date cut	Yield per acre	Cost	Profit or loss (−) per acre
				$ cts.	$ cts.
D	Alfalfa—				
	First cutting	July 6	2 tons, 1,000 lb.		
	Second cutting	Aug. 27	2 tons	5 87 per ton	18 58
F	Alfalfa—				
	First cutting	July 6	2 tons, 1,000 lb.		
	Second cutting	Aug. 27	2 tons	5 49 per ton	20 29
G	Alfalfa—				
	First cutting	July 6	2 tons, 1,000 lb.		
	Second cutting	Aug. 28	1 ton, 1,000 lb.	6 02 per ton	15 92
H	Alfalfa—				
	First cutting	July 6	1 ton, 1,000 lb.		
	Second cutting	Aug. 28	1 ton	8 85 per ton	2 87
I	Alfalfa—				
	First cutting	July 7	2 tons, 1,000 lb.		
	Second cutting	Aug. 28	1 ton, 1,000 lb.	5 74 per ton	17 04
	Wheat, Marquis	Sept. 27	14 bush.	1 63 per bush.	−6 72
	Corn, N. W. Dent	Not cut	.....	19 46 per acre	−19 46
	Oats, Banner	Sept. 27	42 bush., 25 lb.	0 58 per bush.	−52 56
	Barley, O.A.C. 21	Sept. 27	29 bush.	0 92 per bush.	−10 73
	Permanent pasture taken as hay crop	July 16	2 tons, 1,000 lb.	4 85 per ton	12 87

The permanent pasture was kept free of stock throughout the early part of the season in order to give the patch work seedings of 1925 an opportunity to become established. The pasture gave a profitable hay crop in July by this plan, and later in the year was used for grazing of heifers and other stock.

During the year the Operator, Mr. Nicol, has improved and increased his live stock holdings considerably. From the Lethbridge Experimental Farm he purchased two good grade dairy heifers, a pure-bred Holstein bull and a pure-bred Yorkshire hog, and from Mr. Carlson of Pincher Creek, three pure-bred Yorkshire sows. Will Nicol, the senior boy of the family, fed a Calf Club calf to one of the leading positions for the 1926 Fair and has another good specimen in hand for the Lethbridge Exhibition of 1927.

Throughout the year the flock of Barred Plymouth Rock poultry gave a good account of itself, producing eggs consistently when they were selling for 60 and 70 cents per dozen. In the breeding season sales were made to neighbours of cockerels, pullets and settings of eggs.

Early in November Mr. Nicol gave a day with Mr. Clyde of the Live Stock Branch, to the culling of poultry flocks in the district.

At this Farm the Illustration Station work seems to resolve itself into a foundation upon which to carry on other activities.

At this early stage in the history of the Irrigated Stations stress cannot be placed advisedly upon the yields or profit and loss from the four fields of the rotation that have been used for the hoed and grain crops.

Not until 1927 will one of these crops have the advantage of being grown upon a straight alfalfa sod field. And in irrigation farming it is accepted that it is the ploughing up of alfalfa that provides the right condition in the soil for the favourable growth of succeeding crops.

REPORT OF THE ILLUSTRATION STATIONS IN SASKATCHEWAN

E. C. Sackville, B.S.A., Supervisor

During the year 1926 twenty-one Illustration Stations were operated in the province of Saskatchewan. Seventeen of these were supervised from the Swift Current Experimental Station, three from Brandon, and one from the Lethbridge Farm. This report deals with those Stations connected with Swift

Current. Illustration work was carried on along similar lines to last year, with the addition of a few more projects of an experimental nature. The following are some of the most important features:—

1. The testing of different crop rotations, particularly with a view to comparing a rotation containing a grass and legume crop with one where straight grain growing with a fallow at intervals is practised.
2. The production and distribution in the district of pure seed of the most suitable varieties of the grains, grasses, clovers and alfalfa.
3. Keeping records of the yields and the cost of producing these crops.
4. Local tests of some of the most promising new varieties of the different crops.
5. Demonstrating the importance of timely and thorough work in the different operations in crop production.
6. Disseminating practical information to the people in the district on the results of the work through their own observation, field meetings, discussions, reports, etc.

THE SEASON

The seasonal conditions during 1926 varied considerably from one district to another. In most of the districts where Illustration work was carried on, moisture and other conditions were sufficiently favourable to produce excellent to good crops. In the other districts, while the spring was favourable, drouth set in later and there was not sufficient moisture to carry the crops through the extreme heat which all districts experienced during July. Sawfly also did considerable damage in some localities. As a result, where these circumstances prevailed yields were much below the average. The spring opened favourably from the standpoint of moisture and the weather continued cool for some time, with frequent winds. Later on, about midsummer, extremely hot weather set in which continued until about harvest time. The fall was the most unfavourable on record for threshing. Cold weather set in on September 23, with a snowfall of several inches in most places. Unsettled conditions followed, with frequent showers of both rain and snow. This affected the quality of all exposed grain and increased the moisture content, so that a good deal would grade "tough." However, with more settled weather later, threshing was completed with better results than anticipated.

The record of the rainfall at each Station for the season April to November inclusive is given in the table below:—

RAINFALL, APRIL–NOVEMBER, FOR 1926, IN INCHES—SASKATCHEWAN

Station	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Total
Shaunavon	0·10	1·55	1·85	1·76	2·31	1·08	0·06	0·35	9·06
Herbert	0·30	2·26	1·49	1·69	2·54	1·24	0·24	.....	9·76
Parkbeg	0·84	2·42	1·33	1·67	2·83	1·45	0·10	0·38	11·02
Avonlea	0·15	2·35	2·65	0·62	2·30	3·75	1·50	0·10	12·07
Ogema	0·06	2·52	3·86	1·16	2·35	2·55	0·12	0·35	12·97
Radville	0·19	3·11	2·95	1·17	1·75	0·57	1·58	.....	11·32
Weyburn	0·15	1·59	5·06	2·57	2·26	1·58	1·67	.....	14·88
Tugaske	.....	2·13	1·40	0·98	2·05	1·53	0·65	.....	8·74
Riverhurst	0·20	2·64	1·10	1·69	0·83	2·61	0·24	.....	9·31
Kindersley	.....	2·08	0·51	1·03	1·35	0·95	.....	0·60	6·52
Lloydminster	0·20	3·10	2·59	1·06	2·38	1·17	0·20	.....	10·70
Meota	0·67	4·24	2·11	0·92	1·52	1·26	0·42	.....	11·14
Spruce Lake	0·40	2·53	1·30	0·88	2·21	1·54	0·09	.....	8·95
Marcelin	1·55	2·60	0·54	1·16	(5·92 for remainder of season)				11 77
Davidson	1·31	3·51	0·98	1·42	1·41	1·89	0·86	0·87	12·25
Guernsey	1·09	5·03	1·98	1·67	1·08	1·41	1·98	0·60	14·84
Trossachs	0·10	2·86	2·26	2·53	1·33	2·37	1·20	.....	12·65

In order to arrive at the cost of producing crops, the following charges are used, and in calculating profits, the following return values:—

Rent of land, per acre	8 per cent interest on land value.
Taxes	30 cents per acre.
Use of machinery, per acre	$1.35.
Manual labour, Horse labour, Threshing, Binder twine	Rates prevailing in the district.

COST OF SEED

Wheat, per bushel	$1 40
Oats, per bushel	0 50
Barley, per bushel	0 75
Peas, per bushel	3 00
Corn, per bushel	4 55
Sunflowers, per pound	0 08
Sweet clover, per pound	0 12½
Western rye grass, per pound	0 07½
Brome grass, per pound	0 07½
Alfalfa, per pound	0 30

RETURN VALUES

Wheat, per bushel	$ 1 25
Oats, per bushel	0 50
Barley, per bushel	0 60
Peas, per bushel	3 00
Hay, per ton	12 00
Corn and sunflower silage, per ton	3 50
Corn (fodder), per ton	7 00

MEETINGS AND EXHIBITIONS

In addition to the regular supervision of the work at the different Stations, the Supervisor held field meetings at the following places: Meota, Spruce Lake, Marcelin, and Guernsey. He also acted as judge of the grains and forage crops at the following Agricultural Fairs: Ogema, Radville, and Weyburn.

AVONLEA

OPERATOR, J. W. MILLER

Spring opened here about the usual time. Work on the land started the middle of April, and the first wheat was seeded on the Station, April 26. The soil was moist at the time of seeding, and the weather was cool with considerable wind, which caused some damage from soil drifting after the grain was up. Until the latter part of June, the rainfall was sufficient for favourable growth, but during July it was light and the temperature was quite high most of the time. This ripened the grain crops too fast. However, they came through better than expected and gave nearly an average yield of good quality. Threshing was completed before the snow came. Hay crops made their growth early and gave fairly good yields. Harvest was early, wheat being cut August 5.

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

OPERATIONS AT AVONLEA

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Six-year Rotation—					
Fallow	.....	.....	.....	7 65 per acre	
Wheat (Reg.) Marquis, after fallow (previous crop sweet clover and rye grass 1924) given light coat of manure	April 26	Aug. 5	30 bush.	0 57 per bush.	20 40
Wheat, Marquis, second crop	May 12	Aug. 12	16½ bush.	0 81 per bush.	7 26
Corn, N.W. Dent	May 20	Sept. 13	3 tons	4 56 per ton	−3 18
Wheat, after corn, seeded half to sweet clover, half to western rye grass	April 26	Aug. 5	18 bush.	0 57 per bush.	12 24
Hay—					
Sweet clover	1925	June 30	1½ tons	4 67 per ton	10 99
Western rye grass	1925	July 10	1 ton	6 84 per ton	5 16
Three-year Rotation—					
Fallow	.....	.....	.....	6 82 per acre	
Wheat on fallow—					
Marquis	April 26	Aug. 6	20 bush.	0 79 per bush.	9 20
Garnet	April 26	Aug. 6	20 bush.	0 79 per bush.	9 20
Wheat (on fallow this year)—					
Marquis	April 27	Aug. 6	24 bush.	0 68 per bush.	13 68
Garnet	April 27	Aug. 6	20 bush.	0 81 per bush.	8 80
Demonstration Test Fields—					
Hay (Brome and sweet clover mixture)	1925	July 5	1 ton	5 76 per ton	6 24

The operator sold 270 bushels of oats for seed in the district last spring. There is a limited quantity of both Marquis and Garnet wheat for sale from this year's crop.

It will be noted that wheat on fallow in the six-year rotation gave 30 bushels per acre, which was six bushels higher than any other fallow. It should be explained that in 1924 this field was in hay (sweet clover and western rye grass). As soon as the hay was off, the land was ploughed and worked down as necessary the rest of the season. A light dressing of manure was also applied. In 1925 this field was fallowed by surface working sufficient to keep down weed growth.

The following are the average yields of some of the crops on this Station for the past five years:—

Wheat after fallow, 20 bushels 36 pounds; wheat after corn, 12 bushels 24 pounds; sweet clover hay (estimated) 1 ton 1,600 pounds; western rye grass hay (estimated) 1 ton 600 pounds.

DAVIDSON

OPERATOR, REUBEN LLOYD

The first seeding of wheat on this Station was done May 4, which is later than the average date. There was plenty of moisture early in the season for the months of April and May, when 4.82 inches fell. All crops made a good start except hay crops, which had partly killed out. The month of June was exceptionally dry with a little less than an inch of rain, while July gave only 1.42 inches. Hot weather also prevailed the latter part of June and a good part of July. With these extreme conditions, all crops suffered, but the wheat came through better than expected and gave profitable returns. Late-sown oats for green feed were practically a failure. Hay crops were also light, as the stand was not uniform. Harvest was started August 18.

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

OPERATIONS AT DAVIDSON

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Six-year Rotation—					
Fallow				6 71 per acre	
Wheat, Marquis after fallow	May 4	Aug. 19	15⅞ bush.	0 90 per bush.	5 39
Oats, Banner	May 21	Aug. 26	½ ton (green feed)	16 66 per ton	−2 33
Corn, N.W. Dent	May 22	Sept. 10	1 ton (fodder)	11 12 per ton	−4 12
Wheat, Garnet, seeded with sweet clover and rye grass	May 6	Aug. 18	18½ bush.	0 78 per bush.	8 62
Hay, sweet clover and rye grass mixture	1925	July 15	½ ton	14 56 per ton	−1 28
Three-year Rotation—					
Fallow (Wheat, Marquis, substituted)	May 6	Aug. 24	17 bush.	0 83 per bush.	7 14
Wheat, Marquis, after fallow	May 6	Aug. 24	21 bush.	0 70 per bush.	11 55
Wheat, Marquis, on fallow after alfalfa this year	May 6	Aug. 25	24⅜ bush.	0 62 per bush.	15 37
Demonstration Test Field—					
Alfalfa, Grimm	1925	July 13	600 lb.	30 43 per ton	−5 53
(A part of this field winter killed and had to be reseeded.)					

The catch of sweet clover and rye grass mixture was too thin for a stand, and one field was ploughed down and oats reseeded; the other field was left for a time and a light cutting of one-half ton per acre taken off before ploughing. This seed was sown last year with a nurse-crop of oats, being seeded by hand after the oats were drilled in, then harrowed.

The season was unfavourable for corn, and the yield was light, but the fodder was of excellent quality, as it was cut previous to the killing frost.

The heaviest crop of wheat and also the cleanest was produced after a crop of alfalfa which had been down for three years. The alfalfa winter-killed, and the field was fallowed during the season of 1925. This field was remarkably free from weeds, even the Frenchweed made very little growth. It yielded three bushels, 24 pounds more than the best field of wheat after a fallow following two crops of wheat.

The alfalfa which was sown last year did not make a strong growth, only 1½ tons of hay were cut. About half of the field was reseeded, as the stand was not thick enough. The catch seems well established now.

Garnet, the new early wheat, gave a fair yield, almost equal to the average of Marquis. It was sown on a field where corn failed to make a stand last year and was ploughed down and fallowed.

The Operator sold 60 bushels of Banner oats for seed in the district from last year's crop. These were grown from registered seed. Encouragement was also given to the poultry industry by distributing, through sales in the district, 30 sittings of eggs and 30 roosters of the Barred Rock breed. More good seed wheat, both Marquis and Garnet, will be available again this year, also more poultry stock.

GUERNSEY

OPERATOR, C. H. SNIDER

Spring opened about the usual time, and seeding of wheat on the Station commenced April 19. Early in the growing season there was an ample supply of moisture, with 5.03 inches for May, and crops made a good start. The spring was windy and some damage resulted to the young plants from soil drifting on fallowed land. Rainfall for June was below the average, with 1.98 inches, and for the four months—April 1 to August 1—the total rainfall was 9.77 inches.

This was sufficient to produce a good crop, but the extreme heat and light rainfall of July reduced the yields from what they promised earlier in the season, so only a fair crop was harvested.

The fall was very unfavourable for threshing, which was delayed by both rain and snow. Though the grain was weathered considerably, the quality was better than last year. Harvesting was started August 9, when the Garnet wheat was cut.

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

OPERATIONS AT GUERNSEY

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Four-year Rotation—					
Wheat seeded with rye grass and sweet clover—					
Garnet	April 19	Aug. 9	13¾ bush.	1 08 per bush.	2 25
Marquis	April 19	Aug. 20	12½ bush.	1 13 per bush.	1 50
Hay and fallow	1925	July 12	1 ton	6 73 per ton	5 27
Wheat (hay substituted this year)	1924	July 12	1¼ tons	3 92 per ton	12 12
Fallow	.....	.....	.....	8 12 per acre	
Three-year Rotation—					
Wheat on fallow—					
Marquis	April 19	Aug. 20	16¾ bush.	0 88 per bush.	6 20
Garnet	April 19	Aug. 9	16½ bush.	0 89 per bush.	5 85
Oats seeded with sweet clover	(A light nurse crop of oats sown with clover.)				
Hay and fallow	(Clover ploughed under this year.)			5 45 per acre (fallow cost)	
Two-year Rotation—					
Wheat, half field seeded with sweet clover	April 19	Aug. 10	11¾ bush.	0 98 per bush.	3 17
Sweet clover hay and fallow on half field	1925	June 22	½ ton	12 16 per ton (4 99 fallow cost per acre)	−0 08
Corn on half field	May 15	Sept. 13	2 tons	5 35 per ton	−3 70
Demonstration Test Fields—					
Peas, Chancellor	May 15	Sept. 27	12 bush.	1 31 per bush.	20 28
Wheat after Western rye grass hay	1925	Aug. 20	7½ bush.	1 60 per bush.	−2 62

There are now three rotations established on this Station, as follows:—

1. A 4-year rotation:
   1st year—Wheat (seeded to rye grass and sweet clover).
   2nd year—Hay, and fallow after the crop is off.
   3rd year—Wheat.
   4th year—Fallow.
2. A 3-year rotation:
   1st year—Wheat.
   2nd year—Oats or barley (seeded to sweet clover).
   3rd year—Hay, and fallow after crop is off.
3. A 2-year rotation:
   1st year—Wheat (half field seeded to sweet clover).
   2nd year—Half sweet clover hay and fallow, half corn.

These rotations are designed chiefly to control the sow thistle and other weeds and at the same time give a reasonable proportion of crops which will give an immediate or direct return. While they have practically only been started, their effect connot be measured as yet; however, the effect of the hay crop in choking out the sow thistle has already been quite noticeable.

Garnet, the new variety of early wheat, was grown for the first time on the Illustration fields and made a good showing, yielding practically the same as Marquis and ripening a good quality of grain eleven days earlier. Garnet wheat has been under test at some of the prairie Experimental Farms for some time and has proven itself a very early, high-yielding wheat of good quality. Under conditions where early fall frosts occur, Garnet has a considerable advantage. While not any more rust resistant than Marquis, it may sometimes escape damage on account of its earliness.

Last year the Operator of this Station sold 536 bushels of Marquis wheat to farmers in the district for seed, and this year there is a considerable quantity available again at a reasonable price. The Garnet will be sold in small lots, in order to distribute it more widely.

The sweet clover was a light crop this year, though the catch was more uniform than in 1925, and some good hay was taken off previous to ploughing the fallow. The hay mixture of western rye, brome and sweet clover gave a much heavier yield. A part of the alfalfa winter killed and had to be reseeded in the spring; however, the part of the field which came through gave a fair yield of high quality hay.

Chancellor peas were grown again, but gave a much lighter yield than last year; however, 12 bushels per acre is a profitable crop when they fetch $3 per bushel.

An interesting field meeting was held at this Station early in August, and was well attended by the people of the district.

HERBERT

Operator, M. Holmes

Spring opened about the usual time and the first seeding of wheat was done April 24. The rainfall for the four months—April 1 to August 1—was 5.54 inches, which was more than last year, but not so well distributed, as the heaviest rains came in May, while during the latter part of June and early July, when the grain was heading, there was a prolonged dry period accompanied by extreme heat, which continued throughout July. With the restricted moisture, the heads could not fill well, and the crop matured too quickly. A hail storm on July 15 caused further damage to the extent of at least 20 per cent to all grain crops. Sawfly also did some damage to the wheat, consequently yields were considerably below the average. The cool spring and a light rainfall in June did not favour the corn or hay crops, hence these were below the average. Harvest was early, some of the wheat being cut July 31.

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

Operations at Herbert

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Fallow	.....	.....	.....	8 11 per acre	
Wheat after fallow—					
Marquis	April 24	Aug. 2	12½ bush.	1 21 per bush.	0 51
Garnet	April 24	Aug. 2	8½ bush.	1 74 per bush.	−4 31
Wheat, Marquis, second crop	April 24	July 31	7 bush.	1 78 per bush.	−3 71
Six-year Rotation—					
Fallow	.....	.....	.....	8 72 per acre	
Wheat after fallow—					
Marquis	April 24	July 31	11½ bush.	1 40 per bush.	−1 68
Garnet	April 24	July 28	8½ bush.	1 74 per bush.	−4 31
Wheat (Reg.) Marquis (after fallow this year)	April 24	Aug. 2	12 7/8 bush	1 24 per bush.	0 13
Corn	May 13	Sept. 20	½ tons (fodder)	13 86 per ton	−5 49
Wheat seeded half to sweet clover half to Western rye grass (oats substituted this year)	May 1	Aug. 2	11 bush.	0 73 per bush.	−2 53
Hay—					
Sweet clover	1925	June 25	¾ ton	11 33 per ton	0 40
Rye grass	1925	June 25	¾ ton	16 50 per ton	−1 80
Two-year Rotation—					
Fallow	.....	.....	.....	8 88 per acre	
Wheat, half seeded to sweet clover	April 24	July 31	6½ bush.	1 94 per bush.	−4 42
Demonstration Test Fields—					
Alfalfa, Grimm, 30-inch rows	(1922)	June 24 Aug. 23	(1st cut) ¾ ton (2nd cut) ½ ton)	6 86 per ton (Total, 1¼ tons)	6 17

In order to encourage the growing of pure seed, the Operator of the Station this year exchanged 500 bushels of Marquis wheat grown from Experimental Farm stock for commercial grain delivered in the elevator. One hundred and eighty bushels of seed oats were also exchanged in this way. In addition to this, he sold 700 pounds of western rye grass seed in the district.

Alfalfa in rows 30 inches apart gave the best yield of hay, and also the best quality this year. Sweet clover came next, but was much lighter. Western rye grass gave the lowest yield.

The average cost of preparing the summer-fallow for a five-year period at this Station is $7.82 per acre. The average yield of wheat on fallow at this Station for nine years—1918-1926—is 19⅔ bushels per acre, and wheat after wheat for the same period, 10⅓ bushels.

KINDERSLEY

Operator, Robert Simpson

The first seeding was done on this Station April 29. Early in the growing season there was a good supply of moisture and during the month of May 2.08 inches of rain fell. June was a very dry month with only 0.51 inches, and July rainfall was also light, with only 1.03 inches. In addition to this, extremely high temperatures prevailed during the most of July. Under these conditions the grain crops made a good start, but, lacking moisture at the time most needed, the heads did not fill properly, and the ripening process set in early. On the whole, it was one of the most unfavourable seasons for crop production this district has experienced. Harvest was early, starting August 6. The cool spring was not favourable for corn and the stand was too thin for a crop. Hay crops were also light.

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

Operations at Kindersley

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Six-year Rotation—					
Fallow	.....	.....	.....	8 00 per acre	
Wheat after fallow—					
Marquis	April 29	Aug. 23	9 bush.	1 38 per bush.	−1 17
Garnet	April 29	Aug. 6	10 bush.	1 26 per bush.	−0 10
Oats, Banner	May 18	Aug. 24	½ ton (green feed)	34 44 per ton	−5 61
Corn, (failed to make a stand, fallow substituted	.....	.....	.....	8 39 per acre	
Wheat after corn, seeded half sweet clover, half rye grass	April 30	Aug. 23	9 bush.	0 88 per bush.	3 33
Hay {Sweet clover (with wheat)	1925	June 29	1 ton	6 10 per ton	5 90
{Western rye grass	1925	(Growth too short for a hay crop.)			
Three-year Rotation—					
Fallow {Ploughed and surface worked)	.....	.....	.....	8 00 per acre	
{Surface worked only	.....	.....	.....	6 01 per acre	
Wheat after fallow {Marquis	April 29	Aug. 6	13 bush.	0 96 per bush	3 77
{Garnet	April 29	Aug. 23	11 bush.	1 13 per bush.	1 32
Wheat after wheat	May 8	Aug. 24	2 bush.	3 60 per bush.	−4 70
Demonstration Test Plots—					
Brome grass hay	1923	June 29	½ ton	20 56 per ton	−2 14
Alfalfa (Grimm) hay	1923	June 29	½ ton	30 60 per ton	−4 65
Fallow, ploughed June 8	.....	.....	.....	7 83 per acre	
Fallow, ploughed July 8	.....	.....	.....	7 22 per acre	

The Operator of this Station made a record for sales of pure Marquis seed wheat in his district this spring, 1,500 bushels having been distributed in this way, and at practically the price of commercial grain. In addition to this, 160 bushels of Banner oats and 12 bushels of Early Ohio potatoes were sold for seed.

The pure-bred flock of Barred Rock poultry is now well established and there has been quite a demand from people in the district for hatching eggs and cockerels. Twenty-six sittings of eggs and eleven cockerels for breeding purposes were sold this year.

Garnet, the new, early wheat, was tested for the first time on this Station. It was sown on fallow land alongside of Marquis under similar conditions. By referring to the above table it will be seen that the yields were almost the same. Garnet, however, was ripe 17 days ahead of the Marquis. This is undoubtedly a safe wheat to sow under conditions where early fall frosts are feared. In a season of rust it might also have some advantage, for by ripening early it may escape the worst damage. Both the Marquis and the Garnet are of good quality, and there will be a fair quantity of the former for sale. There is only a small quantity of the Garnet, so it will be sold in small lots.

The cultural experiments were continued this year and another experiment added. The purpose of this new one is to demonstrate the advantage of the early ploughing of the fallow over the late ploughing. One plot was disked May 22, then ploughed June 8, and worked as necessary the remainder of the season to keep down weed growth; the other was not touched until July 8, when it was then ploughed and worked as necessary also the remainder of the season. Wheat will be sown on both of these fields next spring and a careful record kept of the yield on each.

Sweet clover proved the most drought-resistant of the hay crops, giving a yield of one ton per acre, while brome, alfalfa, and western rye grass were almost too short to cut. Wheat on fallow land after sweet clover made a much heavier growth than the wheat after rye grass this year.

The yield of wheat on fallow in the six-year rotation, for the four years since the work has been carried on here, is 23 bushels 48 pounds per acre.

The advantage of the early-worked summer-fallow in a dry season is demonstrated this year, quite distinctly. All grain after fallow, except on one field, shows a net profit over all expenses, including current rate of pay for labour, while wheat, and also oats, second crop, show a considerable loss.

LLOYDMINSTER

Operator, Hugh Hill

The first seeding on this Station was done April 29. On the whole, the season was favourable for crop production. The rains came early and all crops made a good start. During the four most important growing months for grain—April 1 to August 1—the rainfall was 7.91 inches, and this was well distributed. Though the rainfall fell off in July and temperatures ranged high, grain filled well and yields were above the average. The quality of the grain was good on most of the fields, though on one fallow field there was some damage from frost. Hay crops (first year) also made good growth, but the second year crop did not do so well. Harvest was started August 17.

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

OPERATIONS AT LLOYDMINSTER

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Wheat after fallow {Marquis	April 29	Aug. 28	29¾ bush.	0 55 per bush.	20 77
{Garnet	April 30	Aug. 17	37½ bush.	0 46 per bush.	29 62
Oats, Banner, seeded with sweet clover	(Fallow t	his year)		7 07 per acre	
Hay (Sweet clover) and fallow	1925	July 9	1¾ tons	5 49 per ton	11 39
Five-year Rotation—					
Fallow				8 56 per acre	
Wheat after fallow {Marquis	April 29	Aug. 28	32¼ bush.	0 53 per bush.	23 22
{Garnet	April 30	Aug. 17	21 bush.	0 75 per bush.	10 50
Oats, Banner, seeded with rye grass and alfalfa	May 18	Sept. 6	65 bush.	0 25 per bush.	16 25
Hay, 1st year	1925	July 10	1½ tons	5 81 per ton	7 74
Hay, 2nd year	1924	July 22	½ ton	8 37 per ton	2 90
Demonstration Test Plots—					
Wheat, Marquis, after corn and sunflowers	May 3	Aug. 30	31 bush.	0 38 per bush.	26 97
Corn, N. W. Dent	May 23	(Frozen	down Sept. 23)		
Sunflowers {Giant					
{Russian	May 25	(Badly	damaged by frost Sept. 23)		
Wheat after fallow	May 3	Aug. 30	32 bush.	0 54 per bush.	22 72
Wheat after Sunflowers (wide rows)	May 3	Aug. 24	27 bush.	0 41 per bush.	22 68
Wheat after peas	May 3	Aug. 24	21 bush.	0 50 per bush.	15 75

Garnet wheat was grown for the first time on the Illustration fields here and it gave good results, yielding on the average nearly as much as Marquis and ripening 11 days earlier. There were no frosted kernels in the Garnet, though in an adjoining field the Marquis had some. Garnet, being an early wheat of good quality, and also a good yielder, is a suitable variety for northern areas, where early fall frosts frequently occur to damage the later wheats. For low-lying heavy lands, it is also a safe wheat to sow.

The Operator of this Station sold a considerable quantity of Marquis wheat for seed this spring, and this fall has some more good plump seed to offer, also some oats. The new variety (Garnet) will be sold in small lots, and a good deal of it has already been spoken for.

Sweet clover gave the best yield of hay this year, though the western rye grass and alfalfa mixture was the best quality.

There is now a fair-sized flock of Barred Rock birds established on this Station and sales were made this spring to the neighbours of ten cockerels for breeding purposes, as well as a number of sittings of eggs.

On this Station, the average yield of wheat on fallow in a three-year rotation (two crops of wheat and fallow) for five years, is 24 bushels per acre. The average yield on fallow in the five-year rotation, which has two years in grass, for a six-year period, is 25 bushels. The average yield of Banner oats after wheat, for a six-year period—1921 to 1926 inclusive—is 55 bushels per acre.

MARCELIN

OPERATOR, J. B. GODBOUT

The first seeding was done on this Station April 30. On the whole, the season was favourable for crop production. The moisture supply was quite sufficient early in the season; during April and May 4.15 inches of rain fell. June and July were not so moist, but the crops came through and gave good

yields, particularly where seeded early. The oats and barley seeded later did not do quite so well. There was a light frost on the night of August 8 which caught some of the wheat in the tender stage and did some damage. This was not noticed until the time of cutting. The later-sown wheat and that on the lower land suffered the most. Harvest was started August 12, and the first hay was cut July 15.

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

OPERATIONS AT MARCELIN

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (—) loss per acre
				$ cts.	$ cts.
Alfalfa, Grimm	This field was reseeded this year.				
Sweet clover	1925	July 15	1¾ tons	5 15 per ton	11 42
Hay, western rye; grass and Brome	1925	July 16	2½ tons	4 13 per ton	19 67
Garnet wheat on fallow after hay crop	April 30	Aug. 12	36½ bush.	0 54 per bush.	25 74
Marquis wheat on fallow after hay crop	May 14	Aug. 27	35 bush.	0 56 per bush.	24 15
Banner oats after corn and sunflowers	May 27	Aug. 28	2 tons (green feed)	4 31 per ton	15 38
Corn after wheat	May 27	(Crop frozen, down by early frost; used for pasture).			
Sunflowers after wheat	May 27	Aug. 30	10 tons (green weight)	1 76 per ton	17 40
Barley seeded with rye grass and sweet clover	May 27	Aug. 25	30 bush.	0 37 per bush.	6 90
Early Red Fife wheat on fallow after hay crop	April 30	Aug. 23	15 bush.	0 75 per bush.	7 50

The people of this district apparently appreciate the opportunity the Illustration Station affords of securing good seed at a very reasonable price. Orders were filled for over 400 bushels of wheat this year and more could have been sold, but the supply was not equal to the demand. Most of the wheat is very plump this year and will make excellent seed. A good supply of Marquis is available. Garnet, the new, early wheat, yielded very well on this Station. The surplus seed of this variety has all been spoken for by people in the district. Garnet ripened about 10 days earlier than Marquis or Early Red Fife sown at the same time. For northern districts, where early fall frosts occur to damage other varieties, Garnet is the safest wheat to grow and is the highest-yielding early variety available at present. It is also a wheat of good quality. The Early Red Fife did not yield so well as the other varieties this year, but it was sown on a field which was in hay last year and was not ploughed so early as the other fields, as the hay was cut later. Some seed of this variety can also be purchased.

Sweet clover gave a good yield of hay, but western rye and brome mixture gave a much heavier yield. The alfalfa catch was thin, so it was reseeded with a light nurse crop of oats, which has resulted in a uniform stand.

Corn was frozen by the August frost, but sunflowers came through without any damage and gave a good yield. This was used to fill the trench silo.

MEOTA

OPERATOR, WALTER TAIT

Spring opened in fair time and the first seeding on the Station was done April 29. On the whole, the season was favourable for the growth of crops. The rainfall was above the average until July, when it became drier and the weather turned hot. However, with the strong early growth and a few more rains during July, the crops came through well and gave an excellent yield of

good quality. Harvest was started August 9. The rainfall for the four-month period—April 1 to August 1—was 7.92 inches, and for the season—April 1 to November 1—11.14 inches.

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

OPERATIONS AT MEOTA

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Fallow				7 30 per acre	
Wheat after fallow {Marquis	April 26	Aug. 14	36⅛ bush	0 45 per bush.	28 93
{Garnet	April 26	Aug. 9	42 bush.	0 38 per bush.	36 54
Wheat, Marquis, 2nd crop	April 28	Aug. 10	30⅛ bush.	0 49 per bush.	22 95
Six-year Rotation—					
Fallow				7 24 per acre	
Wheat after fallow {Marquis	April 26	Aug. 14	40½ bush'	0·42 per bush.	33 61
{Garnet	April 26	Aug. 9	38½ bush.	0 43 per bush.	31 57
Wheat, Marquis, after wheat	April 29	Aug. 10	30⅜ bush	0 40 per bush.	26 21
Corn (Western rye grass seed substituted this year	1924	July 24	636 lbs.	0·013 per lb.	42 61
Wheat, seeded with rye, grass and alfalfa	April 27	Aug. 11	36⅜ bush.	0 34 per bush.	33 31
Hay—					
Western rye grass seed, first year	1925	July 27	600 lb.	0·013 per lb.	40 20
Broms grass seed, first year.	1925	July 27	240 lb.	0·034 per lb.	11 04
Three-year Rotation—					
Wheat	April 27	Aug. 13	38⅜ bush.	0 47 per bush.	29 95
Oats seeded with sweet clover and rye grass (wheat substituted this year)	April 28	Aug. 12	36 bush.	0 46 per bush.	28 44
Hay and fallow (clover killed)				7 64 per acre.	
Demonstration Test Plots—					
Alfalfa, Grimm, seeded with wheat on fallow	April 27	Aug. 11	34⅛ bush.	0 48 per bush.	26 80
Arctic sweet clover seeded with wheat on fallow	April 27	Aug. 11	34⅛ bush.	0 48 per bush.	26 80
Corn, N. W. Dent, after wheat	May 19	(Crop frozen down; used for pasture.)			
Sunflowers, Giant Russian, after wheat	May 19	Sept. 23	5 tons	3 15 per ton	1 75
Peas, Arthur, after wheat	May 11	Aug. 12	9 bush.	1 76 per bush.	11 16

The Garnet wheat was tested for the first time on this Station, and it made a good showing. The yield on the whole was a little more than the Marquis and it ripened about a week earlier, giving a good quality of grain. One year's results, however, are not sufficient on which to form a judgment of its value for the district. It will be further tested next year.

The five-year rotation which has been running on this Station since the work was started has furnished some valuable information on the effect of a hay crop in a rotation. This is now being replaced by a six-year rotation as follows: Fallow, wheat, wheat, corn, wheat (seeded with rye grass and alfalfa), hay. Owing to making this change, the crops do not all appear in regular order for this year.

Mr. Tait again this year made heavy sales of seed grain in his district—1,155 bushels of Marquis wheat, 370 bushels of Banner oats, and 4 bushels of O.A.C. 21 Barley, all choice seed, thoroughly cleaned ready to sow. In order to encourage the use of pure seed, this was sold at the same price as ordinary grain, plus the cost of cleaning.

Western rye grass and brome were left for seed and proved quite profitable crops this year, particularly the rye grass, which gave over double the yield of

the brome. Sweet clover winter-killed, so the stand was too thin for a hay crop. In seeding down the clover this spring with the wheat, the arctic variety was used, except on one field, where the yellow blossom was sown.

Both corn and sunflowers were sown this year in wide rows six feet apart. By spreading the rows out, less moisture is taken from a unit area and the big cultivator can be used to keep the weeds controlled. On the night of September 23 there was a frost of 16 degrees which froze down the corn, but the sunflowers came through with very little damage and were afterwards cut and put into the silo.

The pea crop did not do so well, as the wheat this year. The heat during July affected them more and they yielded only nine bushels per acre.

The average yield of wheat on fallow in a three-year rotation—wheat, wheat, fallow—on this Station for the past eight years—1919 to 1926—is 30 bushels per acre, and wheat after wheat in the same rotation, 21⅝ bushels per acre. Wheat on fallow in the five-year rotation, where western rye grass is the crop preceding the fallow, shows an average yield for the same eight-year period of 29 bushels per acre. The average yield of western rye grass hay for a five-year period is 1 ton, 800 pounds, per acre.

The rod-row tests of six different varieties of wheat were continued this year in co-operation with the Cereal Division.

OGEMA

Operator, T. E. Gamble

Spring opened in good time in this district and the wheat on the Station fields was seeded by April 16. The season on the whole was favourable for growth, except for the extreme heat of July, when the rainfall was also scanty. For the four-month period—April 1 to August 1—the rainfall was 7.60 inches. This was over three inches more than last year. Yields of grain crops were above the average. Harvest was started July 27, when the Garnet wheat was cut; Marquis was cut August 10. The weather was very unfavourable for threshing, owing to frequent rain and snow storms during September.

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

Operations at Ogema

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Six-year Rotation—					
Fallow	.....	.....	.....	8 67 per acre	
Wheat, Marquis, after fallow	April 16	Aug. 10	39 bush.	0 48 per bush.	30 03
Oats, Banner	May 7	Aug. 18	45 bush.	0 36 per bush.	6 30
Corn, N. W. Dent, rows 7 feet apart	May 7	(Used for pasture; caught by early frost.)			
Wheat, Garnet, seeded with rye grass and alfalfa	April 16	July 27	26 bush.	0 45 per bush.	20 80
Hay	Catch too thin for a stand; land fallowed.				
Demonstration Test Field—					
Fallow (grass sod)	.....	.....	.....	8 67 per acre.	

Garnet wheat was grown on corn land and was cut thirteen days before Marquis wheat on fallow and yielded 26 bushels per acre. Though it is not expected that Garnet will have any advantage over Marquis in this district in the normal season, however, in a year of early fall frost or rust, its earliness would give it an advantage.

Corn, N.W. Dent, was grown again in rows 7 feet apart, and, though the early part of the season was unfavourable for corn, it made rapid growth later, but was caught by the early frost and went down so badly that it could not be cut, and was pastured off by the stock.

Mr. Gamble sold 400 bushels of Marquis wheat (grown from registered seed) in the district for seeding the 1926 crop.

A party of farmers from northern Montana, accompanied by their County Agent and other officers of the United States Department of Agriculture, made a visit to this Illustration Station in their itinerary through Western Canada in July.

The average yield of wheat on fallow on this Station for five years is 29⅘ bushels, and wheat after corn, four-year average, is 22 bushels per acre.

PARKBEG

Operator, T. L. Humphrey

The first seeding on the Station was done April 28. The rainfall for the four-month period—April 1 to August 1—was 6.26 inches, which was less than last year, but was well distributed and supplied enough moisture to produce about an average crop. The hot, dry period during July brought the grain along too fast, so that it ripened before it was well filled. The quality of the grain was good, as it was threshed before the snowstorm. Sawfly did some damage to the wheat, chiefly on one field. Harvest was early, the first wheat being cut July 31, and hay July 5.

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

Operations at Parkbeg

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Fallow substitute, corn in rows 6½ feet apart	June 1	(Pastured)			
Wheat after corn, wide rows, seeded with sweet clover—					
Marquis	April 28	Aug. 3	18 bush.	0 54 per bush.	12 78
Garnet	April 28	July 31	20 bush.	0 50 per bush.	15 00
Hay, sweet clover	1925	July 7	1 ton	6 41 per ton	5 59
Five-year Rotation—					
Fallow	.....	.....	.....	7 83 per acre	
Wheat after fallow—					
Marquis	April 28	Aug. 3	14 bush.	0 98 per bush.	3 78
Garnet	April 28	July 31	25 bush.	0 60 per bush.	16 25
Corn, N.W. Dent, in rows 3½ feet apart	June 1	Sept. 2	3 tons	3 77 per ton	−0 81
Wheat, after corn, 3½-foot rows, seeded half sweet clover, half Western rye grass	April 29	July 31	13 bush.	0 73 per bush.	6 76
Hay—					
Sweet clover	1925	July 5	¾ ton	8 67 per ton	2 50
Western rye grass	1925	July 5	1 ton	6 50 per ton	5 50
Two-year Rotation—					
Fallow	.....	.....	.....	7 35 per acre	
Wheat, half seeded to sweet clover	April 28	Aug. 3	24 bush.	0 63 per bush.	14 88
Two-year Rotation—					
Sweet clover hay and fallow	1925	July 5	1¼ ton	3 58 per ton	15 16
Wheat	April 28	Aug. 3	6 bush.	1 38 per bush.	−0 78

By referring to the table above, it will be noted that wheat was sown after two fields of corn this year. One field where the corn rows were 6½ feet apart, and the other where the rows were 3½ feet apart. The yields are interesting

and suggestive. Wheat after the wide rows gave five bushels per acre more than after the narrower rows. This would indicate that corn sown in wide rows makes a better fallow substitute than corn sown by the old method of 3½-foot rows. Further tests will be necessary before definite conclusions can be drawn.

The operator sold 100 bushels of pure Marquis wheat for seed in the district last year, and this year there is a considerable quantity for sale of Marquis and a small amount of the Garnet as well. One field of Marquis was grown from registered seed.

Sweet clover gave the heaviest yield of hay this year. One field yielded almost two tons per acre. Another field, where the catch was not so uniform, gave only three-quarters of a ton per acre. Western rye grass has always made a more uniform stand than sweet clover at this Station.

The following are some of the average yields of the crops on this Station for the past five years:—

Wheat after fallow, 22 bushels, 12 pounds.
Wheat after corn (4 years), 14 bushels, 36 pounds.
Corn (estimated) 3 tons, 1,600 pounds (green weight).
Sweet clover (estimated) (four years) 1 ton, 800 pounds.

RIVERHURST

Operator, R. F. Rudd

The spring of 1926 opened later than usual in this district and was cold and backward. The first seeding was done on the Station May 3. The season was not a favourable one for crop production. The rainfall was sufficient to the end of May, but during June and July it was light and extremely hot weather set in the last of June and prevailed for the most of July. The rainfall for the four-month period—April 1 to August 1—was 5.63 inches, while last year it was nearly double this. Wheat on fallowed land produced a crop showing a small margin of profit, but wheat after wheat shows a loss. Corn was slow to start, but made fairly good growth later in the summer. Hay crops were light.

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

Operations at Riverhurst

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Six-year Rotation—					
Fallow	.....	.....	.....	5 94 per acre	
Wheat after fallow—					
Marquis	May 4	Aug. 13	14 bush.	1 60 per bush.	3 50
Garnet	May 4	Aug. 7	15⅛ bush.	0 94 per bush.	4 84
Wheat, Marquis, after wheat	May 4	Aug. 12	5⅛ bush.	2 73 per bush.	−8 29
Corn, N.W. Dent	May 11	Oct. 6	2½ tons (green weight)	5 17 per ton	−4 17
Wheat seeded half with sweet clover, half Western rye grass	May 3	Aug. 14	14½ bush.	0 63 per bush.	8 89
Hay, sweet clover and rye grass	1925	June 30	¾ ton	16 42 per ton	−1 77
Three-year Rotation—					
Fallow	.....	.....	.....	6 79 per acre	
Wheat after fallow—					
Marquis	May 4	Aug. 13	14 bush.	1 00 per bush.	3 50
Garnet	May 4	Aug. 7	14¼ bush.	0 79 per bush.	4 14
Wheat, Marquis, second crop	May 4	Aug. 12	5⅛ bush.	2 73 per bush.	−8 29
Two-year Rotation—					
Wheat, Marquis, seeded with sweet clover	May 3	Aug. 14	10 bush.	0 97 per bush.	2 80
Sweet clover hay and fallow	1925	June 30	½ ton	16 82 per ton	−2 41
Demonstration Test Field—					
Alfalfa seeded with oats, nurse crop	May 13	Sept. 18	1½ ton (green feed, oats)	8 94 per ton	3 67

The operator of this Station distributed over 1,000 bushels of pure Marquis wheat in the district this year, by arranging an exchange with his neighbours for their ordinary commercial wheat delivered at the elevator.

The Garnet wheat withstood the drought conditions fully as well as the Marquis. It was noticeable that the Garnet did not tip-burn like the Marquis.

In a season such as this the second crop of wheat is a losing venture, but the crop on fallow, though yielding only 14 to 15 bushels per acre, yet is sufficient to give a profit over all charges.

A fair-sized pure-bred flock of poultry of the Barred Rock breed has been established at this Station, and the operator will have a number of good cockerels for distribution at a very reasonable price this fall.

RADVILLE

Operator, J. H. Stockton

Spring opened about the same time as last year and the first seeding was done on the Station on April 17. There was a good supply of moisture early in the growing season, with a cool spring. The rainfall for the four-month period —April 1 to August 1—was 7.42 inches. May had the heaviest, with 3.11 inches. The third week in June, a very heavy rain of 2.71 inches fell, which soaked the ground. All crops made strong growth and when the hot period came in July they came through well and gave a good yield. Most of the grain was threshed before the snow came, so was a good quality. Harvesting was started August 3, and haying July 10.

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

Operations at Radville

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Six-year Rotation—					
Fallow	.....	.....	.....	8 66 per acre	
Wheat on fallow—					
Marquis	April 19	Aug. 4	30 bush.	0 52 per bush.	21 90
Garnet	April 19	Aug. 3	24 bush.	0 65 per bush.	14 40
Oats, Banner	May 7	Aug. 21	47 bush.	0 38 per bush.	5 64
Corn	May 20	(Used for pasture.)			
Wheat after corn, seeded half sweet clover, half Western rye grass	April 17	Aug. 5	18 bush.	0 55 per bush.	12 60
Hay—					
Sweet clover	1925	July 10 (1st cut) Aug. 24 (2nd cut)	3 tons	3 70 per ton	24 90
Western rye grass	1925	July 16	½ ton	8 94 per ton	2 45
Three-year Rotation—					
Fallow	.....	.....	.....	5 76 per acre	
Wheat on fallow—					
Marquis	April 19	Aug. 4	30 bush.	0 52 per bush.	21 90
Garnet	April 19	Aug. 3	27½ bush.	0 58 per bush.	18 42
Wheat, Marquis, second crop	April 30	Aug. 19	21 bush.	0 69 per bush.	11 76
Two-year Rotation—					
Wheat seeded to sweet clover	(Clover seeded this year with a light nurse crop of oats.)				
Sweet clover hay and fallow	1925	July 5	2 tons	4 57 per ton	14 86

Wheat after a fallow where sweet clover had been the previous crop gave the heaviest yield of all wheat plots (38 bushels per acre), while wheat after rye grass with the same treatment gave only 24 bushels.

The stand of the wheat following clover was very uniform, much more so than the other field where the crop was lighter on the burn-out spots. The contrast between these two fields was quite striking and was observed by a good many people who drove past.

Sweet clover hay gave double the yield of a mixture of rye grass and Brome this year. It was cut with the binder and cured in the stook.

Wheat after corn gave a smaller yield than after any of the other treatments this season.

It is quite noticeable that sweet clover makes the soil more mellow, but does not restore fibre to the same extent as the grass crop; on the other hand, the clover roots penetrate deeper and seem to have a more beneficial effect on the burn-out spots.

Last spring, the Operator of this Station sold 400 bushels of Marquis wheat to his neighbours for seeding the 1926 crop. This seed was grown from registered stock. There is a quantity of good seed wheat available again this fall of both Marquis and Garnet. This latter variety did not prove quite so high a yielder as the Marquis this year, but it ripened early.

At this Station, the average yield of wheat on fallow in a three-year rotation (2 crops of wheat and fallow) for the past three years is 25 bushels per acre. This three-year rotation shows a net profit this year of $9.30 per acre, while the six-year rotation, which contains hay and corn as well as grain crops, shows a profit of $7.53. This is a difference of $1.77 per acre in favour of the three-year rotation.

SHAUNAVON

Operator, Stanley Murch

Spring opened about the usual time and the first wheat was sown on the Station April 21. The rainfall throughout the growing season was below the average. For the four-months—April 1 to August 1—only 5.16 inches fell. A prolonged hot, dry period in July caused rapid evaporation of moisture and forced the maturing process before the heads were well filled. Harvest was early, Garnet wheat being cut July 29.

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

Operations at Shaunavon

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Six-year Rotation—					
Fallow	.....	.....	.....	7 52 per acre	
Wheat after fallow—					
Marquis	April 21	Aug. 5	16 bush.	0 91 per bush.	5 44
Garnet	April 21	July 29	15 bush.	0 97 per bush.	4 20
Wheat after wheat (straw spread on part of this field)	May 4	Aug. 7	8 bush.	1 33 per bush.	−0 64
Corn, N.W. Dent	May 13	Sept. 1	1¼ tons (cured, fodder)	9 52 per ton	−3 02
Wheat after corn, seeded with rye grass and sweet clover	April 26	July 31	14 bush.	0 67 per bush.	8 12
Hay—					
Rye grass	1925	July 14	1 ton	6 97 per ton	5 03
Sweet clover	1925	July 6	800 lb.	17 40 per ton	−2 16
Three-year Rotation—					
Fallow	.....	.....	.....	6 32 per acre	
Wheat after corn (wide rows)—					
Marquis	April 21	Aug. 5	20 bush.	0 52 per bush.	14 60
Garnet	April 21	July 29	15 bush.	0 64 per bush.	9 15
Wheat after wheat	May 4	Aug. 7	4 bush.	2 92 per bush.	−6 68
Demonstration Test Field—					
Hay (Western rye and Brome mixture, third year)	1923	(Growth too short this year for a hay crop.)			

Garnet, the new early wheat, was grown on this Station for the first time on two fields alongside of Marquis. It will be noted that it did not yield quite so well as Marquis, but ripened a week earlier.

An interesting experiment was carried out by Mr. Murch this season. Late last fall he covered about half of one field (summer-fallow stubble) with straw to a depth of about 6 to 8 inches. This held the snow and later in the spring it was burnt off and the land ploughed. It was quite noticeable in the next wheat crop this year, as the growth was much heavier where the straw had been scattered.

The second crop of wheat did not pay for the cost of production this year, but the other fields all show some profit.

Corn in wide rows (10 feet apart) proved a much better fallow substitute than corn in 3½-foot rows. From the table it will be seen that wheat following the wide-row field gave six bushels per acre more than wheat after the 3½-foot rows. This year the corn was sown in rows seven feet apart and the big field cultivator used to good advantage again.

An experiment in methods of fallowing; i.e. ploughing and surface working as compared with surface working only, was started this year. Next spring, wheat will be sown on both fields and yields measured.

The average yield of wheat after fallow on this Station for five years is 24½ bushels per acre, and wheat after wheat 7 bushels per acre.

The Operator of this Station sold 200 bushels of pure Marquis wheat to farmers in the district for sowing the 1926 crop. This fall, 1,000 bushels have been sold for seed to date at practically the price of commercial grain.

SPRUCE LAKE

Operator, H. Eagle

Spring opened in this district the latter part of April, and the first seeding on the Station was done April 30. There was sufficient moisture in the spring during April and May to give all crops a good start. The rainfall was light during June and July, so this favourable growth was not fully maintained. In addition to this, during July the weather was hotter than usual. However, the grain came through better than expected and a good rain the first week of August was of some benefit. So yields were almost up to the average and the quality was good, except for some frosted kernels in one field. Harvest was started August 23. Hay crops made their growth early under favourable conditions and gave satisfactory yields. The total rainfall from April to November inclusive is 8.95 inches.

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

Operations at Spruce Lake

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
Five-year Rotation—				$ cts.	$ cts.
Fallow	.....	.....	.....	6 36 per acre	
Wheat after fallow—					
Marquis	May 3	Aug. 23	21 bush.	0 62 per bush.	13 23
Garnet	May 3	Aug. 28	26 bush.	0 50 per bush.	19 50
Wheat, second crop, seeded with rye grass and alfalfa—					
Marquis	May 3	Aug. 28	13 bush.	0 91 per bush.	4 42
Early Red Fife	May 3	Aug. 28	12 bush.	0 99 per bush.	3 12
Hay, first year, rye grass and sweet clover mixture	1925	July 28	1¾ tons	4 18 per ton	12 51
Hay, second year, rye grass	1924	July 28	1⅞ tons	4 29 per ton	10 79
Demonstration Test Plots—					
Garnet wheat on fallow, after hay	April 30	Aug. 23	18 bush.	0 75 per bush.	9 00
Early Triumph wheat on fallow after hay	April 30	Aug. 26	20 bush.	0 68 per bush.	11 40
Oats, Banner, in double rows 3½ feet apart	June 5	Aug. 15	1 ton	8 03 per ton	3 97
Western rye grass seed	1924	Aug. 22	360 lb.	0 03 per lb.	18 00

The following varieties of wheat were grown on the Illustration fields this year: Marquis, Early Red Fife, Early Triumph, and Garnet. By referring to the table above, it will be noted that Marquis and Early Red Fife on spring-ploughed stubble land gave practically the same yield, while Garnet on fallow alongside of Marquis, under the same conditions, exceeded it in yield by five bushels per acre. On another fallow field, the Early Triumph exceeded the Garnet in yield by two bushels per acre. The Garnet, however, was a better quality, as there were some frosted kernels in the Early Triumph, but none in the Garnet.

The Operator of this Station sold 398 bushels of seed wheat of different varieties this spring to farmers in the Spruce Lake district, and also to some as far north as the Meadow Lake district. There was a keen demand for all he had to spare. The following are the amounts of each variety sold: Early Triumph, 190 bushels; Marquis, 152 bushels; Early Red Fife, 56 bushels; 142 bushels of Banner oats, and 21 bushels of O.A.C. 21 barley were also sold for seed. A considerable quantity of seed wheat of the different varieties is available again this year. The Garnet will be sold in small lots, in order that quite a number of people may have an oportunity to try it.

Garnet wheat was grown for the first time on this Station, replacing Ruby this year. It gave excellent results, giving a high yield of good quality grain and ripened before any of the other varieties. Garnet apparently is the most suitable variety of wheat available at the present time for northern districts where early fall frosts are feared. From previous tests for a number of years on the prairie Experimental Farms, it has already proven its earliness and high-yielding qualities. It will be further tested on the Illustration fields.

The Operator purchased a duckfoot cultivator this year and has found it a most useful implement, especially for working on the fallows to eradicate grass and weed growth. The creeping-rooted grasses particularly, such as brome, require tearing up with the cultivator. By using this implement frequently during hot dry weather the grass roots can be killed. Sometimes under special circumstances a second late ploughing may be necessary as well. The use of the most suitable implements on the Illustration Stations is always encouraged. Mr. Eagle has his fallows particularly clean and in good tilth this year, which he attributes to the use of the cultivator.

TROSSACHS

Operator, Charles Carlson

This was one of the most favourable seasons in this district since the Station was started. Spring opened about the middle of April and the first wheat was seeded April 22. There was a good carry-over of moisture from last fall, and an adequate rainfall for the months of May, June, and July. The extremely high temperatures which prevailed during July hastened the ripening process and harvest was earlier than usual, the first wheat being cut August 4. The rainfall for the four-month period—April 1 to August 1—was 7.75 inches, as compared with 6.48 inches last year.

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

OPERATIONS AT TROSSACHS

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
Three-year Rotation—				$ cts.	$ cts.
Fallow	.....	.....	.....	7 45 per acre	
Wheat after fallow—					
Marquis	April 22	Aug. 12	24½ bush.	0 61 per bush.	15 68
Garnet	April 22	Aug. 3	18 bush.	0 78 per bush.	8 46
Wheat, Marquis, second crop	May 1	Aug. 13	22¾ bush.	0 59 per bush.	15 01
Six-year Rotation—					
Fallow	.....	.....	.....	7 43 per acre	
Wheat after fallow—					
Marquis	April 22	Aug. 7	37½ bush.	0 45 per bush.	30 00
Garnet	April 22	Aug. 4	20 bush.	0 72 per bush.	10 60
Oats, Banner	May 15	Aug. 17	60 bush.	0 28 per bush.	13 20
Corn, N.W. Dent	May 27	(Caught by early frost and snow; used for pasture.)			
Wheat seeded with sweet clover, half Western rye grass	April 24	Aug. 5	20⅜ bush.	0 45 per bush.	16 48
Hay—					
Western rye and Brome grass.	1925	July 29	¾ ton	7 66 per ton	3 47
Sweet clover, killed out; oats for green feed substituted	June 8	Sept. 8	1⅛ ton	5 89 per ton	9 78

The Garnet wheat did not yield so well as Marquis this year. There will be a limited quantity of both Marquis and Garnet for sale from this year's crop.

The Banner oats after wheat gave a good yield, and the crop was practically free of weeds. Early in the spring, this field was disked, then left until the middle of May, when it was ploughed, harrowed, seeded and harrowed. This gave a good opportunity to kill weed growth and conserve moisture.

Sweet clover failed to make a satisfactory stand this spring and oats for green feed were sown in its place. Western rye grass made a fairly uniform stand and produced about one ton per acre of good-quality hay.

The acre plots on which soil treatment for the burn-outs is being tried were all fallowed this year and manure and lime were applied; wheat will be sown on all next spring.

The operator of this Station sold 150 bushels of Marquis wheat for seed to his neighbours this spring. He also sold 12 sittings of eggs and four roosters from his pure-bred flock of Rhode Island Reds.

TUGASKE

OPERATOR, ROBERT WILSON

Spring was later than usual in this district, and seeding on the Station fields did not start until May 1. The season was unfavourable for crop production, particularly from the standpoint of moisture, as it was one of the driest on record. There was not much moisture to carry over from last fall, and the rainfall from the opening of spring until August 1 was only 4.51 inches. This is over one inch less than the rainfall for June alone last year. Very hot weather prevailed during the most of July, which ripened the grain before it was properly filled. The sawfly also did a great deal of damage to the wheat on this Station, particularly on 2nd crop fields. Harvest was earlier than usual; wheat cutting started August 6. Corn and hay crops were also below the average.

The rates of seeding on this Station are as follows:—

Wheat on fallow, 1¼ bushels.
Wheat after wheat, 1 bushel.
Wheat after corn, 1 bushel.
Oats, 1¾-2 bushels.
Western rye grass, 12 pounds.
Sweet clover, 12 pounds.
Corn, approximately 20 pounds.

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Fallow	.....	.....	.....	7 65 per acre	
Wheat on fallow—					
Marquis	May 3	Aug. 11	14 bush.	1 00 per bush.	3 50
Garnet	May 1	Aug. 6	15 bush.	0 93 per bush.	4 80
Wheat, Marquis, second crop—					
Spring ploughed	May 3	Aug. 6	8⅘ bush.	1 50 per bush.	−3 20
Spring cultivated	May 3	Aug. 6	5⅜ bush.	2 06 per bush.	−4 54
Six-year Rotation—					
Fallow	.....	.....	.....	8 79 per acre	
Wheat, Marquis on fallow	May 3	Aug. 6	13⅗ bush.	1 01 per bush.	3 26
Wheat, Marquis, second crop	May 1	Aug. 7	7 bush.	1 67 per bush.	−2 94
Corn (Hay, second crop year substituted this year)	1924	July 13	½ ton	8 95 per ton	−1 56
Wheat (Hay crop substituted this year)	1923	July 13	⅜ ton	11 30 per ton	0 42
Hay, Western rye grass and alfalfa	1925	July 14	1 ton	7 61 per ton	4 39
Three-year Rotation—					
Fallow	.....	.....	.....	6 57 per acre	
Wheat on fallow—					
Marquis	May 3	Aug. 11	11⅗ bush.	1 17 per bush.	0 93
Garnet	May 1	Aug. 6	11⅕ bush.	1 17 per bush.	0 90
Sweet clover	1925	June 30	½ ton	12 21 per ton	−0 17
Demonstration Test Fields—					
Corn	May 22	Sept. 3	5½ tons (green weight)	2 68 per ton	4 76
Oats seeded with alfalfa	May 24	Aug. 25	½ ton (oat sheaves)	9 12 per ton	2 30

In preparing the land for the second crop of wheat this year two methods were tried—spring ploughing and surface cultivating with the duckfeet. As will be seen from the table, spring ploughing gave 3⅘ bushels per acre more than the cultivated field. The sawfly played havoc in both these fields, but the cultivated field suffered the more.

The wheat on the fallowed land at present prices (allowing $1.25 per bushel) shows a small margin of profit this year, but the second-crop wheat was produced at a loss. Garnet wheat was tested for the first time this year and it gave practically the same yield as Marquis under the same conditions. The surplus grain from these fields can always be purchased at a very reasonable figure directly from the Operator by anyone in the district who wishes to make a start with pure seed. Some orders have been received already. The Marquis wheat grown on these fields is a very pure strain, and we invite the people of the district who are desirous of making a change of seed to make an inspection of this wheat after it has come in head.

Last year, 260 bushels of Banner oats were sold for seed in the district.

There is now a fair-sized flock of pure-bred Barred Rocks on this farm. Four roosters were sold to neighbours for mating with their flocks last spring.

The old five-year rotation was discontinued this year and is being replaced by a six-year rotation as follows: Fallow, wheat, wheat, corn, wheat seeded with rye grass and alfalfa, hay.

The average yield of wheat in the five-year rotation which includes two years of western rye grass hay, for an eight-year period—1919 to 1926—inclusive, is 16 bushels per acre, as compared with 19½ bushels on fallow in a three-year rotation of fallow and two crops of wheat. Wheat after wheat for the same period shows a yield of 14¾ bushels.

WEYBURN

OPERATOR, E. MEREDITH

Spring opened in this district in good time and the first seeding of wheat on the Station fields was done April 20. The season was one of the most favourable on record for crop growth, particularly of grain. There was a much heavier than average rainfall during the growing season, with 9.37 inches from spring until August 1, and 5.06 inches of this fell during June. The grain made strong growth and filled well. The hot weather during July brought the harvest in a little earlier than last year, the first cutting being done August 6. The threshing was delayed considerably by the early snow storm and rains. Corn and hay crops did not do quite so well as the grain this year, as the cool spring did not favour the best growth of these crops. The total rainfall from the opening of spring until fall was 15.15 inches.

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

OPERATIONS AT WEYBURN

Rotations and Crops	Date sown	Date cut	Yield per acre	Cost of production	Profit or (−) loss per acre
				$ cts.	$ cts.
Three-year Rotation—					
Wheat on fallow—					
Marquis	April 20	Aug. 10	42 bush.	0 50 per bush.	31 50
Garnet	April 20	Aug. 6	35 bush.	0 57 per bush.	23 80
Wheat, Marquis, second crop, seeded with sweet clover	April 21	Aug. 11	41 bush.	0 39 per bush.	35 26
Sweet clover hay and fallow	.....	.....	.....	7 62 per acre	
Six-year Rotation—					
Fallow (wheat after alfalfa substituted this year)	April 20	Aug. 10	45 bush.	0 32 per bush.	41 85
Wheat on fallow—					
Marquis	April 20	Aug. 28	40 bush.	0 52 per bush.	29 20
Garnet	April 20	Aug. 6	36 bush.	0 57 per bush.	24 48
Oats, Victory	May 7	Aug. 28	70 bush.	0 21 per bush.	20 30
Corn, N.W. Dent	May 22	(Frozen down by early frost; used for pasture.)			
Wheat, after corn, seeded with alfalfa and Western rye grass	May 3	Aug. 7	42 bush.	0 32 per bush.	39 06
Hay, alfalfa, and Western rye grass mixture	1925	Aug. 2	1½ tons	7 87 per ton	4 96
Demonstration Test Field—					
Hay, alfalfa and rye grass mixture (second crop year)	1924	July 7	¾ ton	9 84 per ton	1 73

Garnet, the new early wheat, was tried on this Station for the first time this year. It did not give as heavy a yield as Marquis but ripened about a week earlier. It will be tested again next year. In a year of rust, there is a chance that Garnet may escape on account of its earliness, though it is not naturally any more rust-resistant than Marquis.

Mr. Meredith sold 800 bushels of Marquis wheat to his neighbours for seed last spring. This year, there is a considerable amount of good quality available again of both Marquis and Garnet. The latter will be sold in small lots, in order to give a number an opportunity to try it.

The heaviest yield of wheat this year (45 bushels per acre) was obtained from a field which had been in alfalfa for three years. The land was ploughed August 6 last year after the alfalfa was taken off, and fallowed the remainder of the season. This crop was also the cleanest on the Station. The next best yield was on the fallow in the three-year rotation where a sweet clover crop was taken off previous to ploughing the fallow last year. It will be noted that wheat after wheat, and wheat after corn, this year gave almost as heavy a yield as wheat after fallow.

The following are the average yields of some of the crops grown on this Station for the past six years, omitting 1924, the year of hail:—

Marquis wheat after fallow, 29 bushels, 40 pounds.
Marquis wheat after wheat, 25 bushels, 20 pounds.
Victory oats after wheat, 58 bushels.
Alfalfa, for four years, 1922 to 1925—1 ton, 720 pounds.
Sweet clover, for three years, 1923 to 1925—2 tons, 800 pounds.
Western rye and alfalfa mixture, for two years, 1 ton, 666 pounds.

For this year, the net profit from the three-year rotation exceeds that from the six-year rotation by $5.39 per acre.

A flock of White Wyandottes of a good-laying strain has been built up by the Operator of this Station from a few sittings of eggs of pure-bred stock. Each year hatching eggs as well as breeding cockerels are sold to neighbouring farmers.

REPORT OF THE ILLUSTRATION STATIONS FOR MANITOBA AND EASTERN SASKATCHEWAN

J. D. Guild, B.S.A., Supervisor

An outstanding feature in crop production in Manitoba in 1926 was the almost complete absence of wheat rust. Adversities in other directions, particularly late spring frosts, prolonged periods of drought, high winds and soil drifting, a cold growing season, cutworms, and the worst harvesting weather on record all combined to make the crop season a matter of more than ordinary speculation from seeding until the completion of threshing. Rust, however, for reasons not wholly explained, was practically negligible.

Manitoba Illustration Station operators in conference at the Experimental Farm, Brandon.

The drought of winter extended right through the seeding period and well into June before breaking. At Brandon temporary relief was secured through

a seven-inch snowfall on May 19, but the cold, dry weeks following were anything but suitable for crop development. This was a period too, of frequent high winds and considerable soil drifting occurred in areas subject to this condition, necessitating in some cases reseeding of crops. Increased cutworm damage over that reported in 1925 was also evident in many fields.

Further useful rains were not recorded at Brandon until the week-end of June 20 when 2.35 inches were registered. Other points reported as high as 5 inches for the same period and it was this general rain which definitely marked the turning point in crops located in the rain favoured areas. From then until harvest, while a few scattered rains occurred at Brandon these were always on the light side and left the crops just short of the moisture required for rapid and vigorous development. Western sections of the province fared better in this respect, but north and northeastern sections were far short of their average requirements at all periods of the growing season and crops suffered accordingly. A heavy frost on June 17 damaged grain crops and garden produce at many points, Kamsack reporting the greatest damage with seven degrees of frost.

Harvesting of winter rye commenced comparatively late and was not general until the end of July. Some early wheats and barley quickly followed, these being forced into a premature ripening by a short period of excessive heat. Cutting of Durum wheats was delayed somewhat by broken weather which set in on August 10. Oat crops were below average over most of the province.

The harvesting and threshing weather of 1926 will be remembered as the worst ever recorded. From the first of September rain and snow occurred frequently all through the three Prairie Provinces. Much of the wheat crop remained in the stook for periods ranging from a month to over two months.

During the year three new Stations were established bringing the total under Brandon supervision to fourteen. The new locations are Gilbert Plains, Eriksdale, and Pipestone. In addition regular Station work experimental tests were again conducted along the Hudson Bay Railway, this being the second year in which these trials have been carried out.

RATES AND PRICES USED IN COMPILING REPORT

Rent of land	8 per cent land value.
Use of machinery	$1.35 per acre.
Manual labour	Prevailing district rates.
Horse labour	8 cents per hour.
Threshing	Wheat, 12 cents; Barley, 10 cents; Oats, 8 cents.
Twine	Prevailing rates.

SEED COST IN 1926

Wheat, Marquis	$1 75 and 1 80	per bushel.
Ruby	1 75	" "
Garnet	3 00	" "
Barley Manchurian	1 00	" "
Barley O.A.C. No. 21	2 00	" "
Oats Victory	1 18 and 1 08	" "
Oats Banner	0 75	" "
Oats Alaska	0 75	" "
Corn N.W.D.	4 50	" "
Flax Premost	3 25	" "
Alfalfa Grimm	0 34	per pound.
Western Rye Grass	0 07½	" "
Meadow Fescue	0 15	" "
Brome Grass	0 07½	" "
Timothy	0 13½	" "
Clover Alsike	0 28	" "
Clover Red	0 35	" "
Clover White Sweet	0 07½	" "

RETURN VALUES IN 1926

Wheat	1 30 and 1 20	per bushel.
Oats	0 45 and 0 40	" "
Barley	0 55	" "
Corn	3 00	per ton.
Hay clover	12 00	" "
Hay western rye and M. Fescue	10 00	" "
Hay Timothy	10 00	" "

Straw values not considered.
Summer-fallow—Two-thirds charged to first crop, one-third to second crop.
Manure—Valued at one dollar per ton and divided equally over all crops in rotation.

ARBORG

OPERATOR, M. SHEBESKI

Conditions at this point were considerably better than in 1925. The season itself left much to be desired particularly with regard to warmth and moisture in the growing season, but the intensive cultivation of the previous year both on the fallow fields and on the stubble behind the binder proved very effective in conserving moisture on the former and in combating sow thistles on the latter. Although sow thistles were the controlling factor in last year's production they were so well controlled by the methods mentioned that they were almost negligible this year. The tendency, however, of after harvest cultivation to produce a short crop the following year if the season happens to be dry was amply demonstrated on two oat plots which had been handled in this way, the crop being very light and thin and not at all profitable. Corn too, though a fair stand did not show a profit.

Work commenced on April 28 with wheat seeding. Marquis wheat, cultivated up last year because of sow thistles, produced this year on the same field 35 bushels per acre at a cost of 59 cents per bushel. On fallow 37½ bushels per acre were secured at a cost of 56 cents per bushel. These yields are considered excellent for this district, but they could probably have been increased somewhat by a heavier rate of seeding, which in this case was inexpedient because of the wheat being used as a nurse-crop.

Although it was impossible to accurately gauge the hay production on the plots because of the failure of the previous year's seeding, a small portion of one field did survive the sow thistle competition and made a reasonably good stand before being removed for hay. It is noteworthy too that this corner of the field had been August-ploughed for sow thistles in 1924, the mixture consisting of western rye, meadow fescue, alsike and red clover being sown with barley in 1925. Alfalfa, sown with O.A.C. barley this year made a very indifferent catch and further seedings will be conducted in 1927 to demonstrate the possibilities of this hay in a district which seems well adapted for its production.

SUMMARIZED RESULTS

Crop	Days to mature	Yield per acre	Cost	Value	Profit or (−) loss per acre
			$ cts.	$ cts.	$ cts.
Five-year Rotation—					
Wheat, Marquis on fallow	112	37½ bush.	0 56 per bush.	1 30 per bush.	27 75
Wheat, Marquis after wheat cultivated up	112	35 bush.	0 59 per bush.	1 30 per bush.	24 85
Oats, Victory	102	18 bush.	0 60 per bush.	0 45 per bush.	−2 70
Fallow			6 63 per acre		
Corn, N.D.W	141	5 tons	4 15 per ton	3 00 per ton	−5 75
Oats, Victory	106	22 bush.	0 50 per bush.	0 45 per bush.	−1 10
Test Plot—					
Barley, O.A.C. No. 21	94	42 bush.	0 35 per bush.	0 55 per bush.	8 40

Nine and one-half inches of rain were recorded at this Station from the first of April to the end of August. Of this amount only a little over 1½ inches fell in April, May, and June, with July and August becoming increasingly wet. The wet harvest following, greatly delayed operations throughout the district.

CHURCHBRIDGE, SASK.

Operator, H. Grube

This Station has now completed its fourth season with good average results. Moisture conditions were more favourable in May and June than at many of the Manitoba Stations, the hay crops being noticeably benefited by this condition, but the season was too cold to be considered as ideal either for grain crops or corn.

Work commenced on April 21 and wheat seeding on April 22. Three varieties of wheat were tested, not however under strictly comparable conditions. Garnet wheat on corn ground outyielded Ruby after wheat by half a bushel per acre and stood nine bushels per acre higher than Marquis grown on sod land. The low yield in the Marquis emphasizes the fact that wheat after grass generally requires more moisture than is available in average seasons to return the best profits. The fact that the cost of production in the Garnet was thirty-one cents less per bushel than for the Marquis is also significant. Garnet matured seven days earlier than Marquis but one day later than Ruby.

Banner oats yielding 59 bushels per acre, costing twenty-three cents to produce, gave a fair profit in a year which must be considered as a poor oat year. These oats were sown on sweet clover sod and appeared during the growing season as a strong uniform stand. Their rich dark green colour during that time can doubtless to some extent be attributed to the presence of the clover the previous year.

Some very good hay yields were secured. A mixture of alfalfa and western rye grass sown with wheat after corn in 1925 at the rate of 6 pounds and ten pounds per acre respectively returned an estimated yield of over 2 tons per acre. This was undoubtedly the heaviest hay crop seen in this area for some time, the mixture creating considerable interest because of its excellence. Sweet clover sown alone in 1925 was a very uneven stand. Winter or early spring killing so reduced this crop that it was considered advisable to plough it down rather than to retain for hay. Corn was badly frozen after being hailed in early September and the crop was a loss. At best it was but half a crop.

At this point, 9.33 inches of rain were recorded from May 1 to the end of October, with over five inches falling in the last two months.

Summarized Results

Crop	Days to mature	Yield per acre	Cost	Value	Profit or (−) loss per acre
			$ cts.	$ cts.	$ cts.
Six-year Rotation—					
Hay, western rye and meadow fescue, second crop	.....	1½ tons	4 57 per ton	12 00 per ton	11 14
Wheat, Marquis	114	15 bush.	0 80 per bush.	1 30 per bush.	7 50
Oats, Banner	112	59 bush.	0 23 per bush.	0 45 per bush.	12 98
Corn, N.W.D.	.....	.....	Frozen		
Wheat, Garnet	107	24 bush.	0 49 per bush.	1 30 per bush.	19 44
Hay, Western rye and meadow fescue, first crop	.....	2 tons	3 87 per ton	12 00 per ton	16 26
Test Plots—					
Wheat, Ruby	106	23½ bush.	0 48 per bush.	1 30 per bush.	19 27
Alfalfa, third crop	.....	1 ton	13 89 per ton	12 00 per ton	−1 89
Timothy, third crop	.....	1 ton	5 43 per ton	10 00 per ton	4 57
Western rye, third crop	.....	2 tons	2 93 per ton	10 00 per ton	14 14

DAUPHIN

OPERATOR, FRENCH BROS.

This Station continues to present a pleasing prospect no matter from what angle it is viewed. The field work is excellently carried out by the operators and results during the three years of operation have been very satisfactory. The weeds of adjacent farms, particularly sow thistles, have not been allowed to encroach on the plots, and the wild oats originally present are gradually being brought under control.

The growing season here was dry and cool—too dry even for Dauphin—and growth was slow in May and June. Field work opened on the 17th of April and wheat seeding on the 19th. Two strains of Marquis wheat as well as Garnet and Ruby were tested this year, the result being in no way detrimental to Garnet. Under comparable conditions this new variety out-yielded Ruby by seven bushels per acre and stood well above both strains of Marquis which were grown under different, though equally favourable conditions. Alaska oats again proved disappointing, the dry weather coupled with a few hot days at the time of ripening apparently affecting the yielding power of this variety much more than a common sixty-day variety nearby.

Hay crops were distinctly poor. The dry weather was wholly responsible for this condition as good catches of western rye grass and meadow fescue were secured from the previous year's seeding. Alfalfa, however, made excellent progress. One acre sown in 1924 yielded three tons in two cuttings. An additional acreage was sown to alfalfa this year and this legume has also been included in the grass mixture on the regular rotation.

The third consecutive success was secured this year with N.W.D. corn. The crop lacked maturity but in every other respect was very satisfactory. The yield was estimated at eight tons per acre and the whole crop was cut with an ordinary grain binder without trouble even though the height averaged a good six feet.

SUMMARIZED RESULTS

Crop	Days to mature	Yield per acre	Cost	Value	Profit or (−) loss per acre
			$ cts.	$ cts.	$ cts.
Six-year Rotation—					
Hay, western rye and meadow fescue, first crop	.....	½ ton	15 60 per ton	10 00 per ton	−2 80
Hay, western rye and meadow fescue, first crop	.....	¾ ton	9 53 per ton	10 00 per ton	0 35
Wheat, Marquis	106	29 bush.	0 56 per bush.	1 30 per bush.	21 46
Corn, N.W.D.	123	8 tons	2 66 per ton	3 00 per ton	2 72
Oats, Alaska	88	33½ bush.	0 43 per bush.	0 45 per bush.	0 66
Wheat, Marquis	105	22½ bush.	0 67 per bush.	1 30 per bush.	14 17
Test Plots—					
Wheat, Garnet	105	36 bush.	0 54 per bush.	1 30 per bush.	27 36
Hay, Alfalfa, Grimm	.....	3 tons	3 24 per ton	12 00 per ton	26 28

DUGALD

OPERATOR, THOS. ROBERTS

Much better results were secured in the second year's operations at this point than in 1925. Last year most of the plots had to be cut for green feed because of wild oats. Early fall cultivation at that time greatly reduced the trouble from this source and relatively clean crops were produced this year. Yields of wheat and oats were exceptionally good. Hay crops and corn were above the average. The adverse harvesting weather constituted the chief difficulty in the year's work.

Spring cultivation commenced on April 22, Garnet wheat being sown on that date. This variety yielded thirty-four bushels per acre and being early was threshed before the fall rains. Since this variety was grown on oat stubble land the return was all that could be desired and the low cost of production, 47 cents per bushel, netted a profit of over twenty-eight dollars per acre. No other wheat was tested.

Banner oats also grown on oat land, and O.A.C. No. 21 barley on corn land both proved to be profitable crops. The barley grown from first-generation seed was marred only by scattered sow thistles. The improved condition of crops here was due in part to a heavier precipitation in May and June. Other stations in the Red River valley were not so fortunate in this respect and lighter yields in consequence resulted.

Corn again turned out a splendid crop. While this crop has been dropped from the six-year rotation because of the work involved in keeping it clean, it has been retained in the three-year rotation with good results so far. Flax was a good average crop, depreciated to some extent by Canada thistles, but still a relatively profitable venture. Coming as it does in the rotation, after fallow, it obviates the danger of rust and where harvesting seasons are more favourable than they were this year, a much earlier threshing can be looked for.

Hay crops suffered from the relatively cool dry spring but recovered well with later rains and yielded above the average. Sweet clover was disappointing in that winter-killing had reduced the stand, and the yield was therefor poor.

SUMMARIZED RESULTS

Crop	Days maturing	Yield per acre	Cost	Value	Profit or (−) loss per acre
			$ cts.	$ cts.	$ cts.
Six-year Rotation—					
Fallow	.....	.....	7 85 per acre		
Flax, Premost seeded down	134	15 bush.	0 76 per bush.	1 75 per bush.	14 85
Hay, western rye and meadow fescue, first crop	.....	2 tons	4 42 per ton	12 00 per ton	15 16
Hay, western rye and meadow fescue, first crop	.....	1½ tons	6 57 per ton	12 00 per ton	8 14
Wheat, Garnet	111	34 bush.	0 45 per bush.	1 30 per bush.	28 90
Oats, Banner	99	65 bush.	0 24 per bush.	0 45 per bush.	13 65
Three-year Rotation—					
Corn, N.W.D	104	6½ tons	2 26 per ton	3 00 per ton	4 81
Barley, O.A.C. 21	93	42 bush.	0 37 per bush.	0 55 per bush.	7 56
Hay, sweet clover	.....	1 ton	7 97 per ton	12 00 per ton	4 03

Alfalfa sown in rows in 1925 for seed production was cultivated up on account of sow thistles and wild oats.

ERIKSDALE

OPERATOR, R. G. COWDERY

This Station was selected in 1925 and work started this spring on a series of two-acre plots designed to accommodate a two-year and a four-year rotation in addition to the regular test plots.

The aim of the Station is to demonstrate the growing in rotation of the feeds normally required in live stock enterprises and to introduce alfalfa and sweet clover to an area which by virtue of the presence of a high lime content in the soil, seems naturally adapted to the production of these crops.

Unfortunately no rain fell at this point during the growing season and all plot crops were a failure. Yields throughout the district ranged from one, two, and three, to fifteen bushels per acre where fields were well fallowed in 1925. Plot crops were negligible and the alfalfa and sweet clover practically disappeared.

Sow thistles constitute the outstanding problem of this area and the rotations are planned to meet this menace in a practical way. Barley and sweet clover constitute the two-year rotation while the crop sequence in the four-year rotation is: first year, fallow; second year, oats, seeded down with sweet clover and brome; third year, hay and break up; and fourth year, oats or barley. Alfalfa both for hay and seed production is included in the test plots as also are mangels and corn.

GILBERT PLAINS

Operator, G. W. Best

Work was started here this spring on a five-year rotation, using three-acre plots. A test plot of alfalfa for hay production and a half acre in rows for seed production were also laid down. The five-year rotation consists of corn or fallow, wheat, barley seeded to western rye grass, timothy and sweet clover, hay, and oats.

The soil at this point is a sandy loam. Couch grass patches are present on most of the plots. The season was very dry all summer and crops in consequence light. O.A.C. barley from first-generation seed yielded twenty bushels per acre. Marquis wheat went twelve bushels and was very badly sprouted by fall rains and a prolonged threshing period. Corn made a fair growth considering the season but because of couch grass was very difficult to keep clean. Until the couch grass is brought under control corn will not occupy a prominent place in the rotation.

Good catches of the grass and clover mixture were obtained this year and the alfalfa also made satisfactory headway where sown with a light seeding of Marquis wheat. In rows for seed it succeeded best of all, due largely to the particular care taken of this half-acre by the operator. With occasional hoeing and hand pulling of weeds the plot presented a clean, vigorous stand in October.

GUNTON

Operator, E. Fraser

Substantial progress has been made in the rotation work at this point this being the third year of operation. The six-year rotation adopted has in the matter of weed control proved to be effective particularly since the corn has been replaced by a bare fallow. In the three years that corn has been tried it has not succeeded and while fairly good corn has been grown in more northerly areas of this inter-lake country it appears to be rather unreliable at this point.

Garnet wheat on fallow outyielded Marquis on sod land by four bushels per acre. The dry growing season made this inevitable as the fallow had a big advantage in moisture supply. Less than half an inch of rain was recorded at this Station in April and May so that the yields secured are all that could be expected.

Oats and barley were very light crops. A plot of Chinese barley on pea land outyielded Manchurian on fallow by four bushels per acre, but as the yield of the former was only thirty-six bushels per acre it cannot be considered as a profitable crop.

Hay crops were the lightest that have been grown at this Station. Although excellent catches have been secured in each of the three-years seedings, the yields, except where alfalfa has been added, have generally been on the light side. With the addition of alfalfa two cuttings have been taken—except this year—so that yields and profits have risen accordingly. It is proposed to add

sweet clover to the regular grass mixture in the rotation, an improvement both in yields and soil condition being expected in this connection. A mixture of oats and peas sown this year made a very fair quality hay and it would appear that this mixture offers some possibilities as an ensilage crop in this area if corn continues to be an uncertain crop.

While over 19 inches of rain fell here from April to October 31, only 4.82 inches were recorded during May, June, and July, and less than half an inch fell in April and May. The excessively wet harvest and threshing weather was common to all Manitoba stations in 1926.

SUMMARIZED RESULTS

Crop	Days maturing	Yield per acre	Cost	Value	Profit or (−) loss per acre
			$ cts.	$ cts.	$ cts.
Six-year Rotation—					
Wheat, Marquis	111	25 bush.	0 71 per bush.	1 30 per bush.	14 75
Hay, western rye and meadow fescue, 2nd crop	.....	¾ ton	7 45 per ton	10 00 per ton	1 91
Hay, western rye and meadow fescue, 1st crop	.....	¾ ton	7 45 per ton	10 00 per ton	1 91
Wheat, Garnet	101	29 bush.	0 70 per bush.	1 30 per bush.	17 40
Fallow	.....	.....	6 65 per acre	.....	
Oats, Banner	96	26 bush.	0 44 per bush.	0 45 per bush.	0 26
Test Plots—					
Barley, Manchurian	99	31 bush.	0 51 per bush.	0 55 per bush.	1 24
Hay, western rye, alfalfa and meadow fescue	.....	1 ton	6 17 per ton	12 00 per ton	5 83

INWOOD

OPERATOR, WM. COSSETTE

A dry season, a shallow soil, and an exceedingly wet harvest provided a combination of circumstances capable of rendering the best of plans null and void. The first real rain of the season came on August 19. No hay crops were grown in the district, and but very little crop was worth threshing.

Two of the plots were in fallow and three in oats and barley. A five-year rotation is the objective here, but even a five-year rotation must have rain to succeed. Sweet clover and the grasses meadow fescue and western rye as well as alfalfa have never had a chance to give much indication of their adaptability for this area during the past two years.

The work will be continued in 1927, when at least two of the plots should produce, as the rain of this fall on fallow plots should give any grain crops a good start next year. Nothing was threshed on the Station this fall.

KAMSACK, SASK.

OPERATOR, F. CRAIG

Moderate results were secured at this point this year. Work commenced on April 24 and seeding was completed in good time, but all crops suffered a severe set back on the night of June 17, when seven degrees of frost were registered on the Station thermometer. Both Marquis and Garnet wheats were badly frozen and corn was destroyed completely. The delay in growth at this time gave the weeds an advantage they would not otherwise have held, frenchweed in particular securing quite a hold on three of the plots. Later rains re-established the grain crops but yields at threshing were low. The quality of the grain, however, was good, and as all but one plot was threshed before the fall rains, top grades were secured.

Marquis on sod land yielded 17¼ bushels per acre at a cost of 77 cents, while Garnet on corn land went 20¼ bushels at a cost of 67 cents per bushel. This result indicates that Garnet can withstand a very considerable late spring frost quite as well as Marquis, although the increased yield in the Garnet is due to some extent to the advantage it held through following corn in the rotation. It is noteworthy, too, that the sample of Garnet contained very few white or starchy kernels, whereas Marquis at this point always appears piebald. The only objection to Garnet expressed by the operator was in connection with its tendency to shatter in handling.

Victory oats had to be cultivated up because of wild oat infestation and the Newmarket variety replacing the Victory, being sown relatively late and having to bear the overhead of a double seeding, were produced at a loss. The loss per acre from a 27-bushel yield was $4.95. Corn was destroyed by frost and the field was fallowed.

Hay crops were light. Meadow fescue in its second year was very poor and thin. This condition was due apparently to the cold growing season rather than to a lack of moisture, for over 4½ inches of rain fell during the months of May, June, and July. The total rainfall from May to October inclusive was 13.65 inches.

Alfalfa sown with a nurse-crop of oats made a good start but later became smothered to some extent by the rank growth of oats. A late observation in the fall indicated that a further seeding will be required in 1927 to make a stand. It is also proposed to introduce alfalfa into the grass mixture in the regular rotation fields next year.

SUMMARIZED RESULTS

Crop	Days maturing	Yield per acre	Cost	Value	Profit or (−) loss per acre
			$ cts.	$ cts.	$ cts.
Six-year rotation—					
Wheat, Marquis	117	17¼ bush.	0 77 per bush.	1 30 per bush.	9 14
Hay, western rye and meadow fescue, 2nd crop	.....	1 ton	7 03 per ton	10 00 per ton	2 97
Hay, western rye and meadow fescue, 1st crop	.....	¼ ton	8 04 per ton	10 00 per ton	1 71
Wheat, Garnet	107	20¼ bush.	0 67 per bush.	1 30 per bush.	12 75
Corn, N. W. D.	Failure.				
Oats, Newmarket	99	27½ bush.	0 63 per bush.	0 45 per bush.	−4 95

PETERSFIELD

OPERATOR, WM. MICHAEL

A dry spring and a very wet harvest were the determining factors in results achieved at this Station this year. A number of plots were in feed crops, the object being to further clean the land of wild oats and sow thistles, but the decided lack of moisture in the spring made the yields of these crops very light.

Oats for feed yielded approximately half a ton per acre. Western rye grass and meadow fescue sown in 1925 yielded less than half a ton, while sweet clover approximated two tons per acre. Although sweet clover was dropped from the three-year rotation this year because of the proximity of alfalfa seed-growing ventures, its adaptability to soil and climatic conditions of this area, coupled with the fact that neighbouring farmers are growing it to good advantage, renders its reintroduction in 1927 a possibility.

No wheat varieties were tested on the plots this year. Garnet on adjacent land yielded 60 bushels per acre and Marquis went 62. Manchurian barley yielded 67 bushels per acre. These were all on fallow and sufficient moisture was available to carry these over the dry period of May and early June.

One of the heaviest crops of flax seen for some time was grown on the plots, the flax being sown on a manured fallow. The wet harvesting weather, however, made the cutting of this crop almost an impossibility. At the end of August this field gave every promise of yielding well over 20 bushels per acre. At the middle of November it was still standing uncut, much of the plot being under water.

Corn was a fair crop but difficult to keep clean. A bare fallow will be substituted for corn in the three-year rotation in 1927. The chief concern for a year or two yet must be the cleaning of the land.

Alfalfa for seed production was not threshed in 1925. After stacking and holding over the winter months and threshing in early spring a yield of 110 pounds per acre was secured. This, while not a heavy yield, is still a paying crop, and the development of alfalfa for seed production in this area is steadily finding favour with many farmers. Delayed and broken threshing weather rendered stacking again this year a necessity, so that the 1926 yield datum is not available.

PIPESTONE

Operator, Wm. Forder

A moderate start was effected at this point on the farm of Mr. Forder. The soil is of a light sandy texture with gravel outcroppings, this condition being more or less typical of the high land of this area.

Preparatory work consisted of seeding down two plots to sweet clover and brome grass, using oats as a nurse-crop, and summer-fallowing the remaining six plots which in 1927 are to be laid out in a three-year and a five-year rotation.

Very fair catches of the grass and clover were secured this year but the presence of couch grass patches on the fallowed plots left something to be desired in this connection. Had a suitable cultivator been available at the right time, good headway could have been made in controlling the grass. As it was not possible to obtain one until close to harvest time and further as the rainy season set in then, very little was accomplished in this direction this year.

PLUMAS

Operator, F. Buschau

An exceptionally dry summer was experienced at this point this year and crops were disappointing. Both the three-year and the six-year rotation suffered uniformly from the drought and a hail storm at the end of July completed the ruin of the grain crop. Marquis wheat and Garnet yielded only a little over four bushels per acre while Banner oats were scarcely worth threshing.

In the hay and forage crops variable returns were secured. Sweet clover was a very uneven stand and the brome with which it was mixed was scarcely noticeable. So lacking in uniformity was this crop that ploughing down was seriously considered at one time. Fall rye winter-killed badly and the crop was removed for hay. Western rye grass made very little growth and alfalfa had not thickened up as it might have been expected to under more favourable conditions. A much better stand in this alfalfa plot was evident after the early fall rains occurred.

The rotation work will be continued in 1927. There should at least be an abundant carry over of moisture and crops may be expected to get away to a good start where careful cultivation has been effected. On the lighter types of soil such as this the moisture supply plays an all important part in the returns.

STE. ROSE DU LAC

OPERATOR, J. FITZMAURICE

The season at this point was altogether too dry for crop production on a profitable basis. Wheat yields of ten bushels, oats ten to twenty, and barley fifteen to twenty represented Station returns for the year, the general run of the district paralleling these yields except in isolated cases. All hay crops on the Station including sweet clover returned less than a ton to the acre. Alfalfa sown in 1925 practically disappeared this year.

Banner oats were poor in yield and sample. Barley from first-generation seed, O.A.C. variety, yielded twenty bushels, or five bushels more per acre than a Brandon strain of Manchurian.

It was observed that a few farmers in this district were trying the Durum wheats for the first time. It was further observed that because of higher yields in these wheats in a number of cases as compared to Marquis, some are determined to grow a larger acreage of Kubanka or Mindum wheats in 1927. To what extent these varieties may be introduced in these northern latitudes remains to be seen but at any rate their northward trend is steady. Even though not a rust year the higher yield of the Durums on small areas is significant.

A five-year rotation has been planned for this Station, consisting chiefly of feed crops, but the actual establishing of this rotation is a slow process.

WAWOTA, SASK.

OPERATOR, C. PRYCE

Work commenced at this point on April 14 and wheat-seeding on April 15. Unlike many Stations in Manitoba, this received an abundance of rain all summer. Over fifteen inches of rain were registered from April 15 to August 31, and rain occurred on the average every fourth day during this time. Threshing in the fall was not finished until after much rain damage had occurred and most of the wheat graded tough.

Despite the rains, yields were only slightly above normal. The season lacked warmth at a time when its presence would have promoted crop development. Marquis wheat on sod land was inclined to be too thin, due partly to a light seeding, and to weed encroachment attributable to this cause. This field yielded twenty-five bushels per acre at a cost of 52 cents per bushel. Garnet wheat on corn land yielded exactly the same as the Marquis on sod, but was produced a little more cheaply, the cost in this case being 47 cents per bushel.

Banner oats yielding fifty bushels per acre netted a profit of eight dollars per acre—a very satisfactory return for a poor oat year. Corn again failed, this being the third reason in which corn has been only a very moderate crop or else a failure altogether. Sunflowers are a much more certain crop and the trench silo was filled this year entirely with these, the variety being Giant Russian.

Sweet clover outyielded western rye and meadow fescue by approximately one ton per acre. An acre of peas on spring-ploughed wheat land yielded thirty bushels. These were threshed in a rather tough condition but should still make reasonably good seed for next year. Tests for germination will be carried out before offering these for sale.

Co-operative tests were again conducted by the operator, for the Dominion Cerealist, rod-rows of wheat and oats comprising the experiment. Details of this test will be found in the report of the Cereal Division.

Two acres of Kharkov fall wheat sown in 1925 winter-killed so badly as to be useless.

SUMMARIZED RESULTS

Crop	Days maturing	Yield per acre	Cost	Value	Profit or (−) loss per acre
			$ cts.	$ cts.	$ cts.
Six-year Rotation—					
Wheat, Marquis	123	25 bush.	0 52 per bush.	1 20 per bush.	17 00
Hay, western rye and meadow fescue, 2nd crop	.....	1 ton	6 16 per ton	10 00 per ton	3 84
Hay, western rye and meadow fescue, 1st crop	.....	1 ton	6 16 per ton	10 00 per ton	3 84
Wheat, Garnet	116	25 bush.	0 47 per bush.	1 20 per bush.	18 25
Corn, N.W.D.	.....	Failure.			
Oats, Banner	120	50 bush.	0 24 per bush.	0 40 per bush.	8 00
Test Plot—					
Hay, sweet clover	.....	2 tons	3 78 per ton	12 00 per ton	16 44

NORTHERN MANITOBA

Co-operative tests were again conducted along the Hudson Bay railway in 1926. Points covered included Hudson Bay Junction, The Pas, Mile 42 (two tests), Mile 81, Mile 137, and Mile 185. The first and the last two of these points were under test in 1925; additional areas were included this year to serve as far as possible the 225 miles of intervening territory between the Junction and Mile 137. With such a stretch of country, embracing a latitudinal difference of 135 miles, varied conditions and results might well be expected. As in 1925, available cultivated land decided the location of the tests.

Due to seasonal conditions the returns this year were lower than in 1925. Last year the north had an abundance of moisture and sunshine. This year was cold and dry. The growth of all tests was therefore much retarded, and on both grains and vegetables the cool season left its impress. At mile 185 the cereal tests were so immature that the samples were not threshed. At mile 82, where tests were conducted on very sandy soil, yields were lower than at any other point from which samples of the rod-rows were received. In general it was observed that crops improved as the tests progressed in a southerly direction, and at Hudson Bay Junction, on the Winnipeg-Prince Albert line of the Canadian National Railway, the best results were secured. Even here, however, it may be noted that in the grass and clover seedings of 1925 only western rye grass and sweet clover came through in a satisfactory condition. Red clover and alsike winter-killed and brome and timothy were poor crops. Further north some very poor stands of both clovers and grasses were observed on the first of September, although the catch in practically all cases was all that could be desired. It was an adverse season.

It is proposed to continue the tests in 1927 at the majority of these points.

The yield in bushels per acre and percentage germination of samples received and threshed are presented in the following table. It should be borne in mind that these yields were obtained from rod-row plots, because of the scarcity of cultivated land, hence are not representative of actual field conditions.

YIELDS AND GERMINATION ON HUDSON BAY RAILWAY

—	Hudson Bay Jct. H. Jarvis		The Pas E. V. Bird	Mile 42 Wm. Louckes		Mile 42 J. Turnbull		Mile 81 J. Rainville	Mile 137 H. Davidson		Mile 185 Geo. Cowan
	Yield	Per cent Germ.		Yield	Per cent Germ.	Yield	Per cent Germ.	Yield only	Yield	Per cent Germ.	
Wheat—											
Marquis	53·2	89	A hail storm destroyed crop before it ripened.	42·4	98	32·3	98	4·0	29·8	98	Grain crops did not ripen sufficiently to thresh before frost.
Prelude	41·0	92		34·5	88	32·2	75	....	23·2	99	
Reward	59·6	88		32·8	95	36·2	75	3·4	31·3	88	
Huron	53·5	95		37·3	95	37·3	94	5·6	.....	.....	
Garnet	39·8	90		36·9	94	36·8	99	4·7	31·3	97	
Bishop	47·2	92		40·6	95	23·7	98	6·2	26·6	88	
E. Triumph	47·0	95		44·2	93	27·7	97	6·7	22·6	96	
Oats—											
Banner	75·2	74		87·9	98	69·1	80	.....	.....	.....	
Gold Rain	69·0	86		65·8	98	37·3	86	.....	.....	.....	
Legacy	76·7	94		70·2	95	77·9	86	10·2	.....	.....	
Daubeney	82·2	88		62·0	95	74·6	93	9·2	58·7	75	
Alaska	100·4	84		55·8	93	57·5	77	10·6	34·1	78	
Victory	67·5	84		74·6	94	23·8	64	.....	60·2	.....	
Barley—											
O.A.C.	71·9	95		47·1	93	51·6	92	7·3	31·9	94	
Beaver	66·9	95		57·4	95	39·1	76	6·5	28·9	99	
Himalayan	58·8	92		40·0	96	49·6	95	5·1	27·7	94	
Duckbill	48·4	92		44·5	97	24·8	76	7·5	23·2	89	
Charlottetown	59·4	95		52·2	97	39·3	89	.....	24·4	89	

NOTE.—In connection with these tables it may be of interest to note that the date of seeding at Hudson Bay Junction on April 29 was a full two weeks earlier than at any of the other points. Harvesting was also accomplished at this point approximately two weeks before the others. Another feature of the Hudson Bay Junction tests was the success which attended the growing of vegetables. Turnips and mangels were grown that weighed eleven and twelve pounds each Splendid samples of MacKay and Chancellor peas were also produced.

PORT NELSON

In addition to the tests conducted along the southern portion of the Hudson Bay railway further experiments were again carried out at Port Nelson itself. In 1925 the tests at this point were unsatisfactory in that the seed arrived too late to permit of taking full advantage of the growing season. The difficulty in this respect was overcome this year, but the season being exceptionally dry, crops failed to reach maturity and were cut mostly in the blossom stage. Seeding was done on June 8 and harvesting on September 20, one day before a heavy white frost.

Of all the wheat, oats and barley varieties sown, only the O.A.C. and Himalayan barleys reached the dough stage. The straw over all grain crops averaged thirty inches in height, no evidence of rust were reported, and had the season been a little more favourable with respect to precipitation some useful information in the way of actual yield data might have been secured.

In the clovers and grasses, sweet clover, early red clover, timothy and western rye grass, good stands of from six to eight inches in height were reported. The remainder, including brome, alfalfa, and alsike clover, were poor to medium.

In vegetables but little or no development was observed. On account of lack of space and cultivated ground the number of rows in the various tests was reduced to one. Ordinarily five rows, each sixteen and a half feet long, are employed, the yield data being taken from the three centre rows. From the two years' tests to date, it does not appear as though Port Nelson could be expected to satisfactorily produce the ordinary garden and field crops, but the tests will be extended over three years at least in order to strike the average of productivity.

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