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A STUDY OF SETTLERS' PROGRESS IN  
NORTHERN SASKATCHEWAN FOR THE PERIOD 1935 TO 1939

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for the  
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by  
John Charnetski

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A STUDY OF SETTLERS' PROGRESS  
IN NORTHERN SASKATCHEWAN FOR THE PERIOD 1935 TO 1939

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INTRODUCTION

The Northern Settlers' Re-Establishment Branch

Conditions leading to the formation of Branch

The period of drought and depression following 1929 resulted in a number of widespread changes and adjustments in the agriculture of Saskatchewan. One of the most significant of these changes was the re-distribution of the population pattern, consisting of a considerable movement of population from the older established agricultural areas to the northern pioneer fringe area of the Province. This northward movement was accompanied by large scale expansion in the agriculture of the northern area and introduced numerous problems of settlement and development.

A variety of causes contributed to the movement of people into the north, so that the origin of the movement was not confined to any particular section of the Province. The abandonment of farms in the south, due to drought and soil drifting, was responsible for a considerable number of farmers desiring to re-establish themselves in the wooded regions. Abandonment of farms in other areas of the Province as a result of heavy indebtedness, insecurity, or poor farming conditions contributed an additional group of farmers. Tenants, affected by drought and depression, joined the northward movement in the hope of becoming owners, while many established owners left their farms to seek opportunities for expansion or to find land for growing sons. To this group of farm operators who moved to the north was added a number of city and farm laborers, who, faced with unemployment and low wages hoped to find greater security in farming.

Before 1931 the movement to the north was a gradual one. Drought and depression were considered temporary conditions and reserves of capital



were depleted before abandonment became necessary. By 1931 however the movement reached large proportions. Since relatively little preparation for an organized settlement of the area had been made, the large scale movement of population came to represent a major administrative problem in aid and resettlement.

Some attempts to assist land settlement had been made under the 1931 Provincial loan scheme administered by the Department of Natural Resources. Attempts were also made under the 1932-1933 and 1934 Land Settlement schemes and the 1934 Mennonite settlement scheme administered by the Department of Railways, Labour and Industries.

Most of these plans lacked the necessary basis for the successful rehabilitation of settlers in the northern area. They did not provide sufficient supervision and direction. Moreover, the administration of settlement policies was confounded by the problems of relief administration. As a result there was a serious duplication of agencies and a confusion of policy with respect to northern development which suggested the real need for unification of the northern administration under a single department.

The unification was achieved by the creation in 1935 of the Northern Settlers Re-Establishment Branch. This department, set up as a Branch of the Department of Municipal Affairs, was charged with the responsibility of supervising settlement and the distribution of capital and relief assistance. It took over the administration of 5,769 cases, all of which had either been under the Provincial Loan and Relief Settlement Schemes of 1931 to 1934, or were direct relief cases formerly administered by the Bureau of Labor and Public Welfare.

#### Objectives of the Branch.

The program of the Northern Settlers Re-Establishment Branch is designed to build up self supporting and stable agricultural communities

by controlling and aiding land settlement. Credit is extended to settlers for necessary capital expenditures and relief assistance is provided during the period in which the settler is becoming reestablished. Guidance and supervision in settlement and rehabilitation are given through the medium of District inspectors and a program of education is conducted by an agricultural advisor and the Head Office.

#### Administration and Duties.

The administration of the Branch consists of a Commissioner and Head Office Staff, located at Regina and a group of inspectors and technical men comprising the field staff. The Commissioner is responsible for the general supervision of the Branch and the execution of governmental policy with respect to land settlement in the northern areas.

The field staff consists of a general field supervisor, two chief inspectors, 37 district inspectors, two camp foremen, or location officers, and a civil engineer. An agricultural advisor, who formerly worked under the supervision of the Branch has now been transferred to the Department of Agriculture.

The field staff is responsible for the local administration of the Branch which is conducted on the basis of a number of administrative districts. The general supervisor and chief inspectors are directly responsible to the Commissioner. Their duties are to control and supervise the expenditures of the monies allotted to each district and to give general supervision to the district inspectors. The district inspectors take over the secretarial work for the Local Improvement Districts<sup>1.</sup> of the area and combine the many duties connected with re-establishment, relief, weed

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1. In the northern areas of Saskatchewan few municipal districts have been organized for local administration. The unorganized districts are called Local Improvement Districts and administered by the Department of Municipal Affairs at Regina.

inspection, fire guardianship and inspection, medical services, land assessment, and the general supervision of roads, schools, and bridges. The location officers are responsible for supervising the opening up of new areas of settlement. They initiate the building of a central camp in new settlement blocks and supervise the building of dwellings for individual settlers. The engineer of the field staff is employed in drainage projects and in the sub-dividing and surveying of new blocks of land made available for settlement.

Scope and activities of the Branch.<sup>2</sup>

The first step taken by the Branch in accepting the administration of the northern area in 1935, was a complete survey of the condition of the people and the settlement of the region. A total of 3,262 family heads and individual settlers were interviewed and 2,453 farms were inspected in the survey. It was estimated that 5,000 settlers remained to be interviewed and 6,000 farms were still to be inspected after this initial survey.

Of the number of farms inspected, 424 were rejected as being unsuitable for re-establishment purposes. This suggested the need for new areas of settlement not only for settlers who continued to arrive in the area but also for those settlers who were undesirably located at the time of inspection. Arrangements were made to obtain the transfer of 'blocks' of unsettled land from the Natural Resources Department into which new settlers and relocated settlers could be moved. Nine of these 'blocks' were opened up shortly after 1936 in which approximately 600 settlers were located.

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2. Information regarding the scope and activities of the Branch was obtained by correspondence and interviews with Branch officials.

In 1935, the Branch began to distribute re-establishment assistance in the form of loans for capital expenditures. Loans were made on account of clearing and breaking of land, erection of buildings, and purchase of livestock and equipment. Such capital advances were made under close supervision and in accordance with the immediate needs of the settlers. Loans were subject to cancelation if the settlers refused to cooperate. Assistance to family living in the form of direct relief disbursements was also given throughout this period in addition to the advances on capital purchases and expenses.

Since 1936 the program of the Northern Settlers Re-Establishment Branch has been extended to cover a wide range of activities. The area under control now includes 72 Local Improvement Districts and Rural Municipalities. The rural population of this area in 1936 was reported as 105,191, or 16.2 per cent of the total rural population of Saskatchewan.<sup>3</sup> At present this percentage would be somewhat higher.

On December 31st, 1939, the Branch was in charge of 6,043 active re-establishment cases. Total expenditures on re-establishment up to this date amounted to \$1,633,820, and relief disbursements within the re-establishment area amounted to \$3,188,111.

In 1937 the Branch started a policy of breaking land for the settlers with its own equipment and at present it maintains seven crawler-type Diesel tractors which are used in clearing, breaking and road building. Large V-type brush cutters are used on these tractors to facilitate the clearing of large areas of bush land. During 1939, the Branch financed the breaking of some 41,000 acres of land.

The improvement of land, by the Branch, for resettlement purposes has not been confined entirely to clearing and breaking. Two drainage projects,

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3. 1936 Census of Saskatchewan. Dom. Bureau of Statistics.





Brush Cutter in northern area of Saskatchewan  
showing the work in the low lying willow flats.



Brush cutter in the northern areas of  
Saskatchewan showing the type and size of  
bush being handled



- 5 b -



Results of the brush cutter in  
the northern pioneer area of  
Saskatchewan. 20 acres per day  
can be slashed with these  
machines.



one in the Carrot River valley and the other in the Shand Creek area have been successfully completed. Out of 1,500 quarter sections in the two projects which were subject to spring flooding, 1,400 have been reclaimed and are now being farmed. The work and wages program used in this reclamation employed as many as 800 men at one time.

In 1938 the Branch took over the construction of market roads in the re-establishment area, a function which was formerly performed by the Department of Highways. The Branch suggests that it has been able to build greater mileages at lower costs through the use of heavy machinery and because of the ability to supervise the work closely. The Chief inspector reported that at the end of 1939, the road construction accomplished by the Branch included 8,020 linear yards of corduroy, 704 miles of cleared road allowance, 246 miles of road allowance prepared for grading and 679 miles of grades and 14 miles of gravelled roads, together with the seasonal maintenance of 590 miles of completed roads.



Agricultural demonstration and field day on one of the farms supervised by the Branch.

Road construction in one of the newer settled areas of northern Saskatchewan.



The additional activities of the Branch have included a number of local government duties and an expanding educational program. The District inspectors of the Branch assessed all lands in the reestablishment area in 1938 and all tax collections have been placed in charge of the Branch. The educational program, under the supervision of the agricultural advisor, has been developing satisfactorily. Some 40 demonstration plots have been established in the area, on which experiments in the growing of various cereal, forage and vegetable crops are being conducted. Field days have been organized at which the results of the plot work were discussed and lectures given by officials of the Dominion Experimental Farms and the Department of Agriculture. A number of pamphlets and bulletins dealing with the various phases of farm practices have been prepared by the Director of Re-establishment and circulated in the area.

Relief Policy of the Branch.

In 1935 the Northern Settlers Re-Establishment Branch took over some 7,800 relief cases comprising 563 families under the 1931 Provincial Loan Schemes, the 1932, 1933 and 1934 Relief Land Settlement Schemes and Mennonite settlers, 4837 cases on regular relief and 2000 families which received relief at irregular intervals.

In the month of December, 1939, a statistical report of the Branch indicated that 2,729 heads of families with 10,853 dependants and 305 single cases were on relief in all the Local Improvement Districts and Rural Municipalities, Numbers 427 and 486.

The total amount of relief distributed from September 1st, 1935 to the end of January 1939, was \$3,237,845. The relief by years were as follows:



September 1st 1935 to August 31st , 1936 .....	\$742,965
" 1936 to " , 1937 .....	811,392
" 1937 to " , 1938 .....	839,164
" 1938 to " , 1939.....	669,315
" 1939 to January 31 , 1940 .....	175,010

The policy that was adopted by the Branch was one of extending relief assistance as necessary until it was felt that in particular cases settlers had achieved a self supporting basis. The objective of such a policy was to permit settlers to concentrate their efforts on improving their farmsteads. Any restrictions on advances for living expenditures would have compelled the settlers to depend on outside earnings for a living and would impede progress in the development of their farms.

#### OBJECTIVES OF STUDY

The program of the Northern Settlers Re-Establishment Branch comprises one of the most significant attempts at organized resettlement which has been attempted in Canada. The forces which have given rise to the plan of reestablishment and the nature of the people and the area represented make the program of the Branch an important part of the agricultural development of Saskatchewan. In view of this the present study proposes to outline the general results which have been achieved under the reestablishment plan and to present an analysis of its effectiveness.

The main objective of the study is to determine the rate of progress made by settlers in a pioneering area under a supervised scheme of capital and relief assistance. In so far as settlers progress is closely associated with the physical and economic features of a region an evaluation of the land resources, climate, markets and farming opportunities of the reestablishment area is to be attempted. Sociological factors are also recognised to have an important bearing on the final success of settlement

because most of the people in reestablishment regions were forced into the north as a consequence of drought and depression. In their origin and in their present pattern, these people represent a different sociological group from those of the settled area of the Province. Their attitudes and their ability to adapt themselves to the new environment will be closely related to the successfulness of reestablishment so that a study of the settler constitutes an important part of this report.

It is recognized that the agriculture of the northern reestablishment area is in a transitional stage. Adjustments in the type of farming in accordance with climate and soil conditions will continue. The present study will attempt to show how far the type of agriculture has become adjusted to the physical and economic factors of the area and will try to indicate the probable future of the trends in adjustment which are now in progress.

As the program of reestablishment is one of supervised and assisted settlement, the amount of direction and the kinds and amounts of assistance given to settlers will have an important bearing on their final reestablishment. The study will attempt to show the relation between assistance and the effectiveness of reestablishment and will try to evaluate the general results of the policies followed in the Northern Settlers Re-Establishment progress.

Finally it is recognized that the objectives of the reestablishment program is to develop communities of self supporting agricultural settlers. Through a study of the present status of settlers and of the progress which settlers have been able to make, an attempt will be made to indicate the requirements which are necessary to allow a settler to be self supporting. The difficulties of making

progress on an undeveloped farm during the recent period of unfavorable prices is to be considered by analysing the various factors which contributed to a self supporting status. The ability of reestablished settlers to carry finally the costs of a reestablishment program will also be studied in this connection.

#### METHOD OF STUDY

##### Source of Data

The information for this study was compiled from the records of the Northern Settlers Re-Establishment Branch. In addition to this a Farm survey was conducted by the district inspectors of the Branch using a questionnaire prepared by the author.

In the 1935 survey, records were filed in alphabetical order at the Head Office of the Branch. Starting with the first alphabetical group, records of settlers that were interviewed in the fall of 1935 or early spring of 1936 were selected. Only those settlers were selected who had received capital reestablishment assistance from the Branch and who had purchased or homesteaded land. The sample of settlers was further confined to those residing in Local Improvement Districts, comprising the extreme northern fringe of settlement. This procedure was followed because information relating to these settlers was available either at the office of the local district inspector or at the Branch Head Office.

This method of selecting individual settler's records which were obtained by the Branch in 1935, was pursued until a workable sample of 545 cases was obtained.

For the 1939 farm survey, questionnaires covering these 545 cases were sent to the district supervisor of the Branch. The sample finally used in the analyses had to be limited to 407 cases because some of the

settlers who were farming in 1935 were not farming in 1939, and because some of the questionnaires were not returned by the district inspectors.

Abstracts of this selected group of records collected in the fall of 1935 and the spring of 1936 were made from the records in the files of the Branch.<sup>4</sup> These abstracts supplied the basic information for determining the status of settlers in 1935. The 1935 study provided information regarding the settler's personal history, his probable adaptability to farming, state of health, size of family, number of children old enough to give assistance in carrying on the farming operations, attitude toward relief, and response likely to be given towards a work loan policy.

An inventory of farm assets, including livestock and machinery was obtained in the 1935 reports. The type of buildings on the farm was noted and an estimate of the amount of feed and seed available for carrying out farming operations was provided. A statement of the adequacy of the settlers working outfit and of the amount of necessary additions or repairs was given to supplement the inventory statement.

The land which the settler had taken up was inspected at the time of 1935-1936 survey. The land area of the farm was mapped and a record of the soil type, arability, cultivated acreage and utilization of cultivated land was obtained.

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4. See page 4 of this thesis, "Scope and Activities of the Branch."

In addition, the 1935 reports included a statement of income and expenditures for the 1935 crop year which showed the kinds and amounts of receipts and expenses. An estimate of the probable revenue from sales of cordwood from the farm was made at the time of the 1935 survey.

Information for the year 1939 on the status of the same settlers who were farming in 1935 was obtained through the medium of a questionnaire as stated above. Copies of the questionnaire were sent to the various district inspectors in charge of the groups of settlers selected for the study. A sample copy of a completed record and instructions for completing the reports accompanied the questionnaires. The district inspectors were asked to visit the selected settlers in their district and fill in the questionnaire in accordance with the instructions provided. A copy of the questionnaire used in the study is included in Appendix A.

The 1939 questionnaire survey attempted to determine the availability of community institutions such as schools, churches and hospitals as well as the marketing facilities for the disposal of farm products. A statement of the utilization of cropland in 1939, an inventory of the assets in 1939 and of liabilities both in 1935 and 1939, were obtained. Where assets had not been valued in 1935 an attempt was made to place values on the assets listed for that year. No liabilities on account of the Branch assistance were enumerated in the questionnaire as this information was available in more accurate form in the ledgers of the Branch office at Regina. A complete statement of the settlers' income and expenditures for the 1939 crop year was contained in these reports. This did not include assistance received on account of relief. Some additional information in the 1939 survey, designed to supplement the 1935 statements, was obtained by general questions on the settlers plans for future development, his previous location, and the reasons for leaving that location.

### Procedure and Definitions

Some explanation is necessary regarding the method of calculation of several of the factors used in the study.

#### Occupational Experience of Settlers.

To indicate previous occupational experience the settlers were grouped as follows: those having no agricultural experience; those who had been farm laborers only; and those who had been predominantly owners or tenants previous to settlement in the north. For the settlers who had been predominantly tenants, all the previous experience as farm laborer or as an owner was added to the years of tenancy. The total period was taken as the number of years that these settlers had been tenants. Again, for settlers who had been predominantly owners, the years of experience gained while farm laborers, etc., was added and considered to be experience as owners. While the procedure of adding years of other agricultural experience to predominant tenure is open to question, because it tends to exaggerate the number of years as tenant or owner, it has been partially offset by grouping all those settlers with 11 years or more of experience as tenants or owners into one group. However the period of experience in the predominant tenure was the most important single item in the total years of experience for settlers in the 11 years and over group.

#### Adjusted Changes in Net Worth

The liabilities on account of direct relief were adjusted to exclude any hospital and medical accounts in excess of \$250 for the five year period 1934 to 1939. This procedure was followed because in a few cases settlers had excessively high hospital and medical accounts and it was considered

that these abnormal expenditures would unduly distort the net worth statements thereby obscuring any progress the settlers may have been able to make as a result of their farming operations.

Liabilities included all relief received from August 31st, 1934 to September 1st, 1939. Liabilities on account of Branch reestablishment assistance were brought up to October 31st, 1939. All other liabilities for other than Branch assistance were brought up to October 31st, 1939 as far as this was possible.

The adjusted net worth of the settlers in 1935 and 1939 used in calculating the adjusted change in net worth from 1935 to 1939, was arrived at by subtracting assets from liabilities in 1935 and 1939.

#### Land Valuation.

To determine the progress of settlers in terms of the increase in net worth from 1935 to 1939 it was necessary to arrive at a valuation of the land in 1935 and 1939. A schedule of values of improved land by soils types was suggested by the Soils Department of the University of Saskatchewan, for this purpose. These values for improved land were as follows:

Black clay loam - loam . . . . .	\$18.00 per acre
Gray clay loam - loam . v. . . . .	16.00
Black sandy loam . . . . .	12.00
Gray sandy loam. . . . .	10.00
Sand (cultivated) . . . . .	8.00

In the opinion of the Soils Department the values in the above schedule are warranted because of the potential fertility of these soils in relation to the fertility of the soils in the well-settled portions of the Province.

In valuing settlers lands the above values were used for improved land situated in the '20 cents per 100 pounds freight rate zone for wheat', and within a two-mile distance from a shipping point. Land in a district

having a freight rate higher than 20 cents per 100 pounds was discounted one dollar per acre for every one cent increase in freight rate above 20 cents. A further deduction of one per cent of the land value per mile of distance in excess of two miles from market was made. The schedule of allowances for freight rates and distance from market was adapted from the procedure followed by the Saskatchewan Assessment Commission.<sup>5</sup>

Cleared but unbroken land was given the value of improved land, as adjusted for freight rates and distance from market, after deducting an estimated cost of breaking. To arrive at the value of unimproved land, the estimated costs of breaking and clearing such land was deducted from the adjusted value of improved land for the soil type represented. A minimum value of one dollar per acre was used where the net value per acre, calculated in this way, was less than one dollar.

In some instances the land which was valued at the minimum of one dollar per acre contained stands of merchantable cordwood and timber. The value of such lands which might be attributed to revenue from cordwood and timber sales was not considered in this study. It was felt that in most cases cordwood sales from wooded lands would return very little more than a low level of wages to the cutter. Similarly, while some of the lands contain small stands of commercially valuable white spruce most of the land withdrawn for settlement was overgrown with poplar. These poplar stands represent an impediment to settlement and consequently their value varies inversely with the cost involved in removing them.<sup>6</sup> While accessibility to poplar stands for fuel and building materials represent an advantage

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5. Interview with Mr. T. H. Freeman, of the Saskatchewan Assessment Commission.

6. From correspondence with Mr. E.A. Roberts, Director of Forests, Department of Natural Resources, Regina, Sask.



that the northern settlers had over the prairie farmers it was felt that this factor was fairly uniform over the area and would not reflect significant differences for the various groups of settlers in the study.

Cost of Clearing and Breaking.

The costs of clearing and breaking land which were used in the calculation of land values were compiled from estimates submitted by the settlers. One hundred and fifty-two settlers gave estimates of clearing costs on various types of wooded lands. The type of vegetation of these wooded lands had been classed by the Branch as light, medium or heavy scrub and light, medium heavy or extra heavy bush, based on the density of cover rather than on the diameter of timber growth. The average per acre cost of clearing estimated by settlers was as follows:

Type of Vegetation	Cost per Acre for Clearing
Scrub	\$2.95
Medium scrub	5.40
Heavy scrub	8.65
Light bush	5.25
Medium bush	7.75
Heavy bush.	11. 80

No reliable estimates on the costs of clearing extra heavy bush were available so an arbitrary figure of \$20 per acre was used.

#### Weighted Vegetation

Weighted vegetation is intended to serve as an index of the average vegetation cover on a particular quarter section.

The cost of clearing per acre of arable land of the vegetative cover as outlined in the section on 'Costs of Clearing and Breaking' was used as a basis of calculation for weighted vegetation. The cost of clearing for a particular type of vegetative cover was multiplied by its extent in arable acres. In this manner the total cost of clearing per quarter section was obtained. This total cost of clearing was then divided by the total arable acreage and the quotient so obtained was compared with the schedule of clearing costs. The closest approximation of the quotient to a particular clearing cost was selected as the weighted vegetation of the quarter section.

#### Working Capital

Working capital in 1939 and in 1935, as used in this study included the total values of livestock, machinery and equipment, feeds and supplies, and cash on hand in 1939 and 1935 respectively. These items were considered to be a measure of the settlers' ability to conduct farming operations.

#### Increase in Living Expenses.

The per capita increase or decrease in settlers' living expenses between 1935 and 1939 and the per capita increase or decrease in relief advances for family living between 1935 and 1939 were determined by subtracting the 1935 per capita living expenses and relief living allowances

respectively from the 1939 living expenses and relief living advances, calculated on a per capita basis.

#### Changes in Farm Receipts.

The increase or decrease in farm enterprise receipts refers to the change from 1935 to 1939 in the amount of receipts which came from farm sources. Receipts from crop sales, livestock and livestock products sales, wood sales and from breeding fees were included as farm enterprise receipts.

#### Selection of Farm that had Achieved a Self Supporting Status.

The study to determine the organization and debt carrying ability of farms which were largely self-supporting was conducted with a carefully selected sample of farms. Records of settlers who had received less than \$75 of direct and agricultural relief assistance (excluding medical assistance) in the 1938-1939 relief year were taken from the original group. These records were studied individually to determine their reliability and representativeness. All records in which the settlers had no family or in which the receipts were not largely from farm sources were eliminated. The remaining group of records were retained and all the information on the organization of these selected farms was tabulated.

An average farm budget was set up for the group retained. The budget was first calculated using the expenses that were incurred in farming in 1938-1939 (October 31 to November 1) and the receipts that the settlers received during the same period. Any relief received in this period was considered an expense for the year and was taken account of in the farm budget.

Another budget was set up on the basis of long-time average yields and prices. Since no information could be secured on average yields within the Local Improvement Districts in which this particular group of

settlers was located, the yields for nearby municipalities were used and 20 - year averages were calculated. A 1932-39 average yield was used<sup>7</sup> in the case of alfalfa seed.

The livestock and livestock product prices used were approximately the same, with minor adjustments, as those that prevailed in the fall of 1939.

Farm prices for grain represented a 1910 to 1914 base with minor adjustments. These were as follows:

Wheat	75 cents per bushel
Oats	29 cents per bushel
Barley	41 cents per bushel
Alfalfa seed	12 cents per pound (cleaned seed)

#### DESCRIPTION OF THE AREA

##### Location and Extent

The area chosen for study lies along the extreme northern fringe of present settlement in Saskatchewan. It extends northward from Township 33 on the eastern side and from Township 45 north and east of the Northern Saskatchewan River on the western side of the Province. The area from which the sample of settlers was drawn and the area which at present is under the Branch administration, is shown in Figure I, page 19.

##### Surface Features<sup>8</sup>

The topography of the area varies from level to rolling. The

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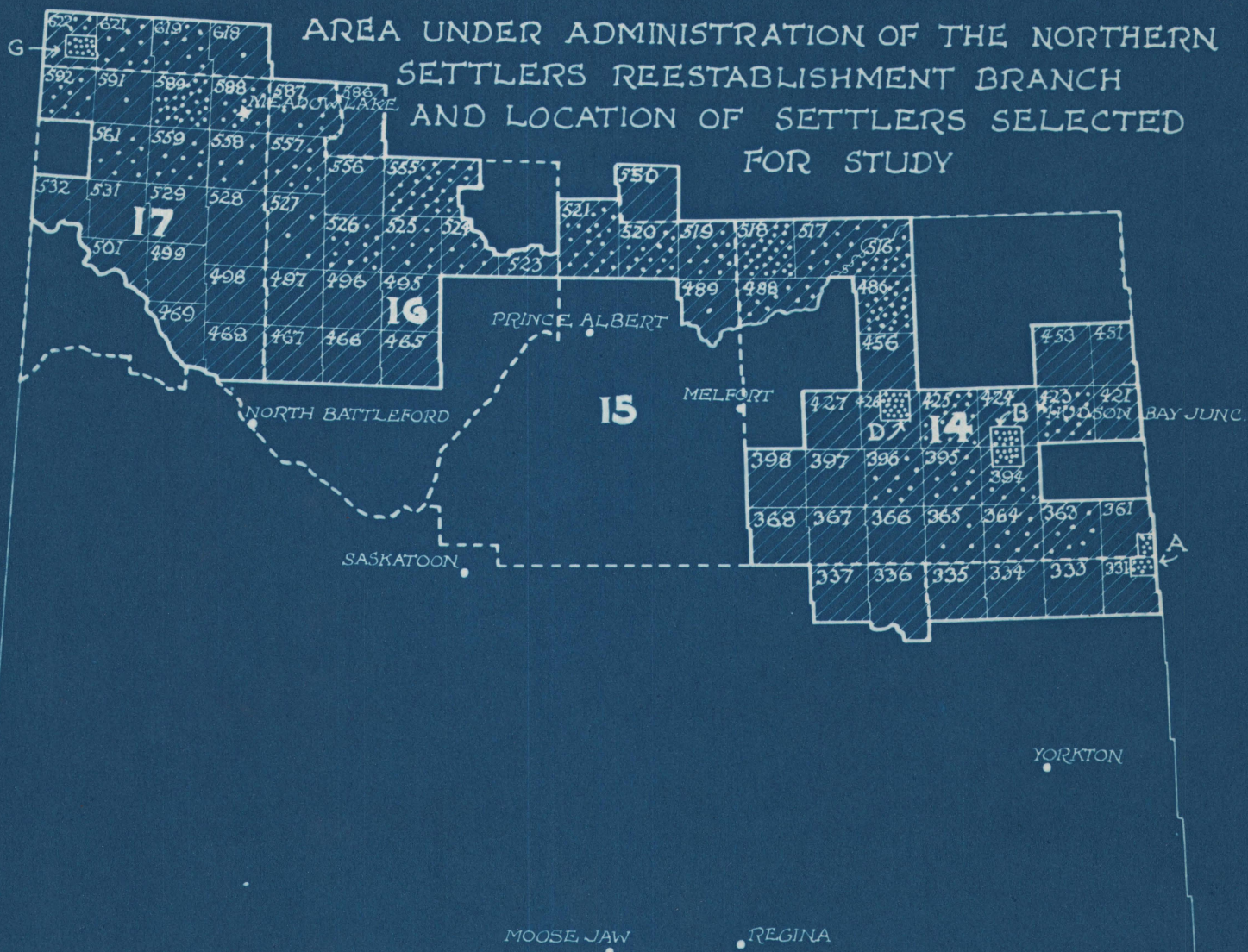
7. White, W. J. and Hope, E. C., in cooperation with the Soils Department, University of Saskatchewan and Production Service, Plant Products, Saskatoon, Sask. Survey of Alfalfa Seed Production in Northern Saskatchewan, 1939.

8. Moss, H. C., The Morphology and Composition of Saskatchewan Podolic Soils, Scientific Agriculture, Vol 18, No 12, August 1938.



# PROVINCE OF SASKATCHEWAN

AREA UNDER ADMINISTRATION OF THE NORTHERN  
SETTLERS REESTABLISHMENT BRANCH  
AND LOCATION OF SETTLERS SELECTED  
FOR STUDY



- Area under Administration of Northern Settlers Reestablishment Branch
- Area studied, Showing location of Settlers for Study
- "Blocks" selected for Study
- Census divisions



elevation ranges from under 1000 feet up to 3000 feet above sea level, the major portion lying between 1500 and 2000 feet. The area slopes to the northeast and is drained by the Churchill and Saskatchewan rivers and their tributaries, whose waters flow into Hudson's Bay.



Typical gently rolling topography in the wooded regions of Northern Saskatchewan.

The surface geology consists of chiefly glacial moranic deposits usually associated with medium textured stony soils, but contains some soil



'Muskeg' burnt off to the depth of approximately two feet. Heavy crops can usually be produced on these burnt over muskegs. These large yields decline unless fertilizers or manures are applied.



areas of lacustrine (lake deposits) and alluvial origin (water deposits). Recent deposits are represented by peat bogs and shallow marshy areas.

## CLIMATE<sup>9</sup>

With respect to the climate the northern areas differs to a considerable extent from the southern portion of the Province. Both summers and winters are characterized by lower mean temperatures.

The mean summer temperature for the northern areas of the Province ranges from 57 to 59 degrees Fahr. in the west to 59 degrees Fahr. in the east. Information on mean summer temperatures, June, July and August, is presented in Figure 2, page 22.

Winters are more severe as one proceeds from the southwestern part of the Province to the north and east. The severest period of winter ranges from 20 days in the extreme southwest to 120 days in the north and in the east. Information on the comparative length of severest period of winter temperatures (in days) is presented in Figure 3, page 23.

The major portion of the Province has a frost-free period ranging from 115 days to 125 days. The northern area in contrast has a frost-free period varying from 105 days in the northeast to 75 days in the extreme northwest. The number of days between the last killing frost in the spring, - 29 degrees Fahr., - and the first killing frost in the fall for the different parts of Saskatchewan is shown in Figure 4, page 24.

A factor which partly compensates for the shorter frost-free period of the northern area is the greater number of hours of sunlight available during the growing season.

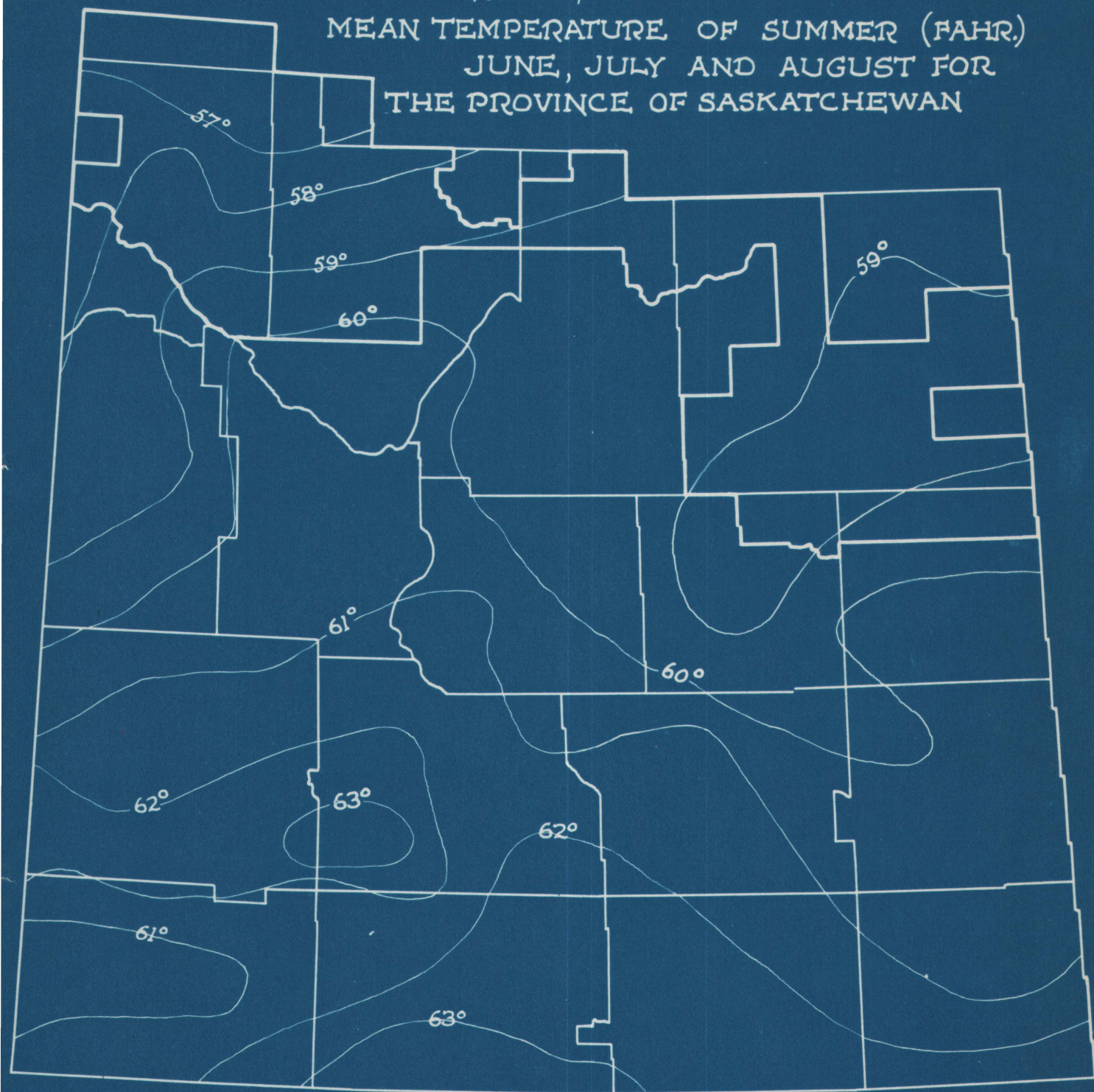
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9. Information was obtained from the following sources:  
Agriculture, Climate and Population of the Prairie Provinces of Canada, Statistical Atlas, Dominion Bureau of Statistics, Ottawa.  
Weather and Agriculture, U. S. D. A. Bulletin No 918, page 497  
Rainfall Records for Saskatchewan, contributed by the Department of Field Husbandry, University of Saskatchewan, Saskatoon, Sask.



-FIG.2.- p.22.-

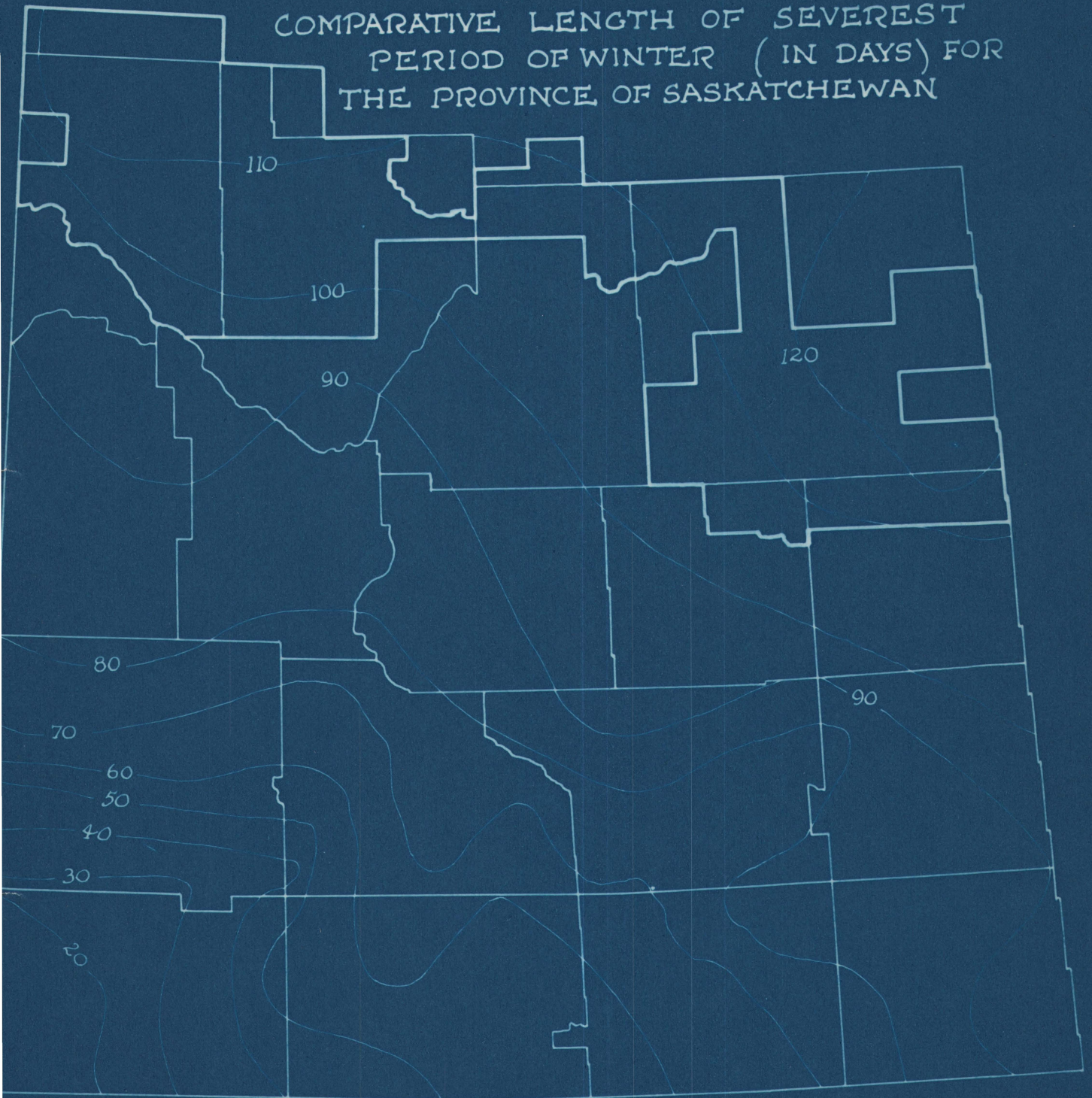
MEAN TEMPERATURE OF SUMMER (FAHR.)  
JUNE, JULY AND AUGUST FOR  
THE PROVINCE OF SASKATCHEWAN





-FIG.3- P.23-

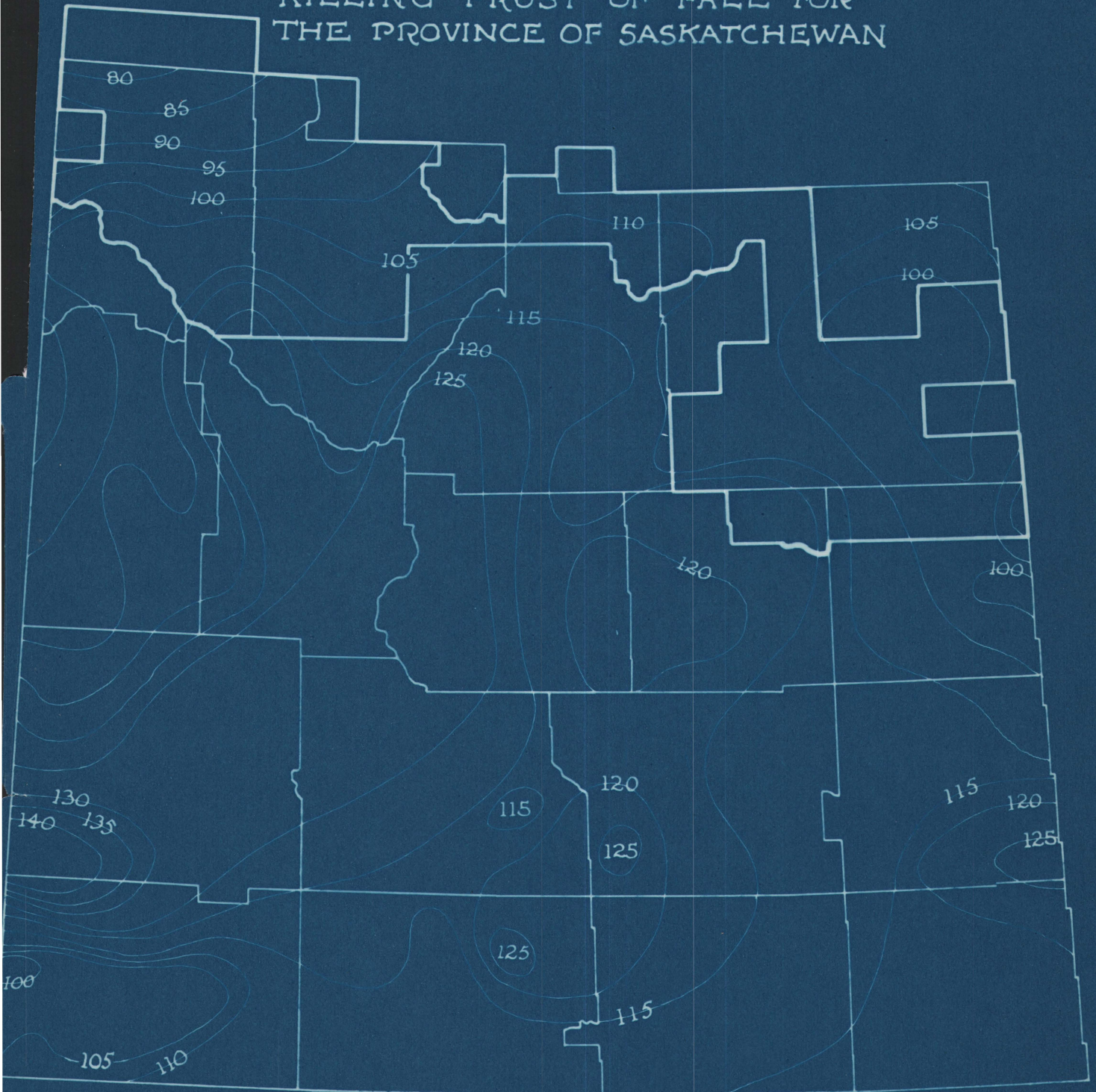
COMPARATIVE LENGTH OF SEVEREST  
PERIOD OF WINTER (IN DAYS) FOR  
THE PROVINCE OF SASKATCHEWAN





- FIG. 4 - P. 24 -

AVERAGE LENGTH OF PERIOD IN DAYS BETWEEN LAST  
KILLING FROST OF SPRING ( $29^{\circ}$  FAHR) AND FIRST  
KILLING FROST OF FALL FOR  
THE PROVINCE OF SASKATCHEWAN



The northern area receives approximately one-half hour more sunlight on June 1st than the southern part of the Province. The longer period of sunlight with a shorter frost-free period and lower temperatures may stimulate as successful plant growth as a short period of light and higher temperatures.

Precipitation data for the re-establishment area is not available. Information was used for adjacent stations at The Pas, Manitoba, and at Melfort, Prince Albert and St. Walburg, Saskatchewan. Precipitation data for stations at Indian Head, Swift Current, and Maple Creek, in the southern portion of the Province were contrasted with the data in the northern area. These data are presented in Table I, page 26.

A map of the Province showing relevant precipitation data is shown in Figure 5, page 27.

The annual precipitation of 17.3 inches at Indian Head in the southeast of the Province is higher than that at The Pas (15.3 inches), Melfort (15.1 inches), Prince Albert, (15.7 inches), Turtleford (16.2 inches), and St. Walburg, (14.5 inches.)<sup>10.</sup> The annual precipitation at Indian Head is also higher than at Swift Current (15.0 inches) and at Maple Creek (13.6 inches.) The amount by which the precipitation at the northern stations exceeds that at Swift Current is 0.3 inches for The Pas; 0.1 inches for Melfort; 0.7 for Prince Albert and 1.2 for Turtleford. The precipitation for St. Walburg is however 0.5 inches lower than at Swift Current. If the precipitation at Maple Creek, which is in the driest part of the prairie area, were taken for comparison the difference in favor of the northern area would be somewhat greater than when compared with Swift Current.

A similar comparison of seasonal precipitation can be made for the different stations. Precipitation for April to July inclusive is

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10. The difference in average annual rainfall between St. Walburg and Turtleford, which are approximately 25 miles apart, may possibly be explained by the fact that the elevation at St. Walburg is 125' higher than at Turtleford.



TABLE I

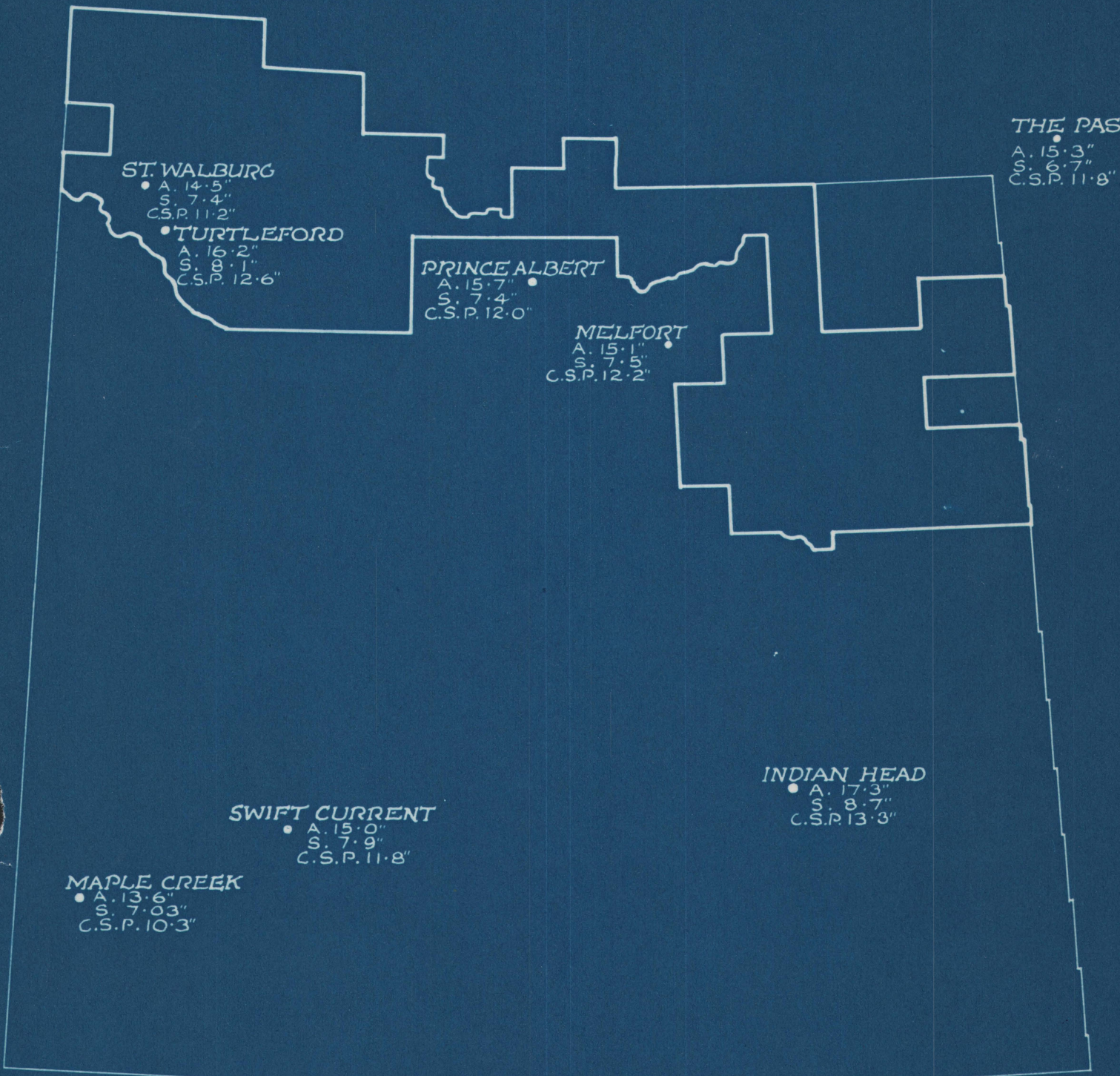
ANNUAL, SEASONAL AND CROP PRECIPITATION DATA FOR SELECTED STATIONS IN NORTHERN AND  
SOUTHERN SASKATCHEWAN

	Annual precipitation		Seasonal precipitation		Crop precipitation <sup>②</sup>	
	Inches	Period for which data are available	April - July	Period for which data are available	Aug.-Oct. Apr.-July.	Period for which data are available
Melfort	15.1	1902 - 1937 excl. 1903, '04, '06 '07, '08, '09.	7.5	1902 - 1937 excl. 1904, '06, '07, '08, '09.	12.2	1903 - 1937 excl. 1906, - 1910
Prince Albert	15.7	1885 - 1937	7.4	1885 - 1937	12.0	1886 - 1937
The Pas	15.3	1911 - 1937 excl. 1920, '21, '34	6.7	1911 - 1937 excl. 1920	11.8	1911 - 1937 excl. 1920, '21
Turtleford	16.2	1921 - 1937	8.1	1921 - 1937	12.6	1921 - 1937
Indian Head	17.3	1891 - 1937 excl. 1892, '93, '94	8.7	1891 - 1937 excl. 1892 - '94	13.3	1892 - 1937 excl. 1893 - 1895
Maple Creek	13.6	1886 - 1937 excl. 1891 - 1910 1913-23, 1928	7.03	1886 - 1937 excl. 1892 - 1910 1913 - 1921	10.3	1887 - 1937 excl. 1892 - 1910 1913-1921, 1924
Swift Current	15.0	1886 - 1937	7.9	1886 - 1937	11.8	1887 - 1937
St. Walburg	14.5	1916-1937 excl. 1917, '18, '20	7.4	1915 - 1937 excl. 1918	11.2	1916 - 1937 excl. 1918

② Crop precipitation refers to the precipitation from April 1 to July 31 and the previous autumn precipitation from August 1st to October 31st.



# PRECIPITATION DATA IN INCHES FOR SELECTED STATIONS IN SASKATCHEWAN & THE PAS, MAN.



A. Annual precipitation  
B. Seasonal precipitation (April to July inclusive)  
C.S.P. Crop season precipitation (Aug. to Oct. & April to July inclusive)



higher at Indian Head (8.7 inches) than at The Pas (6.7 inches); Melfort (7.5 inches); Prince Albert (7.4 inches); Turtleford (8.1 inches) and St Walburg (7.4 inches).

The seasonal precipitation at Indian Head is also higher than at Swift Current (7.9 inches) or Maple Creek (7.03 inches). However with the exception of Turtleford the seasonal precipitation at Swift Current is higher than at any of the northern stations. At Maple Creek the seasonal precipitation is lower than at any of the northern and other prairie stations. The crop season precipitation (August to October and April to July inclusive) at Indian Head (13.3 inches) is higher than at any of the other stations cited, namely The Pas (11.8 inches); Melfort, (12.2 inches); Prince Albert (12.0); Turtleford (12.6); St Walburg (11.2); Swift Current (11.8), and Maple Creek (10.3). At Swift Current the crop season precipitation is practically the same as that of the northern stations.

The comparison of the 1920-1928 and 1929-1937 annual, seasonal and crop season precipitation is shown in Table 2, page 29. The precipitation for the 1929-1937 period for several stations was calculated as a percentage of the 1920-1928 precipitation. For The Pas, the precipitation in 1929-1937 compared with the 1920-1928 period was 126, 120 and 108 per cent respectively for annual, seasonal and crop season precipitation. At Melfort a similar comparison showed the percentages to be 107, 117 and 100 respectively.

At Prince Albert and St. Walburg the annual and seasonal precipitation for the 1929-1937 period was about the same as for the 1920-1928 period. However at both stations the crop season precipitation was a little lower during the 1929-1937 period.

Precipitation at Turtleford showed a greater reduction below the 1920-1928 period than the other northern stations. The percentages

TABLE 12

A COMPARISON OF THE 1920 TO 1928 AND 1929 TO 1937  
ANNUAL, SEASONAL AND CROP SEASON PRECIPITATION DATA FOR  
SELECTED STATIONS IN NORTHERN AND SOUTHERN SASKATCHEWAN

1920 to 1928						
	Annual precipitation	Seasonal Precipitation		Crop precipitation		
	Inches	Excluding	April - July	Excluding	Aug-Oct	Excl.
					April-July	
Melfort	15.3	-	6.6	-	12.8	-
Prince Albert	15.7	-	7.5	-	13.3	-
The Pas	13.3	1920-21	5.7	1921	11.0	1920-21
Turtleford	16.4	1920	8.4	1921	13.4	1920
Indian Head	19.8	-	9.7	-	14.9	-
Maple Creek	15.0	1920-1923, 1928	7.9	1920-1921	12.2	1920-1921 1924
Swift Current	15.4	-	8.8	-	13.3	-
St. Walburg	14.4	1920	7.1	-	11.9	-

1929 - 1937						
	Inches	Percent	April - July		Aug-Oct	Percent
		of 1920-28	Exc.	of 1920-28	April-July	of 1920-28
Melfort	16.3	107	-	7.7	117	100
Prince Albert	15.8	100	-	7.7	102	89
The Pas	16.8	126	1934	6.8	120	108
Turtleford	15.8	96	1920	7.8	92	89
Indian Head	14.2	72	-	6.4	66	69
Maple Creek	12.1	81	-	5.6	70	70
Swift Current	14.0	91	-	6.7	77	79
St. Walburg	14.4	100	-	7.7	108	96

of the 1929-37 period compared with the 1920-28 period were 96, 92 and 89 respectively.

At Swift Current the annual precipitation for the period 1929-1937 declined to 91 per cent of the 1920-28 period; the seasonal and crop season precipitation declined to 77 per cent and 79 per cent respectively of the 1920-28 precipitation.

Maple Creek, in the extreme southwest, showed the greatest reduction in precipitation in the 1929-37 period. The annual precipitation in 1929-37 was 81 per cent; the seasonal precipitation 70 per cent and the crop

season precipitation 70 per cent of the respective amounts in the 1920-28 period.

The data indicated that for the period 1920 to 1937 the southern portion of the Province had a much greater variability of precipitation than the northern areas, although the average annual precipitation did not show much difference between north and south. At Indian Head the long-time average precipitation is higher than at the northern stations, while at Swift Current it is only slightly lower. At these two southern stations however, the 1929-38 precipitation was greatly reduced below the 1920-28 levels while for most of the northern stations there was only a small difference between the 1920-28 and 1929-37 period precipitation. Turtleford indicates the greatest variation for the northern stations between these two periods.

A factor which is of greater importance than variability or annual precipitation in explaining the yearly differences in crop moisture conditions between north and south is that of moisture efficiency. This refers to the relative degree of availability of the precipitation to crops in any year.

The extreme southwestern portion of the Province has the lowest moisture efficiency. This low moisture efficiency is due to a low annual precipitation, a long frost-free period and the prevalence of dry hot "chinook" winds. The southeastern portion of the Province receives a higher rainfall, experiences lower summer temperatures so that more moisture is available to crops in this area than in the southwest. The north, while receiving only a slightly greater amount of precipitation has higher moisture efficiency. This is due mostly to lower temperatures, and a shorter frost-free period.

An indication of the relative moisture efficiency of the various portions of the Province is given in Table 3, page 31.



TABLE 3  
METEOROLOGICAL DATA  
FROM THE DOMINION EXPERIMENTAL STATIONS  
IN SASKATCHEWAN.®

Location within surveyed area.	Station	Average annual temperature	Average annual rainfall	Seasonal temperature	P/T.E. "
Southwest	Swift				
	Current	38.1	15.18	27.74	28.8
West Central	Scott	32.6	13.41	21.76	37.7
North	Rosthern	32.6	14.63	19.02	47.3
Southeast	Indian				
	Head	34.2	17.91	21.62	48.1

® Soil Survey Report, No 10, University of Saskatchewan, p 8.

" P/T.E. =  $\frac{\text{Annual precipitation} \times 2000}{\text{Annual temp.} \times \text{Seasonal evaporation}}$

The combined effects of annual precipitation, annual temperature and seasonal evaporation from a free water surface (May to September) are indicated by the P/T.E. ratios, higher ratios corresponding to higher moisture efficiencies.

The table indicates a gradual change from the southwest with semi-arid conditions, to the northeast with sub-humid conditions.

#### Summary of the Climate for Northern Saskatchewan.

From the foregoing analysis of climate in Saskatchewan it is evident that the climate of northern Saskatchewan is characterized by lower summer and winter temperatures, a relatively short frost-free period which is compensated partly by relatively long summer days. The average annual precipitation is approximately the same as south central Saskatchewan but is less variable over a period of years. The above factors contributed to a greater moisture efficiency in the northern and eastern portions of Saskatchewan compared with southern Saskatchewan regions.

## SOIL

An outline of the area under the administration of the Branch in relation to the zonal soil map of the Province of Saskatchewan is shown in Figure 6, page 33.

The Province has been divided into four major soil zones which reflect in a broad way the influence of climate and vegetation over a long period of years. The zones are named from the prevailing colour of the surface soil which is related to the organic content built up by the nature and amount of plant growth. Within each soil zone soil series are mapped which were established on the basis of the geological origin of the parent material, topography and drainage.

The Brown Soil zone is characterized by a relatively low moisture efficiency which has resulted in short and sparse grass growth. The soils of this zone are low in organic content and are characterized by a light or drab brown soil color.

The Dark Brown Soil zone, associated with soils of a darker colour, reflects the somewhat better moisture conditions and heavier vegetative cover of the region.

The Black Soil Zone, corresponding to the tall grass 'park' region, is associated with a dark coloured soil. The soils of the Black zone have the highest organic matter content of any soils found in the Province, and reflect the influence of more humid climatic conditions.

The Gray Soil zone is associated with forest vegetation. Although the soils of this area have been subjected to moist climatic conditions the organic content is low, because of their development under a forest cover as



-FIG. 6. P. 33.-

# ZONAL SOIL MAP OF THE PROVINCE OF SASKATCHEWAN



Soils Dept. University of Saskatchewan



Brown Soils



Dark Brown Soils



Black Soils



Black-Gray Transition Soils



Gray Soils



11.

contrasted to a grass vegetation.

The development of Gray Soils, usually termed Gray Bush Soils, is attributed to chemical and physical leaching by the organic acids formed in the layer of leaves and the organic debris on the soil surface. This leaching action has resulted in an ashy to ashy gray, light textured top layer, underlain by a heavy textured coffee brown layer. The lower layer of soil has accumulated the products leached out of the top horizon. The lime layer is encountered two to four feet below the surface.

The soils of the Gray Soil zone can be classified into two main types, namely the podsollic upland soils, and the peat soils associated with poorly drained depressions. The podsollic upland soils vary from partially degraded black soils to strongly leached ashy gray podsoles. The variation in podsollic soils is due to differences in parent material, topographic position and vegetative cover. The more strongly leached soils are found on well-drained topography, with medium to light textured parent material, and have heavier vegetative cover.<sup>12</sup>

In the survey of the farms of settlers receiving relief which was undertaken in the fall of 1935 by the Branch general textural categories of soil such as sand, black and gray/<sup>sandy</sup>loam, black and gray loam, black and gray clay loam, and sandy were established. In the present study the black and gray loam soils were combined in a black and gray clay loam to loam soils category. The

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11. Soil Survey Report No 10., Dept. of Soils, Univ. of Saskatchewan.

12. Moss, H. C. - op. cit. - p. 18.

black soil group includes soils which have been subjected to some leaching and which could properly be included in a degraded black soil group.

Black soils are highest in nitrogen, phosphorous and potassium.<sup>13</sup> The degraded black soils are somewhat lower in respect to these nutrients, depending on the amount of leaching. The gray soils are low in nitrogen, phosphorous and sulphur. The lighter textured soils such as the sandy loams and sands are lower in natural fertility than the heavier textured soils for both the black and gray soil groups. The sand referred to is Jackpine sand, which is structureless and very low in natural fertility.

#### AGRICULTURE OF NORTHERN SASKATCHEWAN

Agricultural adaptations are closely related to native soil fertility, arability and costs of clearing. The black soils are well adapted to wheat growing but are subject to hazards of frosts and adverse weather conditions during harvest. Cereals, grasses and legumes can be grown successfully on these soils. The protein content of wheat grown on these soils is not as high as for that grown on the prairies. The degraded black soils are similar in agricultural adaptations although the native fertility tends to be somewhat lower and the cost of clearing is often an adverse factor.

The Gray Bush soils are low in native fertility and y ields of cereals are often unsatisfactory even on newly broken land. The protein content of wheat grown on these soils is particularly low when compared with

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13. Information regarding northern soil fertility and fertilizer problems was obtained from a Master's Thesis written by C. A. Rowles:

Rowles; C.A.; Effect of fertilizers on alfafla yields on wooded soils of Saskatchewan and related investigations of black, degraded black and gray soil, Master's thesis, April 1938, University of Saskatchewan.

that of grain grown in the southern part of the Province. These soils tend to bake and require careful management. The cost of clearing is again an adverse factor. Grasses, alfalfa and sweet clover do quite well and provide organic matter when plowed into the soil.



A good stand of wheat on a farm in the pioneer area of northern Saskatchewan.

Alfalfa is grown to some extent for seed and forage on both the gray and black soils in the northern fringe area studied. The permanence of alfalfa seed growing as a major farm enterprise in the northern area has not been definitely established. The 1939 alfalfa seed yield was low due to seed setting difficulties. Gray soils are better adapted to alfalfa seed production due to the lower nitrogen content which usually prohibits a rank vegetative growth. The presence of a small second growth favours uniform seed ripening. The quality of sunlight may be a factor favouring the seed setting of alfalfa.



The Sandy Soils of the Gray Soil zone are of doubtful agricultural value. Few of the peat soils have been brought under cultivation to date.

Fertilizer tests on established alfalfa fields on gray soils near Whitefox in northeastern Saskatchewan have given encouraging results. Although gray soils are deficient in nitrogen the addition of the element in the form of sodium nitrate decreased yields of alfalfa forage and seed. Nitrogen applied together with sulphur gave large increases. The application of phosphorous alone or in combination with sulphur did not give increased yields over the application of sulphur alone. The possibility has been expressed that the plants were able to obtain a supply of phosphorous from the lower layers of soil. Nitrogen and sulphur gave the highest increases in seed and forage yields amounting to 200 pounds of dry forage and 133 pounds of seed per acre.

The black and degraded black soils are of greater agricultural value than the gray series due to the higher natural fertility. The latter however can be built up over a period of years by the application of manure and fertilizers and by the growing of legumes. This treatment increases the costs of maintaining the fertility of gray soils.



One of the better young fruit orchards. The northern pioneer fringe is quite well adapted to most of the hardy fruits such as crab-apples, plums, cherries, strawberries and the like.





A good flower garden in northern Saskatchewan. Although the growing season is short in the pioneer fringe the long hours of sunlight enable a profusion of flowers to be grown.



A typical settler's log cabin in the pioneer fringe of northern Saskatchewan.



## HISTORY OF SETTLEMENT AND DEVELOPMENT OF THE AREA

### Settlement Policy<sup>14</sup>

With the transfer of the provincial natural resources from the Dominion Department of Interior to the Saskatchewan Government in 1930, the Free Homestead Policy was discontinued. Land was sold in 160 acre lots by the Provincial Government under the supervision of the Department of Natural Resources. Minimum sale prices were established for various grades of land as follows: - Low first grade or second grade agricultural at not less than three dollars per acre; - ordinary settlement land such as fair to poor and mostly third grade land at not less than one dollar per acre. The third group of lands established by the classification consisted largely of lands considered fit for grazing or pasture only, which would be utilized in conjunction with an established farm.

Applicants for purchase under the 1930 plan had to be British subjects and must have resided in the Province for at least five years. A ten per cent cash payment on the purchase was required, and the terms of the agreement were twelve years with interest at six per cent. The settler was required to break not less than 20 acres within three years and to erect a dwelling of at least \$60 in value. The residence requirements stipulated that the applicant had to live on the parcel or with a relative nearby for at least four months of each of the three years.

In April 1934, when only third grade lands still remained unalienated, classification was abandoned and the requirements for entry were modified.

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14. Britnell, G.E. - The Wheat Economy, The University of Toronto Press, p20

Provision was made to allow credits for improvements. Applicants were required to swear that they had personally inspected the land, that at least 50 per cent was arable and that at least 30 acres could be brought under cultivation at a cost of not more than \$12 per acre. Other settlement duties remained the same as under the previous regulations except that 15 acres had to be broken in four years. The interest rate on the contract was lowered to 5 per cent. A credit was extended to the settler for one-half the cost of breaking, up to a maximum of 15 acres, provided that the amount extended did not exceed \$6 per acre. Applicants had to be British subjects but no requirements as to previous residence had to be fulfilled.

In 1934 the Provincial Government changed and free homesteads again took effect on June 1st, 1935. All payments received, with the exception of the 10 per cent cash advance, were retained by the settlers. The filing fee for homesteads was set at \$10. All other requirements for homesteading were the same as under the 1930 purchase scheme.

Land settlement in the north had also been encouraged by the 1931 Land Scheme administered by the Department of Natural Resources.<sup>15</sup> Selected settlers were given a homestead and re-establishment assistance which was charged to their loan account. The maximum loan authorized was \$500 per settler.

The 1932-33 and 1934 Relief settlement Plan was administered by the Bureau of Public Welfare. Loan advances were contributed in equal amounts by the municipality of origin, the Provincial Government, and the Dominion Government. The maximum loan authorized from all sources was \$600.

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<sup>15</sup>. Department of Municipal Affairs, Northern Settler's Re-Establishment Branch; Annual Report for the year ending, April 30, 1936.

In certain cases a loan of \$700 was allowed if circumstances warranted this amount. When the authorized amounts were fully expended the settlers who had not become self-supporting were taken over by the Relief Settlement Plan and turned over to the Direct Relief Branch. In cases where the authorized loans had not yet been expended, settlers were supervised under the Relief Settlement Plan until April 30th, 1936. At this date all loan cases were placed on direct relief.

In 1934 a group of Mennonite settlers was established on northern lands under the Relief Settlement Plan. Advances were contributed equally by the Provincial and Dominion Governments up to a maximum amount of \$400 per settler.

On April 30th, 1936, the entire group of 5,025 Direct Relief Settlers, including 219, 1931 Loan Settlers, 301 of the 1932 Relief Settlers, 91 of the 1933 Relief Settlers, 238 of the 1934 Relief Settlers and 114 of the Mennonite Relief Settlers were turned over to be administered by the Northern Settlers Re-Establishment Branch.

#### Railway Development

Table 4 shows the rate of railroad development in the northern area under the administration of the Branch.

Table 4 RATE OF RAILROAD DEVELOPMENT IN THE NORTHERN AREA UNDER THE BRANCH <sup>@</sup>

Period	Approximate number of miles completed.
1900 to 1905	167
1906 to 1910	48
1911 to 1915	92
1916 to 1920	0
1921 to 1925	178
1926 to 1930	245
1931 to 1935	178
1936 to 1940	0

<sup>@</sup> Information from correspondence with the Canadian National and Canadian Pacific Railways.

Following a period of comparatibely active railway development from 1900 to 1905, railway building activity slowed down and in the 1916 to 1920 period, during and immediately after the war, no railways were completed. In the period 1926 to 1930, when 245 miles of railway were completed, building reached a peak after being resumed in the period 1921 to 1925. During the depression years, 1931 to 1935, railroad construction activity again subsided and after 1935 no railroad lines were built.

A map showing the dates of completion of the more important railway lines in Northern Saskatchewan is shown in Figure 6, page 43.

Most of the railway lines in the northwestern area under administration of the Branch were completed in the late twenties and early thirties. The exceptions to this are the Shellbrook to Big River line, which was completed in 1910, and the North Battleford to Turtleford line which was built from 1910 to 1913. The latter was extended to St. Walburg in 1920 to 1921. While the region north of St. Walburg has been opened up for settlement no railroad line has been built. In 1929 to 1931, 44 miles were graded along the proposed route through this region.

The northeastern area under the administration of the Branch was developed somewhat earlier than the northwest. The Melfort, Hudson's Bay, Roscoe line was completed between 1900 and 1904. The Arran, Sturgis line was completed in 1911 and extended beyond to Kelvington in 1919-1921. The Watson Melfort line was completed between 1921 and 1924, The Wadena, Tisdale, Nipawin line was completed in 1924 and extended through White Fox and Sharpe in 1932. Other connecting lines were built in the late twenties and the early thirties.



-FIG. 6- P.43



*Courtesy of the Canadian National & Canadian Pacific Railways*



# Population Growth

The progress of settlement in Saskatchewan, in the area under the administration of the Branch and the Rural Municipalities and Local Improvement Districts included in the study, is shown in Table 5.

**TABLE 5** POPULATION FOR SASKATCHEWAN, FOR THE AREA UNDER THE ADMINISTRATION OF THE BRANCH, AND FOR THE RURAL MUNICIPALITIES AND LOCAL IMPROVEMENT DISTRICTS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN, BY CENSUS YEARS.\*

Year	Rural	Per cent increase	Urban	Per cent increase	Total	Absolute increase	Total per cent increase
<u>Saskatchewan population</u>							
1901	77,013	-	14,266	-	91,279	-	-
1906	209,301	171.8	48,462	239.7	257,763	166,484	182.4
1911	361,037	72.5	131,395	171.1	492,432	134,669	91.0
1916	471,538	30.6	176,297	34.2	647,835	155,060	31.6
1921	538,552	14.2	218,958	24.2	757,510	109,675	17.0
1926	578,206	7.4	242,532	10.8	820,738	63,228	8.3
1931	630,880	9.1	290,905	19.9	921,785	101,047	12.3
1936	650,522	3.1	280,371	-3.6	930,893	9,108	1.0
<u>Population of the Area Under the Administration of the Northern Settlers Re-Establishment Branch.</u>							
1901	1,630	-	-	-	1,630	-	-
1906	6,156	277.7	202	-	6,358	4,728	290.1
1911	18,687	203.6	720	256.4	19,407	13,049	205.2
1916	22,913	22.6	1,784	147.8	24,697	5,290	27.3
1921	41,284	80.2	3,384	89.7	44,668	19,971	80.9
1926	48,346	17.1	5,207	53.9	53,553	8,885	19.9
1931	75,107	55.4	7,005	34.5	82,112	28,559	53.3
1936	105,181	40.0	8,828	26.0	114,009	31,897	38.8
<u>Population of the Rural Municipalities and Local Improvement Districts in the Pioneer Area of Northern Saskatchewan Included in the Survey.</u>							
1901	882	-	-	-	882	-	-
1906	2,346	166.0	-	-	2,346	1,464	166.0
1911	3,723	58.7	215	-	3,938	1,592	67.9
1916	3,853	3.6	174	-2.4	4,027	89	2.3
1921	7,275	88.8	302	73.6	7,577	3,550	88.2
1926	10,326	41.9	1,217	303.0	11,543	3,966	52.3
1931	23,565	128.2	1,742	43.1	25,307	13,764	119.2
1936	41,496	76.1	2,869	64.7	44,365	19,058	75.3

\* Census of Canada: Dom. Bureau of Statistics, Ottawa.

Saskatchewan experienced a period of rapid growth from 1901 to 1931. The rate of population increase in this period was 27,700 persons per year. Contrasted to this period of rapid growth the population of Saskatchewan from 1931 to 1936 increased by only a total of 9,108 persons, or approximately 1,800 per year.

The area under administration of the Branch experienced its greatest rate of population increase from 1926 to 1936. ~~Between 1931 and 1936~~. Between 1931 and 1936 when the population of Saskatchewan increased by 9,108 persons the population of the area increased by 31,897 persons. This indicates a significant movement of population from other areas in Saskatchewan to the area administered by the Branch.

The Pioneer Fringe area included in the study experienced its greatest absolute growth of population during the years from 1926 to 1936 and especially in the years from 1931 to 1936. In this latter period the population of this area increased by 19,058 persons. Thus approximately two-thirds of the population growth in the area under administration (31,897) can be attributed to the population increase (19,058) in the Pioneer Fringe area included in the study.

#### Social and Marketing Facilities

which

The number of farms in the survey/reported on the availability of various social and marketing facilities and the percentage of those that reported, on each distance group, is shown in Table 6, page 46.

Of a total of 407 settlers that reported on distance from shipping point, more than half were less than 9 miles, about one-quarter were between 10 and 19 miles. A quarter of the settlers were over 20 miles from the shipping point commonly used.



Distance from market is of prime importance in a region where specialized farming is practiced. Dairies, truck gardens and poultry farms are located in the immediate vicinity of a city market in order that perishable products can be taken to market quickly and regularly. In the case of cereal or livestock products, especially when the size of business is small, as it is in the case of the average northern settler, distance from market is probably not an impediment for at least 50 per cent of the settlers.

Table 6 DISTANCE FROM SHIPPING POINT, POST OFFICE, SCHOOL, CHURCH AND HOSPITAL IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN

	Distance in miles						Average distance from market, miles	
	1 - 4	5 - 9	10 - 19	20-29	30-39	40-	Number	Total
	Number of farms							
Shipping point	85	127	95	47	3.5	18	407	13.8
Post office	188	150	41	2	3	-	384	5.6
School	291	13	3	-	-	1	308	2.4
Church	110	56	21	5	4	-	196	6.1
Hospital	17	57	112	48	32	51	317	26.2
	Percentage of farms reporting in each group						Total percentage	
Shipping point	20.9	31.3	23.3	11.5	8.6	4.4	100	
Post office	49.0	39.0	10.7	0.5	0.8	-	100	
School	94.5	4.2	2.2	-	-	0.3	100	
Church	56.1	28.6	10.7	2.6	2.0	-	100	
Hospital	5.4	18.0	35.3	15.1	10.1	16.1	100	

Where dairy products are being sold, trucks which cover certain routes periodically, are used in certain localities in lessening the disadvantages due to large distances from market.

The average distance from shipping points for all the farms in the study was 13.8 miles. According to the 1931 Census 80 per cent of all the farms in Saskatchewan were less than 10 miles from a railway station and only 5.6 per cent were over 15 miles.

Post office facilities were more readily available than shipping point facilities. Eight-eight percent of the 385 farms which reported, were 9

miles or less from a Post Office. The average distance to a Post Office was 5.6 miles.

Although the area under study has been recently settled, school facilities appear to have developed rapidly. Of the 308 farms which reported on distance from school, 94.5 per cent were less than 4 miles distant. The average distance from school for the settlers was 2.4 miles.

A total of 196 out of 407 farms reported that shurch facilities were available. About 85 per cent of the farms reporting were less than 9 miles from a church and the average distance to church was 6.1 miles.

Hospital and medical services for the settlers were relatively inadequate. Three hundred and seventeen settlers reported on the availability of such services. Of this number only 23.4 per cent were less than 9 miles from a hospital and the average distance to a hospital was 26.2 miles.

## THE PEOPLE

### National Origin of Settlers

More than one-third of the settlers are of British origin. People of German and Dutch origin are next in importance, followed by the Central Europeans, the latter two comprising less than one-third of the population. Details are presented in Table 7.

TABLE 7      REPORTED NATIONAL ORIGIN FOR 407 SETTLERS IN THE PIONEER AREAS  
                    OF NORTHERN SASKATCHEWAN.

	Number	percentage
British Isles	150	36.8
German and Dutch	67	16.5
Central Europe	55	13.5
Canadian (origin not given)	45	11.1
French,Belgian(with Fr. Canadians)	35	8.6
Scandinavian,Norwegian,Swedish,Danish,Finnish	31	7.6
American	19	4.7
Other	2	0.5
No information on origin	3	0.7
Total	407	100.0

### Age of Settlers

The average age of the settlers was 44.4 years. A study of 100 farm operators made in Alameda, Saskatchewan, in 1929, showed that the average age of the operators was 46. Only 9.8 per cent of the settlers were 60 years and over; 83.7 per cent of the settlers were between 30 and 59 years of age. A summary of the age distribution by 10-year groups appears in Table 8.

TABLE 8      DISTRIBUTION OF SETTLERS BY AGES FOR 407 SETTLERS IN  
THE PIONEER AREA OF NORTHERN SASKATCHEWAN

Age group in years	Settlers	
	Number	Percentage
- 29	26	6.4
30 - 39	134	32.9
40 - 49	108	26.5
50 - 59	99	24.3
60 -	40	9.8
Total	407	100.0

### Conjugal State

A further tabulation revealed that out of 407 settlers 398 were married, 4 were single and the remaining 5 were either widowers, separated or divorced. The average size of family was 5.4 persons.

### Term of Residence in Saskatchewan

Information regarding term of residence in Saskatchewan is shown in Table 9, page 49.

Of a total of 399 settlers for which information was available, 18.1 per cent had lived in Saskatchewan for less than 9 years. The majority of the settlers (38.1 per cent) had lived in Saskatchewan for 20 to 29 years. The average terms of residence in Saskatchewan was 22 years.

TABLE 9 TERM OF RESIDENCE IN SASKATCHEWAN FOR 407 SETTLERS  
IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN

Years	Number
No information	8
0 - 9	72
10 -19	71
20 -29	152
30 -39	92
40 -49	10
50 -	2

Previous Employment History of Settlers

The northern area was a refuge for many victims of the depression and drought, not all of whom came directly from farms. Of the 407 settlers, 32 or 7.9 per cent had never had any agricultural experience. Another 165, or 40.5 per cent, had only been farm laborers. Thus almost one-half had never had any experience as farm owners or tenants. The other half were either tenants or owners.

Of those that were labourers previous to the taking up of land in the northern area, one-half had been so occupied for eleven years or more. Of the tenants and owners the vast majority had had over 11 years of experience. These data are shown in Table 10.

TABLE 10 EMPLOYMENT HISTORY OF 407 SETTLERS IN  
THE PIONEER AREA OF NORTHERN SASKATCHEWAN

Types of experience	Years of experience in farming.				Percentage of total in group.
	1-5	6-10	11-	Total	
Never farmed	-	-	-	32	7.9
Farm laborer only	30	49	86	165	40.5
Tenant	9	10	54	73	17.9
Owner	6	6	123	135	33.2
Data unknown				2	0.5
Total	45	65	263	407	100.0

The previous experience of settlers by age groups is shown in Table 11, page 50. The youngest settlers had very little previous farm experience having either worked on other farms or on their parent's farms. The older operators

were previously predominantly owners rather than tenants, the number of years as owners increasing progressively from 0.3 years for the 20-29 age group to 12.4 years for the 60 and over age group. This statement does not apply to the same extent to their experience as tenants on other farms.

The older settlers moved north earlier than the younger settlers.

The number of years on the present farm for the 60 and over age group is 8.8, while for the 20-29 age group it is 5.8 years.

TABLE 11. OCCUPATIONAL EXPERIENCE BY AGE GROUPS FOR 407 SETTLERS IN THE PIONEER AREAS OF NORTHERN SASKATCHEWAN.

	Age of operators in years.				
	20-29	30-39	40-49	50-59	60 and over
Number of farmers	26	134	108	99	40
Number of years of experience					
Labourer on other farms (including partents' farm)	5.5	8.2	9.7	11.2	13.9
Work other than farming	0.7	2.5	4.1	7.9	8.2
On other farms:					
Tenant	0.4	1.0	1.9	1.8	1.4
Owner	0.3	0.9	4.4	8.4	12.4
On present farm:					
Tenant	0.5	0.5	6.8	0.8	1.0
Owner	5.8	7.7	8.1	7.1	8.8

Previous occupations, other than farming, were engaged in by 198 settlers. These occupations are listed in Table 12.

TABLE 12 NON-AGRICULTURAL OCCUPATIONS PREVIOUSLY ENGAGED IN BY SETTLERS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Labourer	27	Grain buyer	8	Plumber	3	Blacksmith	2	Baker	1
Soldier	27	Clerk	7	Butcher	3	Well digger	2	No data	35
Carpenter	19	Steam engine-		Brick maker	3	Printer	2		
Railroader	18	eer	6	Ranch hand	3	Oil refin-			
Mechanic	14	Barber	6	Salesman	3	ery	2		
Saw mill	11	Delivery man	6	Harness		Locksmith	1		
Construct-		Factory	6	maker	2	Dairyman	1		
ion worker	9	Miner	4	Druggist	2	Painter	1		



Location of Settlers Previous to Residence on Present Farms.

Information regarding the previous location was not available for 39 settlers. Some settlers came from outside the Province prior to settling on their present farm. Of the 41 settlers in this category, the reported previous locations and numbers of settlers in each group areas follows: Alberta, 9; Manitoba, 7; Ontario 2; Quebec 2; British Columbia 1; United States 4; Poland 7; England 3; Russia 2; Germany 2; and Holland 1.

A map of the former location of settlers in Saskatchewan is shown in Figure 7, page 52. Of the 368 farmers who previously resided in Saskatchewan, 41 were located in the area which is at present under the administration of the Branch. The remaining 327 were located in other parts of the Province. The inference that can be drawn from the distribution shown on this map is that in the case of these 368 settlers there is no evidence to indicate that the southern portion of the Province contributed the greatest share of the population increase in the northern area. It is clear from the distribution shown in Figure 7 that the northern settlers came from widely scattered areas across the Province. There is no evidence to indicate that the southern drought area has contributed more than its proportionate share of settlers moving into the northern areas.

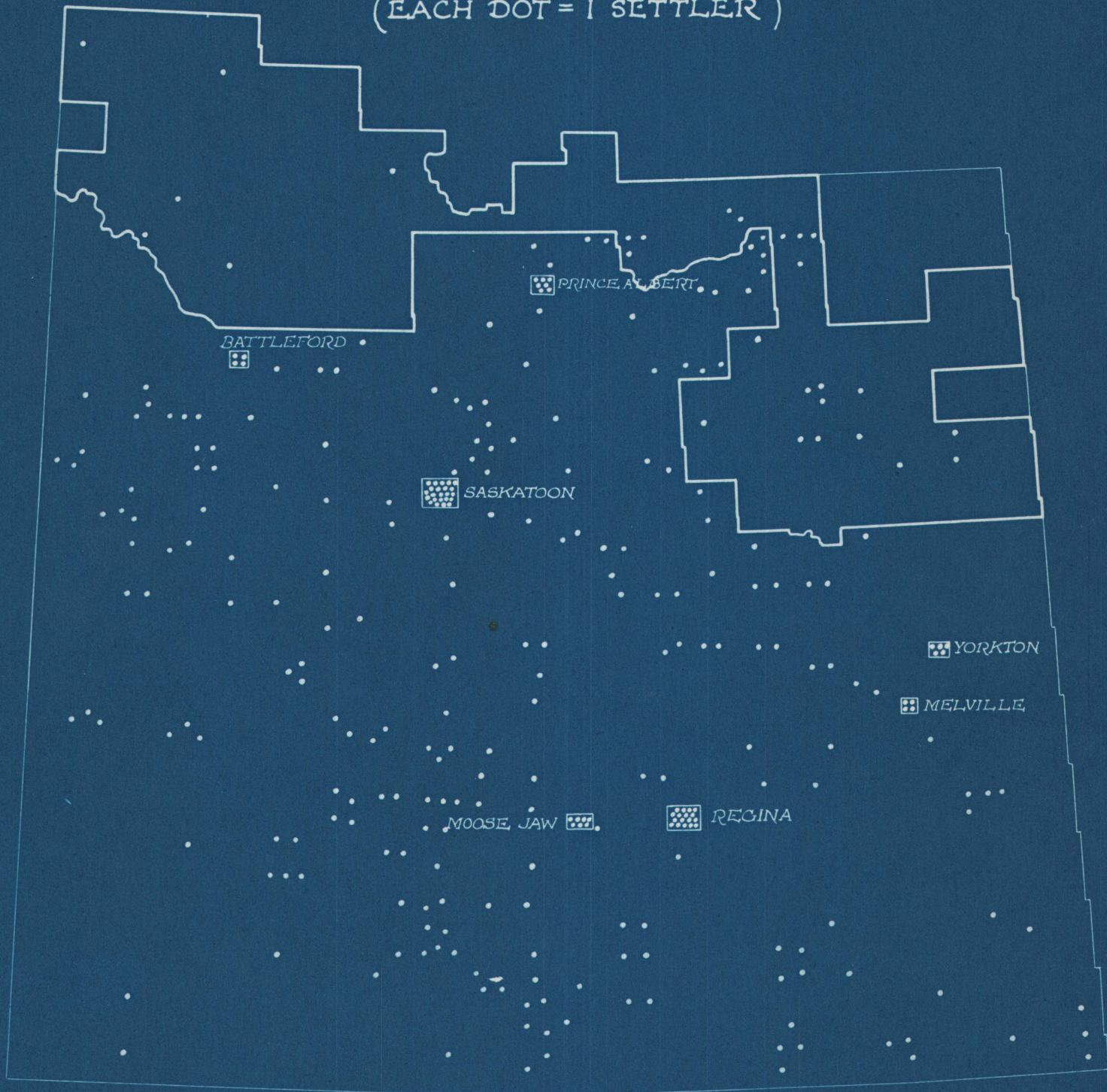
TYPE OF LAND SETTLED

Accurate soil survey reports are not available for the northern area of Saskatchewan. The type of land settled was however classified from the farm survey which was initiated by the Branch in 1935. This survey showed that 280 out of 403, or 69.5 per cent of the settlers for which information was available, were farming lands that were predominantly black or gray loam to clay loam. Another 117 farms, or 29 per cent, were located on black and gray sandy loam. Only 6 settlers, or 1.5 per cent, were located on land that was predominantly sandy.



- FIG. 7 -

LOCATION OF SETTLERS IN SASKATCHEWAN PREVIOUS TO  
SETTLING ON PRESENT FARM IN NORTHERN AREA  
(EACH DOT = 1 SETTLER)





Soil, Topography and Vegetation

Table 13 shows the classification of land by quarter sections on the basis of predominate soil, topography and weighted vegetation for 403 of the farms.

TABLE 13 CLASSIFICATION OF LAND BY QUARTER SECTION ON THE BASIS OF PREDOMINATE SOIL, TOPOGRAPHY AND WEIGHTED VEGETATION FOR 403 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.\*

<u>Weighted vegetation for quarter section</u>				
	<u>Light scrub,medium</u>	<u>Heavy scrub,</u>	<u>Heavy bush,</u>	
	<u>scrub and light bush.</u>	<u>medium bush.</u>	<u>extra heavy</u>	<u>Total</u>
			<u>bush.</u>	
<u>Number of farms</u>				
<u>LEVEL TOPOGRAPHY</u>				
Black and gray clay				
loams to loams	85	62	27	174
Black and gray sandy loams	46	18	11	65
Sand	4	-	-	4
Total	135	80	28	243
<u>LEVEL TO ROLLING TOPOGRAPHY</u>				
Black and gray clay				
loams to loams	58	34	9	101
Black and gray sandy loams	30	19	2	51
Sand	-	1	1	2
Total	88	54	12	154
<u>HILLY TOPOGRAPHY</u>				
Black and gray clay				
loams to loams	4	1	-	5
Black and gray sandy loams	-	1	-	1
Sand	-	-	-	-
Total	4	2	-	6

\* 4 farms no data

Of the 280 settlers on black and gray clay loam to loam soils, 143, or 51 per cent, had settled on land with level and level to rolling topography. The vegetation cover of these lands varied from light scrub to light bush, with costs of clearing ranging from \$2.95 to \$5.40 per acre.

Ninety-six settlers, or 34.3 per cent, of the 280 had settled on land with level and level to rolling topography. The vegetation of these lands was heavy scrub and medium bush, with costs of clearing of \$8.65 and \$7.75 per acre respectively.

Another 26, or 12.8 per cent, of the settlers in the group settled on land with heavy or extra heavy bush, with clearing costs ranging from \$11.80 to \$20.00 per acre, and on either level or level to rolling topography. Only 5, or 1.9 per cent, of the settlers in the group settled on hilly land. However, all of the settlers in this latter group settled on land that had a comparatively light bush cover.

Thus on black clay loam and loam soils, 85.3 per cent of the settlers were located on land that was satisfactory from the point of view of topography and vegetative covering.

For the 117 settlers on black and gray sandy loam soils 65 per cent had settled on level and level to rolling topography with a light scrub, medium scrub and light bush cover. Another 37, or 31.5 per cent, of these settlers were located on land with level and level to rolling topography with heavy scrub and medium bush cover. Only 4, or 3.4 per cent of the 117 settlers on this soil type settled on land that was hilly or vegetated with heavy and extra heavy bush.

From the above analysis it is evident that 96.6 per cent of the settlers on gray and black sandy loam soil were located on land that was satisfactory from the point of view of topography and vegetative covering.

For the 6 settlers that settled on land that was predominantly sandy a discussion of topography and vegetative covering can be omitted because the quality of the soil itself is a limiting factor.

Considering the whole group of 403 settlers, 357, or 88.5 per cent had settled on land that was satisfactory from the point of view of soil, topography and clearing costs.



### Stoniness

In general there was some relation between topography and stoniness.

The level lands were somewhat less stony than the level to rolling lands. (Table 14)

Table 14 CLASSIFICATION OF LAND BY QUARTER SECTIONS ON THE BASIS OF PREDOMINATE SOIL, PREDOMINATE TOPOGRAPHY AND STONINESS FOR 375 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN\*

	All farms	Topography								
		Level			Level -Rolling			Hilly		
		STONINESS								
		None	Moderate	Very stony	None	Moder-ate	Very stony	None	Moder-ate	Very stony
<u>Number of farms</u>										
Black and Gray clay loam to loam	256	500	106	1	20	74	-	3	2	-
Balck and Gray Sandy loam	114	21	38	4	6	44	-	19	-	-
Sandy	5	-	3	-	-	2	-	-	-	-

\* No Information for 32 Quarter sections.

While stones were prevalent on most farms they were not a serious impediment to successful cultivation. Thus out of 375 farms for which information on stoniness was available 27 per cent reported no stones; 72 per cent reported moderate stoniness, and only 1.4 per cent of the farms were on very stony land.

### Potential Arability

The potential arability of land or the number of acres per quarter section that can eventually be cultivated is an important consideration in the Gray Bush Soil Zone.

The average arable acreage per farm/ <sup>varied</sup> from 121.4 on Gray Loam and Clay Loam soils to 132.1 acres on sandy. This is shown in Table 15.

TABLE 15 PRESENT BROKEN ARABLE AND TOTAL ACRES ON HOMESTEAD  
QUARTERS IN RELATION TO SOIL TYPE FOR 407 FARMS IN THE  
PIONEER AREA OF NORTHERN SASKATCHEWAN.

	All soil types	Soils				
		Black loam, clay loam	Gray loam and clay loam	Black sandy loam	Gray sandy loam	Sand
Number of farms	407	132	151	54	64	6
<u>Acres per Farm</u>						
Broken	33.3	35.6	27.8	36.4	39.3	15.5
Arable	126.0	130.1	121.4	127.3	126.4	132.1
Non-arable	32.1	26.7	36.6	33.1	31.8	28.0
Size of farm	158.1	156.8	158.0	160.4	158.2	160.1
<u>Percentage of total area of farm</u>						
Broken	20.0	22.7	18.0	23.0	25.0	10.0
Arable	80.0	83.0	76.8	79.4	79.9	82.5
Non-arable	20.0	17.0	23.2	20.6	20.1	17.5
Size of farm	100.0	100.0	100.0	100.0	100.0	100.0

The percentage arability of the farms varied from 76.8 per cent for those on Gray Loam to Clay Loam to 83 per cent for those on Black Clay Loam to Loam soil. The average arable acreage per farm for all soil types was 126 acres.

Since potential arable acreage limits the ultimate cultivated acreage on a farm it is of interest to determine the number of farms in the survey which have a comparatively low potential arability.

Assuming that 60 acres of cultivated land is a necessary minimum in northern Saskatchewan for a self-supporting farm, then only 2 settlers or 0.5 per cent of the sample were on farms that had little chance of ultimately becoming self-supporting units. The majority of the farms had an arable acreage of 140 to 160 acres. This information is given in Table 16.

It is important to note that the data on arability refer to land that has been selected for the settlement purposes on the basis of soil, arability and vegetation cover. Therefore the data presented regarding type of land settled do not reflect average conditions throughout the north.

TABLE 16

ARABLE ACREAGE PER QUARTER SECTION FOR 407 FARMS  
IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN

Acres arable	Number of farms	Percentage of total number of Farms.
Under 40	-	0
40 - 59	2	0.5
60- 79	10	2.5
80 - 99	48	11.8
100 -119	80	19.7
120 -139	89	21.8
140 -160	178	43.7
Total	407	100.0

FARM CAPITAL.

Farm capital refers to all farm assets, such as farm real estate, machinery, equipment and livestock.

The average farm capital for the 407 farms is shown in the following Table.

TABLE 17

AVERAGE FARM CAPITAL IN 1939 FOR 407 FARMS IN  
THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

	Average value per farm	Per cent of total capital.
Land	\$609	41.5
Buildings	205	13.9
Livestock	386	26.3
Machinery and equipment	268	18.3
Total	\$1,468	100.0

Real Estate.

The total capital per farm amounted to \$1,468. Land constituted 41.5 per cent and buildings 13.9 per cent, making a total of 55.4 per cent for real estate.

The buildings in the pioneer area of northern Saskatchewan are built of logs and local lumber in practically all cases. While the investment is low, the buildings are usually quite adequate. The adequacy depends upon the industry and ingenuity of the settler.

The inventory of farm buildings appears in Table 18.

TABLE 18

INVENTORY OF FARM BUILDINGS 1939 FOR 407 FARMS  
IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN

	Number of farms with this build- ing.	Average value per build- ing.	Percentage of total value of all buildings.
Settler's house	405	\$127	61.8
Main barn	382	38	17.6
Implement shed	10	37	0.5
Poultry house	122	21	3.0
Hog house	26	16	0.5
Garage	2	28	0.1
Granaries and bins	232	42	11.6
Other buildings	111	36	4.6
	..	\$205	100.0

It is clearly evident that not all the settlers had the minimum requirements in regard to buildings. The minimum building requirements for a quarter section farm should include a house, barn, poultry house, granary and one other building to be used as a workshop, for storage of tools, and the like. On the basis of the average valuation per building which exists in the northern area studied, the total value of the suggested list would be \$264. Actually the average value per farm as indicated in Table 18 is only \$205. Thus the value of buildings per farm falls only \$59 short of the suggested value. This figure does not however indicate the utility value of the buildings unavailable. Only 30 per cent of the farms reported poultry houses and 57 per cent of the farm reported granaries. Other buildings which are of less importance were available on 27 per cent of the farms.

Machinery and Equipment.

One of the most significant contributions of the capital assistance scheme launched by the Branch is the provision of equipment which can be utilized in developing the farm.

The problem on a quarter-section farm, partially under cultivation, is the one of providing a line of equipment sufficient for the many tasks that are



performed on any farm. Settlers meet the difficulty in the northern area by pooling their equipment and power resources either by borrowing, hiring, exchanging or using the equipment on a partnership basis.

Table 19 shows the inventory of farm machinery in 1939. The average value per farm of machinery and equipment is \$265. Most of the 407 farms were lacking in a number of essential pieces of farm machinery. The inventory of a northern farm should include the following implements:

Owned outright: Plow, mower, rake, wagon gear, wagon box, wagon rack, buggy, bob-sleighs, drag harrows, harness, and small tools.

Owned in half share or partnership: Disc harrow, drill, binder, and fanning mill.

TABLE 19 INVENTORY OF FARM MACHINERY IN 1939 ON 407 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

	Farms with this implement	Average value per farm	Average value per farm for 407 farms.
Plows	270	\$25	\$16
Brush breaker	117	36	10
Disc harrow	281	24	16
Drill	172	37	16
Binder	172	60	25
Mower	233	29	16
Rake	164	22	9
Wagon gear	362	32	29
Wagon boxes	155	12	5
Buggy	26	14	1
Sleighs	346	25	21
Fanning mill	8	14	1
Harness	326	27	22
Cultivator	16	16	1
Spring tooth harrows	7	14	1
Drag harrows	312	8	6
Wagon racks	235	6	4
Blacksmith tools	50	36	4
Small tools	173	18	7
Feed cutter	4	17	1
Chopper	31	22	2
Saw	33	18	1
Small engine	46	27	3
Auto	11	146	4
Truck	11	76	2
Tractor	33	273	22
Separator	4	378	4
Cream separator	164	32	12
Stump puller	16	19	1
Other	15	77	3
.. ..			\$ 265

The value of the suggested list of essential machinery for a northern farm on the basis of the average value per implement reported would be \$292. Using the average value of implement per farm for 407 farms as a basis of valuation the value of the suggested list of essential machinery is \$166. Thus the average northern farm is under equipped in regard to essential implements to the extent of \$126. While the practical handicap of this lack of equipment may be reduced by borrowing from neighbors, and while most of these farms have small acreages under cultivation, before long this shortage will have to be made up.

### Livestock

In the early stages of development of a bush farm in northern Saskatchewan, livestock numbers are limited by the lack of native hay and pasture. The breaking of land for the growing of feed and forage crops and the possession of surplus capital for purchase of livestock are prerequisites for the expansion of livestock enterprises.

Livestock values averaged \$386 per farm for the 407 farms, which amounted to 26.3 per cent of the total farm capital. (Table 20). A study of 100 farms in the vicinity of Alameda, Saskatchewan, in 1930, a southeastern park belt area, showed that the average value of livestock per farm was \$1,811, and represented 10.7 per cent of the total farm capital.<sup>16</sup>

Work horses were the most important livestock found on these farms and only 4 farms did not report any. Horses and colts represented 52.8 per cent of the total value of livestock. The Average value per horse was estimated at \$79 and the average number of horses for the 407 farms was 2.4. About 1 out of every 3 farms reported colts.

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16. The Farm Business in Saskatchewan;—Survey of the Alameda District. Agricultural Extension Bulletin No 46. Contributed by the Dept. of Farm Management, University of Saskatchewan.

Very few oxen were used for draft purposes and only 11 farms reported them. The number of oxen per farm for these farms was 2.4, which figure is indential with the number of horses reported per farm.

TABLE 20  
NUMBER AND VALUES OF LIVESTOCK ON 407  
FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN

Kind of livestock	Number of farms having stock	All farms having stock			Average per farm having stock		Average per farm, 407.		Percentage total stock value
		Total number stock	Total value	Value per unit	Number	Value	Number	Value	
Cows	394	933	\$37005	\$39.66	2.4	\$93.92	2.3	\$90.9	23.6
Heifers and steers	235	479	10726	22.39	2.0	45.64	1.2	26.4	6.8
Calves	211	409	4186	10.23	1.9	19.84	1.0	10.3	2.7
Bulls	22	23	610	26.52	1.0	27.73	0.1	1.5	0.4
Sheep	25	162	926	5.72	6.5	27.04	0.4	2.3	0.6
Brood sows	219	315	6356	20.17	1.4	29.02	0.8	15.6	4.0
Boars	19	19	359	18.89	1.0	18.89	0.1	0.9	0.2
Other hogs	190	627	6815	10.87	3.3	35.87	1.5	16.7	4.3
Poultry	364	13395	5835	0.44	36.8	16.03	32.9	14.3	3.7
Horses	403	981	77510	79.00	2.4	192.33	2.4	190.4	49.4
Colts	112	135	5305	39.30	1.2	47.37	0.3	13.0	3.4
Oxen	11	26	1345	51.73	2.4	122.27	0.1	3.3	0.9
Total	403	..	..	..				\$386.0	100.0

Of all cattle, cows were the most important and all but 13 farms reported them. The average herd of cattle per farm consisted of 2.3 cows, 1.2 heifers and steers, 1 calf and 0.1 bulls. The total size of this herd was 4.6 animals. Obviously a herd of this size, in the majority of cases would not provide much surplus revenue after family needs are taken care of.

Slightly more than half of the farms reported brood sows. These farms that reported brood sows had an the average 1.4 sows per farm. With this number of brood sows per farm these settlers might be expected to have a surplus of pork for sale.

Sheep were relatively unimportant. A total of 25 farms reported sheep. The average number of sheep per farm on these farms was 6.5.

Of the 407 farms, 43 reported no poultry. For the farms that kept poultry the average number of all kinds of poultry was 36.8.

## UTILIZATION OF LAND

### Regional Utilization of Land in Area of Study.

The regional variation in land use by settlers was analysed by using Census Divisions as units of study. Census Divisions 14 to 17 inclusive and the four settlement 'blocks' A, B, G, and D were found to include the lands of all the settlers studied. It was felt that these geographical units would reflect the effect of differences of climate on land utilization for the various parts of the northern area. The information on land use for Census Divisions and settlement 'blocks' is contained in Table 21, and Table 22.

The average acreage of cropland per farm was 40.1 acres for Census Division 17; 34.1 acres for Census Division 16; 39.5 acres for Census Division 15; 37.3 acres for Division 14 and 26.5 acres for the settlement blocks. The smaller improved acreage in the settlement 'blocks' is accounted for by the recent settlement of these areas.

The largest proportion of the cropland in all areas was used for the growing of cereal crops. A considerable area of the cultivated land represented breaking of the current year and alfalfa for forage and seed production was also important for most farms. Relatively small acreages were devoted to summer-fallow, gardens and to tame hay and miscellaneous crops.

Oats were the most important cereal crop in all the areas. Wheat was second in importance as a cereal crop and barley third, while rye was of little significance in any of the areas of study.

The acreage devoted to oats varied from 10.8 acres per farm in the settlement blocks to 14.2 acres in Census Division 17. The proportion of the total cropland in oats varied from 30.8 per cent in Census Division 14 to 40.5 per cent in the settlement blocks. There was little relationship between the total area of cropland in any one area and the amount of land devoted to oats.



TABLE 21

AVERAGE ACREAGE IN CROPS FOR RURAL MUNICIPALITIES AND  
LOCAL IMPROVEMENT DISTRICTS IN EACH CENSUS DIVISION  
AND FOR 65 FARMS IN 'BLOCKS'.

	All farms	Four blocks	Census Divisions Numbers:			
			17	16	15	14
Number of farms	407	65	81	64	43	154
Average acres per farm (Owned and Rented)						
Size of farm	162.9	159.7	167.4	158.8	168.0	162.2
Cropland	35.9	26.5	40.1	34.1	39.5	37.3
Unimproved	127.0	133.2	127.3	124.7	128.6	124.9
Wheat	9.9	4.2	14.1	6.9	12.5	10.8
Oats	12.5	10.8	14.2	13.2	13.7	11.5
Barley	2.1	2.0	1.6	1.6	2.1	2.8
Rye	0.1	-	-	-	0.4	0.2
Alfalfa	2.6	0.3	2.8	11.9	3.2	3.7
Tame hay	0.3	-	0.1	-	0.1	0.5
Breaking	6.0	7.6	5.7	7.8	4.0	5.2
Summerfallow	1.3	0.5	0.9	1.7	2.3	1.4
Garden	0.9	1.0	0.7	0.9	1.1	0.9
Other	0.2	0.1	-	0.1	0.1	0.3
Total cropland	35.9	26.5	40.1	34.1	39.5	37.3

TABLE 22

PER CENT OF TOTAL AREA (Owned and Rented)

Size of Farm	100.0	100.0	100.0	100.0	100.0	100.0
Cropland	22.0	16.6	24.0	21.5	23.5	23.0
Unimproved	78.0	83.4	76.0	78.5	76.5	77.0
PER CENT OF CROPLAND (Owned and rented)						
Wheat	27.7	15.8	35.0	20.1	31.6	28.9
Oats	34.5	40.5	35.3	38.4	34.7	30.8
Barley	5.9	7.4	3.9	4.8	5.2	7.4
Rye	0.3	-	-	-	0.9	0.5
Alfalfa	7.4	1.2	6.9	5.7	8.1	9.9
Tame hay	0.8	0.5	0.4	0.3	0.4	1.4
Breaking	16.7	28.7	14.3	22.7	10.2	14.1
Summerfallow	3.7	2.0	2.3	5.0	5.8	3.8
Garden	2.5	3.8	1.7	2.8	2.7	2.4
Other	0.5	0.1	0.2	0.3	0.4	0.8
Total cropland	100.0	100.0	100.06	100.0	100.0	100.0

The smallest acreage of wheat, 4.2 acres per farm, was found in the settlement blocks, and the highest, 14.1 acres, in Census Division 17. These acreages represented 15.8 and 35 per cent respectively of the total cropland per farm. The districts having the smallest areas of cropland per farm reported the smallest acreage of wheat per farm, the area in which varying directly with the cultivated acreage.

The amount of barley grown ranged from 1.6 acres per farm in Census Division 17 and 16, to 2.8 acres in Census Division 14. These acreages represent 3.9; 4.8 and 7.4 per cent respectively of the total cropland per farm.

Only 0.4 and 0.2 acres of rye per farm were grown in Census Divisions 15 and 14 respectively.

Very little alfalfa was grown in the blocks and amounted to 0.3 acres per farm or only 1.2 per cent of the total cropland per farm. Farms of in Census Division 14 had an average of 3.7 acres/alfalfa or 9.9 per cent of total cropland.

Land was being broken at the greatest rate in Division 16, where 7.8 acres were broken in 1939. The 'blocks' came next with 7.6 acres per farm. Settlers in Division 15 did the least amount of breaking, averaging 4 acres per farm, which is practically half the amount broken in Division 16.

Census Division 15 had the greatest amount of summerfallow which averaged 2.3 acres per farm or 5.8 per cent of the total cropland. Settlers in 'blocks' with the smallest amount of cropland utilized only 0.5 acres per farm for summerfallow, which represents 2.0 per cent of the total cropland.

The amount of cropland in garden did not vary significantly, varying from 0.7 acres per farm in Division 17 to 1.1 acres per farm in Division 15. It is likely that the farmstead was included in the garden. Miscellaneous crops, other than those mentioned were practically non-existent and varied from none in Division 15 to 0.3 acres per farm in Division 14.

### Summary of Regional Land Utilization.

Although the sample survey of these pioneer farms extended across the entire northern portion of the Province, with the exception of alfalfa, there did not appear to be any significant difference in the utilization of land for various crops between areas. In Census Divisions 14 and 15, in the northeast, alfalfa appeared to be of more importance than in the northwestern areas. For other crops the average size of farm appeared to be more important than regions in determining the utilization of the land for different crops.

### Utilization of Land in Relation to Tenure.

Although the area has only been settled for a relatively short period of time, of the 407 settlers studied, 48 or <sup>11.8</sup>~~18.8~~ per cent were renting land in addition to their own. Only cultivated land was rented in practically all cases.

For owners the average size of farm was 159.4 acres with 34.2 acres cultivated; for owners renting additional land the average size of farm was 189.2 acres with 48 acres cultivated. This is shown in the following:

Table 23                      AVERAGE ACRES IN CROPS FOR OWNERS AND PART-OWNERS FOR 407  
FARMS IN THE PIONEER AREAS OF NORTHERN SASKATCHEWAN.

	359 Owners		48 Part owners	
	Acres per farm	Per cent of total	Acres per farm	Per cent of total
Size of farm: Total	159.4	100.0	189.2	100.0
Cropland	34.2	21.4	48.0	25.4
Unimproved	125.2	78.6	141.2	74.6
Wheat	9.0	26.5	17.0	35.4
Oats	11.8	34.4	17.1	35.6
Barley	2.1	6.1	2.1	4.4
Rye	0.1	0.3	0.1	0.2
Alfalfa	2.7	7.9	2.0	4.2
Tame hay	0.3	0.9	0.4	0.8
Breaking	5.8	16.9	6.9	14.4
Summerfallow	1.4	4.1	0.9	1.9
Garden	0.9	2.6	1.1	2.3
Other	0.1	0.3	0.4	0.8
Total cropland	34.3	100.0	48.0	100.0

The most significant difference in utilization of land between owners and part-owners was the greatest proportion of cropland devoted to wheat in the latter case. Owners had 26.5 per cent of their cropland in wheat, while part-owners had 35.6 per cent in wheat. Rented land tended to be used for the production of annual cash crops such as wheat.

Both owners and part-owners had about one-third of their cropland seeded to oats. Owners had 6.1 per cent of the cropland in barley and 0.3 per cent in rye; part-owners had 4.4 per cent of land in barley and 0.2 per cent in rye.

In the case of alfalfa, owners had 7.9 per cent of the cropland in this crop whereas part-owners had 4.2 per cent. Both owners and part-owners had less than one per cent of the cropland in other forage crops. Part-owners broke more land (6.9 acres) than owners (5.8 acres) in 1939. It may be surmised that part-owners received a greater net income and thus could spend more for breaking additional land.

Owners had a greater proportion of their land in summerfallow (4.1 per cent) than part-owners (1.9 per cent)

#### Summary of Utilization of Land in Relation to Land Tenure.

Part owners tended to have a greater proportion than owners of their cropland in wheat, whereas owners tended to have a greater proportion of the cropland in feed crops and especially alfalfa.

#### Utilization of Land In Relation to Soil Type and Size of Farm.

On the black loam to clay loam soils wheat was a more important crop than on the gray loam to clay loam soils (Indicated in Table 24 and 25, pages 67 and 68.) On the first soil type the percentage of cropland in wheat increased from 22.4 per cent to 35.5 per cent as the size of farm increased from 0-17 acres to 60 acres and over. For the same range in size



UTILIZATION OF LAND IN RELATION TO THE SIZE OF FARM (ACRES OF CROPLAND OWNED AND RENTED) AND SOIL TYPE FOR 407 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Soil type:	Black clay loam - loam				:	Gray clay loam-loam				:	Black sandy loam				:	Gray sandy loam				:	Sand		:	
	0-19	20-39	40-59	60-		0-19	20-39	40-59	60-		0-19	20-39	40-59	60-		0-19	20-39	40-59	60		20-39	9		
Number of farms	23	42	49	60	:	46	73	23	12	:	7	20	14	8	:	7	26	29	6	:	4	2	40=	
ACRES OF CROPLAND (OWNED AND RENTED)																								
Wheat	3.8	7.2	15.0	24.6	:	1.4	4.2	12.0	24.4	:	1.4	7.1	16.4	34.2	:	1.6	8.8	15.8	26.3	13.2	11.0			
Oats	6.3	10.5	15.4	20.6	:	6.3	11.4	15.7	20.6	:	7.5	10.9	16.2	25.8	:	4.4	11.2	14.9	17.0	6.9	33.5			
Barley	1.1	3.1	2.8	1.8	:	1.1	2.2	1.8	4.8	:	1.9	1.9	2.0	2.8	:	..	1.7	2.1	5.2	1.0	2.0			
Rye	..	..	..	..	:	0.2	0.2	..	0.1	:	..	..	..	..	:	..	0.3	0.3	1.5	..	.			
Alfalfa	0.5	1.5	1.0	2.6	:	0.7	3.5	3.6	5.0	:	0.6	2.1	4.6	5.4	:	..	2.5	6.9	8.2	1.8	1.5			
Tame hay	0.5	0.4	0.4	0.4	:	0.1	0.2	0.5	0.2	:	..	0.2	0.4	0.2	:	..	..	0.4	..	..	..			
Breaking	3.8	5.0	8.2	15.6	:	1.3	5.3	8.6	10.2	:	3.0	5.2	0.8	20.4	:	2.4	4.5	6.4	13.8	2.8	2.0			
Summerfallow	..	1.1	1.8	1.2	:	0.5	0.6	2.0	3.8	:	0.6	0.6	4.5	1.0	:	0.2	1.9	1.8	2.8	2.0	..			
Garden	0.7	0.8	0.9	1.2	:	1.0	0.8	0.7	0.9	:	0.6	0.8	1.1	2.0	:	1.1	1.0	0.9	0.8	0.5	0.5			
Other	0.3	..	..	1.3	:	..	0.2	..	0.5	:	0.1	0.2	0.1	1.0	:	..	0.1	0.1	..	..	..			
Total	17.0	29.6	45.5	69.3	:	12.6	28.6	44.9	70.8	:	15.7	29.0	46.1	92.8	:	9.7	32.0	49.6	28.0	75.6	50.5			

TABLE 25

UTILIZATION OF LAND IN RELATION TO THE SIZE OF FARM (ACRES OF CROPLAND OWNED AND RENTED)  
AND SOIL TYPE FOR 407 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

[illegible]

of farm the proportion in wheat increased from 11.4 to 34.8 per cent in the case of the gray clay loam soil.

For the sandy loam soils the number of farms was hardly large enough to show really significant differences but there appears to be some evidence to indicate that wheat was more important on the black soils than on gray soils.

In the case of oats the situation was reversed, that is on the gray clay loam soils a higher percentage of the cultivated land was in oats.

On sandy loam soils, on the other hand, oats was somewhat more important on the black sandy loam soils than on gray sandy loams soils.

There was a significant difference between soil types in the percentage of cultivated land devoted to alfalfa. The gray soils showed a higher percentage in alfalfa. For the black clay loam soils the percentage of the cultivated land in alfalfa ranged from 2.2 per cent to 5.1 as the size of farm increased from 0 to 19 acres of cropland to 60 acres and over. For the gray clay loam soils the percentage of the cultivated land in alfalfa ranged from 5.6 to 12.2 per cent for similar sized farms. Alfalfa was also slightly more important on the gray sandy loam soils as compared with the black sandy loam soils.

Barley and rye were relatively unimportant as feed crops and there was no evidence to indicate that either were grown very extensively on any one soil type.

Although the amount of cultivated land in tame hay was small and the highest proportion <sup>on</sup> any soil in tame hay was 2.9 per cent, it was slightly more important on black clay loam and loam soils than on the gray soils. There is some evidence to indicate that the amount of land broken in 1939 was slightly greater on the black soils as compared with the gray soils.

Summerfallow, garden and other crops showed only minor differences between soil types.

The percentage of cultivated land in wheat increased and the the percentage of cultivated land in oats decreased as the average size of farm increased. Although the relative importance of oats declined with increases in size of farm, the actual acreage in oats increased.

The acreage of alfalfa per farm increased with increases in size of farm, although the maximum percentage of the cultivated land in this crop appeared to be reached when the average size of farm was around 40 acres. The percentage of cultivated land in summerfallow did not show any definite trend with increases in size of farm.

The actual amount of new breaking increased in proportion to the increase in the size of farm. This is due to the fact that the settlers that had larger farms were more progressive or had a larger income and were thus in a position to make more rapid progress when measured by new breaking.

#### Summary of Land Utilization in Relation to Soil Type and Size of Farm.

In the pioneer fringe area studied the period of development was too short to allow for a great divergence in cropping practices in regard to soil type. Wheat was more important on black soils and its importance increased as the size of farm increased.

Oats tended to be more important on gray soil in the case of heavy textured soils and on black soils in the case of light textured soils. Their importance decreased as the size of farm increased.

Alfalfa was more important on gray soils and the maximum percentage of the cultivated land in alfalfa was reached when the size of farm was around 40 acres.

Slightly more land was broken in 1939 on black soils and the amount of breaking increased as the size of farm increased.



## THE SETTLERS INCOME IN 1939

### Income in Relation to Soil Type

Wheat constituted a more important source of revenue on black clay loam to laom soils as compared with gray clay loam to loam soils both in absolute amounts and as a percentage of total farm enterprise receipts (Tables 26, and 27, pages 72 and 73.) The proportion of farm enterprises receipts from wheat, on black clay loam to loam soils, was 12.9 and 73.7 per cent (Table 27) for farms which had 0-19 acres broken and over 60 acres broken respectively., as compared with 10.0 and 59.6 per cent on farms of the respective size groups on gray clay loam to loam soils.

The same situation in regard to the importance of wheat as a source of revenue was apparent in the case of the larger farms on black sandy loam soils (over 40 acres of cropland) compared with gray sandy loam soils although the reverse was true in the case of farms with 20-39 acres of cropland.

Receipts from 'other crops' such as oats, barley and rye were more important on the gray clay loam to loam soils than on black clay loam to loam soils. The proportion of farm enterprise receipts from 'other crops' was 0 and 2.3 per cent for farms which had 0-19 and over 60 acres of cropland respectively on black clay loam to loam soils as compared with 3.1 and 11.1 per cent for the above respective size groups on gray clay loam to loam soils.

Receipts from coarse grains were however more important on black sandy loam soils than on gray sandy loam soils.

There was a striking difference in receipts in 1939 from the sale of alfalfa seed on black soils as compared with gray soils; only one size of farm on black clay loam to loam soils reported receipts from alfalfa as compared with gray clay loam to loam soils, where all farms reported some

TABLE 26

ANALYSIS OF FARM RECEIPTS IN 1939 ON THE BASIS OF THE SOIL ON PRESENT CULTIVATED ACREAGE  
AND SIZE OF FARMS IN ACRES BROKEN (OWNED LAND)

Soil type - :Black clay loam-loam :					Gray clay loam to loam :				Black sandy loam :			Gray sandy loam :			Sand
Size of farm- 0-19 20-39 40-59 60- :					0-19 20-39 40-59 60- :				0-19 20-39 40- :			0-19 20-39 40- :			0 and over
Number of farms	27	46	45	12 :	51	71	22	10	8	20	21	8	28	32	6
Average size	17.0	29.6	45.5	69.3 :	12.6	28.6	28.9	70.8	15.7	29.0	59.4	9.7	32.0	54.5	35.5
AVERAGE VALUE PER FARM IN DOLLARS															
<b>Sales:</b>															
Wheat	9.6	85.6	155.0	214.8	9.8	36.0	114.3	224.5	..	50.7	254.5	3.8	87.9	155.8	51.2
Oats, barley and rye	..	5.8	13.6	6.6	3.0	10.1	24.4	41.7	..	..	31.9	..	4.6	11.8	10.0
Alfalfa	..	3.7	..	..	0.2	8.9	5.9	7.6	..	3.8	27.0	5.1	10.9	16.8	..
Total crop sales	9.6	95.1	168.6	221.4	13.0	55.0	144.6	273.8	..	54.5	313.4	8.9	103.4	183.8	61.2
<b>Farm Enterprise Receipts:</b>															
Previous years' crop sales	3.7	4.9	3.6	15.2	..	11.4	7.5	..	2.5	1.2	4.3	..	0.5	36.1	..
Livestock sales	21.4	32.3	35.7	46.1	19.1	26.7	36.3	87.1	19.7	34.4	25.0	6.2	25.7	35.7	64.6
Other farm produce	13.7	16.7	9.1	3.3	16.5	16.3	11.8	7.3	2.2	14.2	8.8	1.0	10.0	19.2	2.0
Wood	25.9	11.3	3.9	5.2	48.9	25.0	13.8	8.5	49.8	11.3	2.3	1.5	10.8	0.6	4.5
Breeding fees	0.3	0.3	..	0.2	0.5	0.1	0.3	..	..	0.4	..	..	0.4	8.6	..
Total	74.6	160.2	220.9	291.2	98.0	134.5	214.3	376.7	74.2	116.0	353.8	17.6	150.6	284.0	132.3
Custom work	14.9	3.6	29.2	94.2	20.2	9.8	30.3	..	..	26.0	2.1	..	4.3	8.3	..
Road work	6.8	6.2	1.7	2.6	4.3	2.1	4.9	0.5	0.5	0.1	2.4	16.9	1.7	1.2	..
Outside labor	22.4	28.9	26.8	29.9	14.1	24.2	16.6	72.0	40.8	22.2	12.1	31.3	46.0	39.1	70.9
Remunerations	0.7	5.7	..	..	1.8	2.0	..	..	..	..	..	..	7.5	0.3	..
Misc. gifts.	10.8	3.2	8.0	..	7.1	13.2	2.8	..	..	15.2	2.4	..	15.2	2.1	..
Machinery sold	..	1.2	1.1	..	..	0.9	..	..	..	..	..	..	0.6	7.0	..
Total other	55.7	48.8	66.8	126.7	47.5	52.2	54.6	72.5	41.3	63.4	19.0	48.2	75.3	58.0	70.9
Total farm and other Receipts	130.3	209.0	287.7	417.9	145.5	186.7	268.9	449.2	115.5	179.4	372.8	65.8	226.1	342.0	203.2

Table 27

ANALYSIS OF FARM RECEIPTS IN 1939 ON THE BASIS OF THE SOIL ON PRESENT CULTIVATED ACREAGE AND  
SIZE OF FARM IN ACRES (OWNED LAND) IN PERCENTAGES

Soil type - <u>Black clay loam-loam</u> : <u>Gray clay loam -loam</u> : <u>Black sandy loam</u> : <u>Gray sandy loam</u> : <u>Sand</u>															
Size farm / 0-19 20-39 40-59 60- : 0-19 20-39 40-59 60- : 0- 19 20-39 40- : 0-39 20-39 40 - : 0 and over															
PERCENTAGE ( OF TOTAL FARM ENTERPRISE RECEIPTS)															
Wheat	12.9	53.4	70.1	73.7	10.0	26.8	53.4	59.6	..	43.7	72.1	21.6	58.4	54.7	38.7
Oats, barley and rye	..	3.6	6.2	2.3	3.1	7.5	11.4	11.1	..	..	9.1	..	3.1	4.2	7.6
Alfalfa	..	2.3	..	..	0.2	6.6	2.8	2.0	..	3.3	7.7	29.0	7.2	5.9	..
Crops <sup>99</sup> year	5.0	3.0	1.6	5.2	..	8.5	3.5	..	3.4	1.0	1.3	..	0.1	12.8	..
Livestock sold	28.6	20.1	16.2	15.8	19.5	19.8	16.9	23.1	26.5	29.7	7.1	35.2	17.1	12.6	48.8
Other produce	18.4	10.4	4.1	1.1	16.8	12.1	5.5	1.9	3.5	12.2	2.6	5.7	6.7	6.8	1.5
Wood	34.7	7.0	1.8	1.8	49.9	18.6	6.4	2.3	67.1	9.7	0.1	8.5	7.2	..	3.4
Breeding fees	0.4	0.2	..	0.1	0.5	0.1	0.1	..	..	0.4	..	..	0.1	3.0	..
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
PERCENTAGE OF TOTAL OTHER RECEIPTS															
Custom work	26.8	7.4	43.7	74.3	42.5	18.8	55.5	..	..	41.0	11.1	..	5.7	14.3	..
Road work	12.3	12.7	2.5	2.1	9.1	4.0	9.0	0.7	1.2	0.1	12.6	35.1	2.2	2.1	..
Outside labor	40.2	59.2	40.1	23.6	29.7	46.4	30.4	99.3	98.8	35.0	63.7	64.7	61.1	67.4	100.0
Remunerations	1.3	11.7	..	..	3.8	3.8	..	..	..	..	..	..	10.0	0.5	..
Gifts, etc.	19.4	6.6	12.0	..	14.9	25.3	5.1	..	..	23.9	12.6	..	20.2	3.6	..
Machinery sold	..	2.4	1.7	..	..	1.7	..	..	..	..	..	..	0.8	12.1	..
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
PERCENTAGE WHAT OTHER RECEIPTS ARE OF TOTAL FARM ENTERPRISE RECEIPTS.															
	74.7	32.8	33.3	43.5	48.5	38.8	25.5	19.3	55.7	54.7	5.4	273.9	49.9	20.4	53.6
PERCENTAGE THAT TOTAL OTHER RECEIPTS ARE OF TOTAL FARM ENTERPRISE AND OTHER RECEIPTS															
	42.7	23.3	23.2	30.3	32.6	28.0	20.3	16.1	35.8	35.3	5.1	73.2	33.3	17.0	34.9

99 Crops: previous year's crops sold.

revenue from alfalfa seed in 1939. The evidence in the case of gray and black sandy loams is not as conclusive, however, it may be said that alfalfa seed tended to constitute a greater proportion of farm enterprise receipts on all gray sandy loam farms than on black sandy loam farms.

There was some difference in importance of receipts from livestock between the heavy and light textured soils. The farms on both black and gray clay loam to loam reported slightly greater livestock receipts than the farms on black and gray sandy loams.

There was no significant difference between farms on different soil types with respect to the proportion of farms receipts coming from 'other farm produce.'

More wood was sold from farms on gray clay loam to loam soils than on black clay loam to loam soils. Farms on black clay loam to loam soil which had 0-19 acres of cropland received \$26 for wood compared with \$49 for the same size of farms on gray clay loam soil. The same situation was apparent for other sizes of farms on these soils. However in the case of black and gray sandy loam soils, farms on black sandy loam soils sold a little more wood than those on gray sandy loam.

There was no apparent difference in total farm enterprise receipts between black clay loam to loam soils compared with gray clay loam to loam soils except that on farms which had over 60 acres of cropland the total farm enterprise receipts were considerably higher on gray clay loam to loam soils, - \$377 compared with receipts of \$291 on black clay loam to loam soils. The difference was largely due to greater receipts from other crops and stock sales on the gray clay loam to loam soils.



The total of "other receipts" was somewhat higher on black clay loam to loam soils as compared with gray clay loam to loam soils. The reverse situation applied in regard to the total of "other receipts" on sandy loam soils where they were slightly higher in the case of the gray sandy loam soils.

#### Income in Relation to Size of Farm

There was a striking increase in receipts from wheat as the size of farm increased. Receipts from wheat increased more rapidly than the size of farm in acres of cropland. For example, as the size of farm on black clay loam to loam increased from an average of 17 acres of cropland to 69.3 acres of cropland ( an increase of <sup>308</sup>~~245~~ per cent) the receipts from wheat increased from \$10 to \$215 ( an increase of <sup>2050</sup>~~446~~ per cent). In the case of small farms feed requirements had to be provided for first. As the size of farm increased, an increasing proportion of the land was seeded to wheat.

While the absolute receipts from "other crops" tended to increase as the size of farm increased, the relative importance of receipts from these crops reached a maximum when the size of farm approached 40 acres of cropland.

Due to abnormal weather conditions in 1939 for alfalfa seed production, no relationship between size of farm and receipts from this source was apparent.

While the actual receipts from livestock sales increased as the size of farm increased, the proportion that livestock receipts represented of total farm enterprise receipts decreased as the size of farm increased. The several exceptions to this statement may be explained by the fact that the size of sample was small.

Receipts from "other farm products" decreased as the size of farm increased, with one exception in the case of the gray sandy loam soil where the reverse occurred.

Wood receipts were strikingly larger on the small farms. As other sources of revenue were available on the larger farms settlers evidently did not market wood. It is also likely that as more land comes under the plow the area of good firewood becomes a limiting factor.

It is to be expected that total farm enterprise receipts would increase with an increase in the size of farm. Settlers evidently relied also on other receipts and these increased as the size of farm increased. However the proportion that "other receipts" were of total farm enterprise receipts decreased as the size of farm increased. Settlers received most of their "other receipts" by doing outside labour and custom work.

#### Summary of Settlers Income.

The relative productive capacity of black and gray soils as indicated by receipts in 1939 may be considered inconclusive. The above average precipitation in 1939 probably served to increase the production on the poorer gray soils to a greater extent than it did on the black soils.

Wheat constituted the major source of farm revenue . This was especially true on black clay loam to loam soils and on black sandy loam soils where receipts from wheat represented 73.7 and 72.1 percent respectively of total farm enterprise receipts on farms that had over 60 acres of cropland. The respective percentages on gray clay loam to loam soils were 59.6 and 58.4 per cent for the same size of farms. Wheat was somewhat more important on nearly all sizes of farms on black soil as compared with farms that were on gray soils. The importance of wheat increased with the size of farm in the case of all soils.

Receipts from "other crops" were more important on gray soils with heavier textures but the reverse was true for gray soils with lighter textures. The relative importance of receipts from "other crops" decreased after the size of farm reached 40 acres.

Receipts from alfalfa were strikingly higher for all farms on gray soil in 1939.

The heavier textured soils reported higher receipts from livestock. Generally the relative importance of livestock sales decreased as the size of farm increased.

"Other farm produce" and wood sales were important on small farms. Wood sales were somewhat more important on small farms on gray soils than on black soils in the case of heavier textured soils only.

"Total farm enterprise receipts" increased with the size of farm. All settlers depended in a large measure on income from "outside sources." However the importance of income from outside sources decreased as the size of farm increased.

#### SETTLER'S PROGRESS IN THE 1935 to 1939 PERIOD

Measurement of progress can at best be relative and no one index can indicate the rate at which settlers are progressing.

Under a system of assisted land settlement significant gains in capital acquisition and breaking land may be offset over a period by unfavourable physical factors, such as soil type and climatic conditions or by unfavorable economic conditions due to location and farm prices.

The period during which the settler takes up land cannot thus be overlooked. If the purchasing power of agricultural produce is high in relation to things that the farmer has to buy the chances for success are favorable. The period of 1935 to 1939 has not been particularly

favorable. The wholesale price/<sup>level</sup> of Canadian farm products was slightly above the level of wholesale prices of all commodities for a period of less than two years, starting late in 1936 and ending in the middle of 1938.<sup>17</sup>

It is unlikely that a certain rate of progress evidenced during the first few years will be continued after a period of time. The achievement of a certain standard of living tends to leave the less ambitious type of settler satisfied, and subsequent progress is slow. During the first few years when the making of a farm is in its initial stages progress is more spectacular and evident. The settler is spurred on to make greater effort. After this stage is passed some settlers tend to make slower progress.

There is a large element of truth in the statement that the type of settler is the most important factor in determining the progress and success that he will make in the northern area. Although personal qualifications are an important consideration other factors are also associated with progress.

At the time the settler locates on a particular parcel of land he has determined in a large measure the progress he will make and his ultimate chances of success. The physical qualities of the land, the effort required to bring it into production and the climate of the area are unalterable.

The progress that a settler makes can be measured by such factors as changes in assets, net worth, acres under cultivation, farm receipts and

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17. Hope, E. C., and Van Vliet, H. - The Farm Outlook for Saskatchewan 1940. Farm Management Department, University of Saskatchewan.



the like. These measures of progress were related to various factors to see if it was possible to find any factors that were significantly related to progress.

Abandonment of Land by Original Settlers.

Information was compiled for 545 settlers that had received re-establishment assistance and were farming in 1935. Of this number 39 were not farming in 1939. These 39 cases were classified into two categories namely those of the original settlers that were not farming their land in 1939 because of better alternative opportunities or because of personal reasons (Group I); and those of the original settlers who had considered it to their advantage to rent out or sell their land and cannot be considered as abandonment cases (Group II).

No information is available as to whether or not the land vacated by the original settlers is being farmed by anyone else at present.

The following is a list of abandonment cases, with reasons where reported:-

Group I. Settlers that were not farming in 1939 because of better alternative opportunities or because of personal reasons.

Not possible to ascertain reason for abandonment	7
Better jobs were available	7
Poor type of settler	6
Wife or husband in poor health	3
Domestic troubles	2
Died	1
	<u>26</u>

Groups II. Settlers that considered it to their advantage to rent or sell their land and cannot be considered as being abandonment cases:

Rented land out for various reasons	10
Sold land	3
	<u>13</u>

On the basis of this classification it can be considered that 26 out of the 545 settlers, or 4.8 per cent of the original settlers, had abandoned their holdings.

The 1935-1939 period however offered little alternative opportunity. Improved economic and climatic conditions generally might cause settlers to avail themselves of opportunities that would be present.

### Financial Progress of Settlers

#### Farm Assets.

A statement of farm assets in 1935 and 1939 is shown in Table 28.

TABLE 28 STATEMENT OF FARM ASSETS LIABILITIES AND NET WORTH IN 1935 AND 1939 FOR 407 SETTLERS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Farm Assets:	Value		Change in value 1935-39
	1935	1939	
Land	\$410	\$609	\$199
Buildings	110	205	95
Machinery and equipment	115	267	152
Livestock	184	386	202
Feeds, supplies, cash, accounts owing to settler and other assets	64	139	75
Total farm assets	\$883	\$1,606	\$723
Total liabilities	130	1,076	946
Net worth	\$753	\$530	-\$223

The greatest gains in assets were made in livestock (\$202), and land (\$199). The gain in land value reflects improvements in land value due entirely to clearing and breaking. The average increase in assets per farm was \$723. However capital assistance in the form of clearing and breaking, supply of building material, machinery and livestock to the extent of \$336 per farm had contributed to this increase in assets.

Liabilities.

The liabilities of the settlers increased by \$946 per farm in the 1935 - 1939 period. The average liabilities per farm amounted to \$1,076 in 1939. Liabilities on account of capital assistance were \$336, or 31 per cent of the total liabilities. Seven hundred and forty dollars or 69 per cent, of total liabilities were due to relief (September 1st 1934 to August 31, 1939), taxes and other liabilities. The average direct and agricultural relief per family in 1934 to 1939 period was \$877. However this figures does not take into account credits for road work, etc., performed by settlers. While no record of net relief indebtedness has been calculated it is estimated that direct and agricultural relief would constitute 60 to 65 per cent of total liabilities for the 407 farms.

Net Worth.

The average loss in net worth in the 1935-39 period was \$223 per farm. This loss in net worth is principally due to the relief assistance that was necessary during this period of development. Capital assistance liabilities have been partially balanced by tangible assets on the farm, although depreciation on equipment by 1939 would lower the amount of credits that would appear in a statement of assets.

Progress in Breaking and Clearing  
Land in 1935-1939 Period.

Table 29, page 82, shows the progress in breaking and clearing land in the 1935 to 1939 period. About 41 per cent of the settlers broken 12.1 and cleared 12.3 acres; 43.5 per cent broke 28 and cleared 25.8 acres in this period. Only 15.5 per cent broke over 40 acres.

TABLE 29 AVERAGE ACRES BROKEN AND CLEARED FROM 1935 TO 1939 IN RELATION TO SOIL ON CULTIVATED LAND AND THE VEGETATION BEFORE CLEARING FOR 399 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Vegetation before clearing	Number of farms	Black clay loam to loam	Gray clay loam to loam	Black sandy loam	Gray sandy loam	Sand	All soils
<u>Acres Broken</u>							
Light scrub	54	35	32	32	40	24	34
Medium scrub	72	30	27	23	24	20	26
Heavy scrub	49	30	19	23	27	..	24
Light bush	83	29	21	30	29	14	25
Medium bush	71	25	19	26	22	19	22
Heavy bush	67	19	16	26	23	..	19
Extra heavy bush	3	23	..	..	..	..	23
Total	399	27	21	27	28	19	..
<u>Acres Cleared</u>							
Light scrub	54	33	34	22	38	24	32
Medium scrub	72	26	27	21	21	20	24
Heavy scrub	49	28	19	21	26	..	23
Light bush	83	27	21	24	28	19	24
Medium bush	71	22	20	23	16	12	20
Heavy bush	67	20	16	25	19	..	18
Extra heavy bush	3	23	..	..	..	..	..23
Total	399	..	.	..	..	..	..

It is significant to note that the settlers who broke the largest amounts in the 1935 to 1939 period had cleared less land than was broken. This may indicate the prior to the time that breaking assistance was given these settlers were handicapped by not being able to break land as it was cleared.

Soil texture bore no relation to the rate of progress that was made on breaking land (See table above). The type of vegetation covering was the only factor that was related to the rate at which land was broken and cleared. Settlers that had light scrub, cleared 8 acres more in the year

1935 to 1939, or 2 acres more per year than those that cleared medium scrub vegetation, and 2.5 acres more per year than those that cleared heavy scrub. Light bush presented the same difficulties in clearing as medium scrub vegetation. Compared with medium bush and heavy bush, settlers that cleared light scrub were able to clear 3 and 3.5 acres more per year respectively. The size of sample in the case of extra heavy bush is too small to be reliable. It is interesting to note that the rate of clearing on different types of vegetation is roughly related to clearing costs. (See page 16).

The effect of re-establishment on the rate of clearing and breaking land has been strikingly significant (Table 30) page 84

Table 30 RATE OF PROGRESS IN BREAKING LAND IN RELATION TO PERIOD OF ACQUISITION FOR 407 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

	<u>Year of Acquisition</u>		
	1935-1939	1930-1934	Before 1930
Number of farms	67	233	84
Average number of years on farm	3.2	7.3	11.3
Acres broken:			
Before 1935	1.3	8.6	14.4
1935 to 1939	25.2	24.8	24.6
Total broken in 1939	26.5	33.4	39.0
Acres broken since 1935 as a percentage of total broken in 1939	95.2%	74.3%	63.0%
Rate of breaking per year per farm			
1935 to 1939	8.0	6.2	6.2
Before 1935	..	2.6	2.0

Regardless of the period in which land was originally taken up settlers broke almost equal amounts of land (24.6 to 25.2 acres) during the period of administration by the Branch. Settlers that acquired their land during the 1935 to 1939 period occupied their farms on the average only 3.2 years



and the rate of progress was therefore 8 acres per year during 1935-1939 period as compared with 6.2 acres per year for the other groups.

Those settlers that occupied their land before 1930-1934 and before 1930 averaged 2.6 and 2.0 acres of breaking per year respectively during the period before re-establishment assistance was given.

#### Relation of Soil Type and Size of Farm to Settlers Progress

The relation between soil type, size of farm and various progress factors is shown in Table 31, page 85. With the exception of sandy soils, there was no significant difference between soil type with respect to settlers' progress when measured by acres broken, changes in assets, liabilities and farm receipts. Only six settlers were situated on sandy soils but <sup>by</sup> every measure they made less progress than settlers on the heavier soil types from 1935 to 1939.

Size of farm was an important factor in settlers progress on every soil type (Table 31). The size of the settlers' farm was directly related to increases in acres broken, assets, net worth, farm enterprise receipts and working capital for the period from 1935 to 1939. Farm working capital in 1935 was also directly related to the above factors indicating that the progress a settler can make in a given period is influenced a great deal by the working capital he possesses at the start. For instance on gray clay loam and loam soils farms with 0-19 acres of cropland had an initial farm capital of \$291 and in 1939 showed an increase of \$72 in farm enterprise receipts compared with 1935. On the same soil type farms with over 60 acres of cropland had an initial farm capital of \$335 and in 1939 showed an increase in farm enterprise receipts of \$430 more than in 1935. The same situation was revealed on the other soil types.

TABLE 31

RELATION OF SOIL TYPE AND SIZE OF FARM TO VARIOUS PROGRESS FACTORS,  
407 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

	SOIL TYPE																
	Black Clay Loam - Loam				Gray Clay Loam - Loam				Black Sandy Loam				Gray Sandy Loam				Sand
Ac.cropland:-	0-19	20-39	40-59	60-	0-19	20-39	40-59	60 -	0-19	20-39	40-59	60	0-19	20-39	40-59	60	0-59
Number of farms	27	46	45	12	51	71	22	10	8	20	16	5	8	28	27	5	6

CHANGES ( INCREASES OR DECREASES) FROM 1935 TO 1939 IN THE FOLLOWING:

Assets	\$490	\$658	\$840	\$1614	\$581	\$883	\$827	1012	\$413	\$660	\$708	1104	\$284	\$737	\$680	1300	\$443
Liabilities	912	930	993	943	907	1006	1000	931	1115	968	811	838	975	989	858	750	820
Net worth	-386	-277	-145	578	-307	-211	-156	79	-699	-331	-33	268	-692	-240	-171	152	-372
Working capital	297	365	612	825	362	450	542	1060	323	415	488	746	151	433	427	570	322
Enterprise receipts	100	162	206	300	72	125	212	430	68	106	275	600	11	184	268	434	123
Acres broken	10.4	21.7	34.9	59.2	9.7	22.2	34.2	48.5	11.9	21.5	32.6	53.4	9.8	22.0	34.5	58.4	19.0

TOTAL PER FARM IN 1935:

Working capital	\$312	\$430	\$356	\$427	\$291	\$299	\$389	\$335	\$256	\$303	\$320	\$520	\$173	\$351	\$486	\$284	\$256
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Number of Years on Present Farms in Relation to Progress

Settlers that were on their present farms for the longest time made the greatest financial progress during the 1935 to 1939 period. The men who were resident on the present farms from 1 to 4 years had a decrease in net worth of \$437; those resident from 5 to 9 years had a decrease of \$178; and those resident 10 years or more showed an increase of \$12. (Table 32).

Table 32      RELATION OF YEARS ON THE PRESENT FARM TO CERTAIN PROGRESS  
FACTORS FOR THE PERIOD 1935 to 1939 - 407 FARMS IN THE  
PIONEER AREA OF NORTHERN SASKATCHEWAN.

	<u>Years On this Farm.</u>			
	No data	1 to 4	5 to 9	10 and over
Number of farms	23	67	233	84
Average number of years on this farm	xx	3.2	7.3	11.3
Average acres per farm cultivated in:				
1935	3.7	1.3	8.5	14.3
1939	32.1	26.5	33.4	39.0
Working capital 1935	\$259	\$247	\$371	\$380
Change in net worth 1935 to 1939	-\$708	-\$437	-\$178	+\$12
Increase per capita in living expenses paid by:				
Settler, -	\$5	\$11	\$22	\$28
as relief,-	24	9	8	- 4

This greater financial progress of the settlers who had been on their present farms for a longer period was due to the better financial position of these farms in 1935. The farmers resident on the present farm 1 to 4 years had 1.3 acres of cultivated land in 1935 and \$247 of working capital. The settlers who had been on the farm for 10 years or more had 14.3 acres cultivated in 1935 and working assets of \$380 .

The settler who had been on the present farm the longest improved their living standards the most during the 4-year period. Those who had been only 1 to 4 years on the present farm increased their living expenditures per person by \$11 of which \$9 was due to an increase in per capita relief assistance. For the group resident on the present farm for 10 years or more the increase in living expenditures was \$28 per capita but relief for the same period actually showed a decline of \$4 per capita.

#### Working Capital and Settlers' Progress

It would seem a reasonable assumption to make that other things being equal, the more working capital a settler has at the start of a given period the more progress he will make. To a certain extent this statement is borne out by comparing the initial working capital of the 407 settlers with a few measures of progress. The fact that the relationship is not very definite is no doubt due to the fact that working capital shortages were made up by the re-establishment assistance given by the Branch. (Table 33, page 88).

The gains in working capital for the period 1935 to 1939 decreased regularly from \$522 for the group with the smallest initial capital (\$0-149) to \$372 for the group with the largest initial capital, (\$450 and over). Gains in total assets also decreased with increases in the beginning farm capital, but these changes in assets were more than offset by increase in liabilities for the 4-year period. Farms with the smallest amount of beginning working capital showed the greatest increases in liabilities. The result was that the average changes in net worth for all the groups of farms were negative. The largest decrease in net worth (\$ - 280) was for the group of farms

with the smallest beginning working capital and the smallest decrease (-\$153) was for the group with the largest beginning capital.

TABLE 33                      RELATION OF WORKING CAPITAL IN 1935 TO VARIOUS  
PROGRESS FACTORS, - 407 FARMS IN THE PIONEER  
AREA OF NORTHERN SASKATCHEWAN.

	Working Capital in 1935			
	\$0 - 149	\$150 - 299	\$300-449	\$450-
Number offarms	94	102	94	116
Years on this farm	6.1	6.8	7.7	7.6
Size of family	4.8	5.7	5.3	5.5
Working capital:				
1935	\$65	\$226	\$370	\$682
1939	587	684	775	1054
Change	\$522	\$458	\$405	\$ 372
Re-establishment assistance	\$495	\$385	\$254	\$226
Agricultural relief 1935 to 1939	793	941	852	903
Assets:				
1935	\$508	\$673	\$889	\$1366
1939	1332	1416	1583	2017
Change	\$824	\$743	\$693	\$651
Liabilities:				
1935	\$94	\$132	\$121	\$163
1939	1199	1176	966	967
Change	\$1105	\$1044	\$844	\$804
Acres Broken:				
1935	5.1	7.0	9.0	11.3
1939	29.7	32.8	32.3	37.8
Change	24.6	25.8	23.2	26.5
Increase in farm enterprise receipts 1935 to 1939	\$117	\$162	\$188	\$214

The amount of re-establishment assistance varied inversely with the beginning working capital, the group with the smallest beginning capital had \$495 of assistance, and the group with the largest capital had only \$226.



For the farms with the smallest beginning working capital the 1939 farm enterprise receipts were \$117 more than were obtained in 1935. This increase in enterprise receipts was greatest(\$214) for the farms with the largest beginning capital.

It was evident that the settlers with the smallest amount of working capital in 1935 did not entirely overcome this handicap inspite of the greater amount of re-establishment assistance they received compared with the settlers who had more working capital at the start. This is indicated by the fact that all groups of settlers broke about the same amount of land from 1935 to 1939 ( 23 to 26 acres) so that the relative position of settlers in 1939 was not materially changed from that of 1935.

#### Previous Farm Experience in Relation to Progress

Only about half the farmers in the survey had any previous experience managing a farm business either as owner or tenant. This is shown in Table 34, page 90. The previous farming experience of 165 settlers was confined to farm laboring and 32 had never had any previous farm experience.

Previous farming experience either as laborer, tenant or owner did not seem to have any significant relation to progress made during the four years 1935 to 1939. Those with no previous farming experience showed the greatest increase in assets, which was \$784.80, and broke the most land (27.0 acres) for the period. On the other hand those who were formerly owners of farm land had the smallest increase in assets (\$694.20) and broke the least amount of land (24.5 acres). Settlers who were previously either owners or tenants showed a greater decrease in net worth, -\$261 and -\$244.70 respectively, than either those with no previous farming experience -\$196.60, or those who were previously farm laborers and who had -\$184.90.

TABLE 34

FARMING EXPERIENCE PREVIOUS TO SETTLING ON THEIR  
PRESENT FARMS FOR THE 407 FARMERS IN THE PIONEER  
AREA OF NORTHERN SASKATCHEWAN.

	No farming experience	Farm laborer	Tenant	Owners
Number of farmers	32	165	73	135
Acres broken:				
1935	8.4	8.5	6.4	8.6
1939	35.4	31.6	33.0	33.1
Years on this farm	8.1	7.3	6.2	6.9
Size of family	5.0	5.2	6.0	4.4
Working Capital:				
1935	\$320.8	\$282.2	\$375.8	\$426.9
1939	780.0	749.4	794.4	913.0
Change	\$459.2	\$467.2	\$418.6	\$486.1
Net worth:				
1935	\$679.1	\$683.1	\$838.8	\$811.1
1939	482.5	498.2	594.1	550.1
Change	-\$196.6	-\$184.9	-\$244.7	-\$261.0
Liabilities:				
1935	\$114.7	\$128.5	\$125.8	\$134.8
1939	1096.2	1050.3	1097.0	1089.5
Change	\$981.5	\$921.8	\$971.2	\$954.7
Assets:				
1935	\$793.3	\$811.6	\$964.6	\$945.9
1939	1578.1	1547.9	1691.5	1640.1
Change	\$784.8	\$736.3	\$726.9	\$694.2

It would appear that previous experience in farming was not an important factor in the success of these settlers. This might be due to the fact that previous farming experience where it was present, was usually obtained in the prairie region. Pioneering in a forested region is so different from wheat farming on the prairies that experience gained there is of little help to the man who sets out to clear a farm home in a district with a heavy bush cover.

Relation of Re-establishment Assistance to Progress

Re-establishment loans were advanced primarily on account of capital equipment. These loans bear interest at  $\frac{6}{100}$  per cent and are payable in cash, as unlike direct relief, they cannot be repaid by road work. They are secured by all property, real and personal, of the settler to whom the loan is made.

Re-establishment assistance was advanced with the object of providing the settler with farm machinery, livestock and buildings which when used to advantage should help in building up a more efficient farm unit. In addition to the foregoing some advances were made for breaking land. Settlers who had a large amount of working capital in 1935 should have needed smaller re-establishment loans than those who were well supplied with working capital. In general this situation held true. Of the settlers who had less than \$150 of working capital in 1935, 60 per cent received re-establishment loans of more than \$450. On the other hand of the settlers who had more than \$449 of working capital in 1935, only 12 per cent received loans totalling more than \$450 and 70 per cent of them had loans of less than \$300 (Table 35).

TABLE 35 RELATION OF WORKING CAPITAL IN 1935 TO AMOUNT OF RE-ESTABLISHMENT ASSISTANCE DURING 1935 TO 1939 FOR 407 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Re-establishment assistance 1935-39	Working Capital in 1935							
	\$0 - \$149		\$150-\$299		\$300 - \$449		\$450 and over	
	No of farms	Per cent	No of farms	Per cent	No of farms	Per cent	No of farms	per cent
\$0 - \$149	8	8.4	10	9.8	25	26.6	53	45.7
\$150-299	8	8.4	24	23.5	34	36.1	29	25.0
300- 449	22	23.1	30	29.4	22	23.4	20	17.2
450- 599	27	28.5	22	21.6	11	11.8	8	6.9
600 and over	30	31.6	16	15.0	2	2.1	6	5.2
	95	100.0	102	100.0	94	100.0	116	100.0

Although in general the settlers with the smaller amounts of working capital in 1935 did receive more re-establishment assistance yet on the whole the beginning farm capital and assistance loans together amounted to a smaller sum for these settlers than for those who started in 1935 with relatively larger amounts of working capital. This is shown in Table 36.

TABLE 36      AVERAGE AMOUNTS OF WORKING CAPITAL IN 1935 and  
AND RE-ESTABLISHMENT ASSISTANCE RECEIVED PER  
SETTLER FROM 1935 TO 1939 FOR 407 SETTLERS  
IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Re-establish- ment assist- ance.	Working Capital 1935			
	\$0 - 149	\$150 - 299	\$300 - 449	\$450 and over
\$0 - 149	\$163	\$319	\$454	\$753
150 - 299	313	461	584	887
300 - 449	445	579	725	1036
450 - 599	575	711	846	1232
600 and over	809	940	1078	1529

Out of 95 settlers, who started in 1935 with less than \$150 each of working capital, 38 received less than \$450 each of re-establishment assistance. On the other hand out of 116 settlers, who started with more than \$450 each of working capital, 14 received re-establishment loans of \$450 or more each. In fact 6 settlers who started with more than \$450 of working capital received more than \$600 each of re-establishment. The assistance loan and beginning working capital for this group of farmers averaged \$1529 each.

In other words, although there was a definite tendency for the farmer with small resources of their own to obtain more re-establishment assistance than those more favorably situated with respect to working

capital yet it is doubtful if this policy was followed strictly in all cases.

Settlers who received the most re-establishment assistance had the least amount of land under cultivation in 1935, showed the greatest gain in working capital and total assets from 1935 to 1939 but showed the largest decrease in net worth for the period. (Table 37)

TABLE 37 RELATION OF TOTAL RE-ESTABLISHMENT ASSISTANCE TO PROGRESS AND THE VARIOUS FACTORS FOR 407 SETTLERS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

		Amount of re-establishment assistance received per farm from 1935 to 1939.				
		\$0 - 194	\$150 - 299	\$300- 449	\$450-599	\$600
Number of farms		96	- 95	94	68	54
Working capital:						
1935		\$507	\$403	\$312	\$237	\$196
1939		872	842	726	730	725
Change		\$365	\$439	\$414	\$493	\$529
Total re-establishment assistance up to 1939		\$ 74	\$219	\$366	\$504	\$741
Agricultural and direct relief 1935 to 1939		712	88	850	1012	1043
Assets:						
1935		\$1143	\$940	\$789	\$615	\$821
1939		1761	1636	1521	1410	1675
Change		\$ 618	\$696	\$732	\$795	\$854
Liabilities:						
1935		\$139	\$135	\$126	\$142	\$ 94
1939		668	939	1097	1393	1606
Change		\$529	\$ 804	\$971	\$1251	\$1512
Net worth:						
1935		\$1003	\$806	\$664	\$473	\$727
1939		1092	698	425	17	69
Change		\$ 89	-\$108	-\$239	-\$456	-\$658
Acres broken:						
1935		12.1	12.8	7.2	4.9	1.5
1939		32.9	37.1	33.2	30.2	31.6
Change		20.8	24.3	26.0	25.3	30.1



The large decrease in net worth \$ 658, for the group which had loans totalling more than \$600 each, was chiefly due to the big increase in liabilities. The farms which needed large re-establishment loans also needed large amounts of direct relief. Because there was no corresponding assets to offset the new debt due to direct relief as there was in the case of re-establishment loans, big increases in direct relief brought sharp increases in liabilities and consequently big decreases in net worth.

Direct and Agricultural Relief in Relation to Progress

The relation between the increase in acres of broken land per farm from 1935 to 1939 and agricultural and direct relief is shown in Table 38.

TABLE 38 RELATION BETWEEN INCREASE IN ACREAGE OF BROKEN LAND PER FARM FROM 1935 to 1939 AND DIRECT AND AGRICULTURAL RELIEF FOR 407 FARMS IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Increase in acreage broken	Number of farms	Average increase in acres broken	Direct and Agricultural Relief <sup>@</sup>					Total
			1934- 1935	1935- 1936	1936- 1937	1937- 1938	1938- 1939	
0- 9	53	6.4	\$99	\$122	\$198	\$222	\$163	\$804
10-19	114	14.9	108	137	208	211	166	830
20-29	113	24.3	142	141	216	251	180	930
30-39	64	34.8	120	150	224	242	163	899
40 and over	63	50.9	142	154	234	248	154	932

<sup>@</sup> Year:- September 1st to August 31st.

For the first three years, 1934-1935 to 1936-37, those who made the most progress received the most relief. In the last two years the relief assistance to this group of farmers declined relative to those who had made little progress. The explanation for this might be that the more energetic settlers who were breaking a considerable acreage were not able to get small part time jobs away from the farm to add to their small farm incomes in the initial stages of development. In addition to this, seed and seeding operations assistance is included in the above relief figures and doubtless some of the increase of relief received by those who broke the most land is due to the greater assistance in this respect.

Relief had a very strong relationship to size of family but very little relationship to the size of the farm measured as acres of broken land.

Holding the size of farm constant in four different size groups the average amount of relief per family increased regularly with increases in the size of family for all sizes of farms. But holding the size of family constant in three different size of family groups did not result in decreases in relief per family with increases in the size of farm. In fact there was a tendency for the amount of relief to increase. This might be due to the larger farms having more seed and seeding assistance but there is a suggestion that in giving relief considerable attention was given to the size of the family of the relief applicant but little attention to the acres that he had in crops. This information is shown in Table 39, page 96.

TABLE 39 RELATION BETWEEN THE SIZE OF FAMILY AND SIZE OF FARM  
(ACRES OF OWNED LAND BROKEN ) TO DIRECT AND AGRICULTURAL  
RELIEF RECEIVED FROM 1934 to 1939. 357 OWNED FARMS.

Size of farm Acres of owned land broken in 1939.	Average acres broken;			Size of Family. <sup>@</sup>		
	Up to 1935	Up to 1939	From 1935 to 1939	1-3	4-6	7 and over
0 - 19	2.5	12.4	9.9	\$682	\$827	\$987
20 - 39	7.4	29.6	22.2	699	828	1147
40- 59	11.9	46.6	34.7	615	852	1299
60 and over	17.0	72.1	55.1	829	734	1210

@ Size of family includes children  
living on farm and parents.

#### ANALYSIS OF THE FARM BUSINESSES OF 16 SETTLERS WHO WHERE PRACTICALLY SELF-SUPPORTING IN 1939.

The main task of the Branch is to assist and guide the development of agriculture in the northern area. The immediate objective is the development of farms with sufficient improved land of fair to good quality to provide a living for the settler. In order to measure the present self-sufficiency of a farmer it is necessary to take into consideration not only the amount of direct and agricultural relief that was received in the 1938-39 year but also the size of farm business which is large enough to provide for the settler's income.

#### Comparison of Significant Factors for the Selected Farms and Averages for All farms.

With the above assumptions in mind all the settlers who receive less than \$75, during the 1938-39 year, for direct relief and agricultural aid were selected for special study. Of a total of 94 settlers in this

category only 16 were considered to have reached the present state of virtual self sufficiency as a result of their farming operations. The records of the remaining 78 settlers in this selected group were discarded from further analysis because it was found that their farms and families were small and they had relatively high non-farm receipts.

Significant factors of comparison for the 16 selected settlers and the complete sample of 407 farms are shown in Tables 40 to 45 inclusive.

Factors Relating to the Settler and His Location.

Distance from market is of prime importance in a region where specialized farming is practiced. Dairies, truck gardening and poultry farms are located in the immediate vicinity of a city market in order that perishable products may be taken to market quickly and regularly.

TABLE 40      FACTORS RELATING TO THE SETTLER AND HIS LOCATION

	16 selected farms	407 farms of study
Average age - years	45.7	44.5
Miles from shipping point	7.8	13.8
Years on present farm	8.8	7.0
Number in family.	4.8	5.4

In the case of cereal or livestock production, especially when the size of business is small, as it is in the case of the average northern settler's farm, distance from market with some qualification ceases to be an important factor in farm success.

8      The average distance from shipping point for the 16 settlers was 7.8 miles as compared with 13.8 miles for the 407 settlers. The better marketing facilities as indicated cannot be considered an important factor in favor of the 16 settlers.

This group of 16 settlers was located on the present farm an average of 2 years longer and they were one year older than the 407 settlers.

The size of family was slightly larger in the case of 407 farmers (5.4) than it was for the 16 selected farmers (4.8).

Utilization of Land in 1939.

The acreage seeded to crops is an important factor in the determination of self-sufficiency in northern Saskatchewan. The 16 settlers who had achieved a high level of self-sufficiency in 1939 as a result of their farming operations had on the average 58.4 acres in crops as compared with 29.9 acres for the 407 farms.

TABLE 41 UTILISATION OF LAND IN 1939 FOR 16 SELECTED FARMS And 407 FARMS.

Average Acres:	16 selected farms	407 farms of study
Wheat	28.4	10.0
Oats	17.4	12.4
Barley	3.3	2.1
Rye	..	0.1
Alfalfa	5.5	2.6
Tame hay	0.6	0.3
Summerfallow	1.9	1.3
Garden	1.1	0.9
Other	0.2	0.2
Acreage in crops	58.4	29.9
New breaking 1939	5.5	6.0
Total	63.9	35.9

On the average the 16 settlers had 18.4 acres more of wheat; 5 acres more of oats; 2.9 acres more of alfalfa and 1.2 acres more of barley than the 407 farms.



Comparative Balance Sheet for 1935 and 1939.

The 16 selected farms had working assets of \$581 in 1935 which had increased to \$1315 by 1939; total assets increased from \$1692 in 1935 to \$2734 in 1939. The liabilities increased from an average of \$86 to an average of \$629 by 1939. The greater increase in assets for the period resulted in an average increase in net worth of \$499 per farm for the 4 years.

TABLE 42      COMPARATIVE BALANCE SHEETS FOR 1935 and 1939,  
16 SELECTED AND 407 FARMS IN THE PIONEER AREA OF NORTHERN  
SASKATCHEWAN.

	<u>16 Selected farms</u>		<u>407 Farms of Study</u>	
	1935	1939	1935	1939
Working Assets:				
Livestock	\$295	\$479	\$184	\$386
Machinery	124	591	115	267
Feed, supplies and cash	162	245	53	135
Total	\$581	\$1315	\$352	\$788
Fixed assets (real estate)	1121	1419	531	818
Total assets	\$1702	\$2734	\$883	\$1606
Liabilities	96	629	130	1076
Net worth	\$1606	\$2105	\$753	\$ 530

The averages for the 407 farms showed a working capital of \$352 in 1935, which had only increased to \$436 by 1939. Total assets increased from \$883 to \$1606; liabilities increased relatively more from \$130 to \$1076. The greater increase in liabilities resulted in a decrease in net worth of \$223 for the 4-year period.

The relatively greater increase in assets for the 16 farms and relatively smaller increase in liabilities compared with the average of all the 407 farms resulted in the former having a much greater net worth than the latter in 1939. In 1935 the 16 farms had an average net worth of \$1606, \$853 more than the average of the 407 farms. By 1939 the average net worth of the 16 farms had increased to \$2105 which was \$1575 more than for the 407 farms

Comparison of Progress Made.

The 16 settlers had the advantage of starting in 1935 with 16.4 acres of land broken which was 8.2 acres more than the average for all the 407 farms. But during the 4-year period they increased this advantage by breaking 39.5 acres compared with an average of 25.5 for all farms.

TABLE 43      COMPARISON OF PROGRESS MADE BY 16 SELECTED SETTLERS  
AND THE 407 SETTLERS OF THE STUDY.

Land on home quarter	16 Selected farms	407 Farms of study
Acres of land broken:		
1935	16.4	8.2
1939	55.9	33.7
Total 1935 to 1939	39.5	25.5

Comparison of Government Assistance Received.

For the first two years the 16 selected farms received about the same amount of relief as the average of all farms. But for the next three years the amount of relief received by these selected settlers dropped off sharply compared with the averages for all farms. For the five years they received a total of \$583 of relief compared with an average of \$877 for all farms.

TABLE 44      COMPARISON OF GOVERNMENT ASSISTANCE RECEIVED FROM 1934 to 1939  
FOR THE 16 SELECTED SETTLERS AND FOR THE 407 SETTLERS OF THE  
STUDY IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

Direct and Agricultural relief (Sept. 1st to Aug 31st)	16 Selected farms	407 Farms of the Study.
1934 - 1935	\$122	\$120
1935-3 1936	131	141
1936 - 1937	158	215
1937 - 1938	126	234
1938 - 1939	46	167
Total 1934 to 1939	\$583	\$877
Re-establishment assistance from 1935 to 1939	172	336
Total all assistance	\$755	\$1213

Although the selected farmers broke 14 acres more land and increased their average net worth by \$499 compared with an average decrease in net worth of \$233 for all farms, yet they only received re-establishment loans totalling \$172 compared with an average of \$336 for all farms.

Comparison of Farm Receipts in 1939

Total farm enterprise receipts for the 16 farms amounted to \$537 per farm compared with an average of only \$183 per farm for all farms. The biggest difference was in the case of wheat where the average sales for the 16 farms amounted to \$343 compared with \$96 for all farms. Non-farm enterprise receipts amounted to \$74 per farm for the 16 farms and \$57 for all farms.

Table 45      COMPARISON OF FARM AND NON FARM RECEIPTS FOR THE  
16 SELECTED SETTLERS AND FOR THE 407 SETTLERS OF  
THE STUDY IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN

Farm Receipts:	16 Selected farms	407 Farms of the study
Wheat	\$343	\$96
Other crops	57	16
Alfalfa	21	8
Breeding fees	1	1
Stock sales	58	31
Other farm produce sales	47	13
Wood sales	10	18
Total	\$537	\$183
<u>Non farm receipts:</u>		
Custom work	\$5	\$16
Road work	6	3
Outside labor	59	29
Remunerations	..	2
Legacies, gifts, etc.	4	7
Total	\$74	\$57
Total farm and non farm receipts	\$611	\$240

### Comparison of Soil Types.

Soil type within a given type-of-farming region is generally a significant factor in successful farming. In order to see if the greater progress of the 16 settlers had been due to a more favorable soil than the average of all the farms this question was investigated. By tabulation it was found that 69.5 per cent of all the farms were predominantly black or gray clay loam to loam; 29 per cent predominantly black or gray sandy loam and 1.5 per cent sandy. An analysis of the 16 selected farms indicated that 75 per cent were predominantly black or gray clay loam to loam and 25 per cent were black or gray sandy/loam soils. It can therefore be concluded that the average soil type for the 16 selected farms was slightly better than the soil type of all farms.

### Summary of Comparative Factors.

Compared with the average for the 407 settlers the 16 selected self-sufficient settlers started with more land broken in 1935; broke more land from 1935 to 1939; showed an increase in net worth for the period; had greater farm receipts, particularly wheat; had slightly better soil; and received less re-establishment, agricultural and direct relief.

### FARM BUDGET FOR A SELF-SUFFICIENT FARM IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN.

The average budget of the 16 farms for the year 1939 is shown in Table 46, page 103. It will be noticed that the yield of wheat, oats and barley and particularly wheat, was considerably higher than might be expected over a period of years. On the other hand the prices for these

grains were very low, 46 cents a bushel for wheat; 19 cents for oats and 25 cents for barley. The yield of alfalfa seed, 83 pounds per acre was only about half of an average yield.

TABLE 46 AVERAGE FARM BUDGET FOR THE 16 SELECTED FARMS,  
WHICH WERE SELF-SUFFICIENT IN 1939, IN THE PIONEER  
AREA OF NORTHERN SASKATCHEWAN.

UTILIZATION OF LAND							FARM LIVING EXPENSES	
Crop:	Acres	Yield	Per acre yield	Farm used	Sales Amount \$			
Wheat	28.4	845	29.8	83	762	352	Groceries, meat, etc	\$183
Oats	15.9	690	43.4	375	315	61	Light and fuel	5
Feed	1.5	1½T	1T	1½T	..	..	Furnishings	18
Barley	3.3	93	28.2	76	12	3	Clothing	63
Forage@	2.6	3.6T	1.4T	3.6T	..	..	Health	33
Wild hay	..	1.4T	..	1.4T	..	..	Miscellaneous	8
Alfalfa seed	3.5	290.1#	82.9#	68.8#	221#	31	Total	\$310
Summer'ow	1.9							
Breaking	5.5							
Garden	1.1							
Total	63.9					\$447		
LIVESTOCK AND LIVESTOCK PRODUCTS								
Average inventory				Sold:				
				Number	Value			
Work horses	3			..	..			
Colts	1			..	..			
Total	4			..	..			
Cows	3			..	..			
Calves	1			..	..			
Other	2			1	\$30			
Total	6			1	\$30			
Brood sows	1			..	..			
Other hogs	3			2	\$28			
Total	4			2	\$28			
Poultry	41			2.	..			
Total livestock sales	\$58							
Dairy products:		FARM RECEIPTS						
84½# Butter @						Crop sales	\$447	
15.4 cents	\$13					Stock sales	58	
Eggs:60						Other farm produce	10	
doz @ 10¢	6					Custom work	5	
Total	\$19					Stock produce	19	
Garden produce	5					Road work	6	
Fruit	5					Outside labor	57	
Total	\$10					Wood sales	7	
						Breeding fees	1	
						Total	\$610	

FARM EXPENSES - CASH -	
Formalin	\$1
Blacksmith	10
Gas and oil	5
Small hardware	11
Twine	14
Hay and pasture	2
Breeding fees	4
Taxes	28
Vet and medicines	5
Real estate repairs	4
Machinery repairs	12
Threshing	100
Miscellaneous	10
Total	\$206
SUMMARY	
Total receipts	\$610
Total expenses:	
farm	\$206
living	310
Total cash expenses	516
Net cash income	94
Depreciation on:	
Machinery 10%	\$59
Buildings 4%	14
Total	\$73
Net income	\$21



On the average the livestock consisted of 3 work horses 3 cows, 1 sow and 41 chickens. This livestock supplied home needs and gave a surplus of \$77 of products for sale.

The family cash living costs amounted to \$310 which was low but considering the availability of wild fruit and free fuel off the farm probably it is comparable to a subsistence living of \$400 to \$450 in the prairie region.

This farm budget shows a net cash balance of \$94 after living and farm expenses have been deducted. In view of this balance the question arises why the average relief for these 16 farms amounted to \$46 for the 1938-39 year. The explanation is that the farm budget is based on the 1938-39 year for expenses and most of the farm receipts, but the cash receipts from grain were from the crop of 1939. It is more than likely that the crop of 1938 at the start of the budget year and the relief year (1938-39) was smaller than the crop of 1939, which would result in the small amount of relief given to these 16 settlers.

Over a period of years lower crop yields for cereals and higher yields for alfalfa seed can be expected than actually was the case with the 16 farms in 1939. On the other hand over a period of years lower prices might be expected for alfalfa seed but higher prices for cereals. With the above assumptions in mind a new farm budget was set up using average estimated long time yields and prices for crops and livestock products. Minor changes were made in some of the farm expenses to conform more closely to anticipated costs. These changes were made for threshing, twine, building repairs and machinery repairs. This budget is shown in Table 47, page 105.

TABLE 47

ESTIMATED NORMAL FARM BUDGET FOR A SELF-SUFFICIENT FARM  
UNIT IN THE PIONEER AREA OF NORTHERN SASKATCHEWAN

UTILIZATION OF LAND						FARM LIVING EXPENSES	
	Acres	Yield	Per acre yield	Farm used	Sales: Amount	\$	
Barley	3.3	85	25.7	76	9	\$4	Groceries, meat, etc \$183
Wheat	28.4	523	18.4	83	440	\$330	Light and fuel 5
Oats	15.9	568	35.7	375	193	56	Furnishings 18
Feed oats	1.5	1 $\frac{1}{2}$ T	1 T	1 $\frac{1}{2}$ T	..	..	Clothing 63
Forage@	2.6	5.2T	2 T	5.2T	..	..	Health 33
Wild hay	..	2T	..	2 T	..	..	Miscellaneous 8
Alfalfa seed	3.5	614#	175 $\frac{1}{2}$ #	4#	610#	73	Total \$310
Summerfallow	1.9						
Breaking	5.5						
Garden	1.1						
Other	0.2						
Total	63.9					\$463	
@ Includes alfalfa							
LIVESTOCK AND LIVESTOCK PRODUCTS						FARM EXPENSES - Cash -	
	Average inventory		Sales:				
			Number		\$		
Work horses	3					Formalin \$1	
Colts	1					Blacksmith 10	
Total	4					Gas and oil 5	
Cows	3					Small hardware 11	
Calves	1					Twine 10	
Other	2		1		\$30	Hay and pasture 2	
Total	6		1		\$30	Breeding fees 4	
Brood sows	1					Taxes 28	
Other hogs	3		2		\$28	Veg. and medicines 5	
Total	4		2		\$28	Real estate repairs 10	
Poultry	41					Machinery repairs 24	
Total livestock sales					\$58	Threshing 69	
						Miscellaneous 10	
						Total \$189	
LIVESTOCK PRODUCTS						SUMMARY	
DAIRY: Butter						Total receipts	\$633
84 $\frac{1}{2}$ # @ 20¢	\$17					Total expenses:	
Eggs: 60 doz						Farm \$189	
at 15¢	9					Living 310	
Total	\$26					Total cash	\$499
Garden produce	\$5					Net cash income	\$134
Home grown fruit	5						
Total	\$10					Depreciation:	
						Equipment 10% \$59	
						Buildings 4% 14	
						Total	\$73
						Net income	\$61
FARM RECEIPTS							
Crop sales					\$463		
Livestock sales					58		
Livestock produce					26		
Other farm produce					10		
Custom work					5		
Road work					6		
Outside labour					57		
Wood sales					7		
Breeding fees					1		
Total					\$633		

With normal long time yields<sup>18</sup> and prices the budget indicates that about 58 acres of cropland is necessary for a settler with an averaged sized family to be self-supporting. A careful scrutiny of the budget will indicate no tame pasture is allowed and barely sufficient forage for the livestock carried. For these reasons it is probably safer to say that it requires about 60 acres of cropland for a self-sufficient farm unit in northern Saskatchewan under the type-of-farming as practiced at present.

#### SUMMARY

The most important findings in this analysis of the sample of 407 settlers in northern Saskatchewan may now be summarized as follows:

1. The average age of the settlers was 44 years in 1939.
2. Almost half the settlers had never had any farming experience previous to locating on their present farms. The lack

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18. Average yields of wheat, oats, and barley were the yields of these grains from 1918 to 1938 in the Rural Municipalities Nos. 487, 491, 426, 366, 529, 331 and 426 as reported by the Statistics Branch, Dept. of Agriculture Regina, Sask.

Average alfalfa seed yields were obtained from a study of alfalfa seed production conducted by the Farm Management Department, University of Saskatchewan and the Dominion Forage Laboratory, Saskatoon, Sask. (See page 18 of this thesis.)

of farming experience was apparently not a serious handicap as these inexperienced settlers made as much or more progress than the settlers who had considerable farming experience.

3. About 88 per cent of these farms were suitable for settlement from the standpoint of topography and low costs of clearing. Only 1.4 per cent were classified as very stony farms.

4. Practically all the farms were situated on fair to good soils, that is on gray and black sandy loam to gray and black clay loam soils. Only 1.5 per cent of the farms were classified as predominantly sandy.

5. All the farms were quarter section units with the exception of 50 farms which rented additional land. The average potential arable land was 126 acres per quarter section farm; less than 1 per cent of the farms had less than 60 acres of potential arable land.

6. The average owned farm had 33 acres of cultivated land, about two horses, two cows, and 30 to 40 hens. There were practically no sheep; every other farmer had one sow.

7. The total assets of the average farm amounted to \$1606, comprising \$814 of real estate, \$267 of machinery and equipment, \$386 of livestock and \$139 of feed seed and cash.

8. The average liabilities amounted to \$1076 and the average net worth was \$530.

9. A few farmers were short of essential buildings and many farmers lacked one or two essential pieces of farm machinery or equipment.

10. The type-of-farming tended to be a self-sufficient type with very little cash sales of products from the farm. Size of farm was the dominant factor in determining the type-of-farming, being more important than regional or soil differences. As the size of farm increased the relative importance of wheat production increased and the relative importance of livestock production decreased. Alfalfa for seed production was a little more important on the gray than on the black soils. On the whole, with the exception of alfalfa seed production on the gray soils, the evidence indicates that as the size of farm increased the type-of-farming approached more closely to that of the Black soil zone or 'park belt'.

11. The vegetative cover of the farm was the most important single factor in the progress made by the settlers from 1935 to 1939. The acres of land broken during this period varied from an average of 19 acres for heavy bush quarter sections to an average of 34 acres for light scrub quarter sections.

12. More progress was made from 1935 to 1939 by the settlers who started well equipped with working capital, than by the settlers who were poor in this respect.

13. As a rule settlers who received the most re-establishment assistance had the smallest initial resources of their own and broke the most land from 1935 to 1939.

14. The average number of acres broken per year by



the settler was considerably greater after 1935 when they began to receive re-establishment loans than prior to this date when they had to depend upon their own resources.

15. For the first three relief years, 1934-35 to 1936-37, the settlers who broke the most land received the most direct relief and agricultural aid. In the last two years however government assistance to these more progressive settlers tended to decline relative to the other settlers.

16. Relief assistance was closely related to the size of family; but holding the size of family constant it was not related to the size of farm.

17. About 60 acres of cultivated land is about the minimum size of farm unit necessary to support an average family on a relatively low level of living.

#### CONCLUSIONS

One of the objectives of this thesis was to study the progress made by the settlers of northern Saskatchewan under the supervision of the Northern Settlers' Re-Establishment Branch in order to see how effective is this kind of supervised and assisted settlement. Based on the random sample of 407 farms the work of the Branch has proved to be quite effective. About half the settlers had no previous farming experience, the balance were mostly farmers who had failed on the prairies for a number of reasons.

These settlers started out in a bush country with very little resources of their own. The Branch has assisted them by giving them direct relief and small supervised re-establishment loans. Today a number of these farmers have sufficient land under cultivation to be virtually freed from the necessity of taking further relief. The remainder of the settlers are working towards this goal by breaking about 4 to 8 acres of land each year.

Practically all these settlers are located on quarter sections that can eventually be self-sustaining farm units with a minimum of 60 acres of cultivated land, of fair to good quality. The question has often been raised as to whether or not the quarter section unit is too small a farm for the northern Saskatchewan. Based on this study a typical quarter section farm in the north can make a reasonably satisfactory family farm unit. This is because wood is usually available on the farm, and the relatively high moisture efficiency enables satisfactory crops of cereals and forage to be grown with only a small proportion of the land in summerfallow.

A final question to be asked is can the settlers repay the money advanced by the Government? The average amount of re-establishment assistance for the 407 settlers up to 1939 amounted to \$336 per farm; only 13 per cent had loans totalling more than \$600 per farm. The average settler broke 25 acres of land during the period when the average loan amounted to \$336.. It is likely that by the time the average settler has had 60 acres of cultivated land the average loan will amount to not more than \$600. This

assumes an increase in the re-establishment loan for breaking land and some additional for working capital.

The above calculation is based on the assumption that the settler has some initial capital of his own. Assuming the settler had no initial capital whatsoever the total re-establishment loan without any interest accumulations would amount to about \$1200 by the time he has 60 acres cleared. This amount would be broken down as follows:

Loan on account of:

Buildings <sup>@</sup>	\$200
Livestock @	380
Machinery @	300
Breaking 60 acres	300
Total	<u>\$1180</u>

<sup>@</sup>See page 57 of this thesis.

The amount of re-establishment loan necessary until self-sufficiency is reached should range from \$1200 down; probably a reasonably safe maximum would be \$1000.

The question of the possibility of repaying re-establishment loans depends upon the potential arability of the farms. Farms which have a maximum of 60 acres of cultivated land cannot repay any loan. However in this study 85 per cent of the farms have a potential arability of more than 100 acres. These farms can probably all repay small loans up to a maximum of \$1000 provided the interest rate is low and no interest is charged until the farmer starts to repay the loan.

Probably none of these farms could repay the direct relief and agricultural aid in addition to re-establishment loans. But It is assumed that relief will be repaid by road work within the community.

---

## APPENDIX



#3  
1

Sec. Twp. R.  
19-62-24-3

Topography 148.19 Stones 19 Vegetation HB Value of Cordwood \$ 2400.00

pe Veg.	Clearing	Breaking
M.S.	7	6
17 B	10	6
14 B	20	6

Present acreage in:

Pasture .....	10 muskeg	
Hay .....		10
Stock carrying capacity or tons per acre:		00
Pasture .....		XX
		00

Hay .....	
Total number of	
Livestock units.....	1.0
Total sales.....	0.0
Total bought \$.....	
Value stock consumed	
on farm \$.....	
Farm products:	
Sales \$.....	
Used \$.....	

s: MACHINERY: Tractor: size....Age....Plows.... Brush breaker... Disc harrow....

Paid for hired work\$... Received for custom work.\$.....



OTHER ASSETS	1934	1935
Cash on hand	\$.....	\$.....
Owing to operator	.....	.....
Other farm lands	.....	.....
Good non agric inv.	.....	.....
Other investments	.....	.....
Total	\$.....	\$.....

LIVING EXPENSES:	\$
Groc. fruit meat	.....
Light	.....
Life insurance	.....
Personal	.....
Education	.....
Church	.....
Health	.....
Clothing	.....
New furnishings	.....
Total	\$.....

EXPENSES:	\$
Formalin	.....
Blacksmith	.....
Oil and grease	.....
Small hardware	.....
Binder twine	.....
Pasturing stock	.....
Feed purchased	.....
Seed purchased	.....
Breeding fees	.....
Taxes on R. E.	.....
Vet medicines	.....
Livestock bought	.....
Machinery bought	.....
Machinery repairs	.....
Real estate expenses	.....
Payments on land	.....
Hired work	.....
Hired labour	.....
Living expenses	.....
Living expenses (not relief)	.....
Other	.....
Total	\$.....

RECEIPTS	\$
Crop sales	.....
Stock sales	.....
Other farm produce	.....
Custom work	.....
Road work	.....
Use of pasture	.....
Breeding fees	.....
Receipts from other farms	.....
Remunerations	.....
Outside labour	.....
Pensions	.....
Legacies, gifts	.....
Income from outside	.....
Total	\$.....

### OPERATORS HISTORY

Born on farm .....  
 National origin .....  
 Years in Can. 24 P.P. 23 Sask. 23  
 Years full time work other farms .....  
 Years other occupations .....  
 Other full time occupation other than farming .....  
 Yrs tenant on other farms .....  
 " " " this farm .....  
 " owner other farms .....  
 " owner of this farm .....  
 Present age of operator 40  
 Conjugal state .....  
 R. M. of origin .....  
 Nature of disability, if any...  
 Interference of disability with farming .....  
 Education of operator Top grade .....  
 Number of children on farm 3  
 No children working on farm .....  
 Is he a desirable settler (p.11) .....  
 .....  
 .....

XXX  
 S 000  
 R 000  
 XXX

S 000 XXX  
 R 000 XXX



**FARM MANAGEMENT DEPARTMENT UNIVERSITY OF SASKATCHEWAN**  
**IN COOPERATION WITH THE NORTHERN SETTLER'S RE-ESTABLISHMENT BRANCH.**

Name of settler. . . . .				Age . . . . .	Post office. . . . .	Name . . . . .	Miles/farm. . . . .
DESCRIPTION OF LAND							
L.I.D. or R.M. Number	Tenure	Quarter	Sec.	Twp	Range	W.	Acres.

(October 31) 1935		1939	Shipping point . . . . .
Approximate amount owing on purchased land \$ . . . . .		\$ . . . . .	Road to shipping point: Trail . . . . .
Taxes owing \$ . . . . .		\$ . . . . .	Improved road . . . . .
			School . . . . .
			Church . . . . .
			Nearest hospital . . . . .
			Number of children on farm . . . . .
			Estimated months of work on farm by family . . . . .

CROP AND LAND USE REPORT 1939	Acres	Acres	Total Yield		Total share to settler	Sales		To be sold	
	Owned	Rented	Owned	Rented		Amount	\$	Amount	\$
Wheat									
Oats									
Barley									
Rye									
Alfalfa									
Tame Hay (Kind)									
Wild Hay	X	X							
Breaking									
Summerfallow									
Garden			X	X	X	X	X	X	X
Other									
Totals			X	X	X	X	\$	X	\$

BROKEN UP TO 1939			CLEARED UP TO 1939: Type of Veg. Acres. Cost per Acre							
	Acres	Cost/Acre	L.S.	M.S.	H.S.	L.B.	M.B.	H.B.	E.H.B.	
			Acres \$	Ac. \$	Ac. \$	Ac. \$	Ac. \$	Ac. \$	Ac. \$	
By settler	.	.	.	.	.	.	.	.	.	
By custom work	.	.	.	.	.	.	.	.	.	
Branch	.	.	.	.	.	.	.	.	.	

Estimated total acreage that can eventually be cultivated? . . . . . Acres cleared by forest fires since 1935? . . . . .

Acres affected by drainage projects since 1935? . . . . . Explain . . . . .

BUILDINGS	Number	Size	Walls	Roof	Cash cost	Year built
Operator's house					\$ . . . . .	
Other house						
Main barn						
Kind of other bldg.						
Other buildings		X	X	X		X
Total					\$ . . . . .	

Cash cost of repairs and improvements on buildings since Re-Establishment (give details) \$ . . . . . \$ . . . . . \$ . . . . . \$ . . . . . \$ . . . . .

Has settler a radio? . . . . .



LIVESTOCK RECEIPTS OCT. 31, 1939

FARM PRODUCE SALES

On hand		Sales for year.		Amount		Value
No.	value	No.	value			\$
Cows				Milk		
Heifers				Cream		
Steers				Butter		
Calves				Eggs		
Bulls				Hides		
Sheep				Wood		
Brood Sows				Hay		
Boars				Wild fruit		
Other hogs				Home grown fruit		
Chickens				Honey		
Ducks				Garden produce		
Geese				Potatoes		
Turkeys				TOTAL	X	\$
Horses						
Colts						
Oxen						
Total	X	X				

Approximate amount owing on livestock  
1935 - \$ 1939 - \$

## MACHINERY AND EQUIPMENT -

Tractor (Make) . . . . . Size . . .  
Age . . . Value 1935 - \$  
Value 1939 - \$

	1935	1939
No. value	No. value	
Plows		
Brush Break		
Disc harrows		
Drill		
Binder		
Mower		
Rake		
Wagon gear		
Wagon boxes		
Buggy		
Sleighs		
Fanning mill		
Harness		
Cultivator		
Sp.tooth harrows		
Drag harrows		
Wagon rack		
Blacksmith tools		
Small tools		
Feed cutter		
Chopper		
Saw		
Small gas engine		
Auto		
Truck		
Combine, windrower		
Separator . . v.		
Cream separator		
Stump puller		
Other		
Total	\$	\$

## FARM RECEIPTS (EXCLUDING RELIEF)

Value 1939

Crop sales (P.1) . . . . . \$  
Previous years crop sales . . . . .  
Stock sales (p.2) . . . . .  
Other farm produce (p.2) . . . . .  
Breeding fees . . . . .  
Custom work (kind) . . . . .  
Road work (cash) . . . . .  
Outside labour (kind) . . . . .  
Remuneration . . . . .  
Pensions . . . . .  
Legacies and gifts . . . . .  
Income from outside . . . . .  
Sales of machinery & equip. . . . .  
TOTAL FARM CASH RECEIPTS

Uncollected balance of current  
income (kind) \$

Old accounts collected during  
1939

Accounts owing to settler still  
outstanding { Amt.1935 \$  
{ Amt.1939 \$

## CASH LIVING EXPENSES (EXCLUDING RELIEF)

Groc. fruit and meat . . . . . \$  
Light . . . . .  
Life insurance . . . . .  
Personal . . . . .  
Education . . . . .  
Church, charity . . . . .  
Health . . . . .  
Clothing . . . . .  
New furnishings . . . . .  
TOTAL \$

UNPAID BALANCE OF CURRENT LIVING  
EXPENSES

Paid on old accounts for living  
expenses \$  
Approx.amt. of all accounts still  
owing on living expenses 1935 \$  
1939 \$

Approximate amount owing on  
equipment 1935 \$ 1939 \$



FARM EXPENSES (EXCLUDING RELIEF)

Formalin . . . . .	\$ . . . . .
Blacksmith . . . . .	\$ . . . . .
Gas, oil and grease . . . . .	\$ . . . . .
Small hardware . . . . .	. . . . .
Binder twine . . . . .	. . . . .
Hay lease or pasture . . . . .	. . . . .
Feed purchased . . . . .	. . . . .
Seed purchased . . . . .	. . . . .
Breeding fees . . . . .	. . . . .
Taxes on Real Estate . . . . .	. . . . .
Veterinary, medicines . . . . .	. . . . .
Real Estate repairs . . . . .	. . . . .
Machinery repairs . . . . .	. . . . .
Hired custom work . . . . .	. . . . .
Paid labour . . . . .	. . . . .
Miscellaneous . . . . .	. . . . .
<b>TOTAL FARM EXPENSE</b>	<b>\$ . . . . .</b>

UNPAID BALANCE OF CURRENT

FARM EXPENSES	\$ . . . . .
Paid on old accounts for farm expenses	\$ . . . . .
Money loaned out during 1939	\$ . . . . .

Approximate amounts of all accounts still owing on farm expenses in 1935	\$ . . . . .
in 1939	\$ . . . . .

CAPITAL EXPENDITURES - 1939 (EXCLUDING RE-ESTABLISHMENT)

Equipment bought	\$ . . . . .
Livestock bought	. . . . .
Real Estate improvements (buildings, fences, wells, etc)	. . . . .
Payments on land	. . . . .
Total current capital expenditures	. . . . .
Unpaid balance of current capital expenditures	. . . . .
Payments on old accounts for capital expenditures	. . . . .
= = = = =	= = = = =

STATEMENT OF REVENUE AND EXPENDITURE

Cash on hand at beginning of year	\$ . . . . .
Total farm cash receipts (p.2)	. . . . .
Old accounts collected during 1939 (p.2)	. . . . .
Unpaid balance of current - (living expenses)	. . . . .
(farm expenses)	. . . . .
(capital expenditures)	. . . . .
<b>TOTAL REVENUE</b>	<b>\$ . . . . .</b>

EXPENDITURES

Total living expenses	\$ . . . . .
Total farm expenses	. . . . .
Total amount capital expters.	. . . . .
Paid on old accounts for: (living expenses)	. . . . .
(farm expenses)	. . . . .
(capital expenditures)	. . . . .
Money loaned out during 1939	. . . . .
Cash on hand at end of year	. . . . .
<b>TOTAL EXPENDITURES</b>	<b>. . . . .</b>

GENERAL REMARKS :

1. Settlers plans for future development ? Does he plan to expand his acreage of cereals (wheat, oats, barley, etc.) alfalfa, fruit and garden, or his livestock enterprises ?

2. Municipality or town of origin . . . . . If rural origin indicate if possible the legal description of the farm unit operated there at the time of abandonment and if possible give reason for abandonment.

3. Settler's attitude toward the possibility of becoming self-sufficient

Optimistic . . . . .	Indifferent . . . . .
Pessimistic . . . . .	





## INSTRUCTIONS TO INSPECTORS

Briefly the object of this study is to determine the progress of settlers in the extreme northern areas since the fall of 1935, when the Northern Settlers Re-establishment Branch was organized. For this purpose a random sample of about 550 farms has been chosen. These farms are located throughout the entire northern area from the east to the west. One of the important measures of progress which is to be used in this study is the gain in net worth of the settler from 1935 to 1939. This is calculated by finding the increase in the assets and the decrease in the liabilities of the settler over a specified period. For this reason the present questionnaire attempts to get some estimate of the settler's present indebtedness as compared with his indebtedness in the year 1935.

Another measure of progress which is used and one which is probably of greater immediate importance in the present Re-establishment scheme, is the rate at which the settler is becoming self-supporting. A study of farm receipts and expenditures will be made to compare the self-supporting ability of the settler at the two points of time.

The questionnaire will also serve as a guide in studying the type of business setup where settlers have become self-supporting.

The sample blank made out is not intended to serve as an example of an ideal farm setup in the northern area and is merely designed to indicate how the questionnaire might be answered. Where the particular case merits a fuller answer, the Inspector should not feel obliged to adhere to the sample record. The number and kinds of farm machinery which the settler had in 1935, according to the survey made that fall, are listed and you are asked to obtain an estimated value of these as they were in 1935. It is necessary to complete the inventory of farm machinery in 1935 in order that the inventories of 1935 and 1939 may be compared.

To assist in enumeration and uniform interpretation the following explanations are made :

Road to shipping point - The total of miles by trail and miles by improved road should equal the total miles to shipping point.

Church - If the church in the neighbourhood is not of the denomination to which the settler belongs, and if he does not attend this church, it may be considered that the settler has no church service available.

Tenure - State whether quarter under consideration is owned or rented. Use 'O' for owned, and 'R' for rented.

Taxes owing 1935 and 1939 - This information may not be available in the field tax rolls and where this is the case no entry should be made. The total tax arrears in 1939 are available and should be filled in.

Acres broken and cleared up to 1939 and Costs of breaking and clearing - The object is to determine the total acres cleared and total acres broken up to the present time and the cash cost of clearing and breaking. Since any clearing by the settler is likely to involve only family labour no estimates of clearing costs by the settler are asked. An estimate is to be given of the cost of clearing land by custom work and by the branch. The acres cleared and the cost per acre in the latter cases for light scrub (L.S.), medium scrub (M.S.), heavy scrub (H.S.), light bush (L.B.), medium bush (M.B.), heavy bush (H.B.), and extra heavy bush (E.H.B.) are desired. In the case of breaking by the settler, family labour is not to be considered as a cash cost of breaking. Only where cash costs such as fuel, oil, etc., are incurred the cost of these per acre are to be estimated. Actual costs of breaking by custom and branch are desired.

Acres affected by drainage projects since 1935 - Besides an estimate of the acreage affected an indication should be given of how effective the drainage project has been for the individual concerned by comparing the state before and after drainage.

Kinds of other buildings - An enumeration of the kinds of other buildings, their cost, and dates built should be entered as indicated on the sample copy.

### FARM RECEIPTS (EXCLUDING RELIEF)

Previous years' crop sales - Refers to last year's crop sold this year.

Remuneration - Refers to payments for duties such as that of school secretary, etc.

Income from outside - Might include such an item as board of school teacher or net income from other farms.

Uncollected balance of current income (kind) - This refers to amounts owing to settler for work done, crop sold, etc., during 1939. 'Kind' - a note should be made stating if the uncollected amount is for crop sales, stock sales, breeding fees, etc.

Old accounts collected during 1939 - Refers to amounts collected during the year on accounts owing to settler previous to the year 1939.

Accounts owing to settler still outstanding - Refers to the total amount which is owing to the operator at the present time and which can be



collected at some future date. This is also to include the 'uncollected balance of the current income.'

#### CASH LIVING EXPENSES (EXCLUDING RELIEF)

Personal - Refers to expenditures for tobacco, picnics, etc., and such items of a strictly personal nature.

Education - This should include not only costs of tuition and books for children but also the cost of subscriptions to magazines, newspapers, and general reading material.

Health - This item should not include any hospitalization, medical attention or medicines provided on relief.

Unpaid balance of current living expenses - Refers to the amounts owing for items under cash living expenses (excluding relief) during the current year. The total portion paid cash and owing for the current year should be entered in the ordinary way for each item as the total cost of groceries, fruit and meat for example, while the amount owing should be noted separately and included along with other such items in the 'unpaid balance of current living expenses.' In the case where farm products are traded in on groceries the total cash value of these should be considered as 'Farm produce sales,' and entered in that section. The value of groceries, etc., received, should be entered in the 'cash living expense' account as an expenditure.

Paid on old accounts for living expenses - Refers to payments made this year on accounts owing prior to the current year.

Approximate amount of all accounts still owing on living expenses - Refers to the total amount still owing for living expense items at the present time (including 'unpaid balance of current living expenses'). The same general reasoning applies throughout to 'Farm Expenses (excluding relief)' and to 'Capital Expenditures 1939 (Excluding Re-establishment).'

FARM EXPENSES (EXCLUDING RELIEF) - Gas, oil and grease - This Account should include expenditures for these items for the tractor, auto, etc.

The same general procedure will be followed in dealing with 'Farm Expenses (excluding relief)' as under 'Cash living expenses (excluding relief).'

#### CAPITAL EXPENDITURES - 1939 (EXCLUDING RE-ESTABLISHMENT)

Real Estate improvements (Buildings, fences, wells, etc.) Where additions or improvements are made to buildings, fences or wells, these should be included under the capital expenditure item. However, where expenditures are made for ordinary repairs these should be included in 'real estate repairs' under the 'Farm Expenses' heading.

Generally the procedure of enumerating under this heading is the same as under the heading 'Cash Living Expenses (excluding relief).'

Payments on old account for capital expenditures - Care should be exercised not to duplicate 'payments on land' in this space (see above). Only payments other than on land should be included as 'payments on old accounts for capital expenditures.'

STATEMENT OF REVENUE AND EXPENDITURES. A total of the transfers of items as indicated in this account should yield a total revenue equal to the total expenditure. A difference of five percent between these two totals is permissible. Where the difference is greater the settler should be in a position to recall and indicate if any payments were made, moneys received, or debt incurred, for the current year, other than have been given. In the example used expenditures are larger than the revenue by \$16.50. The percentage that this difference is of the revenue is  $\frac{16.50}{100} = 3.5$  percent approximately. This is less than the five percent difference and no further questioning of the settler would be required.

Seeding, direct relief and re-establishment assistance - Information on seeding, direct relief and re-establishment assistance will be obtained from Head Office so in no case shall receipts, expenditures and indebtedness from this source be included in receipts or expenditures.

'Blocks' - In the case of 'block' settlements, the study of progress will be made for the period 1936 to 1939. Therefore, those Inspectors dealing with 'block' settlers will substitute the year 1936 for the year 1935 for the crop report, inventories, indebtedness, etc.

'Current year' - is to be taken as November 1st 1938 to October 31st 1939, and is also referred to as the year '1939.'

Estimates of receipts and expenditures, etc., may be made to the nearest dollar.

Replies - These are to be sent to the Head Office at Regina. In case of difficulty in interpretation telephone Head Office at Regina. Extra blanks are provided in case these should be needed.