

TYPES OF FARMING AND PROGRESS OF
SETTLERS IN THE SWAN RIVER VALLEY

A THESIS

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CECIL VIVIAN PARKER

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TYPES OF FARMING AND PROGRESS OF SETTLERS IN THE SWAN RIVER VALLEY

A - INTRODUCTION

The purpose of this investigation was to ascertain the economic progress made by the settlers and to study the type of farming carried on in the Swan River Valley.

In the year 1930 the Canadian Pioneer Problems Committee conducted a survey in Northern Manitoba, the main purpose of which was to discover what progress the settlers had been able to make. Many of the old timers are still resident in this section and attempts were made to secure the financial story of their life's work so that these experiences might be presented in order to aid in further settlement.

With this material on hand the object of this thesis is to present the facts as discovered in the field. In the course of the analysis certain tendencies appear and these will be noted and presented in the light of the information available and in accordance with what appears to be at present logically sound.

The purpose of this work may be readily seen when one considers the great need for knowledge of, and investigation into actual cases of settlement in order to shape new policies. It is also evident that a study of an area to present the most common types of farming, sources of income, size of farms, etc.,

gives useful information for those connected with extension work, rural studies, and agricultural representative work.

From the standpoint of the individual farmer his co-operation with a project of this nature affords him the opportunity to aid in the obtaining of information which will be of benefit to him in solving the problems of his own farm organization.

B - SOURCE OF MATERIAL

The information for this report has almost wholly been drawn from data collected by the Canadian Pioneer Problems Committee. References have also been made to census material, the publication "Unused Land of Manitoba" and other bulletins which will be noted throughout the writeup.

C - METHOD OF STUDY

Assuming the need of scientific study of the farm business the next question is how best to obtain the necessary data. In other agricultural sciences the laboratory method is used but in agricultural economics the actual farm as a going concern must be studied. The three chief methods of obtaining the necessary information are (1) cost accounting; (2) farm bookkeeping; (3) survey.

The cost accounting method, though accurate and efficient, is very costly and requires a great deal of the

farmer's time. Due to the cost only a few farmers can be included in the study and in all likelihood a selected group would be obtained.

The farm bookkeeping method would entail a standard set of books and supervision of same. The project would be difficult to organize among the farmers and so a small selected group would likely result. Several years would be needed to make a satisfactory study.

The survey method was adopted to obtain the information embodied in this report. Among the advantages of this method are speed, cheapness and comprehensiveness. A large number of farms can be included in the study which permits of generalization. Representative data, both good and bad, are obtained since no attempt is made to select certain farms.

The survey method, however, has some limitations. Much of the data obtained is not accurate but only estimated. There is also great danger of making deductions that are unwarranted. The personal factor in obtaining the information is also large.

Trained field workers are generally employed to obtain the information. These men should be familiar with the farming conditions of the region.⁽¹⁾ It is their business to visit the farmer, to explain the purpose of the study and to try to obtain the farmer's interest, confidence, and co-

(1) The Farm Business in Saskatchewan. Bul 37, by Wm. Allen.

operation, all of which are essential to successful record taking.

The accuracy of the survey work depends considerably on the nature of the questions asked, the way they are put by the enumerator, and the number of farmers responding. There is a tendency to make some estimates too high and others too low, but the over-estimates closely offset the under-estimates where a sufficient number of farmers are interviewed.

D - PHYSICAL ASPECTS OF THE DISTRICT

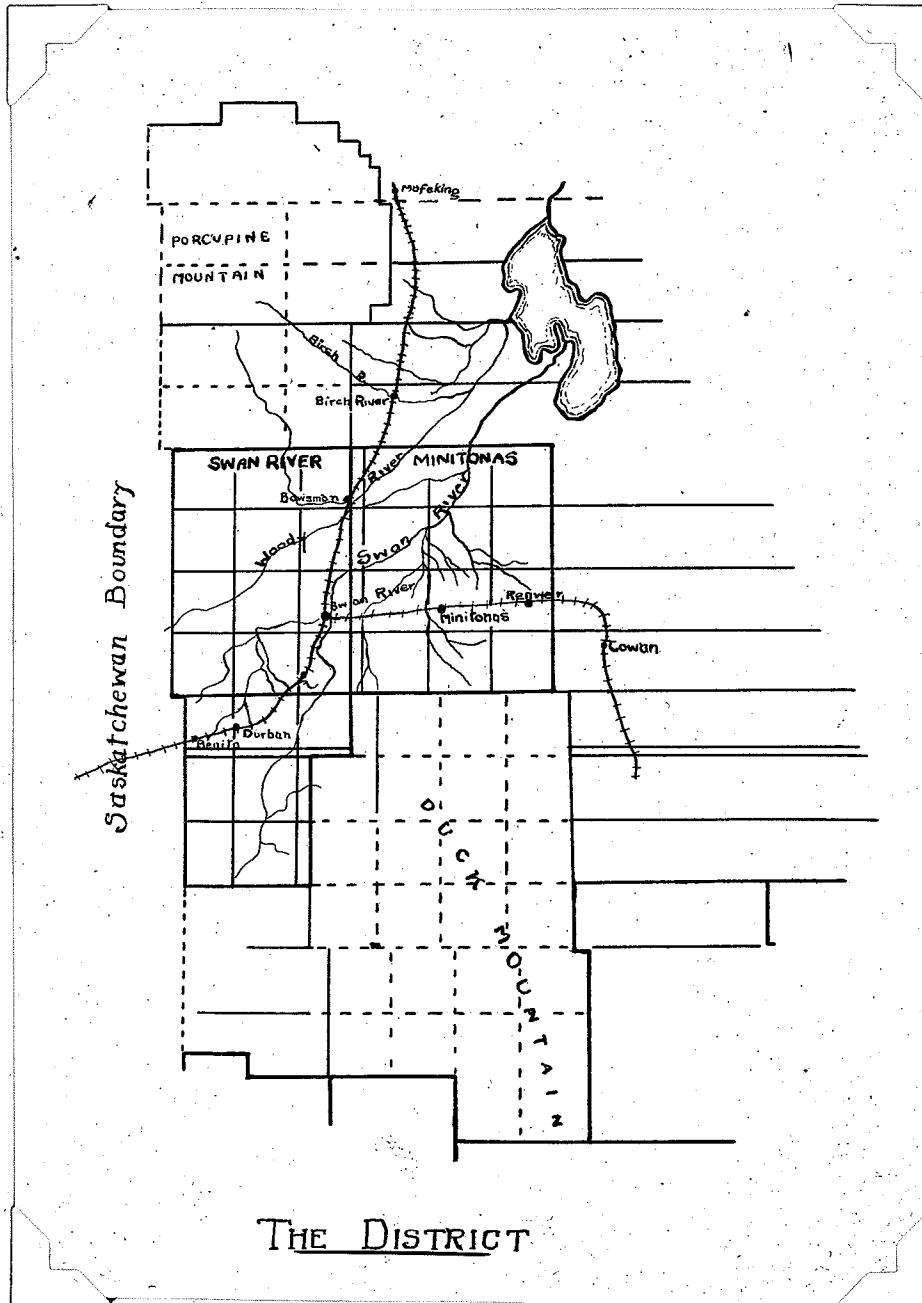
(1). Location and Extent

The Swan River Valley is situated between the Duck and Porcupine Mountains, and is a gradual incline from east to west from the first to the second prairie steps. This district extends from the municipality of Ethelbert on the south to township 45 on the north. On the east it is bounded by Lake Winnipegosis and on the west by the Province of Saskatchewan¹. Included in its area are the municipalities of Swan River and Minitonas as well as a large unorganized tract.

There are 2,016,661 acres in this area of which 666,484 acres or 31.5% is in occupied farms. Sixty-five per cent (1,313,280 acres) of the total is unorganized, about half

¹ Unused Lands of Manitoba Page 185 by R. W. Murchie and H. C. Grant.

MAP No. 1



of which is taken up by the Duck Mountain and Porcupine Forest Reserves.

The number of farms in this area in 1926 was 2,682. Some of these farms are in the unorganised area.

(2). Soil and Topography

The soil is somewhat varied, but is chiefly glacial till on the mountain slopes and drift material modified by lacustrine and alluvial sand, silt and clay in the valley¹. Some swampy land exists in the eastern portion of this area. The agricultural land throughout the valley is very fertile. The underlying rock is shale in the west, sandstone in the centre and limestone in the east.

The topography varies from hilly in the north and south to a level valley plain in the centre and east. The elevation of the valley is 900 to 1400 feet with the adjoining mountains rising in the north and south to 2000 and 2400 feet respectively.

The drainage on the whole is good except where beach ridges occur on the eastern plain.

The water supply is excellent both from the mountain streams and wells. In the western portion, however, some of the water is brackish.

¹ Agronomic Aspects of Manitoba. Ellis J. H.

The native vegetation was timber and scrub except for a very small area of prairie in the extreme western portion of the valley.

(3). Rain Fall

The rainfall, though light in the early spring and fall, is considerably above the average for the province from June to September. The average annual precipitation is 19 inches, of which 9 inches fall in April to July, 5.6 inches in August to October and the balance as snow.

(4). Temperature

The temperature, however, is relatively low. A fair amount of rainfall together with the low summer temperatures make this an ideal grass country. It is subjected to occasional frosts and wheat is sometimes frosted.

(5). Number of Frost Free Days

Information was obtained on the number of frost free days for the year 1908 to 1922. The frost free period varied from 39 to 113 days during these years.

The last spring frosts ranged from May 28th to July 28th. The mean of the eleven years was June 11th.

The earliest fall frosts ranged from July 31st to September the 27th. The mean was August 30th.

Chart I would indicate the very erratic nature of the seasons in the Swan River Valley. Field crops may be endangered from both late and early frosts.

CHART No. I

SWAN RIVER

FROST-FREE PERIOD FOR 11 YEARS

YEAR	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1908		9	74		20
1909		14	81		2
1910	4		84		25
1911	28		90		24
1915		23	39	31	
1916		21	70		28
1917	1		69	7	
1918	7		95		8 24
1919	5		113		
1920		14	→ 28	78	
1922		10		94	10
MEAN		11		80	30

E - HISTORY OF DEVELOPMENT OF THE DISTRICT

(1). Early History

The Swan River Valley had been known a long time before settlement occurred. It was the scene of busy activity during the years when fur trade was at the zenith of its prosperity. Through it ran one of the historical trails of the north west. This trail was used over 100 years by the Hudson Bay Company in the days when they brought their goods in ships via Hudson Bay to York Factory, and from there to points in the interior.

Prior to 1898 little was known of the Agricultural prospects of the district. According to an old timer in the Minitonas district the men who were most responsible for its settlement were trappers and miners. Numerous rivers flow through the valley and these trappers followed the stream beds in search of fur bearing animals. Coming up from Dauphin from the south they followed the shore of Lake Winnipegosis, crossed the valley and returned over the Duck Mountains. On reaching Dauphin they told of the wonderful country they had seen and of the extensive growth of timber on the foothills of the Porcupine and Duck Mountains.

(2). The Time of Settlement

In the year 1898 the inflow of settlement into the Dauphin area had become so great that the Minister of the Interior decided to add to the area available by opening up

the Swan River Valley. Theo. A. Burrows, then M.P., made a trip through the valley at this time and in a report he wrote in the Dauphin Herald, May 22nd, 1898, was found the following: "To achieve the object of settling the valley two things are necessary, first a good wagon road to connect the Swan River Valley to the nearest railway point, and second to have the land in that desirable district surveyed and rendered available for homestead entry". (It is noteworthy that preparations of this kind were made for settlers in the Swan River Valley, because so much of our land has been settled without any such thought whatsoever). Survey parties were employed. Eighteen townships were outlined and ten were subdivided, the land in which was opened for homestead entry in the spring of 1898.

Another abstract from Theo. A. Burrows' report gives a general conception of what was thought of the district at that time: "The same reason which led people to go to Dauphin and live there for years when they were 90 miles from the railway, will also induce others to settle in the Swan River Valley. The settlers of the Swan River Valley will avoid what is to many the loneliness and monotony of the life on the bare prairies, and instead thereof they will be enabled to secure a home amid pleasant surroundings. They will have fertile soil to till close to rivers, streams and rivulets.

They will have plenty of wood along the streams and mountain sides for fuel, and excellent timber for building purposes to last them and their families for 100 years. They will have a pleasant park like country suitable for both stock and grain production. Settlers of Swan River will not have to wait long for a railroad. Before 1899 the iron horse will be steaming into the valley."

In the spring of 1898 a small party of men set out from Dauphin with teams and equipment intent on finding a home in the valley. They first settled on the West Fable River near the present site of Minitonas, and set up what was known as the 'Tent Town'. True to Theo. A. Burrows' prophecy the railway was quickly pressed through in the year 1899. More settlers quickly followed the first and they found employment on the railway gangs.

Before the railway came supplies were freighted up from Dauphin over what was known as the old Cowan Trail. The present ridge road which leads over the Duck Mountains is said to follow closely this old trail.

Settlers had only the bare necessities of life in the days of early settlement. The main necessities such as flour, matches, and clothing were bought at the trading posts, while other things were obtained direct from the farm or else had to be done without. Salt was very difficult to obtain at first and was high priced at that time.

All the old settlers say the land was very low and wet around Minitonas when they first moved in. One recited the incident of having to walk half a mile through water, carrying his provisions on his back, in order to get to his home. At the present time this particular piece of land is all under cultivation supporting a good crop.

(3). Population Increases

Prior to 1898 there were no agricultural settlers in the Swan River Valley. In the two years following, the flow of settlement was great and by 1901 there were 1849 people in the Valley. By 1906 the number had increased to 3,833. When the 1911 census were taken it was found that the town of Swan River had a population of 574. From 1911-16 the town of Swan River did not increase in size, but the population numbered 1,000 more in the whole district. From 1916-21 the number in the Valley increased from 4,680 to 7,026. The town of Swan River almost doubled in population during this period. From 1921-26 the town's population remained practically the same, but the population of the whole area was reduced by 100 people.

The density of population is 6.6 per square mile at the present time. Including the town of Swan River there are 7.5 people to the square mile. The density has increased from 1.8 to 7.5 per square mile in the last 25 years.

TABLE NO. 1

STATISTICS OF POPULATION OF MANITOBA AND THE
SWAN RIVER DISTRICT, 1901 - 1926

MANITOBA				SWAN RIVER DISTRICT*				
Year	Total popu- lation	Per cent rural	No. of Farms	Population of townships 32-45, Ranges 23-29, West of First Meridian		No. of persons per square mile		Population of town of Swan River
				Town of Swan River		Town of Swan River		
				Excluding	Including	Excluding	Including	
1901	255,211	72.40	32,252	1,849	1,849	1.8	1.8	-
1906	365,688	62.24	36,141	3,833	3,833	3.7	3.7	-
1911	461,394	56.57	43,631	3,680	4,254	3.5	4.1	574
1916	553,860	56.48	46,580	4,680	5,242	4.5	5.0	562
1921	610,118	57.12	53,252	7,026	7,929	6.7	7.6	903
1926	639,056	56.36	53,251	6,921	7,821	6.6	7.5	900

* Organized area: Minitonas 251,764
Swan River 414,720
666,484 Ac. = 1041 sq. mi.

Number of farms in the Swan River District (including unorganized areas) is as follows:

1921 - 2,704
1926 - 2,682

PART II

PROGRESS OF SETTLERS AND MEANS OF MEASURING

"Increased net worth derived from the farm business, increase in magnitude of the business operated and increase in the degree of ownership and control of capital used in the business are the three essential manifestations of economic progress on the farm".¹

The increase in net worth is considered as financial progress or progress of accumulation. Magnitude refers to the area of the farm operated and larger farms may be secured through buying or renting an additional parcel of land. Such an increase in size of the farm business denotes progress in managerial ability, and the farmer must always strive to secure that size of farm which will best reflect his managerial ability. This goal of maximum size can soon be reached through renting additional land. In this connection, however, it may be noted that the desire for home ownership and also the scarcity of land nearby for renting purposes may be factors in preventing farmers from reaching the maximum size of farm, and thus in gaining the maximum rewards of their managerial ability. "Because of the fact that both tenure and size of farms are closely bound up with financial progress and financial progress is nearly always registered in either one or the other, financial progress

¹ Economic Progress of Farmers in selected southern States.
U.S.D.A. 1930. St. Sanders.

is considered the most representative index of individual economic progress on the farm".

The progress, which the farmers of Swan River Valley have been able to make will be discussed from three angles:

- (1) Increase in size of business operated.
- (2) Tenure of land.
- (3) Increase in net worth.

A - INCREASE IN SIZE OF BUSINESS OPERATED

(1) Discussion

An increase in size of farm business is an indication of progress in so far as the farmer realizes that he must extend his operations to obtain maximum efficiency in managerial ability in regard to efficient application of his forces, ~~plus~~ equipment and livestock. It is necessary then, to find out if the farmers have found it advisable to extend their operations and to show how the increase has been made.

The size of farm may be increased either by purchasing or renting an additional piece of land; or by receiving a legacy, grant, or second homestead. The practice of renting an additional piece of land allows farmers to extend their operations more rapidly. If they have power and equipment, little or no extra capital is required, and the increased earnings resulting from more efficient use of labour and capital will directly affect their progress. Much more capital would be required to purchase additional land.

The rate of purchases should be fair/ indication of fin-

ancial progress. One must consider here, however, the fact that during a boom period farmers may extend their business too rapidly. Falling values and the added weight of the new land may then cause retrogression instead of progress.

(2). Method of Acquisition of First Holding

In a new area it is generally conceded that a large number of operators start with the 1/4 section homestead unit. Such was the case in the Swan River Valley up to the year 1914. After that the number starting on purchased land increased rapidly; and in the survey of the 198 farms the total of farms purchased exceeded the total of homesteads taken out. Of the 198 operators interviewed, 73 started with a homestead, 92 purchased their first holding, 3 obtained legacies, 22 are as yet renters and 8 did not report the information. About 85% of the homesteads were taken out before the commencement of the Great War. Relatively few purchases were made in this period due to the abundance of open land. (Table 2). Hudson's Bay and Railway land could be purchased at \$2.50 to \$5.00 per acre in the early years of 1900. (Table 3).

During the war period the number of farmers starting on purchased farms shot up considerably. The number dropped off in the depression following the war and then came up rapidly the last 5 years. The C. N. R. Colonization department has settled many farmers in the Minitonas district since 1925.

TABLE NO. 2

METHOD OF ACQUISITION OF FIRST HOLDING

SWAN RIVER VALLEY

Period	Homestead	Legacy	Purchase	Total
Prior to 1900	12	-	2	14
1900 - 1904	12	-	6	18
1905 - 1909	9	-	11	20
1910 - 1914	21	1	5	27
1915 - 1919	11	2	34	47
1920 - 1924	7	-	6	13
1925 &	1	-	28	29
Total	73	3	92	168
Renters	22			
Discard	8			
Total	198			

TABLE NO. 3

PRICES PAID AND TIME OF PURCHASE OF INITIAL PURCHASES

SWAN RIVER VALLEY

Price Paid	Before 1900	1900 to 1904	1905 to 1909	1910 to 1914	1915 to 1919	1920 to 1924	1925 +	Total
0 - 4.9	2	5	1	-	-	-	4	12
5 - 9.9	2	1	3	1	2	-	3	12
10 - 14.9	-	2	2	1	8	3	3	19
15 - 19.9	-	-	2	1	12	1	10	26
20 - 24.9	-	-	1	-	3	2	3	9
25 - 29.9	-	-	-	-	1	-	4	5
30 - 34.9	-	-	1	-	5	1	1	8
35 - 39.9	-	-	-	-	2	-	-	2
40 - 44.9	-	-	-	2	3	-	-	5
45 - 49.9	-	-	-	-	-	-	-	-
50 - 54.9	-	-	-	-	1	-	-	1
55 - 59.9	-	-	-	-	-	-	-	-
60 - 64.9	-	-	-	-	1	-	-	1
Total	4	8	10	5	38	7	28	100

New land is gradually being opened up in the Birch River area which lies north and northeast from Swan River.

(3). Prices Paid for Initial Purchases

Up to 1905 the lowest price paid for land was \$2.50 per acre and the highest \$14.00 per acre. Twelve of the 100 purchasers bought land in this period. (Included in these 100 are owners who reverted to tenancy and some records did not give this information). From 1905 - 1914 some land was still selling below the \$10 figure but the price took a jump to \$40 per acre after 1910. In the 15 and 19 period, when the majority of the men purchased their first farms, the price of land had run considerably higher. Twenty-two, of the 38 reporting, purchased below the \$20 an acre figure but the rest paid all the way from \$20 - \$60 per acre for their land. In 1920 - 1924 the highest price paid for land was \$30 while 4 obtained land at less than \$5 per acre. Only 22% of the farmers who started on purchased land paid over \$25 per acre. This figure only includes those who are still on the farm purchased and there may be a large number who have lost their farms.

(4). The Acquisition of Additional Land

A large number of settlers, (92 out of 165), have made no addition to their original holding. This may be due to the fact that their first holdings are the maximum size,

or it may indicate a lack of progress on the part of these farmers, or again sufficient time may not have elapsed for many of the settlers to be able to build up their farms.

Only 43 out of the 73 homesteaders have increased the size of their holdings since settlement. As 85% of the homesteads were taken out before the War it might be expected that the majority of these first homesteaders had increased the size of their farms. This is not the case, however, because 25 out of 54, or very nearly half of them have still but one quarter section of land. Of the 19 settling after 1914, 14 have increased their holdings.

Of the 43 acquiring more land 12 received additions through gifts, soldiers grants, or second homesteads, 24 by additional purchases, one by additional purchase and a legacy, and 6 by renting. Four of the men who purchased and 3 who received grants are also renting additional land.

The average sizes of farms resulting through these different processes are shown in Table 4. The average size of farm attained by all homesteaders was 315 acres.

The majority of men who acquired farms through purchases started during and after the War, and their subsequent land extensions were somewhat different from the homesteaders. Over 50% have not increased the size of their original holding. In this respect they do not differ greatly from the homesteaders.

TABLE NO. 4

VARIOUS METHODS BY WHICH HOMESTEADERS OBTAINED ADDITIONAL LAND AND
THE AVERAGE SIZE OF FARM RESULTING FROM EACH WAY

SWAN RIVER VALLEY

Period of Settlement	Number in Class	No Change made		Legacy, Grant or Second Homestead received		Purchased		Renting		Purchase and Renting		Legacy ect. and Renting		Legacy and Purchase	
		Av. size		Av. size		Av. size		Av. size		Av. size		Av. size		Av. Size	
		No.	Farm	No.	Farm	No.	Farm	No.	Farm	No.	Farm	No.	Farm	No.	Farm
Before 1900	12	2	160	1	320	7	388	1	320	1	640	-	-	-	-
1900 - 1904	12	3	160	1	320	5	432	1	480	2	480	-	-	-	-
1905 - 1909	9	5	160	1	640	2	460	-	-	-	-	-	-	1	480
1910 - 1914	21	15	160	3	320	2	320	-	-	1	480	-	-	-	-
1915 - 1919	11	2	160	3	320	1	640	4	320	-	-	1	480	-	-
1920 - 1924	7	2	160	-	-	3	320	-	-	-	-	2	540	-	-
1925 +	1	1	160	-	-	-	-	-	-	-	-	-	-	-	-
Total	73	30	160	9	356	20	402	6	347	4	520	3	520	1	480

Average size of farm for all Homesteaders = 315 acres.

The purchasers have had less reason to extend their business as shown by the fact that the average size of original holding held by them is 201 acres while the homesteaders have but 160 acres. The purchasers started operations in later periods, and, therefore, have not had the same opportunity. They have made fewer purchases of additional land and have not received as many grants as the homesteaders. A larger proportion of the purchasers are renting additional land. This phenomenon is quite evident in the later years and seems to indicate a movement to operate larger farms. The average size of farm operated by 18 of these owner-tenants is 458 acres. (See Table 5).

(5). Prices Paid for Additional Land

Table 6 indicates the number, the time of purchase, and prices paid for additional purchases for both the homesteader and purchaser classes.

One striking point about this table is the relatively small number of additional purchases made during the war years when the land boom was on. Another point is the relatively low price paid for additional purchases. Forty out of 55 purchases were made at less than \$25 per acre. The greatest number of purchases were made in the 1910 - 14, 1915 - 20, and 1925 - 30 periods which would indicate that these were favorable years for farming.

TABLE NO. 5

ADDITIONAL LAND ADDED TO ORIGINAL PURCHASE AND AVERAGE
SIZE OF FARM RESULTING

SWAN RIVER VALLEY

Period of Settlement	Number in Class	No Change made		Legacy, Grant or Second Homestead received		Purchased		Renting		Purchase and Renting		Legacy etc. and Renting		Legacy and Purchase	
		Av. size		Av. size		Av. size		Av. size		Av. size		Av. size		Av. size	
		No.	Farm	No.	Farm	No.	Farm	No.	Farm	No.	Farm	No.	Farm	No.	Farm
Before 1900	2	1	304	-	-	1	320	-	-	-	-	-	-	-	-
1900 - 1904	6	3	160	-	-	3	573	-	-	-	-	-	-	-	-
1905 - 1909	11	6	186	-	-	4	360	-	-	1	800	-	-	-	-
1910 - 1914	5	2	320	-	-	2	320	1	320	-	-	-	-	-	-
1915 - 1919	34	17	207	2	320	5	384	6	505	3	667	-	-	1	480
1920 - 1924	6	1	160	2	320	1	320	2	480	-	-	-	-	-	-
1925 +	28	19	192	-	-	-	-	9	438	-	-	-	-	-	-
Total	92	49	214	4	320	16	397	18	458	4	700	-	-	1	480

Average size of farm for all purchasers = 322

TABLE NO. 6

TIME OF PURCHASE AND PRICE PAID FOR ADDITIONAL PURCHASES

SWAN RIVER VALLEY

Price Paid	Time of Purchase						Total
	1900 to 1904	1905 to 1909	1910 to 1914	1915 to 1919	1920 to 1924	1925	
0 - 4.9	-	-	-	-	-	1	1
5 - 9.9	1	5	1	1	1	3	12
10 -14.9	-	-	2	1	3	4	10
15 -19.9	-	1	3	2	-	3	9
20 -24.9	-	1	4	1	1	1	8
25 -29.9	-	-	2	4	1	1	8
30 -34.9	-	1	1	1	1	-	4
35 -39.9	-	-	-	1	-	-	1
40 -44.9	-	-	-	1	-	-	1
45 -49.9	-	-	-	-	-	-	-
50 -54.9	-	-	-	1	-	-	1
Total	1	8	13	13	7	13	55

(6). Average Time Elapsing Before First Addition, Second Addition and Third Addition were made to the Farm Through Purchases

The mere fact that farmers make additional purchases is an indication that they have acquired sufficient financial strength to do so. It will be shown later that the farmers who did make additional purchases have made more rapid gains. The amount and number of additional purchases then, should be indications of progress. The average time elapsing before these purchases are made should be an indication of the progress made in any one period of settlement. The time or period in which the purchases are made will more than likely be favorable periods for farming.

Of the 33 homesteaders settling before 1910, 18 bought additional land in the period 1911 - 15. For the settlers starting before 1900 and in the 1900 - 04 period it required 13 and 12 years respectively for them to make additions to their farms. Only 3 years elapsed before the settlers in the 1905-09 period were able to purchase more land. The average time all homesteaders required was 10.4 years and for purchasers it took 6.9 years. (See tables 7 and 8).

The purchasers have made fewer additions to their farms than have the homesteaders, but they have made more additions in later years. From 1910 on, homesteaders have made 7 of their 25 first additions while purchasers have made

TABLE NO. 6

NUMBER OF ADDITIONAL PURCHASES MADE BY HOMESTEADERS
AND AVERAGE TIME ELAPSING BEFORE PURCHASES WERE MADE

SWAN RIVER VALLEY

Period	No. in Class	No. of First Additional Purchases	Av. time before first add- ition was made (yrs)	No. of Second Additional Purchases	Av. time from Original pur- chase before making second (yrs)
Before 1900	12	8	13	3	17
1900 - 1904	12	7	12	1	14
1905 - 1909	9	3	8	2	9
1910 - 1914	21	3	11	-	-
1915 - 1919	11	1	2	1	11
1920 - 1924	7	3	4	-	-
1925 +	1	-	-	-	-
Total	73	25	10.4 yrs.	7	13

TABLE NO. 7

NUMBER OF ADDITIONAL PURCHASES MADE BY PURCHASERS
AND AVERAGE TIME BEFORE THEY WERE MADE

SWAN RIVER VALLEY

Period of Settlement	No. in Class	No. First purchases	Av. time be- fore First was made (yrs.)	No. of Second purchases	Av. time from original pur- chase before making second	No. of Third purchases	Av. time from original pur- chase before making third
Before 1900	2	1	7	-	-	-	-
1901 - 1904	6	3	9	1	4	1	14
1905 - 1909	11	5	6	3	16	-	-
1910 - 1914	5	2	16	-	-	-	-
1915 - 1919	34	9	5	2	9	-	-
1920 - 1924	6	1	3	-	-	-	-
1925 +	28	-	-	-	-	-	-
Total	92	21	6.9 yrs.	6	13 yrs.	1	14

12 of their 21. This can only be explained by the fact that they started with more capital and in a more favorable period.

About the same number of second purchases were made by purchasers and homesteaders and it required the same amount of time before they were able to do so.

(7) Date of building and Value of Buildings

The number and value of buildings constructed in any period give an indication of the prosperity of the times. In the Swan River Valley most of the building seems to have been done from 1910 to 1914. Of the 64 farmers reporting this information 31 built in this period. The cost ranged all the way from \$450 to \$8,000 for houses, and \$400 to \$5,000 for barns. The average value of houses built in this period was \$2,945. Table 9.

B - TENURE OF LAND

(1). Number of Tenants, Owners and Owner Tenants

The farming system in Swan River Valley is characterized by the large number of owners. In the early years land was easily acquired through the Homestead Laws and the large areas of open land were an incentive to ownership. As land becomes scarcer it takes more capital to start operations and farmers have to resort to long periods in the labour and tenancy stage before they are able to own a farm.

TABLE NO. 9

DATE OF BUILDING AND VALUE OF BUILDINGS

SWAN RIVER VALLEY

Value of Buildings	Period Built (Yrs.)														Total
	1 - 4.9;		5 - 9.9;		10 - 14.9;		15 - 19.9;		20 - 24.9;		25 - 29.9;		30 - 34.9;		
	House	Barn	H	B	H	B	H	B	H	B	H	B	H	B	
0 - 499	4	4	2	3	2	4	-	-	-	-	-	-	-	-	19
500 - 999	4	2	-	1	5	5	3	-	1	-	1	-	-	-	22
1000 -1499	2	-	1	-	2	1	2	-	2	1	-	-	-	-	11
1500 -1999	1	-	-	-	2	1	-	-	-	1	-	-	-	-	5
2000 -2499	2	-	-	-	3	5	1	2	1	1	-	-	-	-	15
2500 -2999	-	1	1	1	3	-	-	1	-	-	-	-	-	-	7
3000 -3499	-	1	-	-	3	-	1	-	-	-	-	-	-	-	5
3500 -3999	-	-	1	-	1	-	-	-	-	-	-	-	-	-	2
4000 -4999	-	-	-	-	5	-	-	-	-	-	-	-	-	-	5
5000 -5999	-	-	-	-	2	1	-	-	-	-	-	-	-	-	3
6000 -6999	-	-	1	-	2	-	1	-	-	-	-	-	-	-	4
7000 -7999	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
8000	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Total +	13	8	7	5	31	17	8	3	4	3	1	-	-	-	-

According to the sample collected in the survey 88.4% of the farmers are owners. Of these 168 are owner-operators and 36 rent additional parcels. Twenty-two of the farmers are tenants.

Tenancy and the practice of renting additional land has become more common in the last 10 - 12 years. This is shown by the fact that the average term of operation by tenants is 4 years and for owner-tenants it is 12.5 years. The average term of operation for owners who did not rent additional land was 17 years.

(2). The Agricultural Ladder

Land tenure is an important phase of the study of the progress of the farmers. The manner by which men attain ownership and the number of years spent in the process are important points in the study of this subject. There is a recognized agricultural ladder, as it is called, each rung of which is a step towards ownership. In some places 4 or 5 steps are recognized but in the Swan River Valley there are but 3; the farm labour, tenancy and then, ownership.

There are various shortcuts to the above-mentioned ladder. A man can become an owner directly or he may miss either one of the labour or tenancy stages.

Information from 175 records was used to show the various methods of attaining ownership and the time spent in each way. The operators were divided into two classes - those

TABLE NO. 10

YEARS OF CONTINUOUS OPERATION OF FARMS
OPERATED IN 1929

SWAN RIVER VALLEY

<u>Term Group Years</u>	<u>Total</u>	<u>All Owner</u>	<u>Owner None Rented</u>	<u>Owner Tenant</u>	<u>Tenant</u>
0 - 4	43	29	19	10	14
5 - 9	20	13	9	4	7
10 - 14	48	47	33	14	1
15 - 19	27	27	25	2	-
20 - 24	20	20	19	1	-
25 - 29	18	18	15	3	-
30 & over	14	14	12	2	-
Total	190	168	132	36	22

Average 11.6 yrs. 16 yrs. 17 yrs. 12.3 yrs. 4 yrs.
Term

Note: 8 Schedules discarded.

born on the farm and those not born on the farm. A very large number of the settlers omitted the labour and tenancy stages and attained ownership directly. Of the farm born 62 out of 131 did this, while 21 out of the 44 non-farm born did likewise. It is interesting to note the large number of non-farm born settlers who did not avail themselves of any farm experience before becoming owners. Table 11.

It required approximately the same time to reach ownership through the labourer stage as it did through the tenancy stage. A much longer time was required by the ones going through both stages. The farm born settlers spent less time in the stages to ownership than did the non-farm born. Table 12.

(3). Average Age Attaining Ownership

The average age on attaining ownership for all farm born operators was found to be 30 years, while for non-farm operators it did not differ greatly, being 31 years. The average age at the attainment of ownership for all farm operators was found to be:

For men going through labour and tenancy stage	-- 36 years
For men going through tenancy stage only	-- 33 years
For men going through labour stage only	-- 32 years
For men acquiring ownership directly	-- 29 years.

TABLE NO. 11

NUMBER OF SETTLERS GOING THROUGH
THE VARIOUS STEPS TO OWNERSHIP

SWAN RIVER VALLEY

<u>Steps to</u> <u>Ownership</u>	<u>Born on</u> <u>the Farm</u>	<u>Non-farm</u> <u>Born</u>	<u>Total</u>
Ownership Direct	62	21	83
Farm Labourer to Ownership	28	13	41
Tenancy to Owner- ship	26	3	29
Farm Labourer, tenancy to Owner- ship	15	7	22
All Settlers	131	44	175

TABLE NO. 12

TIME SPENT IN STAGES

SWAN RIVER VALLEY

Steps to Ownership	<u>Time Spent</u>				<u>Total</u>	
	<u>LABOURER STAGE</u>		<u>TENANCY STAGE</u>		<u>Farm Born</u>	<u>Non- Farm Born</u>
	<u>Farm Born</u>	<u>Non- Farm Born</u>	<u>Farm Born</u>	<u>Non- Farm Born</u>		
Farm Labourer	7	9	-	-	7	9
Tenancy	-	-	7	10	7	10
Farm Labour and Tenancy	9	10	5	7	14	17

(4). Previous Occupations prior to "Climb" to Farm Ownership

Many of the farm born operators worked on their father's farm before starting out for themselves. As many as 87 of the 131 who reported did this. They stayed an average of 7.7 years on the home farm. The average farm boy started full time farm work between the ages of 13 - 16 years. A number of the farm born operators spent some time at occupations other than farming after leaving their father's farm. An average of 10 years by 56 operators was spent in this fashion. The average time spent in other occupations for men not born on the farm was 11 years.

(5). Reverts to Tenancy

A few of the operators, 14 out of 175, attained ownership and then reverted back to tenancy. They had spent an average of 9.4 years in ownership. They have been tenants since, for an average of 4.4 years. These farmers apparently bought their land about 1916 - 1917, at high prices and just after the War when a slump in values came they were unable to meet their obligations and so lost their farms.

C - INCREASE IN NET WORTH

(1). Initial Capital

In order to get an idea of the amount of capital

necessary to start farming the settlers were asked how much they had when they began operations. The figures given include a valuation of livestock and equipment and any cash on hand, but exclude land values.

Information on this score was secured from 114 farmers and in table 13 is given the average amount for each 5 year period of settlement. In the earlier years farmers had on the average \$500 of capital. Many of the homesteaders reported having none whatever. In later years upwards of \$2,000 on the average was required. The average for the 114 was \$1,300. The highest initial capital reported was \$13,000 and the lowest - \$300. Tables 18 and 19.

Homesteaders had less initial capital than those who acquired their first holding by purchasing. For the 51 homesteaders reporting this information the average was \$696. The majority of these homesteaders started before 1914. The average initial capital for purchasers was found to be \$2,576.

(2). Average Annual Increase or Decrease in Net Worth

The average annual increase was found for each farmer by deducting his initial capital from present net capital or worth and dividing the sum by the number of years he had been on the present farm.

TABLE NO. 13

AVERAGE INITIAL CAPITAL REPORTED BY 5 YEAR PERIODS

SWAN RIVER VALLEY

Years of Settlement	No. of Farmers in Class	Average per Class	High	Low
0 - 5	10	1,423	6,000	-300
6 - 10	14	2,778	13,000	200
11 - 15	27	2,150	10,000	-100
16 - 20	30	990	5,300	-
21 - 25	12	630	2,500	-
26 - 30	11	320	2,000	-
Over 31	10	597	2,000	-
Renters	22	-	-	-
No. in- formation	62	-	-	-
Total	198	-	13,000	-

Note: Av. for 114 reporting = \$1300

As shown in table 14 the annual increase in net worth accomplished by settlers is comparatively small. Sixty-one percent of them fell within the \$200 and \$400 classes, while only 20% had over \$600 per year increase. It is very difficult to determine from this table which of the periods of settlement have resulted in the largest annual increases.

The majority of the homesteaders fell within the \$200 - \$400 class for annual increase. Only 20% had an annual increase of over \$400. The highest was between \$1200 and \$1400. (See table 15).

The annual increases for purchasers were more erratic than those of the homesteaders. About one-third of the increases were over \$600, the highest being between \$1400 and \$1600. Six of the purchasers had decreases. (See table 16).

In table 12 is given the average annual increases for operators starting in the different settlement periods. This figure was obtained by finding the average initial capital of the settlers of each 5 year period and subtracting it from the average present net worth of the settlers. The resultant figure was divided by the average number of years the operators of the 5 year period had been settled. Separate tables were worked out for the homesteaders and purchasers.

AVERAGE ANNUAL INCREASE OR DECREASE
IN NET WORTH 12
100 SWAN RIVER FARMERS

TABLE No. 14

SWAN RIVER VALLEY

Period of Settlement	No. of Farms	0 to 200	201 to 400	401 to 600	601 to 800	800 to 1000	1001 to 1200	1201 to 1400	1401 to 1600	1601 to 1800	Decreases
Before 1900	10	-	6	3	-	-	1	-	-	-	-
1900 - 1904	11	3	3	3	1	-	-	1	-	-	-
1905 - 1909	12	3	4	1	2	-	1	1	-	-	-
1900 - 1914	20	13	4	2	1	-	-	-	-	-	-
1915 - 1919	27	2	10	3	5	2	-	-	2	-	3
1920 - 1924	10	5	3	-	-	-	-	-	-	-	2
1925 +	10	4	1	1	2	-	-	-	1	-	1
Total	100	30	31	13	11	2	2	2	3	-	6

PURCHASERS ANNUAL INCREASE OR DECREASE IN NET WORTH

TABLE NO. 15

SWAN RIVER VALLEY

Period or Settlement	No. of Farms	Annual Increases										Decrease
		0 to 200	201 to 400	401 to 600	601 to 800	801 to 1000	1001 to 1200	1201 to 1400	1401 to 1600	1601 to 1800	1801 to 2000	
Before 1900	2	-	1	1	-	-	-	-	-	-	-	-
1900 - 1904	4	1	-	1	1	-	-	1	-	-	-	-
1905 - 1909	6	2	1	1	1	-	1	-	-	-	-	-
1910 - 1914	2	-	-	1	1	-	-	-	-	-	-	-
1915 - 1919	21	2	6	3	4	1	-	-	2	-	-	3
1920 - 1924	5	3	-	-	-	0	-	-	-	-	-	2
1925 +	9	4	-	1	2	-	-	-	1	-	-	1
Total	49	12	8	8	9	1	1	1	3	-	-	6

TABLE NO. 16

HOMESTEADERS ANNUAL INCREASE OR DECREASE IN NET WORTH

SWAN RIVER VALLEY

Period of Settlement	No. of Farms	Annual Increase										Decreases
		0 to 200	201 to 400	401 to 600	601 to 800	801 to 1000	1001 to 1200	1201 to 1400	1401 to 1600	1601 to 1800	1801 to 2000	
Before 1900	8	-	5	2	-	-	1	-	-	-	-	-
1900 - 1904	7	2	3	2	-	-	-	-	-	-	-	-
1905 - 1909	6	1	3	-	1	-	-	1	-	-	-	-
1910 - 1914	18	13	4	1	-	-	-	-	-	-	-	-
1915 - 1919	6	-	4	-	1	1	-	-	-	-	-	-
1920 - 1924	5	2	3	-	-	-	-	-	-	-	-	-
1925 +	1	-	1	-	-	-	-	-	-	-	-	-
Total	51	18	23	5	2	1	1	1	-	-	-	-

The early settlers have amassed a greater net worth than those starting in the later periods. The largest annual increases, however, have been made by those settling in the 1915 - 1919 and 1920 - 24 periods. The two lowest figures also occur in the later periods. Of the 20 farmers settling in the 1910 - 14 period 18 are homesteaders the majority of which are located on the fringe of settlement. By referring to table 4 it can be seen that very few have bought extra land and so the effect of the increase of land values has not had such influence in their average annual increases. Tables 15 and 16 would indicate why the average annual increase is low for the 1920 - 24 period. The purchases of this period suffered an acute deflation of values and were not so able to withstand the effects as were the settlers who became established before and during the war years. The homesteaders fared much better than the purchasers in this period.

The 8 homesteaders who settled before 1900 have managed to make an average gain in net worth of \$12,761 which makes an average of \$399 per year. Homesteaders settling in later periods have not increased their net worth to such an extent, but their average annual increases have been higher in all but 3 periods.

By comparing tables 15 and 16 it can be seen that the purchasers have made larger annual increases than have the homesteaders. Although they have not been settled so long yet they have accumulated more wealth. Two reasons may be advanced for

TABLE 17

GAIN IN NET WORTH SINCE SETTLEMENT
100 SOAN RIVER FARMS

<u>Period of Settlement</u>	<u>No. of Farms.</u>	<u>Av. Date of Settlement</u>	<u>Av. Net worth at start</u>	<u>Average Net worth now</u>	<u>Gain in net worth</u>	<u>Average gain per year</u>
Before 1900	10	1898	577	13,010	12,433	389
1900 - 1904	11	1901	409	9,992	9,583	330
1905 - 1909	12	1908	753	8,274	7,521	342
1910 - 1914	20	1912	841	4,756	3,915	218
1915 - 1919	27	1917	2,792	8,365	5,573	429
1920 - 1924	10	1922	2,903	4,383	1,480	185
1925 +	10	1928	1,437	2,286	849	425
Total	100	1913	1,617	7,666	6,049	356

TABLE NO. 15

GAIN IN NET WORTH SINCE SETTLING - 51 HOMESTEADS

SWAN RIVER VALLEY

Period of Settlement	No. of Farms	Av. date of Settlement	Av. Net Worth at start	Av. Net Worth now	Gain in Net Worth	Av. Gain per year
Before 1900	8	1898	534	13,295	12,761	399
1900 - 1904	7	1901	64	7,988	7,924	273
1905 - 1909	6	1909	112	9,489	9,377	447
1910 - 1914	18	1912	779	3,907	3,228	179
1915 - 1919	6	1918	708	6,006	5,298	442
1920 - 1924	5	1923	626	3,804	3,178	454
1925	1	1928	800	1,462	662	331
Total	51	1910	696	7,149	6,453	323

TABLE No. 19

GAIN IN NET WORTH SINCE SETTLING 49 PURCHASERS

SWAN RIVER VALLEY

Period of Settlement	No. of Farms.	Av. Date of Settlement	Av. Net. Worth at Start	Av. Net Worth now	Gain in net Worth	Av. Gain Per Year
Before 1900	2	1899	750	11,868	11,118	359
1900 -1904	4	1902	1,012	13,498	12,486	446
1905 -1909	6	1906	1,393	7,171	5,778	241
1910 -1914	2	1910	1,400	12,397	10,997	550
1915 -1919	21	1917	3,398	9,039	5,651	434
1920 -1924	5	1921	5,180	4,961	-221	-25
1925 +	9	1928	1,508	2,378	870	435
Total	49	1916	2,576	8,205	5,629	402

this, firstly the purchasers started in a more favorable period and thus have not had as many reverses and secondly they commenced with a greater amount of capital and so were able to advance more rapidly.

(3). Effect of Additional Purchases of Land and Land Grants on Average Annual Increase

The farmers who have increased the size of their farm have made a larger average annual increase. This holds good for homesteaders as well as purchasers. This fact is plainly shown in table 20. The operators who have not increased the size of their holding have made an annual increase of \$195. in the case of homesteaders and \$253 increase in the case of purchasers. Those receiving legacies or grants have made an annual increase of \$405. and \$467. for homesteaders and purchasers respectively. Additional land purchases have resulted in an increase of \$462. per year and \$681. per year for homesteaders and purchasers respectively.

D - SUMMARY

In the introduction of this section on progress of settlers it was stated that financial progress is considered the most representative index of individual economic progress on the farm. The increase in business operated is an indication of progress but the measure of net worth or average annual increase has to be applied to find out how much progress has

TABLE No. 30

EFFECT OF INCREASE IN SIZE OF FARM ON AVERAGE ANNUAL INCREASE

SWAN RIVER AREA

Method of Acquisition	<u>No change in size of farm</u>		<u>Legacies or grants received</u>		<u>Additional pur- chases made</u>		<u>Average for whole group</u>	
	No.	Av. Annual increase	No.	Av. Annual increase	No.	Av. Annual increase	No.	Av. Annual increase
Homesteaders	27	195	9	405	15	452	51	323
Purchasers	33	253	4	467	12	681	49	402

been made. Similarly a shift from tenancy to ownership does not predispose an economic increase in progress.

A few limitations are apparent, however, in the use of this measure. It gives but a bare statement of progress and much more material has to be presented in order to explain the results. Financial gain may not be the only indication of progress. The operator may have spent a large sum of money on the education of his children or in the development of home and community life. The actual figures of average annual increase would not include these phases of progress and from a social standpoint they are important.

The first conclusion which can be drawn from these tables is that the smaller sized farms have not been as successful as the larger ones in point of rapidity of progress. A second conclusion is that the purchasers who have not extended their business have made more rapid progress than the homesteaders of the same class because they started on a larger unit. The average size of farm for purchasers of this class is 201 acres while homesteaders have but 160 acres. Thirdly we note that rapidity of progress is also related to the time of settlement. In the first few years of settlement times were hard and conditions were such that rapid increase in acreage was impossible. With the impetus of higher prices and increased demand for wheat during the War years farmers in this period were able to increase their acreage and earnings faster due to increased income. They, therefore, were able to make faster gains than the farmers start-

ing in earlier periods.

Unfortunately the increase in land values and the increase of equipment and livestock, etc., cannot be separated from one another and it will be impossible to say how much of the increase was due to each. However, it may be concluded, that increased land values play a major part in the farmers annual increase.

C - TENANCY

(1). Size of Farm Rented

Twenty-two of the 198 farms in the Swan River survey were operated by tenants. Of these 8 were 1/4 section farms, 11 half-section, 1 three-quarter section, and 1 a section and a quarter farm. The average size of the 22 farms was 260 acres.

The amount improved on these farms varied from 50 to 350 acres and the average for the whole 22 was 147 acres.

(2). History of Tenants

Twenty of the tenants were born on the farm. Sixteen of them worked on their father's farm an average of 8 years before starting out for themselves. Eight spent an average of 3 years at other occupations, and 8 of them also spent an average of 8 years as labourers on farms other than their fathers. The average age of the farm born operators, when they started to operate a farm of their own, was 28 years.

The two non-farm born tenants spent an average of 16 years at other occupations before becoming tenants. These two tenants bought farms at the start but lost them within 2 1/2 years. They have been on their present farms for 5 years.

The whole 22 tenants have spent an average of 5.6 years in continuous tenancy.

(3). Capital

The tenants were operating farms on which the average investment in real estate was \$5,116. They had their own livestock and equipment in all cases but one. The livestock investment of the 21 averaged \$882 and the machinery investment averaged \$878 per farm.

(4). Rental Terms

Five types of rental leases were discovered in the survey of 22 tenant farms in the Swan River Valley. The prevailing type was the 1/2 crop share lease, in which the landlord supplied the seed, paid half the twine and threshing expenses and received 1/2 the returns from the yield of crops. As many as 12 tenants reported this type of lease.

The 1/3 crop lease was the next most common form. In this case the landlord bore no expense of the farm operation; and he received 1/3 of the crop grown. Six farmers out of the 22 reported this type.

The other three types were; cash rent (1 farmer)

1/5 crop (1 farmer) and 1/2 all expenses and 1/2 all receipts type of lease. One farmer, who was renting from his father did not have any agreement. In all cases the taxes were borne by the landlord.

(5). Financial Returns to Owner and Tenant

The man who paid cash rent, was operating a 1/4 section farm with 52 acres of improved land. He paid \$200 a year or \$3.85 per acre improved. He only received \$27 for the return on his labour and capital. When the interest, taken at 6%, was deducted from his capital invested in livestock and machinery, a minus return of \$26 remained for his labour. The landlord received 6.7% on his land investment on this farm.

The tenant who gave but 1/5 of the crop to the landlord operated a 320 acre farm on which 100 acres were improved. This farmer only received \$136 for his year's labour while the landlord, it is a wonder to say, received 2.1% on his investment.

The financial returns for the 6 tenants on the 1/3 crop lease varied considerably. Four of them received \$124 and under for their labour and interest in capital, while one of these four actually went behind \$93.00. Two others, however, received over \$1,000. The average for the six was \$510. When the interest on their investment was deducted from their net

cash income it was found that 3 received no income for their labour. One of the 3 received \$66 while the other two received over \$1,000 labour income. The average for the six was \$408. When one considers that all living expenses must come out of this sum it is easily seen that these farmers were not making any profits in 1929. The landlords of this class, however, fared better than the tenants. They received interest on their investment varying all the way from 2.6 to 17.1%. The average for the group was 7.6%. As the taxes were deducted from the landlord's returns this is a fair return on the investment in real estate. The tenants in this group operated an average sized farm of 267 acres which had, on the average, 120 acres improved. The average return per acre improved to the landlord was \$2.97.

The financial returns for the 12 tenants who were renting on the 1/2 crop basis were minus quantities. Eight sustained losses varying from \$15 to \$1441. Four had a return on their capital and labour. Only three of these had a return for their labour and these sums were \$179, \$574 and \$962.

The tenants on the 1/2 crop basis were renting on the average a 347 acre farm, on which the average amount improved was 181 acres. The return per improved acre to the landlord was \$3.57. However, the landlords of this class did fare any too well. Four sustained losses varying from \$13 to \$340. The returns on investment from the other eight varied from 1.6 to 10% and the average return for the whole 10 was 2.9%.

Both the landlord and the tenant received positive returns in the case where all expenses and receipts were shared on a 50 - 50 basis. The return per acre improved to the landlord was \$5.19. As he had capital invested in the stock and equipment his interest on investment was only 3.7%. The tenant on this particular farm was a very good one and he and the landlord were running things in a very business like manner.

Although the number of tenants represented in these groups is very small yet it seems safe to point out a few facts that seem to present themselves. As there is but one farm represented in three of the types of leases only two of them will be discussed. It would seem obvious that the landowners who are renting their farms on a 1/3 crop basis have a safer proposition than the ones renting on the 1/2 crop basis. In a real good year they do not stand to gain as much perhaps, but in an average or poor year they have a better chance of success. They have no expense other than taxes, while the landlord on the 1/2 crop basis must supply seed and half the expense of threshing and twine.

The landlords who rented on the 1/2 crop basis received a return per improved acre of \$3.57 while the tenants on the 1/3 crop basis received \$2.97. As seed, 1/2 twine and 1/2 threshing would probably amount to about \$1.75 to \$2 per acre it is easily seen that the men on the 1/3 crop basis are getting a higher return.

The land which the 1/2 crop lessee men rented was on the average over half improved, while the land in the other class was only approximately 1/3 broken. Granted that the investment in the more highly improved land would be higher and thus interest returns relatively lower, yet the gross returns should be higher and thus offset any differences which might result between the two forms of rented leases in this way.

In the year 1929, the year these figures represent, the average yield of wheat in the Swan River Valley was 20 bushels to the acre (See table No. 33). Coarse grain yields were fairly good also. The price of wheat was only about 80% for No. 2, however, but taking yield and price both into account it might be counted as an average year.

So when we consider the above facts it would seem obvious that the landowners on the 1/3 crop basis have a safer proposition than those on the 1/2 crop basis.

(6). Financial Progress of Tenants

Information on this score was only obtainable for 10 of the 22 tenants. As can be seen in Table 22 the average time spent by these tenants on the farms which they are at present renting was 3.7 years.

One farmer started with \$50 indebtedness while one had an initial capital as high as \$3,000. The average for the

TABLE No. 21

FINANCIAL RETURNS TO OWNER AND TENANT ON DIFFERENT RENTAL BASIS.

Terms of Rental	Rec'd. by	size of	Improved	Return to Tenant		Return on	Loss y
	Landlord	farm	land	Net	Labour Income	Landlord's	to
	\$	acres	acres	\$	\$	%	Landlord
Cash Rent \$200.	200	160	52	27	-26	6.7	-
1/5 Crop to Landlord	205	320	100	257	136	2.1	-
	210	160	63	82	-25	4.3	-
	186	160	71	124	66	5.5	-
1/3 Crop to Landlord	321	160	39	56	-108	17.1	-
	357	320	170	1,144	1,029	2.6	-
	128	160	22	-93	-160	5.1	-
	937	640	350	1,765	1,645	11.5	-
Average 6 farms	357	267	120	510	408	7.6	-
	125	160	94	221	179	1.6	-
	421	160	89	1,172	982	10.1	-
	227	320	86	-133	-171	nil	29
	832	320	268	- 81	-213	3.6	-
1/2 crop to Landlord	920	320	250	-1,441	-1,780	6.1	-
Landlord supplies	325	320	101	61	- 41	nil	15
seed and bears 1/2	627	320	194	-539	-654	5.9	-
twine and 1/2 thresh-	1,047	320	240	705	574	8.9	-
ing expense.	666	320	230	-552	-594	2.4	-
	251	320	92	-336	-452	nil	26
	715	480	390	- 15	-153	2.0	-
	513	600	132	-769	-843	nil	340
Average 12 farms	539	347	181	-139	-264	2.9	-
Expenses & receipts							
50/50 basis.Land-	661	320	162	637	595	3.7	-
lord 1/2 int. equip.&stock.							

Note: Taxes paid by landlord in all cases. Total rented farms 22. 1 farm operated by son who had no agreement with parent.

10 was \$774. This initial capital consisted almost entirely of investment in machinery and livestock minus any indebtedness which they may have had.

The average present capital of these tenants was found to be \$1,567. The range for the 10 was \$699 to \$2,399.

Eight of the 10 tenants had debt of some form. The range was \$150 to \$1,000 while the average for the class was \$327.

Deducting the indebtedness from the present capital the average net worth of these tenants was found to be \$1,240. The range was \$177 to \$2,249.

Two of the tenants have sustained losses of \$23 and \$1,236 in amount while the other 8 have gained amounts ranging from \$278 to \$1,312. The average gain for the class for the 3.7 years of operation was \$466.

The 8 men who made gains had average annual increases ranging from \$95 to \$328. The average for the whole 10 was \$126.

TABLE NO. 22

FINANCIAL PROGRESS OF 10 TENANTS

SWAN RIVER VALLEY

Years on this Farm as Tenant	Initial Capital at start on this Farm	Present Capital	Present Indebt- edness	Present Net Worth	Gain in Net Worth	Average Annual Gain in Net Worth
2	600	878	-	878	278	139
2	3,000	2,189	425	1,764	-1,236	decrease
2	400	1,196	172	1,024	624	312
3	200	699	522	177	-23	decrease
3	-50	708	300	408	458	153
3	700	2,303	1,000	1,303	603	201
4	937	2,399	150	2,249	1,312	328
5	400	1,777	400	1,377	977	195
6	603	1,603	-	1,603	1,000	133
7	949	1,915	300	1,615	666	95
Av. of 10 Farms 3.7	774	1,567	327	1,240	466	126

E - INDEBTEDNESS

(1). Nature of Indebtedness

Indebtedness of some form or other was reported on 117 of the 198 farms. Five gave no report and 76 stated that they had no indebtedness.

Mortgage indebtedness comprised 81.2% of the total. The average for the 81 farmers reporting this kind of debt was \$2,517.

Indebtedness to Implement Companies was 6.7% of the total. The average implement debt for 32 farmers was \$524.

Lumber Companies were owed .6% of the debt. Two farmers owed \$1,428 to this source.

Bank indebtedness comprised 6% of the total. Thirty-five operators owed \$15,512 to the banks.

Store indebtedness amounted to .8% of the total. A total of \$1,945 was owed by 23 men.

Under the heading "Other debts" were listed those owing to individuals and also Farm Loans for livestock. These debts comprised 4.5% of the total indebtedness. Twenty farmers reported an average of \$569 of this type of debt. (Table 23).

(2). Total and Average Indebtedness by Size of Farm

The average amount of indebtedness increased as the size of farm became larger. The range of indebtedness by size

TABLE NO. 23

PRESENT INDEBTEDNESS OF OPERATORS

SWAN RIVER VALLEY

	Total	Mortgage	Implement Co.	Lumber Co.	Bank	Store	Other Debts
	\$	\$	\$	\$	\$	\$	\$
Total present indebtedness	250.905	203.851	16.783	1,428	15.512	1,945	11,386
% in each		81.2%	6.7%	.6%	6.2%	.8%	4.5%
No. of farms having debt	117	81	32	2	35	23	20
Av. debt per farms having debt	2,144	2,517	524	714	443	85	569
Av. debt per all farms recording this information (193)	1,300	1,056	87	7	80	10	59

of farm was great. On 1/4 section farms debt ranged from \$1 - \$5,000, the average being \$387. For 1/2 section farms, the range was \$1 - \$15,000 and the average was \$1,838. For farms larger than 1/2 section in size the range was \$1 - \$10,000 and the absolute amount of indebtedness increased with the size of farm.

A greater proportion of these on smaller farms reported no debt at all. On farms three-quarter section in size and over, 36 out of the 47 reported debt. On 1/4 and 1/2 section farms only 81 out of 151 reported debt.

(3). Indebtedness per acre of Improved Land

The quarter section farms had less debt per acre of improved land than any other size of farm, while the 3/4 section farms had the largest. The average indebtedness per improved acre for all farms was found to be \$8.21. Indebtedness per acre was higher for larger sized farms but fluctuated greatly in no definite trend.

(4). Percentage Indebtedness to Capital Invested On Farms Recording Debt

When indebtedness was expressed as a percentage of the capital invested on farms having debt, it was found that quarter sections were carrying more debt in proportion to their capital invested than any other group. In previous

AVERAGE INDEBTEDNESS BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farm (Acres)	No. of Farms	No. recording this information	No. reporting debt	Total Indebtedness	Average all farms reporting debt	Average all farms reporting
1 - 160	73	73	33	28,239.00	855.72	386.83
161 - 320	78	76	48	88,213.50	1,837.78	1,160.70
321 - 480	30	29	24	78,118.00	3,254.91	2,693.72
481 - 640	9	8	6	19,900.00	3,316.66	2,487.50
641 - 800	4	4	3	13,422.00	4,807.35	3,605.50
801 - 960	-	-	-	-	-	-
961 +	4	3	3	12,012.50	4,004.16	4,004.16
Total	198	193	117	239,905.00	2,050.00	1,243.00

TABLE NO. 25

INDEBTEDNESS PER ACRE OF IMPROVED LAND BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Indebtedness per Acre	Total Indebtedness
1 - 160	73	5.16	28,238
161 - 320	78	7.52	88,213
321 - 480	30	10.78	78,118
481 - 640	9	7.53	19,900
641 - 800	4	9.68	15,628
801 +	3	6.40	12,012
Total	197	7.92	242,109

tables it was brought out that fewer quarter section farmers had debt and therefore the debt per improved acre on all 1/4 section farms was some what lower. But for those that reported debt the percentage of debt to capital was 27.13%. The average capital on these indebted farms was \$5,075 and the average debt \$1,377. The proportion of indebtedness to capital on farms larger than 1/4 section was from 1.5 - 8% lower. The average for all indebted farms was 24.3%. The average indebted farm had a capitalization of \$8,438 and the average debt on these farms was \$2,050.

PART III TYPE OF FARMING

A - SIZE OF FARM BUSINESS

(1) Discussion of Basis Used

It is difficult to find a single expression to measure accurately the comparative size of business conducted on one farm and on another. It is evident that the number of acres of land, the acreage of crops, the number of livestock, the amount of capital represented, the amount of labour required, the amount of power and equipment needed and other items each have a bearing on the size of farm business.¹

¹ Farm Management and Incomes of Farm Families in Laurel County, Kentucky, 1930. Agric. Exp. Stn.

TABLE NO. 26

PROPORTION OF INDEBTEDNESS TO CAPITAL INVESTED ON
FARMS REPORTING DEBT

SWAN RIVER VALLEY

Size of Farm	Per cent of Indebtedness to Capital	No. of Farms	No. Re- porting
1 - 160	27.13	73	27
161 - 320	23.03	78	38
321 - 480	25.64	30	16
481 - 640	24.78	9	4
641 - 800	19.75	4	2
801 +	23.52	3	2
Total	24.3	197	89

Land acreage, however, is the most stable basis on which to classify the size of farm. Livestock, amount of capital invested, receipts expenses etc., all fluctuate from time to time and a stable basis of comparison cannot be obtained from them. These factors are directly associated with size of farm as mentioned above, but they are functions of size rather than a basis of size.

The basis used according to land acreage can either be

- (1) Crop acreage (2) Total land area
- (3) Improved acreage or (4) Occupied acreage

The crop acreage omits summerfallow and improved pasture and when these items are large a true picture of the conditions cannot be portrayed with this basis. Unimproved pasture and hay lands are also left out and this omission is undesirable for the same reason. In the Swan River Valley where summerfallow and unimproved pasture are considerable in amount, a distorted picture would certainly result if a basis were used which did not consider them.

Difficulties also arise when total land area is used. It is not a reliable basis because it includes land in towns, streams, roads, swamps etc. There is obviously no point in including land used for such purposes in determining the size of business operated.¹ In the Swan River Valley the proportion of

¹ Types of Farming in North Dakota. Bulletin 102, Elliot, Top and Willard.

this type of land is quite high.

The determination of which is the better basis of the remaining two is a question a little harder to decide. Improved land, for instance, represents the greater part of the investment of the farmer's capital in land. Natural pasture, woodlands, etc., are relatively unimportant in this respect. The farmers investment in equipment and power and also his labour requirements are directly related to the amount of improved acreage. The income from crops and also the grain and a large portion of roughage for his stock are all derived from improved land.

On the other hand, the occupied acreage, which is not improved, does represent a portion of the farmer's investment. He pays taxes on the amount of occupied acreage regardless of improvement. The amount of pasturage and wild hay obtained from unbroken land is also very important, especially where livestock are kept in large numbers.

Scatter diagrams were made to determine the effect of acreage occupied and acreage improved on the various pursuits and no general difference was found between the two basis. In view of the fact that a large portion of the income of the Swan River farmer comes from livestock, and in view of the fact that the unimproved lands were used extensively for livestock purposes; therefore, acreage occupied was adopted as a basis of size.

(2) Size of Farm

The size of farm, on the occupied basis, ranges from 80 acres to over 1600 acres in the Swan River Valley. By far the largest number, 151 out of 198, range within the 1/4 and 1/2 section groups - 30 are within the 3/4 section size while only 17 out of 198 are over 1 section in size. One can see from this that the small family sized farm predominates. The 1/2 section farm is the most common size, 323 acres being the average acreage per farm.

When these farms are classified according to acreage of improved land it is found that only 15 have over 300 acres improved. (Table 28) . The range is from 1 - 50 acres to 801 - 850 acres. The majority of the farms fluctuate between 100 - 300 acres improved while the average for all farms is 155 acres of improved land per farm. The average acreage improved for each size of farm is around 50% of the total.

B - CAPITAL

The farmer's capital investment is of two kinds: fixed and circulating. The classes of fixed capital are investment in land, and buildings. Investment in machinery, livestock, feed and supplies and any cash on hand are the principal classes of the farmer's circulating capital.

TABLE NO. 27

NUMBER OF FARMS SHOWING TOTAL ACREAGE
AND AVERAGE SIZE OF FARMS

SWAN RIVER VALLEY

Total Area (Acres)	Number of farms
0 - 160	73
161 - 320	78
321 - 480	30
481 - 640	9
641 - 800	4
801 - 960	-
961 - 1120	2
1121 - 1280	1
1281 - 1400	1
1441 - 1600	-
Over 1600	-
198	
Total acreage	63,987
Average	323

TABLE NO. 28

NUMBER OF FARMS CLASSIFIED ACCORDING
TO ACREAGE IMPROVED

SWAN RIVER VALLEY

Acres of Improved Land	Number of Farms
1 - 50	31
51 - 100	52
101 - 150	37
151 - 200	21
201 - 250	20
251 - 300	19
301 - 350	6
351 - 400	2
401 & Over	9
	197
Total Acreage	30,580
Average	155

The farmer's total investment increases with the size of business owned. The range of investment from 1/4 section to 800 acre farms was \$4,674 to \$21,472. The average farm had an investment of \$8,781.

(1) Fixed Capital

The greater part of the farmer's investment is in land. An average of 47.3% of the total investment of Swan River farmers was found to be in this type. The percentage investment in land increased by size of farm until the 800 acre unit was reached; and then a drop occurred in this and the remaining class. On the basis of the average occupied farm being 318 acres the value per acre without buildings was found to be \$13.07. When building values were added the investment in real estate became approximately \$20.00 per acre. The percentage investment in buildings decreased as the size of farm increased up to the 640 acre farm. In the last 2 classes the percentage investment in buildings was slightly higher than for section farms. The investment in real estate was 70.9% of the total capital invested.

(2) Circulating Capital

Investment in equipment increased as the size of farm became larger. It constituted 16.6% of the farmers total capital. The average of the farmers' total investment in equipment to total capital changed very slightly as the size of farm increased. (Table 29).

TABLE NO. 29

COMPARISON OF AVERAGE INVESTMENTS ON FARMS OF DIFFERENT SIZES

Size of Farm	No. of Farms	Land	Buildings	Equipment	Stock	Total
1 - 160	73	1,941	1,181	774	778	4,674
161 - 320	78	4,239	2,353	1,510	1,155	9,257
321 - 480	30	5,802	2,756	1,849	1,472	11,845
481 - 640	9	8,884	2,114	2,264	1,393	14,655
641 - 800	4	11,605	4,395	4,046	1,425	21,472
801 +	3	14,963	6,270	7,029	2,888	31,150
Total	197	4,035	2,038	1,482	1,115	8,781

Investment in livestock constituted 12.6% of the total capital. An average of \$1,115 worth of livestock was kept per farm. The absolute amount invested increased with the size of farm until the section sized farm was reached. On the section and 800 acre size the investment was slightly lower than on the 3/4 section farm. The relative amounts invested in livestock decreased as the size of farm became larger. An exception to this was the relatively higher investment on farms over 800 acres in size. As only 3 farms are represented in this class the results cannot be given much significance. A point of interest in the matter of livestock capital is the relatively higher investment on 1/4 section farms, than on the larger units. (Table 30).

(3) Working Capital

Besides the capital invested in real estate, machinery and livestock the farmer requires a sum for current expenses. For the purpose of this report each expenditure for these items were taken to be synonymous with working capital. Home grown feeds and seed were excluded. It was found that the average farm for the whole district required \$852. while the range from 1/4 section farms to 960 acre farms was \$425 to \$4,000. When one considers the amount necessary for family living, interest on investments and also for new capital investments, then the actual cash necessary to finance a farm reaches an amazing figure. One can readily see that the figure increases rapidly by size of farm.

**COMPARISON OF PERCENTAGE INVESTED IN DIFFERENT ENTERPRISES
BY SIZE OF FARM**

TABLE NO. 30

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Land	Buildings	Equipment	Livestock	Total
1 - 160	73	41.5	25.3	16.6	16.6	100
161 - 320	78	45.8	25.4	16.3	12.5	100
321 - 480	30	49.0	23.1	15.3	12.4	100
481 - 640	9	60.6	14.4	15.5	9.5	100
641 - 800	4	54.0	20.5	18.7	6.6	100
801 +	3	48.0	20.1	22.6	9.3	100
Total	197	47.3	23.6	16.6	12.6	100

TABLE NO. 31

AVERAGE WORKING CAPITAL BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farm (Acres)	No. of Farms Reporting	No Re- port	Tenant Farms	Total Capital	Average Capital
1 - 160	64	1	8	27,217.00	425.27
161 - 320	67	-	11	56,713.00	846.46
321 - 480	29	-	1	31,403.00	1,082.86
481 - 640	8	-	1	13,536.00	1,692.00
641 - 800	3	-	1	7,296.00	2,432.00
801 - 960	-	-	-	-	-
961 +	3	1	-	12,151.00	4,050.33
Total	174	2	22	148,316.00	852.39

C - CROP ENTERPRISES

(1) Changes in Land Utilization in the Swan River Valley from 1920 - 1930.

By comparing the 1920 and 1926 census figures with 1930 survey material in respect to the proportions of land devoted to the various crops, it can be seen that a distinct change in the utilization of land has occurred during this period. The proportion of wheat grown has decreased greatly. Oat acreage has decreased slightly. Barley, forage crops and acreage summerfallowed have all increased in proportion. Of marked importance is the increased percentage of rye grown during the last 5 years. Rye yields well in this district and has found favour because it can be sown in the fall and so eases the spring seeding rush. (Table 32)

The percentage of improved acreage devoted to each crop and summerfallow was as follows: Wheat 22.2%, barley 19.3%, oats 19.3% rye 7.3%, forage crops and improved pasture 8.9%, and fallow 16.1%. This combination holds good, in a general way, for every size of farm. A discussion of this phase of the subject will follow later.

(2) Use of Improved Land

W H E A T

Wheat growing is not the all important enterprise on Swan River farms. As many as 50 of the 198 farmers do not grow it at all. The majority of those not growing wheat are

TABLE NO. 32

PERCENTAGE OF IMPROVED LAND IN VARIOUS CROPS
IN 1920, 1926 & 1930

SWAN RIVER VALLEY

Year	Wheat	Barley	Oats	Rye	Forage Crops	Fallow
	%	%	%	%	%	%
Census 1920	36.1	19.5	26.6	.81	6.0	12.8
1926	30.2	23.3	22.6	1.6	7.4	14.7
^x 1930 Survey 198 Farms	22.2	22.8	19.3	7.3	8.9	16.1

Note: ^x3.3% of breaking omitted. Source: Census data 1920-1926.

Percentages were worked on total crop acreage and fallow in the census material.

in the Birch River district and in the district east and south-east of Bowman. In these districts there is still danger from early frosts. The land here is low, in some cases, and contains much peaty material and seems unsuitable to promote the early maturity of wheat.

Wheat grown after summerfallow constituted 55% of the total wheat acreage. This land yielded 59.5% of the total bushels. The yield per acre on summerfallow land was 22.2 bushels and on other land it was 18.7 bushels. The average yield for all land was 20.6 bushels to the acre in 1929.

Garnet and Marquis were the most common varieties of wheat grown. Some farmers grow two or more varieties. In the 153 cases where variety was reported 68 were Garnet, 44 Marquis, 14 Reward, 12 Stanley and one of each of the following:- Ruby, Preston, Quality, Series and Durum.

O A T S

Oats are grown on a greater number of the farms than wheat. The acreage devoted to oats is 19.3% of the total. The yield per acre in 1926 averaged 26 bushels^x. Victory and Banner are the most popular varieties. Of the 132 reports on variety 59 were Victory; 35 Banner; 8 Sixty-day; 7 Abundance; and 6 Golden Reign. Other Varieties grown were White Irish, Garten, Graham, New Market and New Lloydminster.

Of the 188 farmers growing oats 69 made sales. 19.4% of the total bushels were sold. This would seem to indicate that

Note: ^xOats kept for green feed not counted.

the majority of farmers are growing just enough oats for feed requirements and those who do make sales are producing ostensibly for marketing.

B A R L E Y

Barley was grown on all but 30 of the 198 farms. This crop constituted 22.8% of the total acreage of the improved land. The average yield in 1929 was 22 bushels per acre. The O A C 21 and Trebi were the most common varieties grown. Other varieties reported were Mensury and Manchurian. Some beardless barley was grown. A greater number produce barley for market purposes than they do oats. Of the 168 farmers growing barley 112 made sales. 56.6% of the total bushels grown were sold.

R Y E

The percentage acreage of rye has increased greatly during the last ten years. A little over one-third of the farmers are growing rye. The acreage devoted to this crop is 7.3% of the total. The average yield in 1929 was 20 bushels to the acre. All but 4 farmers sold their rye and these farmers were holding it. No figures were obtained on the amount fed.

G R A S S E S A N D I M P R O V E D P A S T U R E

Over half of the farms were growing grasses. On these farms the average acreage devoted to grasses and clover was 23.7. The grasses grown were timothy, brome, and alfalfa. Some sweet clover, red clover and alsike were also grown. All these grasses

and clovers yield particularly well in the Swan River Valley.

SUMMERFALLOW

16.12% of the total farm acreage was summerfallow land in 1929. The general rule is to summerfallow every three years in this district. At one time the Swan River Valley was noted for having a great deal of couch grass. At the present time the majority of the farmers seem to have this pernicious weed under control. Proper summerfallow methods with the use of the spring tooth cultivator have done much towards eradicating this weed.

(3) Acreage devoted to each Crop on Farms of Different Sizes

The acreage devoted to each crop increased up to the 640 Acre farm. From then on, wheat still showed an increase but oats and barley fell off for the 800 acre farm. For farms over 800 acres the acreage devoted to these two crops was back in line with the 640 acre farm again. (Table 34).

It is impossible to draw any definite conclusions from this table, however, because there are so few farms in the larger sized groups that the results cannot be taken as characteristic of the size of farm. Any fluctuations in the last 3 classes cannot, therefore, be accredited much significance.

It can be safely said that the crop combinations for the 3 first sizes of farm do not differ greatly. In table 35 is given the percentage acreage devoted to each crop by size of

TABLE NO. 33

USE OF IMPROVED LAND ON 197 FARMS 1929

SWAN RIVER VALLEY

Crop	No. of Farms	Acres	Total Yield	Yield per Acre	% Acreage
Wheat after summerfallow	105	3,698	82,026	22.2	(12.28)
Wheat (Other preparation)	77	2,997	55,932	18.7	(9.95)
Total Wheat	148	6,695	137,958	20.6	22.23
Oats	188	5,812	150,872*	26.0	19.29
Barley	168	6,877	151,319	22.0	22.8
Rye	58	2,150	42,038	20	7.3
Grasses, Clover and pasture	108	2,669	-	-	8.86
Flax	2	19	-	-	.06
Potatoes	2	30	-	-	.1
Total Crops	197	24,252	-	-	-
Summerfallow	135	4,868	-	-	16.12
Breaking	74	1,005	-	-	3.34
Total	197	30,125	-	-	100

Note: *Not counting sheaves for green feed.

AVERAGE ACREAGE OF EACH CROP BY SIZE OF FARM

TABLE NO. 34

SWAN RIVER VALLEY

Acres	Wheat	Oats	Barley	Rye	Grasses	Summer- fallow	Breaking	Total
1 - 160	14.7	16.7	18.1	3.5	6.7	9.8	4.1	73.6
161 - 320	37.6	33.2	32.0	9.8	12.0	21.5	3.8	149.9
321 - 480	44.9	43.4	43.5	16.4	26.2	37.9	8.0	220.3
481 - 640	44.0	49.8	72.8	29.8	27.8	66.7	5.3	294.2
641 - 800	104.3	34.3	95.0	20.3	13.5	86.3	25.0	378.7
801 +	175.0	47.7	120.0	95.3	53.0	132.0	9.0	632.0
Total	34.0	29.5	34.9	10.9	13.5	34.7	5.1	152.6

TABLE NO. 35

PERCENT OF IMPROVED ACREAGE OF EACH CROP BY SIZE OF FARM

SWAN RIVER VALLEY

Acres	Wheat	Oats	Barley	Rye	Grasses & Clover	Summer- fallow	Breaking
1 - 160	19.7	22.2	24.1	4.7	8.9	13.1	5.5
161 - 320	21.4	18.9	18.2	5.6	6.8	12.2	2.1
321 - 480	20.4	19.7	19.8	7.4	11.9	17.2	3.6
481 - 640	15.0	16.3	24.8	10.2	9.5	22.7	1.7
641 - 800	25.8	8.5	23.5	5.0	3.3	21.4	6.2
801 +	28.0	7.6	19.2	15.2	8.4	21.1	1.4
Total	21.0	18.2	21.6	67.0	8.4	15.3	3.1

farm, and it can be plainly seen that in the first 3 sizes there is no marked difference in type.

In the next 3 sizes a reduction in the proportion of oats grown occurs and beyond that nothing definite can be said. Other crop acreages fluctuate in an uncertain manner, but on the whole, it can be stated that no real definite change in type occurs.

(4) Sales

As wheat and rye are grown mainly for sale it may be supposed that the amounts kept on any size of farm are being held for sale or seed rather than for feed.

Oats and barley sales, on the other hand, may be expected to fluctuate by size of farm. In table 35 it can be seen that the percentage acreage does not differ greatly for these two crops on the farms of different sizes. It was concluded from this table that the crop organization does not change greatly as the size of farm increased. When it comes to coarse grains, however, the percentage sales increased until the section sized farm was reached. From then on barley still showed an increase but oats decreased sharply. As oat acreage did decrease slightly on the three larger sized farms the decrease on the percentage of sales can be easily explained. The amounts kept for feed increased with the size of farm. As live-stock also increase in numbers with size of farm the reason is obvious.

(5) The Conclusions

The conclusions which can be drawn from these three

tables are as follows:

(1) That the crop organization did not differ greatly on farms of different sizes. The exception to this was the decrease in per cent of oat acreage and the slight increase in the per cent of wheat acreage on larger farms. It must be remembered that there was a small number of farms in the larger farm classes, and therefore, conclusions must necessarily be guarded.

(2) Farmers tend to sow the same proportion of coarse grains to cash grains (Wheat and Rye) regardless of size of farm. More coarse grains were kept for feeding purposes as the size of farm increased and a greater percentage of coarse grains were sold as the size of farm increased.

(3) It can be concluded from (1) and (2) that the larger sized farms are merely replicas of the smaller ones. The crop enterprises seem to be in the same proportion; the only difference is a matter of scale of size.

D - LIVESTOCK ENTERPRISES

(1) Importance of Livestock on Swan River Farms

General livestock enterprises on Swan River farms are quite important both from the stand point of capital invested and income received. Investment in livestock is 13.7% of the total. On the average farm the investment is \$1,115. Sales of livestock comprise 25% of the income while sales of other farm products (90% from stock) are 10% of the income. When one con-

TABLE NO. 36

AMOUNT GROWN AND PER CENT SALES OF CROP

SWAN RIVER VALLEY

Size of Farm (Acres)	No. of Farms	<u>W h e a t</u>		<u>O a t s</u>		<u>B a r l e y</u>		<u>R y e</u>	
		Bus.	Per cent Sales	Bus.	Per cent Sales	Bus.	Per cent Sales	Bus.	Per cent Sales
1 - 160	73	319	80.8	431	11.9	443	49.2	80	82.4
161 - 320	78	769	93.0	801	16.0	702	45.3	179	65.4
321 - 480	30	880	76.6	1,107	31.8	1,006	65.3	368	86.1
481 - 640	9	1,003	90.4	1,253	30.6	1,937	69.5	654	76.6
641 - 800	4	2,169	92.8	2,005	15.6	2,278	85.5	350	89.3
801 +	3	3,590	90.1	900	6.7	2,547	70.9	1,306	54.9
Total	197	700	86.4	766	19.4	768	56.6	213	74.6

siders that the majority of the farmers in this area have their own butter, eggs and meat and on top of this they supplement their income to the extent of 34% of the total, then it is easily conceived that livestock are important on the Swan River Farms.

(2) Work Horses

Swan River farmers rely on horse power to a large extent for their farm work. Seventy of the 198 farmers own tractors and all but two of these farmers have work horses as well. The average number of work horses per farm was found to be 6.15. The number increased as the size of farm became larger. Farmers on quarter-section units had an average of 4.26 while those on farms over 801 acres had an average of 13.67. The average investment per farm was \$497. On quarter section farms it was \$314 and on farms over 800 acres it was \$1,023. Work horses ranged in value from \$60 to \$100. The average was \$81 per head.

The average investment in other horses per farm was \$50. Other horses include light horses, unbroken colts and stallions. Three farmers kept stallions, 35 kept light horses and 86 had young stock. Of the 86 keeping young stock 65 had colts born in 1929.

The value per unit of light horses was \$48; of stallions \$222; and for young stock \$44. The total value of all horses per farm was \$553. The investment in horses was 35.7% of the total value of all livestock.

(3) Cattle

The average herd of cattle consisted of 5 cows, 5 steers and heifers and 3 calves. Bulls were kept on 57 of the 198 farms. The total value of all cattle per farm was \$662. The value per unit was \$60 for cows; \$39 for heifers; \$40 for steers; \$14 for calves and \$66 for bulls.

The Holstein breed was the most popular one kept for dairy purposes. A few Ayshire and Jerseys were reported. Red Polls and Shorthorns were found to be popular general-purpose breeds. All the beef breeds were represented and all seemed to be equally as popular. A number of real good sires were reported in this district.

The number of cows kept on the different sized farms does not vary greatly. More young stock are kept on the larger sized farms than on the quarter section unit. However, cattle seem to vary more between individual farms than they do between farms of different sizes.

(4) Swine

Swine form an important part of the livestock organization on the Swan River farms. They form 18% of the farmers' total investment in livestock, and are kept by 168 of the 198 farmers. About 80% of the farmers keep sows. On these farms an average of 2.4 sows are kept. Boars were kept on 28 of the farms. They were for the most part of the Yorkshire breed. About 7% of the operators did not raise their own pigs but bought weanlings for their own use.

The average number of hogs kept on all farms was 18.6 head. The average value was \$275. Sows were valued at \$30; boars at \$23; and hogs (little and big) at \$13 per unit.

The number of swine kept per farm increased until the section sized farm was reached. A drop in number occurred on the section and 800 acre units. The three farmers on the farms over 800 acres in size appear to be keeping more pigs than those in the other classes. One of the farmers in this group, however, is raising a great deal of livestock and so an average of three does not give a true indication.

(5) Sheep

Sheep are being kept on 25 of the farms. They were not found on farms over one section in size. The average size of flock was 34 head; and the average value was \$300 per farm. The value per unit was \$8.84. Investment in sheep formed 2.5% of the total livestock investment. The breeds kept were Oxford and Suffolk. Some farmers had exceptionally well bred flocks.

(6) Poultry

Most of the farmers were keeping a fair sized flock of poultry. Investment in poultry was found to be 6.5% of the total livestock investment. The average flock contained well over 100 hens. Many of the flocks were mixtures of the ordinary breeds but some excellent pure bred stock were found. Turkeys were kept by a fewer number of farmers.

TABLE NO. 37

NUMBER AND VALUES OF LIVESTOCK

SWAN RIVER VALLEY

	No. of Farms Having Stock	All Farms Having Stock Total No. of Stock	Total Value	Value per Unit	Av. per Farm Having Stock Number	Value	Av. 196 Farms Number	Value	Per cent of total Livestock Value
Horses	194	1,206	97,363	81	6.22	501.87)	7.3	547	35.7
Light Horses	25	35	1,665	48	1.40	66.60)			
Stallions	3	3	667	222	1.00	222.33)			
Colts	86	172	7,363	44	2.00	87.94)			
Cows	184	980	58,600	60	5.33	318.48)	13.8	571	37.3
Heifers	154	573	22,444	39	3.72	145.74)			
Steers	114	424	17,120	40	3.72	150.18)			
Calves	146	662	9,284	14	4.53	63.59)			
Bulls	57	67	4,442	66	1.18	77.93)			
Sheep	25	850	7,514	8.84	34	300.56	4.3	38	2.5
Sows	136	327	9,681	30	2.40	71.18)	18.6	275	18.0
Bears	16	28	642	23	1.75	40.13)			
Hogs	168	3,297	43,623	13	19.63	259.66)			
Poultry	188	24,731	19,602	.79	132	104.28	126	100	6.5
Total	196	-	300,210	-	-	1,532	-	1,532	100

Note: 2 farms omitted -- information incomplete. Colts, Calves, and Pigs are all counted.

TABLE NO. 38

AVERAGE NUMBER AND VALUE OF LIVESTOCK ON FARMS
OF DIFFERENT SIZES (196 FARMS)

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Work Horses		Other Horses		Cows		Other Cattle		Sheep		Sows		Other Pigs		Poultry	
		No.	Value	No.	Value	No.	Value	No.	Value*	No.	Value	No.	Val.	No.	Val.	No.	Val.
1 - 160	73	4.26	314	.73	31	4.1	220	6.3	173	4.2	34	1.2	32	10.8	137	125	89
161 - 320	78	6.18	516	.64	44	5.6	365	9.6	298	5.0	48	1.7	52	18.7	247	145	121
321 - 480	29	7.90	657	1.55	64	5.7	317	11.8	657	.5	37	2.4	66	24.8	308	168	85
481 - 640	9	8.89	727	1.78	88	5.2	347	11.0	351	2.2	22	1.8	52	19.4	354	103	81
641 - 800	4	15.75	1360	2.75	274	3.3	188	6.3	159	-	-	2.5	78	8.0	132	207	184
801 +	3	13.67	1023	2.33	190	5.3	312	16.8	448	-	-	3.3	19	58.0	782	117	118
Total	196	6.15	497	.97	50	5.0	299	8.8	272	4.3	38	1.7	49	17.0	226	126	100

Note: *Including calves.

(7) Animal Units By Size of Farm

Each class of livestock was expressed on the animal unit basis; one mature cow or horse was counted as one unit. All heifers and steers over one year old were counted as one unit. Five pigs, 10 hogs, 7 sheep, or 100 chickens were counted as one unit.

The same general trend in the number of animal units of each class of livestock occurred on the farms of different sizes, as when the absolute numbers of each class were taken. This, of course, might be expected. The purpose of reducing livestock to the animal unit basis, however, was to compare the total number of livestock on the different sizes of farms.

In table No. 39 it can be seen that the animal units increase as the size of farm increases until the section sized farm is reached. As only a few farms are represented in the last two classes the results are not comparable for these two sizes of farms.

(8) Acres of Improved Land and Occupied Land per Animal Unit

In order that the relative density of livestock organization might be compared with the different sized farms the number of acres of improved and occupied land per animal unit were worked out.

The number of acres of improved land per animal unit increased as the size of farm became larger. The average improved acreage for all farms per animal unit was 10.1 acres. The range in averages by size of farm was 6.6 to 36.7 acres per animal unit.

TABLE NO. 39.

ANIMAL UNITS ON FARMS OF DIFFERENT SIZES

SWAN RIVER VALLEY

Size of Farm	All Horses	Cattle	Hogs	Sheep	Poultry	Total Average	Total Average Excluding Horses
1 - 160	4.68	8.82	.85	.60	1.18	16.1	11.4
161 - 320	6.81	13.81	.81	.72	1.4	22.7	15.9
321 - 480	8.69	15.14	3.66	.66	1.1	29.2	20.5
481 - 640	10.11	13.89	8.11	.33	1.0	33.5	23.3
641 - 800	17.50	7.75	1.25	-	2.1	28.6	11.0
801 +	14.67	20.33	6.67	-	1.2	42.8	26.0
Total	6.79	11.78	1.68	.62	1.3	22.1	15.3

As the occupied acreage is practically double the improved acreage on each size of farm the same result was obtained. An average of 20.7 acres per animal unit was found on all farms.

(9) Receipts From Livestock -- General

The cattle, hog, and poultry enterprises are pretty well represented on all Swan River farms. Out of 197 farmers in the survey 184 kept cattle; 168 kept hogs and 188 kept poultry. Sheep were kept on but 25 farms. The most common organization on all farms was cattle, hogs and poultry.

Some of the farmers were keeping stock mainly for home use but the majority were making sales. The number of farms selling various kinds of stock are: cattle 151, hogs 139, sheep 20 and poultry 131. Out of the total 197 farms, 185 sell either one or more kind of livestock.

The receipts for cattle form 41.7% of the total livestock income. An average of \$210.81 per farm for the 151 was made.

Sales of hogs formed 45.3% of the total livestock receipts. One hundred and thirty five farmers made an average of \$248.47.

Sheep form but 3.7% of the total receipts but 20 farmers made an average of \$139.75 from this enterprise.

Receipts from the sale of dressed poultry were 9.3% of the total. An average of \$54.44 was made by 131 farmers.

TABLE NO. 41

*LIVESTOCK SALES ON 197 SWAN RIVER FARMS

SWAN RIVER VALLEY

Stock	No. Farms Having Stock	No. Farms Having Sales	Total Amount of Sales	Av. for Farms Having Sales	Av. for 197 Farms	Percent total livestock Re- ceipts
Cattle	184	151	31,832	210.81	161.58	41.7
Hogs	168	139	34,537	248.47	175.31	45.3
Sheep	25	20	2,795	139.75	14.19	3.7
Poultry	188	131	7,132	54.44	36.20	9.3
Total	197	185	76,296	-	391.26	100

Note: *Horse sales excluded.

(10) Livestock Products Sold and Used

As was seen in table No. 42 livestock products make up 9% of the total year's receipts.

The sale of cream constituted 49.6% of the total livestock product receipts. Less than half of the farmers were selling cream. They were able to make an average of \$176 from this source.

Income from the sale of eggs made 27.7% of the total livestock products sales. An average of \$68 for 132 farmers was made from this source.

Receipts from butter were next highest. They made up 21.6% of the total. Eighty-four farmers were able to average \$83 for butter sales. Sales of hides and wool formed a little over 1% of the receipts. An average of \$3. was received by seven men for hides. An average of \$20 was received by 16 men for wool.

Besides selling such a large quantity of livestock products the farmers consumed a large portion in their homes. Information was received from 166 farmers on this point. The average value consumed per farm was found to be \$209.99. About \$100 worth of milk and cream, \$62 worth of butter and \$48 worth of eggs were consumed in the ordinary farm home in one year.

TABLE NO. 42

LIVESTOCK PRODUCTS SOLD AND USED ON 197 FARMS

SWAN RIVER VALLEY

Product	Farms Having Sales	<u>Products Sold</u>		Percent of Total Sales	Products No. of Farms supply- ing data	<u>Products Used</u>	
		Total Receipts	Av. per farm making sales			Total Value	Value per Farm
Milk & Cream	91	15,991	176	49.6	166	17,006	102
Butter	84	6,967	83	21.6	162	10,056	62
Eggs	132	8,919	68	27.7	161	7,730	48
Hides	7	19	3	-	-	-	-
Wool	16	326	20	1.0	-	-	-
Totals	-	32,222	-	100	166	34,792	209.59

(11) Sales of Each Class of Livestock by Size of Farm

Fewer farmers on quarter-sections made sales of cattle than on the larger sized farms. On farms larger than 1/4 section there were but 17% who did not make sales, while on 1/4 section farms there were 35.6%. The average amounts received for cattle sales increased until the section sized farm was reached. Cattle receipts also increased relatively to total livestock receipts until the section sized farm was reached.

The same proportion of the 1/4 section farmers made sales of hogs; but 26% of the farmers on larger farms recorded no sales. The amounts and percentages of the total livestock receipts for hogs both increased for the 1/4 section farm to the section sized farm. A fall in both again occurred on the 800 acre farm. On the 3 farms over 801 acres the receipts from hogs were very large.

Sheep sales were only made on the 3 smallest sizes of farms. The eleven 1/4 section farmers received more on the average than did the farmers in other classes.

TABLE NO. 43

AMOUNT RECEIVED BY FARMERS MAKING SALES OF
LIVESTOCK ON THE VARIOUS SIZES OF FARMS

SWAN RIVER VALLEY

Size of Farm	No. of Farms	<u>Cattle</u>		<u>Horse</u>		<u>Sheep</u>		<u>Poultry</u>	
		No. making Sales	Av. amt. rec'd.	No. mak- ing Sales	Av. Amt. Rec'd.	No. mak- ing Sales	Av. Amt. Rec'd.	No. mak- ing Sales	Av. Amt. received
1 - 160	73	47	136	47	169	11	156	45	63
161 - 320	78	68	224	55	254	6	147	54	47
321 - 480	30	22	326	24	324	3	67	20	54
481 - 640	9	8	224	7	401	-	-	7	48
641 - 800	4	3	93	3	113	-	-	3	65
801 +	3	3	315	3	584	-	-	2	92
Total	197	188	210.81	139	248.47	20	139.75	131	54.44

TABLE NO. 44

PERCENT OF SALES FROM EACH CLASS OF LIVESTOCK
BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farm	Cattle	Hogs	Sheep	Poultry	Percent Livestock in percent of Total Receipts
1 - 160	33.9	42.1	9.1	15.0	25.48
161 - 320	46.8	42.8	2.7	7.7	27.01
321 - 480	44.2	47.9	1.2	6.7	23.27
481 - 640	36.5	56.7	-	6.8	18.14
641 - 800	34.3	41.8	-	23.9	18.5
801 +	32.8	60.8	-	6.4	16.9
All Farms	41.7	45.2	3.7	9.3	24.3

The average sales of poultry differed little by size of farm.

(12) Conclusions

The average number of cows kept on the different sizes of farm did not vary greatly. More young stock were kept on the larger sized farms.

The number of sheep kept per farm increased until the section sized farm was reached and then a drop occurred.

The number of acres per animal unit increased with size of farm.

The amounts from sales of cattle and hogs showed an increase as the size of farm became larger. The proportions to total livestock receipts also increased. This was partly due to a decrease in the value of sheep sold per farm as the size of farm increased.

The livestock enterprise is more important relatively on the smaller farms than on the larger, both from the standpoint of organisation and for income received.

E - OTHER ENTERPRISES

(1) Extent of Other Enterprises

Enterprises engaged in, other than crop production and livestock, by Swan River farmers are; outside labour, threshing, custom field work, feed-grinding and sawing.

As many as 141 farmers received some income from the above sources. The number of farmers who received income from the different sources was as follows: outside labour 104; threshing 38; custom field work 30; and other, 17. The proportion of the total outside income from each source is as follows: outside labour 48%; threshing 40.7%; custom field work 8.2%; and other, 2.7%.

(2) Effect of Other Enterprises on the Main Farming Enterprises

Outside income may affect the farm enterprises in that the farmer receiving same may not develop or organise his farm business to such an extent that it will supply him with sufficient income to carry on. For example, a man may devote all his time to some outside enterprise and just utilize his farm as a dwelling place. In a case such as this the farm enterprise would likely be neglected and little or no development would occur.

A striking example of this may be cited in the case of the Birch River settlers. The railway came to this part in 1907 and from then till 1912 very little was done in the agricultural line. Saw and plane mills supplied plenty of work and any settlers coming in received their living from this source. Their land was very heavily timbered and although the saw mill enterprise helped materially in clearing it yet not very much was broken up in the earlier years.

After the heaviest timber was gone the saw mills stopped operations. The settlers then began selling cord wood for fire and

pulp purposes. This industry has supplied them with a great part of their income. In 1926 - 27 the pulp wood industry was booming in this part.

At the present time the Birch River settlers are still depending on outside sources for a great part of their income. The pulp and cord wood industries did not pay particularly well in '28, '29 and '30 and they realize now that they must pay more attention to agriculture. According to one settler, the people have reached the point where the farms will have to support them. As these farmers have been depending on outside sources for their income they will find it particularly hard for the next few years.

Although these farmers have been engaged in outside enterprises they have managed to bring some land under cultivation in the last few years. Twenty-three farmers were found to have an average of 40 acres improved. Receipts from grain were low but stock and other farm products brought in considerable income. Outside sources contributed about 20% of the income in 1929. On quarter section farms the amount was 33.2% of the total. These farmers would have received much more from outside sources but the price of wood dropped from \$3 to \$4 per cord to \$1.25 to \$1.50 in 1929. Many farmers held their wood over and so received no income from it at all.

The fact that these farmers have depended on outside sources for their income, and that they still do to a certain extent, is evidence that other enterprises can affect the development of the farm.

No criticism can be levelled at the procedure of these settlers because it was a good, and, perhaps the only method of pioneering their heavily timbered land. Outside income in such cases is desirable and when it can be diverted into the farm business more rapid progress will result. But when the outside work requires practically all the operator's time and the income is just sufficient to sustain his growing family, then the development of the farm will likely be very slow. If the income from outside sources is suddenly cut off then the settler finds himself in serious straits. Men must use sound judgment in settling heavy timbered land and endeavour to develop their farms as quickly as possible so that when outside sources of income fail them, their farms will be self supporting.

Income from other sources is not so important throughout the main part of the Swan River Valley as it is in the Birch River District. Farmers, for the most part, indulge in outside work during "slack periods" and if they have threshing outfits they endeavour to obtain maximum utilization of same by doing custom work. Such practices are beneficial to the farmers so long as too much time is not diverted from the major farm enterprises.

(3) Relation of Outside Income to Size of Farm

Outside income is not restricted to farmers on any one size of farm. The proportion of farmers receiving income from outside sources is about the same for all sizes of farms. It was

found that farmers on the average received 13.11% of their total cash income from outside sources. The percentage received from outside sources is higher on quarter section farms than on 1/2 or 3/4 section sizes. On the section size, however, the percentage is practically the same as the 1/4 section probably because these men own large machines such as tractors and threshing outfits and in order to get the maximum utilization from them they do custom work. It will now be necessary to examine the returns from the different sources of outside income to determine the effect of each.

(4) Custom Field Work

Some men on every size of farm were doing custom field work for some other farmer. A total of 31 out of 198 farmers received income from this source. The proportionate number of men doing this type of work on the different sized farms does not signify any difference between the various sizes of farms in this respect. Rather, it indicates a practice for the individual farmer regardless of size of farm.

The average amount received from custom field work did not vary greatly on the different sized farms; which indicates that all the operators apparently spent the same amount of time away from their home farm.

Twenty-three of the farmers did custom field work with horse outfits while 7 used tractors. Only 3 out of the 22 farmers in the 1/4 to 1/2 section groups used tractors for such work.

TABLE NO. 45

INCOME FROM OTHER ENTERPRISES ON FARMS
OF DIFFERENT SIZES

SWAN RIVER VALLEY

Size of Farms	No. of Farms	No. having outside in- come	Av. Amt. Received by those having outside in- come	% of total Farm In- come on all Farms	Average for 197 Farms
1 - 160	73	53	181	14.1	132
161 - 320	78	52	323	11.8	215
321 - 480	30	24	318	10.6	254
481 - 640	9	7	565	14.3	439
641 - 800	4	2	678	8.4	339
801 +	3	3	535	9.2	535
All Farms	197	141	318	13.1	318

TABLE NO. 46

NUMBERS DOING CUSTOM FIELD WORK

SWAN RIVER VALLEY

<u>Size of Farm</u>	<u>No. Doing Custom Field Work</u>	<u>No. of Tractors Used</u>	<u>No. of Horse Out- fits Used</u>
1 - 160	12	1	11
161 - 320	10	2	8
321 - 480	5	4	1
481 - 640	1	-	1
641 - 800	1	-	1
801 +	1	-	1
Total	30	7	23

TABLE NO. 47

SUMMARY TABLE ON CUSTOM FIELD WORK

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Average acre- age improved on all Farms	Number of Farms doing Custom Field Work	Average acre- age improved for men doing Custom Field Work	Average Amount received by those doing Custom Field Work
1 - 160	73	75	12	73	102
161 - 320	78	150	10	165	145
321 - 480	30	222	5	197	122
481 - 640	9	294	1	47	100
641 - 800	4	401	1	132	80
801 +	3	926	1	819	240
All Farms	197	152	30	150	123

(5) Amount Improved on the Farms of Those Who Did Custom Field Work

In all the size classes except on the 320 acre class the average amount improved was lower on the farms of those who did custom field work. The averages in this case do not tell the whole story, however, for in table 48 it can be seen that the distribution of farms, according to acreage groups, is scattered and really does not give much indication that men with small acreages of improved land have to do custom field work of necessity. The crosses in this table represent the cases where a tractor was used to do custom field work. The 3 cases where the improved acreage is under 150 acres is significant because it indicates the use of tractors on particularly small farms.

(6) Custom Threshing

The ownership of threshing machines was not confined to the larger sized farms as one might expect. Twenty-four were owned by 1/4 and 1/2 section farmers while an equal number were owned by men on farms larger than the 1/2 section in size. However a greater proportion of the men on larger sized farms own machines, because there are but 46 farms over 320 acres in size and 152 1/4 and 1/2 section units. (Table 49).

The men in the different size classes were operating land on which the average improved acreage was a little higher than that of the average of all farms.

The men on small farms owned small outfits.

The average amount received by men in each size group

TABLE NO. 48

AMOUNT IMPROVED ON THE FARMS OF THE MEN
WHO DID CUSTOM FIELD WORK

SWAN RIVER VALLEY

Improved Acreage Groups	0 to 160	161 to 320	321 to 480	481 to 640	641 to 800	801 +	All
0 - 50	4	-	1+	1	-	-	6
50 - 100	5+	2	-	-	-	-	7
100 - 150	3	3+	-	-	1	-	7
151 - 200	-	1	1+	-	-	-	2
201 - 250	-	3	1+	-	-	-	4
251 - 300	-	1	2+	-	-	-	3
819 Acres	-	-	-	-	-	1+	1
Total	12	10	5	1	1	1	30

Note: Crosses (+) indicate the cases where tractors
were used.

TABLE NO. 49

AVERAGE RECEIPTS FOR OUTSIDE THRESHING

SWAN RIVER VALLEY

Acres	Number Owned Outfits	Number do- ing Outside Threshing	Average Amounts Made
1 - 160	7	6	\$ 459
161 - 320	17	12	678
321 - 480	14	14	301
481 - 640	5	5	563
641 - 800	2	1	375
801 +	3	1	700
All Farms	48	39	-

varied considerably but did not show any definite trend by size of farm. A greater proportion on the larger farms received income from this source.

(7) Outside Labour

As many as 104 farmers out of the 198 received some income from outside labour. The type of work included under this heading was as follows: road work, manual labour on other farms, carpentering, blacksmithing, hauling wood, clerical jobs, etc.

Men on every size of farm received income from work of the above type. The amounts received by those on larger farms was somewhat higher than those received on smaller farms. (Table No. 64).

Table No. 50 would indicate that most of the outside labour was done by farmers who had low amounts improved. This is particularly true of the 1/4 section farmers.

(8) Conclusions

(1) Other enterprises engaged in by the settler may in some cases restrict the development of the farm.

(2) Farmers in a settled area appeared to receive a certain portion of their income from outside sources regardless of the size of their farms.

(3) The proportion of outside receipts from custom field work was small and there seemed to be no definite relationship between size of farm and the amount of custom field

TABLE NO. 50

AMOUNT IMPROVED ON THE FARMS OF THE MEN DOING
OUTSIDE LABOUR

SWAN RIVER VALLEY

Improved Acreage Group	Size of Farm						Total
	1 to 160	161 to 320	321 to 480	481 to 640	641 to 800	801 +	
0 - 50	11	8	1	1	-	-	21
51 - 100	23	7	2	-	-	-	32
101 - 150	6	9	2	1	1	-	19
151 - 200	1	5	3	-	-	-	9
201 - 250	-	7	3	-	-	-	10
251 - 300	-	-	5	2	-	-	7
301 - 350	-	-	-	1	-	-	1
401 - 450	-	-	-	-	1	2	3
801 - 850	-	-	-	-	-	1	1
	41	36	16	6	2	3	104

TABLE NO. 51

AVERAGE AMOUNT OF IMPROVED LAND ON FARMS
OWNED BY MEN DOING OUTSIDE LABOUR

SWAN RIVER VALLEY

Size of Farm (Acres)	Average Improved All Farms	Average Improved On Farms Owned By Men Doing Out- side Labour
1 - 160	75	69
161 - 320	150	122
321 - 480	222	185
481 - 640	294	251
641 - 800	401	330
801 +	926	626
Total	152	136

work indulged in by farmers.

(4) A greater proportion of the men on large farms did custom threshing than on the smaller farms. Farmers owning threshing outfits tended to have a larger proportion of their farms improved than the average.

(5) A larger number of farmers were found to receive income from outside labour. There was a tendency for operators who had smaller amounts improved than the average to receive income from this source.

F -- LABOUR REQUIREMENTS

(1) Classes of Labour

Farm labour falls into two classes (1) paid labour, and (2) unpaid labour. Included in the paid labour are men hired by the year, month and day. Twenty-eight farmers out of the 128 hiring labour had men hired by the year, 46 hired men by the month and 103 employed day help. Year help comprised nearly half the number of months of hired labour, while month and day comprised about 1/3 and 1/5 respectively.

The amount paid out for labour was highest for day help, being 41% of the total. Year and month help were about the same with 30% each. (Table 52).

Unpaid family labour is comprised of that of the operator, his sons, wife and daughter and any other person in

the family circle receiving no definite wage. In this survey the operator placed a value on the contribution of each member of the family. Sons over 15 and other grown men received in general the going wage -- \$400 per year. Boys under 15 and womenfolk were allotted 'half time' for any work done and values on their labour were apportioned accordingly. There were 60 sons on the 196 farms and 64 womenfolk who received no definite wage.

Operators on the average valued their labour at \$532 per year. The range was \$350 to \$1800. (Table No. 52).

(2) Board of Labour

To obtain the total cost of labour the cash cost of board was added to all hired labour and to all unpaid labour except that of the operator. This charge was estimated by the operator and the average cost worked out to \$240 per year or \$20 per month. On this basis the average cost of labour per farm (exclusive of operator) was \$1260. Paid labour made up \$223 of this, while unpaid labour constituted \$1,037.

(3) Rates of Wages

The average cost of year help was found to be \$315 per year. As two low rates of \$200 are included in this figure the sum is low and without them the average would be about \$400 per year. Year help is generally hired at the rate of \$40 per month for 7 or 8 months and \$15 and \$20 per month during the winter season. Month help was hired at the rate of \$35 to \$50 per month, and day help varied from \$1.50 to \$5.00 per day depending on the season.

TABLE NO. 52

STATEMENT OF FARM LABOUR IN 196 FARMS

SWAN RIVER VALLEY

Kind of Labour	No. of Farms Using This Labour	Total Months of Labour	Av. per Farm Using this Labour (Months)	Cash Value of Labour		Cash Cost of Board		Total Cost of Labour	
				Total Labour	Av. per Farm using this Labour	Total	Av. per Farm using this Labour	All Farms	Av. per Farm using this Labour
Paid year help	28	296	10.6	8,829.50	315.34	5,865.00	209.46	14,694.50	524.79
Paid month help	46	241	5.2	9,091.40	197.64	4,989.00	108.46	14,080.40	306.10
Paid day help	103	128	1.2	12,319.45	119.61	2,533.15	24.59	14,852.60	144.20
Total paid help	128	665	5.2	30,240.35	236.25	13,387.15	104.59	43,627.50	340.84
Av. per Farm (196 Farms)	-	665	3.4	30,240.35	154.29	13,387.15	68.30	43,627.50	222.59
Unpd. Operator's Labour	196	2,305	11.8	123,368.00	629.43	-	-	123,368.00	629.43
Unpd. Labour of Operator's son	60	839	14.0	32,475.00	541.25	17,820.00	297.00	50,295.00	838.25
Unpd. Labour of Operator's wife, daughter, sister or mother	64	360	5.6	9,785.00	152.89	15,780.00	246.56	25,565.00	399.45
Unpd. labour of Operator's partner, brother or other	5	60	12.0	2,662.00	532.40	1,440.00	288.00	4,102.00	820.40
Total Unpaid	196	3,564	18.2	168,290.00	858.62	35,040.00	178.78	203,330.00	1,037.40
Total Paid and Unpaid	196	4,229	21.6	198,530.35	1,012.91	48,427.15	247.08	246,957.50	1,259.99

Note: 2 records discarded owing to inaccuracy of data.

(4) Hired Labour Requirements by Size of Farm

As the size of farm increased the amount of hired labour required increased to a marked degree. Hired labour on quarter section farms cost but \$40, while on a 640 acre farm the cost was \$539. The average cost on all farms was found to be \$154.

Not all farmers hire labour as only 65% of the farms in the Swan River survey required extra help. Less than 25% of the farmers on 1/4 section farms, 72% on 1/2 section farms, and 86% of the farmers on farms over 1/2 section in size hire labour. (See Table 33).

The average farm required 2 men the year around and an extra man in August and September.

Hired labour is mainly of a seasonal nature in the Swan River Valley, as seen by the number of farmers hiring month and day help. (Table 44). This would seem to signify that labour is hired mainly for the production of crops.

When one considers the income derived from the different sized farms it is shown that the smaller sized units receive a greater relative proportion of their income from livestock and particularly from livestock products. Due to the fact that a small proportion of these farmers hire extra labour, one would be further led to the conclusion that labour is hired not for the purpose of care of livestock, but for actual grain growing operations. It would seem that the available labour force in the farm home does most of the work pertaining to the poultry

and dairy industries. These phases, being organized on a small scale would not permit of the hiring of labour for their special benefit. It would also seem that when the size of farm increases there is less emphasis given to livestock operations, and particularly to the dairy industry. This is no doubt due to insufficiency of time on the larger sized farms or perhaps due to less returns in proportion to labour expended on this particular phase of the farm operations. Milking cows to the average man is drudgery and it would seem that farmers do it only when it is absolutely necessary. Just as soon as they can receive enough from their grain growing operations the dairy industry loses favour. (See Chart 3 on Income).

(5) Cost of Labour per Acre Improved on Farms of Different Sizes

The cost of hired labour per acre of improved land increased as the size of farm became larger. A drop occurred in the 641 - 800 acre class due to a larger proportion of available family labour on these four farms.

The value apportioned to all family labour, including that of the operator, showed a decrease as the size of farm became larger, except in the 800 acre farm group where the family labour was particularly high.

The value of board of all labour per acre of improved land showed a decrease as the size of farm became larger.

The purpose of reducing the cost of labour to the improved acreage basis was to compare the efficiency of labour on the various sized farms. Chart 2 would indicate that by far

the largest proportion of labour was hired from April to October, the period that work may be done on the land. It was also brought out in the discussion of labour requirements on farms of different sizes, that the proportion of 1/4 section farmers hiring additional labour was very low. It was concluded from these facts that labour was hired mainly for the purpose of grain and feed production, and that the available family labour was generally sufficient in amount to take care of the dairy and poultry enterprises. Since the absolute receipts from these enterprises do not vary greatly by size of farm it can be concluded that the same proportion of family labour is required.

If these assumptions are correct it is obvious that there is an over-supply of labour on the smaller farms. Efficiency of labour increases with the size of farm.

(6) Summary

(1) Hired labour is mainly of a seasonal nature in the Swan River Valley as seen by the number of farmers hiring month and day help. This would signify that labour is hired mainly for the production of crops.

(2) Efficiency of labour increases with the size of farm; and it is obvious that there is an over-supply of labour on the smaller farms.

TABLE NO. 53

CASH COST AND NUMBER OF MONTHS OF HIRED LABOUR
BY SIZE OF FARM

SWAN RIVER VALLEY

	1 to 160	161 to 320	321 to 480	481 to 640	641 to 800	801 to 961	961 to 1120	1121 +	All Farms
No. Farms in class	72	78	30	9	4	-	2	1	196
No. of Farms hiring Labour	35	56	23	8	3	-	2	1	128
Total months hired Labour	73	215	169	96	30	-	40	44	667
Av. no. months for farms hiring Labor	2.08	3.84	7.35	12.00	10.00	-	20	44	5.21
Av. no. months for all Farms	1.01	2.76	5.63	10.66	7.50	-	20	44	3.40
Total cash cost of Hired Labour	2,926.75	9,770.00	7,471.60	4,851.50	1,410.00	-	1,740.50	2,070.00	30,240.35
Av. cash cost of Farms Hiring Labor	83.62	174.46	324.85	606.44	470.00	-	870.25	2,070.00	236.25
Av. cash cost on all farms	40.65	125.25	249.05	539.05	352.50	-	870.25	2,070.00	154.29

Note: 1 record omitted in 1121 + class.
1 record omitted in 1 - 160 class.

TABLE NO. 54

COST OF LABOUR PER ACRE IMPROVED

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Acreage Improved	Cost per Acre Improved			Total
			Hired Labour	Family Labour(1)	Value of Board (2)	
1 - 160	72	5,468	.54	10.29	4.35	15.18
161 - 320	78	11,728	.83	6.54	1.14	8.51
321 - 480	30	7,249	1.03	4.23	.73	5.99
481 - 640	9	2,644	1.83	3.40	.36	5.59
641 - 800	4	1,614	.87	4.12	1.30	6.29
801 +	3	1,877	2.03	1.32	.13	3.48
All Farms	196	30,533	.99	5.53	1.14	7.66

Note: 2 farms omitted.
 (1) Including operator
 (2) Excluding operator.

TABLE NO. 55

EXTENT OF MAN LABOUR REQUIRED ON 196 FARMS
(EXPRESSED IN MONTHS)

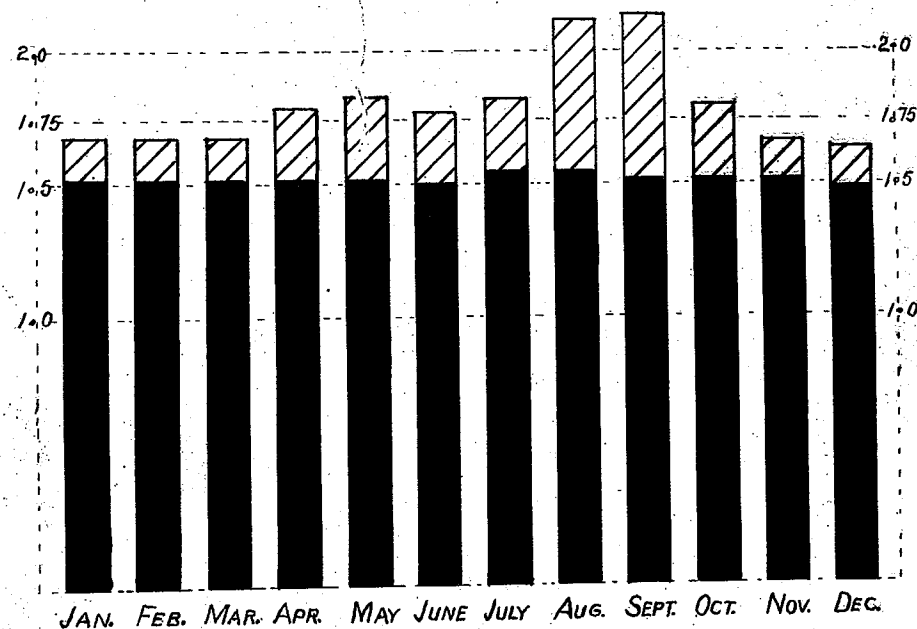
SWAN RIVER VALLEY

Av. Labour per Farm	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Paid	.16	.16	.16	.27	.32	.27	.28	.58	.62	.29	.15	.14	3.45
Unpaid	1.51	1.51	1.51	1.51	1.51	1.50	1.54	1.54	1.51	1.51	1.51	1.49	18.18
Paid & Unpaid	1.67	1.67	1.67	1.78	1.83	1.77	1.82	2.12	2.13	1.80	1.66	1.63	21.63

Note: 2 records omitted owing to incompleteness

CHART No. 2

EXTENT OF PAID AND UNPAID
LABOUR ON 196 FARMS
SWAN RIVER AREA



G -- MACHINERY & EQUIPMENT

(1) Total Value and Investment in Each Class

The total value of machinery and equipment on April 30th, 1930, on 197 Swan River farms was \$288,014.00 or an average of \$1,464 per farm.

The investment in cultivating machinery averaged \$259 per farm. Under this head was included; plows, drills, cultivators, disks, and one-way disks. The investment in this type of machinery formed 17.7% of the total.

Investment in harvesting machinery averaged \$144 per farm. This included binders, mowers and rakes. The value of this type of machinery was 9.8% of the total investment in all machinery.

Small equipment about the farm such as fanning mills, racks, wagons, tools, small engines, etc. averaged \$382. per farm, and constituted 26.1% of the total investment.

Large equipment, which included 126 autos, 7 trucks, 74 tractors, 47 threshing separators, 1 wind-rower and 1 combine, averaged \$677.00 per farm. Investment in this type of machinery constituted 46.4% of the total.

(2) Present Value of Machinery as Compared to Value When New

The cost of all machinery and equipment on 197 farms would be \$744,268. (f.o.b. Branch House). The value per farm on this basis would be \$3,778 instead of \$1,462. The present value would be 38.7% of the original value when new.

(3) Acreage of Improved Land and Machinery Owned

1 - 50 acres improved -- 30 farms

The men occupying farms with 50 acres improved or less, did not have a full line up of equipment in all cases. One man had no tillage or harvesting machinery at all. He traded work with his neighbours for the use of implements. Very rarely did operators own machinery jointly. If they did not have certain implements they either borrowed them or traded work for the use of them.

Of the 30 men in the 1 - 50 acreage group 29 had a plough of some description on their farms. Thirteen had gang plows, 17 had breakers or sulkies and 18 had 2-furrowed walking plows. Only 17 of the 30 owned seed drills. Disk harrows were owned by 23, drag harrows by 27, and cultivators by 5 of the 30 farmers. Only 20 owned binders. Twenty-six had mowers and 24 had rakes. Tractors were owned by 3 of the men. Two had threshing outfits. Five of the 30 had automobiles.

51 - 100 acres improved -- 50 farmers

The farmers in this group had a more complete set up of equipment than did the preceding ones. An increase in the more essential implements was noted. Only 8 did not own seed drills while 5 had no binders. Forty-two of the 50 used gang plows. They all had drag harrows and 39 had disk harrows. Very few owned one-way discs or packers. Eighty percent of the men in this group had mowers

and rakes. There were 8 tractors, 3 separators, and 18 automobiles in this group.

101 - 150 acreage group -- 36 farmers

More of the men in this group owned packers, cultivators, mowers and rakes. Large machines were used by farmers in this group. All had gang plows, 6 had 2 of them, and a few were using 3-furrowed instead of 2-furrowed plows. All but 3 owned binders and they were 7' and 8' cut, while most of the binders in the 1 - 50 acreage group were 6' cut. Three of the men owned 2 binders. There were tractors, 4 separators, and 24 automobiles.

151 - 200 acreage group -- 200 farmers

Practically all the farmers in this group had plows, drills, disk harrows, drag harrows, cultivators, binders, mowers and rakes. Over half the men owned 2 gang plows and one had 3. The same proportion owned packers as in the preceding group. A larger proportion had tractors, threshing machines and automobiles. Two manure spreaders were recorded.

201 - 250 acreage group -- 17 farmers

More farmers in this group were using two gang plows. Six of the 17 had three. A greater proportion owned packers, disks, tractors, separators, automobiles, and manure spreaders. Three men had 2 binders.

251 - 300 acreage group -- 20 farmers

There was no great difference between this group and the

preceding one in the amount of machinery kept. A larger proportion owned disks and cultivators. Seven of the 20 had 2 binders.

301 - 400 acreage group -- 7 farmers

A large proportion of the farmers in this group owned tractors, separators, packers and cultivators. Two of them had only one gang plow. All had but one drill. Five operated one binder. Five of the seven had both duck-foot and spring-tooth cultivators.

Over 400 acres improved -- 9 farmers

A more distinct change occurred in the amount of machinery owned in this group. All required two plows, 4 had 3 and 2 had 4. Three of the farmers had 2 drills. Two used one binder, 2 had 3, 3 had 3, 1 had 4, and 1 had 7. All owned tractors. Eight owned threshing machines and 1 had a combine.

Summary

Operators with very small amounts under cultivation did not have a complete line of necessary implements. They either borrowed machines or hired the work done. Hiring implements and group ownership are commendable practices for small farmers.

As the improved acreage increased ownership in all lines of implements increased also.

The increase in the number of plows per farm was the most rapid. After the 200 acre size group was reached the majority of farmers required 2 gang plows, although a few still used only

one. Three plows were generally used by the time the 400 acre group was reached. After the 100 acreage group was reached all farmers owned one binder. The majority used only one until the acreage improved became greater than 400 acres. Only 16 of the 164 farmers in the smaller acreage groups had 2 binders, and all but 3 of these had 200 acres improved. Farmers did not require two drills until they had over 400 acres improved.

(4) Investment in Machinery and Equipment per Improved Acre

The average farm had an investment in equipment of \$9.37 per improved acre. Quarter section farms had \$10.34 investment per acre, which was the highest of all size groups. The amount decreased with the size of farm operated until the section sized farm was reached, and then an increase occurred as the farms became larger. As the proportion improved on farms in all size groups was approximately 50% of the total occupied area, this increase in the larger farm classes would indicate the use of more equipment. The larger farms too, practically all had tractors and threshing outfits which brought up the total investment on these farms to a proportionately higher figure.

(5) Investment in Machinery and Equipment per Occupied Acre

In the discussion on capital investment by size of farm it was seen that the capital invested in equipment on 1/2 section farms was almost double that of 1/4 section units. (Refer to Table 56). From the 1/2 section farm up, there was a steady increase in the amount invested in equipment.

When the capital invested in equipment was expressed as so much per acre occupied it was found that 1/4 and 1/2 section farms both had an investment of \$4.85 on this basis. On 3/4 and section farms it was considerably lower. For the 3/4 section farm it was 3.85 and for the section farm it was \$3.54, the lowest of any group. The last two groups had the highest investment per occupied acre of all size groups. The investment per acre for all farms was found to be \$4.58.

The same general trend in investment by size of farm occurred with the occupied basis as did when the improved basis was used. The 3/4 and section sized farms had the lowest investment in both cases. On the improved basis, however, the 3/4 section was the lowest, while on the occupied basis the section farm was the lowest. This was due to the larger percentage of improved land on 3/4 section farms.

(6) Proportion of Total Farm Expenditure Spent on Machinery in 1929.

For 197 Swan River farmers the total farm expenditure was \$326,390. The amount spent on machinery was \$55,173 - \$9,942 = \$45,231.00. The percentage of machinery expense to total was 13.86%.

TABLE NO. 56

MACHINERY INVESTMENT PER ACRE ON FARMS OF DIFFERENT SIZES

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Average Acreage Occupied	Percent Improved	Investment Per Acre Occupied	Investment Per Acre Improved
1 - 160	73	159.7	46.9	4.85	10.34
161 - 320	78	311.1	48.3	4.85	10.04
321 - 480	30	472.0	51.2	3.85	7.51
481 - 640	9	640.0	45.9	3.54	7.71
641 - 800	4	800.0	50.4	5.06	10.03
801 +	3	1173.0	53.3	5.99	11.03
All Farms	197	318	48.9	4.58	9.37

Note: One farm omitted.

H -- POWER UNITS

(1) Power Units on all Farms

Tractors were reported on 70 of the 198 farms. On these farms there were 489 work horses or an average of 7 per farm. Four farmers had 2 tractors. The average acres improved on these farms was 232. Omitting the men who had 2 tractors this makes a total of 7 horses and 1 tractor per 232 acres improved. The value per improved acre of horses and tractors was \$5.01.

On the 128 farms using horse power only 708 horses were kept which made an average of 5.5 per farm. The average improved land was 114 acres which was barely half of that of tractor and horse farms. The value of horses per improved acre was \$3.96.

From the above figures it can be gathered that tractors are being used on the larger sized farms. The average for all farms though, would indicate that tractor horse farms are over supplied with power. In investment per acre improved the horse farms are much more economical.

However, the average for all farms included many small units so the power units by size of farm will now be investigated to determine if the larger farms are more economically organized in this respect.

TABLE NO. 57

VALUE OF POWER UNITS PER ACRE ON 198 FARMS

SWAN RIVER VALLEY

	No. of Farms	Acres of Cropland	No. of Horses	Value of Horses	No. of Tract- ors	Value of Tract- ors	Total Value of Power Units	Av. Value of Horses per Acre	Av. Value of Tractors per Acre	Av. Value of power units per Acre
Farms without Tractors	(1) 128	14,545	708	(2) 57,665	-	-	57,665	3.964	-	3.964
Farms with Tractors	(3) 70	16,218	489	39,955	74	41,297	81,252	2.463	2.546	5.009
Total Farms	198	30,763	1,197	97,620	74	41,297	138,917	3.173	1.342	4.51

- (1) One farm not operated
 (2) Two mules valued as horses
 (3) One farm with no horses.

(2) Power Units by size of Farm

1 - 160 acres - 73 Farms

On quarter section farms there were 13 tractors. On these farms the acreage improved ranged from 16 to 151 acres. The average was 91 acres. The number of horses per farm ranged from none to 11 and the average per farm was 4.3.

Four of the 13 tractors were not used at all. Four were used for field work and threshing, 3 for field work only and 2 for threshing only. Two men did all their field work with a tractor, while the 5 others doing any field work just used their tractor in the spring for a time and did a little breaking with it in the summer.

Six of the men made an average of \$457 from custom threshing.

The investment in power units on these farms averaged \$6.54 per improved acre, which is a very high figure. In the majority of cases horse power would be more economical on this size of farm. The available horse power is sufficient in most cases to do all the farm work and tractors would seem inadvisable unless more custom field work and threshing were indulged in.

161 - 320 acres - 78 Farms

On farms in this class 28 tractors were reported. The improved acreage ranged from 50 to 282 and the average for the 28 was 193 acres. The number of horses per farm ranged

from 1 - 9 and the average per farm was 5.6.

Twenty tractors were used for field work and threshing, 9 for field work only, 3 for threshing only, and 4 were not used at all. Thirteen of the men doing custom field work used their tractors for ploughing as well as doing odd breaking jobs. The other 8 just used their tractors for breaking and disking. Twelve of the 28 did custom threshing jobs which netted them a total of \$7,472.

The investment in power units was still quite high on the 1/2 section farms. In many cases the farmers had sufficient horse power and the investment in tractors was not an economical proposition.

321 - 480 acres - 30 farmers

Sixteen of the farmers in this group owned tractors. They had, on the average, 232 acres of improved land. An average of 7.6 horses were kept per farm.

Six used their tractors for field work only, 5 for field work and threshing, 3 for threshing only and one did not use his tractor at all in 1929.

A greater amount of field work was done by tractors on the farms in this group. Ten of the sixteen received income from custom field work and threshing, which netted them \$3,680.

The investment per acre of crop land in power units was much lower than in the 2 preceding classes and farmers were making more efficient use of both horses and tractors.

481 - 640 acres - 9 farms

There were 7 tractor-horse farms in this group. The average acreage improved was 353 acres. An average of 10.3 horses per farm were kept.

All but 2 used their tractors for field work and 6 of the 7 used a tractor for threshing. The number of days used in the field were: 15, 17, 2, 4 and 2 for the 5 tractors. Six men made an average of \$562 from threshing. The investment per acre improved of power units was \$4.20.

Over 640 - 7 farms

Six farmers operated tractors in this group. They had an average of 559 acres broken. From 8 to 20 horses or an average of 13 were kept per farm.

Three men did all their ploughing, breaking, and disking with tractors. Four used them for threshing and one operated a combine with a tractor. Only one did any outside threshing and it was a very small job.

Power unit investment per acre was \$3.30, the lowest of all classes.

(3) Summary

The investment in horse units, tractor units and consequently total power units per acre of improved land decreased as the size of farm became larger. Quarter section farms had an average investment of 6.54 per improved acre while farms over

TABLE NO. 58

VALUE OF POWER UNITS PER ACRE BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farms	No. of Farms in Class	No. of Farms Having Tractor	Av. Acreage Improved on Tractor Farms	Av. No. Horses on Tractor Farms	Value of Tractors per Acre Improved	Value of Horses per Acre Improved	Total Value of Power Units
1 - 160	73	13	91	4.3	3.41	3.13	6.54
161 - 320	78	28	193	5.6	3.44	2.63	6.07
321 - 480	30	16	232	7.6	2.05	2.69	4.74
481 - 640	9	7	353	10.3	1.80	2.40	4.20
641 - 800	4	3	491	11.0	1.55	1.81	3.36
801 +	4	3	575	13.0	1.70	1.60	3.30
Total	198	70	232	7	2.55	2.46	5.01

640 acres only had \$3.30 per acre.

More farmers owned tractors on the larger sized farms. They used them to a greater extent both in field work and threshing.

The majority of farmers owning tractors, however, could well do without them for field work purposes. Especially is this true on farms smaller than a 3/4 section. Most of the farmers had sufficient horse power without using a tractor.

When a tractor is used in the field and for threshing, and income is received from outside work with it, then there is more justification of owning one from an investment point of view.

I -- EXPENSES

(1) Operating Expenses

The average cash expenses for all farms was found to be \$766. The range from quarter section to farms over 800 acres in size was \$388 to \$3,581.

The total operating expense includes all cash operating plus estimates of amounts expended for the board of paid and unpaid labour, and also an estimation of the worth of all unpaid family labour exclusive of that of the operator. This expense was found to increase directly with an increase in the size of farm. For quarter sections the amount was \$774 and for the farms over 800 acres in size it was found to be \$4,274.

The average for all farms was \$1,240.

(2) Capital Expenditures

The amounts expended for the purchase of new equipment, buildings, livestock and other capital expenses averaged \$547 per farm. The range from 160 acres to farms larger than 800 acres was \$266 to \$1,220. When the capital expenses were added to the total operating, the average total expenditures for all farms averages \$1,707. The range from smallest to largest farms became \$1,040 to \$5,494.

(3) Major Expenses

Labour constituted the largest expense of the farm. Paid labour was 12% of the total or an average of \$154 per farm. It varied from 5.27% for 1/4 section farms to 27.22% for farms over 800 acres in size. When the estimates for the value of unpaid labour (exclusive of operator) and the board of paid and unpaid labour were added the total amount expended on labour constituted 50.59% of the total operating expense of the average farm. Labour costs, on the average, \$627 per farm (exclusive of operator).

Taxes rank next in size being 10% of the total operating expense. An average amount of \$134.79 was paid per farm.

The average cost of hired threshing to 144 farmers was \$152.61. Board for threshers averaged \$15.61 per farm. Hired

TABLE NO. 59

COMPARISON OF EXPENSES ON FARMS OF DIFFERENT SIZES

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Av. Cash Expenses (Excluding Int. on Debt)	Av. Operating Expenses (Including Board of Labour & Estimated Family Labour)	Av. Total (Operating & Capital Expenses)
1 - 160	73	388	774	1,040
161 - 320	78	772	1,230	1,723
321 - 480	30	1,045	1,586	2,058
481 - 640	9	1,407	1,918	2,751
641 - 800	4	1,766	3,348	5,558
801 - 960	-	-	-	-
961 +	3	3,581	4,274	5,494
All Farms	197	766	1,240	1,707

threshing and board were 9.85% of the total expenses.

Fifty-seven farmers reported an average tractor cost of \$255.50 per farm. This expense formed 5.96% of the total operating expense of all farms. The percentage would be considerably higher for the farmers using tractors.

Operation of automobiles cost an average of \$51.99 for 117 farmers. As only 50% of the automobile expense was charged against the farm the total cost was charged against the farm, the total cost would be a little over \$100 per automobile. A complete list of expenses can be found in table No. 60.

(4) Expenses by size of Farm

Many expenses are common to all sizes of farm. Some of these are small and relatively unimportant while others, such as building repairs, hail insurance, etc., may be larger, but according to the data presented in Table No. 61 they do not vary greatly by size of farm.

Other expenses show a definite increase in amount as the size of farm increases. Among these are labour, board of labour, seed bought, equipment repairs, twine, tractor, auto, blacksmith, small hardware, fire insurance, taxes and salt.

Only a few of these, however, show a relative increase as the size of farm increases. The items showing this relative increase are: labour, twine, tractor, auto, and taxes.

TABLE NO. 60

EXPENSES ON 197 FARMS

SWAN RIVER AREA

Item	No. Farms with item	Total Amount	Average per Farm Having Item	Average for 197 farms	Per cent of Total Expenses
Paid labour	128	20,240.35	236.25	153.50	12.28
Hired field work	41	2,934.15	71.56	14.89	1.20
Cleaning seed	7	64.75	9.25	.33	.03
Seed bought	192	9,159.10	47.70	46.49	3.75
Formalin etc.	138	156.45	1.13	.79	.06
Feed bought	90	5,691.13	63.23	28.89	2.33
Equipment repairs	177	5,338.69	30.16	27.10	2.19
Feed grinding	92	1,197.65	130.18	6.08	.49
Binder twine	194	6,316.13	32.56	32.06	2.59
Tractor costs	57	14,563.53	255.50	73.93	5.96
Hired threshing	144	21,975.15	152.61	111.55	9.00
Board of crew	129	2,015.95	15.63	10.23	.83
Separator costs	20	1,166.00	58.30	6.92	.48
Auto (Farm)	117	6,082.88	51.99	30.87	2.49
Truck costs	7	655.00	93.57	3.32	.27
Hauling hired	15	641.38	42.76	3.26	.26
Misc. Gas, oil	152	1,213.53	7.93	6.16	.50
Blacksmith	136	1,744.65	12.83	8.86	.71
Building repairs	30	1,026.10	34.20	5.21	.42
Paint, painting	11	335.00	30.45	1.70	.14
Fencing costs	47	1,138.57	24.22	5.78	.47
Pasturing stock	10	382.00	38.20	1.94	.16
Small hardware	171	1,867.75	10.92	6.42	.76
Breeding fees	104	1,062.95	10.22	5.40	.44
Hail insurance	12	417.50	34.79	2.12	.17
Fire insurance	134	2,732.30	20.39	13.87	1.12
Taxes	186	26,553.39	142.76	134.79	10.87
Telephone	58	864.00	14.90	4.39	.35
Farmers' Organiz'ns	11	47.00	4.27	.24	.02
Vet., Medicines, etc	56	652.75	11.67	3.32	.27
Salt	179	1,292.20	7.22	6.66	.53
Sprays	2	6.80	3.40	.36	.03
Miscellaneous	20	1,384.15	69.20	7.03	.57
Cash Operating Expenses		150,919.45	766.00	766.00	-
Board of paid labour	128	13,287.15	104.59	67.96	5.48
Unpaid family labour	109	44,932.00	412.13	228.03	18.39
Board "	108	35,040.00	324.44	177.87	14.34
Total Operating Expenses		244,268.60	-	1,240.00	100.00
Cash rent	10	1,057.50	105.75	5.27	.43
New buildings	27	5,714.00	137.56	18.85	1.51
Machinery bought	119	48,904.54	410.96	245.25	19.77
Livestock bought	139	12,411.05	89.29	63.00	5.12
Interest Of mortgage, etc	89	25,975.90	291.86	131.86	10.63
	197	336,331.59	-	1,707.00	-

TABLE NO. 61
COMPARISON OF ITEMIZED EXPENSES ON FARMS OF DIFFERENT SIZES

SWAN RIVER VALLEY

	1-160	161-320	321-480	481-640	641-800	over 800
Paid Labour	40.78	125.27	249.05	539.00	352.50	1663.33
Cleaning seed	.22	.34	.12	.44	3.75	-
Hired field work	12.61	12.27	23.72	10.56	62.50	-
Seed bought	30.97	49.50	59.22	62.79	128.99	59.67
Formalin, etc.	.44	.97	1.08	9.93	.98	1.33
Feed bought	20.23	39.04	30.93	2.21	25.38	40.00
Feed grinding	6.07	7.09	5.02	1.67	7.50	2.00
Equipment repairs	14.07	30.61	31.02	42.86	37.50	152.67
Binder twine	17.41	30.74	44.52	54.96	59.84	92.83
Tractor costs	19.33	57.88	111.57	138.33	178.94	1110.00
Hired threshing	86.64	139.53	124.03	8.33	211.40	42.00
Board of Crew	6.94	11.65	11.77	4.11	17.75	46.67
Separator costs	1.32	9.04	8.25	13.33	-	5.67
Auto (farm use)	17.99	29.75	41.40	82.00	84.00	44.17
Truck Costs	.68	3.72	-	12.77	-	66.67
Hauling hired	.68	2.99	6.11	-	43.75	-
Misc., gas, oil	6.01	7.00	5.87	4.00	1.75	3.33
Blacksmith	5.45	8.59	10.77	21.56	15.00	33.33
Bldg. Repairs	1.60	6.78	5.26	21.89	-	8.33
Paint and painting	.53	.91	5.83	5.56	-	-
Fencing costs	4.25	9.79	1.13	3.44	-	-
Pasturing stock	.08	1.81	6.83	-	-	10.00
Small hardware	7.57	10.13	-	18.11	18.75	11.00
Breeding fees	3.92	6.07	7.43	5.24	5.75	3.33
Hail Insurance	.99	1.53	5.53	-	15.00	-
Fire Insurance	8.06	15.62	17.78	19.44	33.25	27.87
Taxes	63.39	127.41	203.44	256.00	427.75	623.33
Telephone	1.25	5.27	7.40	7.11	7.75	15.00
Farmer's Organizations	1.37	.22	.57	3.33	-	-
Vet. Medicine, etc.	2.47	4.08	2.60	3.19	6.25	-
Salt	3.70	8.56	4.61	9.08	19.50	18.80
Sprays	-	.05	-	3.33	-	-
Miscellaneous	3.26	7.62	1.88	55.00	-	-
Total Cash Operating	388.25	771.80	1,045.36	1,406.70	1765.52	3,581.33
Board of paid labor	19.22	57.74	111.77	177.33	167.25	559.00
Unpaid Labor	189.38	228.91	251.33	227.89	890.00	53.33
Board of unpaid labor	177.26	171.28	177.33	106.67	525.00	80.00
Total operating	774.12	1,229.74	1,585.79	1,918.49	3,347.77	4,273.67
Cash Rent	10.38	.19	3.00	20.00	-	-
New Building	12.84	25.51	23.73	-	-	25.00
Machinery Bought	129.12	257.27	-	644.00	1,217.25	749.17
Livestock Bought	42.28	69.82	215.40	20.44	326.75	-
Int. Mortgage, etc.	70.96	140.34	79.60	148.11	666.25	444.33
Total Expenditure	1,039.90	1,722.80	250.30	2,731.05	5,558.02	5,492.17

(5) Expenses per Acre of Improved Land

The cash expense per acre of improved land for all farms was found to be \$4.94 and the total operating expense was \$8. When the capital expenditure of \$3.02 is added, the total farm expenditure became \$11.02 per improved acre. The income per improved acre was found to be \$10.32. Equipment sales were not counted as a receipt and as purchases of same have been counted in the total farm expenditure, they should, therefore, be added to the income figure here. An average amount of 33 cents per improved acre was received from this source, which when added to the receipts per improved acre, gave a total of \$10.65.

When the cost of family living is added to the total farm expense one can plainly see that the farmer's returns on the average can only be figured in minus quantities. The value of unpaid labour has been counted in the expenses so when this is deducted it helps to alleviate the discrepancy between receipts and expenditures. Considerable amounts are owing on some of the farmer's purchases and this, together with the unpaid labour, would tend to strike a balance between receipts and expenditures.

Estimation for unpaid labour should be counted and debts must be paid so the fact remains that the farmer's receipts have not been sufficient to meet the expenditures in the Swan River Valley for the year 1929.

TABLE NO. 62

EXPENSES PER ACRE OF IMPROVED LAND
BY SIZE OF FARM (197 FARMS)

SWAN RIVER VALLEY

Size of Farm	No. of Farms	Acres Improved	Cash Expense
1 - 160	73	5,468	\$ 5.18
161 - 320	78	11,728	5.13
321 - 480	30	7,249	4.33
481 - 640	9	2,644	4.79
641 - 800	4	1,614	4.38
801 +	3	1,877	5.72
All Farms	197 ^x	30,533	4.94

Note: ^xOne farm discarded.

J -- CASH INCOME

The average cash income made by the 197 farmers in the Swan River area in 1929 was \$1,741. As the size of farm became larger the cash income increased. On 1/4 section farms operators received an average of \$935, and on farms larger than 961 acres \$5,818.67 was received.

(1) Income per Improved Acre

The average cash income per improved acre on all farms was found to be \$11.10. Quarter section farms yielded a higher return per improved acre than did the farms of larger size.

(2) Income as an Indication of Relative Importance of Enterprises

(a) Crop Sales

Crop sales constituted a little over half of the total receipts. An average of \$908.76 was received per farm from this source. Income from crop sales increased both absolutely and relatively by size of farm.

Of the 197 farmers interviewed only 173 reported crop sales. Wheat sales were made by 136 and other crop sales by 153 of the farmers. Wheat sales formed 55.8% of all crop receipts.

Crop sales averaged \$5.79 per improved acre for all farms. The returns per acre were higher on the larger farms except in the case of the highest sized group where the amount falls below the average.

The lower returns from crops on the smaller sized farms would indicate that a greater proportion of the acreage on these

TABLE NO. 63

INCOME PER IMPROVED ACRE BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farm	Cash Income per Improved Acre	Income from Crop Sales
1 - 160	12.46	5.55
161 - 320	12.10	5.97
321 - 480	10.74	5.64
481 - 640	10.44	6.33
641 - 800	10.03	7.18
801 +	6.29	4.53
Total	11.10	5.79

smaller sized farms must be devoted to the growing of feed for livestock.

(b) Receipts from Livestock

Receipts from livestock constituted about one-quarter of the receipts for all farms. The percentage fell off slightly as the size of farm increased although the actual amounts increased all the way from \$238 for 1/4 section farms to \$745 for 800 acre farms. One hundred and eighty-five farmers reported sales of livestock. The average for farms reporting was \$450 while the average for all farms was \$423.

Sales of other farm products form 10.4% of the total receipts. Of this, 9.6% was derived from animal products and .78% was obtained from garden products. The proportion from each source was as follows: cream 50%, butter 20%, eggs 25%, while wool, hides, honey and garden produce make up the rest.

The average price received for eggs was around 20 cents a dozen. Cream sold for 35 - 40 cents per pound butter fat in 1929, while butter brought 20 - 35 cents per pound. Garden produce sales were chiefly potatoes. The average price received for them was \$1.25 per bushel.

The average amount received for other farm produce was \$181.22 per farm. The amounts received varied little by size of farm until the 800 acre sized farm was reached. Here the receipts fell off to about one-quarter of what was received on the smaller sized farms. The percentage of other farms produce receipts to

the total fell off sharply as the size of farm increased.

(c) Receipts from Other Sources

Receipts from threshing constituted $5 \frac{1}{2}$ percent of the total. An average of \$481 per farm was received by 38 farmers.

In addition to the above receipts farmers were able to make an average of \$135.43 per farm from other sources. The chief among these was outside labour which comprised 6% of the total receipts. Custom field work, feed grinding and sawing were other sources. This phase has been discussed in detail in a previous chapter. (See tables Nos. 64, 65, and 66)

(3) Summary of Income

The percentage of crop sales increased with the size of farm.

- Stock sales decreased slightly and other farm products sales decreased sharply as the size of farm increased.

Farmers on the average received 13.11% of their income from outside sources. The percentage received was higher on $1/4$ section farms than on $1/2$ or $3/4$ section farms. On the section sized farm however, the percentage received was practically the same as on $1/4$ section farms.

TABLE NO. 64

AVERAGE CASH INCOME ON 197 FARMS

SWAN RIVER AREA

Size of Farm	Average Acreage Improved	Number of Farms	Crop Sales	Stock Sales	Other Farm Produce Sales	Outside Labour	Threshing	Custom Field Work	Feed Grinding, Sawing etc.	Total
1 - 160	75.04	75	416.51	238.26	148.20	72.73	31.82	16.70	3.77	935.08
161 - 320	150.49	78	698.40	491.87	213.87	88.49	100.91	18.63	9.04	1,821.20
321 - 480	222.27	30	1,257.17	555.43	191.35	214.00	140.50	20.30	8.23	2,386.97
481 - 640	293.78	9	1,858.56	556.44	212.33	115.69	312.44	11.11	-	3,066.78
641 - 800	491.00	4	2,850.00	745.25	56.25	225.00	93.75	20.00	-	4,020.25
801 - 960	-	-	-	-	-	-	-	-	-	-
#961	925.67	3	4,194.67	963.33	105.67	221.67	233.33	60.00	-	5,818.67
Average of all Farms-	152.35	-	908.76	423.15	181.22	110.41	92.87	18.79	6.23	1,741.43
No. of Farms having item-	197	-	173	185	172	104	58	30	17	197

One farm omitted in this class.

TABLE No. 65

PERCENTAGE OF CASH INCOME FROM DIFFERENT SOURCES BY SIZE OF FARM.

SHAN RIVER AREA

Size of Farm (Acres)	Average Acreage Improved	Number Of Farms	Crop Sales	Stock Sales	Other Farm Pro- duce Sales	Outside Labour	Threshing	Custom Field Work	Feed Grind- ing, Sawing etc.	Total
1 - 160	75.04	73	44.54	25.48	15.86	2.53	3.40	1.79	.40	68.251
161 - 320	150.49	78	49.33	27.01	11.74	4.86	5.54	1.02	.50	142.054
321 - 480	222.27	30	52.67	23.27	8.02	8.97	5.89	.85	.34	71.609
481 - 640	393.78	9	60.6	18.14	6.92	3.78	10.19	.36	-	27.601
641 - 800	401.00	4	71.54	18.34	1.40	5.60	2.33	.50	-	16.081
801 - 960	-	-	-	-	-	-	-	-	-	-
#961	225.67	3	72.09	16.30	1.32	3.81	4.01	1.37	-	17.456
Average of all Farms-	152.35	-	52.16	24.30	10.41	6.34	5.33	1.08	.56	1,741.43
No. of Farms having item-	197	-	173	165	172	104	38	30	17	197

TABLE NO. 66

TOTAL CASH INCOME ON 197 FARMS

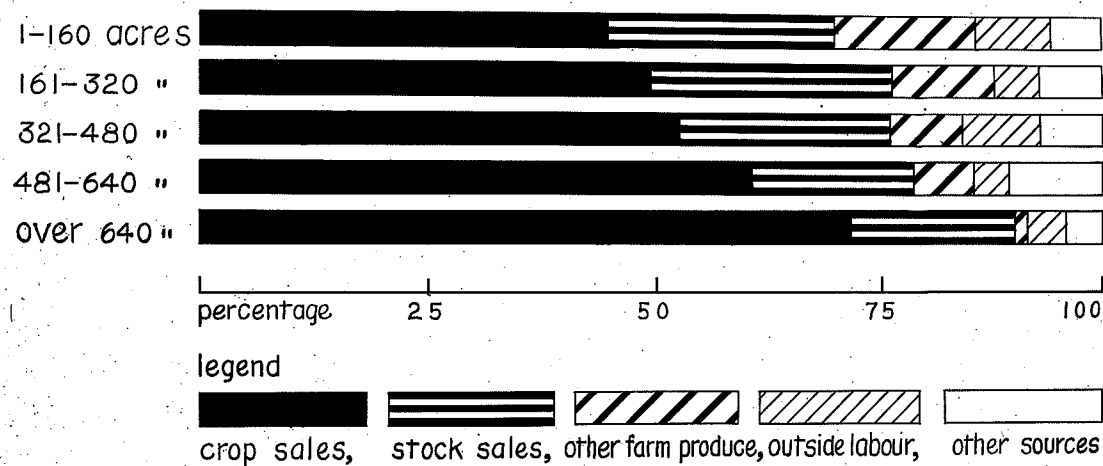
SEAN RIVER AREA

Item	Total	No. Farms having items	Average per farm having item	Average for 197 farms	Per cent of total receipts of 197 farms
Crop sales (Operator's and Landlord's sales)	179,026	173	1,034.83	908.76	82.18
Livestock	82,361	185	450.60	423.15	24.30
Livestock products	23,014	164	201.30	167.38	9.62
Garden products	2,687	61	44.05	13.64	.76
Outside labour	21,750	104	209.13	110.41	6.34
Threshing	18,296	38	481.47	92.87	5.33
Custom field work	3,701	30	123.37	18.79	1.08
Feed, grinding, sawing, etc	1,287	17	72.18	6.23	.36
Total	345,062	197	1,741.45	1,741.45	100.00

Note: One schedule omitted due to incompleteness of information.

CHART No. 3

PERCENTAGE OF CASH INCOME FROM DIFFERENT
SOURCES BY SIZE OF FARM
SWAN RIVER AREA



K -- INCOME FROM CAPITAL AND OPERATOR'S LABOUR

The income from capital and operator's labour was found by deducting the total current expenses from the total receipts.

A very wide range of incomes occurred on the Swan River farms. The lowest figure was \$2,620 while the highest was \$4,227. The average net income received for the 196 farms was \$248. As many as 82 operators had negative incomes while 114 had positive ones.

The net income increased as the size of farm became larger until the 800 acre group was reached. Three of the farmers in this group sustained heavy losses, while only one reported a positive income. As there are only a few farmers in these larger groups not much significance can be attached to the results.

Leaving out the last two classes it would be safe to say that the farms larger than the 1/4 section were receiving higher net returns in 1929.

L -- LABOUR INCOME

(1) Determination of:

The labour income was found by deducting a sum, equal to 6% of the farmer's capital investment, from the net income.

TABLE NO. 67

INCOME FROM CAPITAL AND OPERATOR'S LABOUR
BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farm (Acres)	No. of Negative Incomes	No. of Positive Incomes	Lowest Income	Highest Income	Average Income
1 - 160	29	43	-1,678	+1,791	+ 35
161 - 320	36	42	-1,303	+2,009	+246
321 - 480	10	20	-2,620	+2,146	+514
481 - 640	3	6	- 942	+4,227	+1,020
641 - 800	3	1	-1,468	+1,787	-212
801 - 960	-	-	-	-	-
961 +	1	2	- 516	+2,172	+1,035
Total	82	114	-2,620	+4,227	+248

Note: Excluding 2 schedules in which data is incomplete.

When each individual farm was worked out on this basis it was found that 111 out of 171 farmers received a minus quantity for their year's efforts. Only 60 farmers or 30.6% received any compensation for their year's labour. The average for the 171 worked out to -\$234 labour income.

(2) Labour Income by Size of Farm

The farmers in the first three sizes of farm and the ones on the 800 acre farms all had negative labour incomes when the averages for the groups were taken. The 3 men on the 800 acre farms again showed the greatest losses. Those on the 1/2 section units did not average as high as the 1/4 section men.

The other two groups, the section farms and the farms over 961 acres, both had positive averages.

The highest labour income, \$3,624 in amount, was reported on a section farm and the lowest, \$2,199 in amount, was reported on a 1/2 section farm.

Labour income does not appear to show any definite trend by size of farm. It is true that the 3/4 section, section, and 961-acre farms show somewhat higher labour incomes than the other groups, but the number of farms represented in two of these classes is too small to draw any definite conclusions.

TABLE NO. 68

LABOUR INCOME BY SIZE OF FARM

SWAN RIVER VALLEY

Size of Farm (Acres)	No. of Negative Labour Incomes	No. of Positive Labour Incomes	Lowest Labour Income	Highest Labour Income	Average Labour Income
1 - 160	48	20	-2,061	+1,390	-233
161 - 320	45	24	-2,199	+1,462	-330
321 - 480	12	10	-1,672	+1,275	-123
481 - 640	3	4	-1,455	+3,624	+583
641 - 800	3	-	-1,674	-313	-1,087
801 - 960	-	-	-	-	-
961 +	-	2	+370	+373	+372
Total	111	60	-2,199	+3,624	-234

Note: Excluding 27 schedules in which data is incomplete.

M -- COMPARISON OF 20 HIGHEST AND 20 LOWEST LABOUR INCOMES WITH:

(1) Size of Farm and Acres of Crop Land

The men on the 20 highest labour income farms are operating a little larger average sized farm than the 20 lowest. The distribution in the 20 highest was a little more even among the various sizes of farms, and the distribution also covered a greater range of size. The 320 acre farm had the greatest number of highest and also the greatest number of lowest labour incomes.

No conclusion can be drawn from table No. 72 as to the best size of farm; the factor of success would seem to be a matter of organization of the farm rather than a matter of size. It must be remembered however, that the results in this table are only based on one year's operation and so can not be taken as conclusive evidence.

The amount improved varied considerably on the farms having the lowest labour incomes as well as those having the highest. Very high and quite low amounts occurred in both groups and there was no general difference between the two groups in this respect.

(2) Expenses of operation

The average cash expenses on the 20 farms having the lowest labour incomes was nearly as great as that of the 20 highest.

TABLE NO. 69

COMPARISON OF 20 FARMERS HAVING HIGHEST LABOUR INCOME
WITH 20 FARMERS HAVING LOWEST LABOUR INCOME
IN 1929 - FOR SIZE OF FARM AND ACRES IN CROP LAND

SWAN RIVER VALLEY

Size of Farm (Acres)	Number of Farms		Crop Land (Acres)	Number of Farms	
	20 highest labour incomes	20 lowest labour incomes		20 highest labour incomes	20 lowest labour incomes
1 - 160	3	6	1 - 50	-	1
161 - 320	9	10	51 - 100	2	4
321 - 480	4	2	101 - 150	5	4
481 - 640	3	-	151 - 200	3	1
641 - 800	-	2	201 - 250	3	6
801 - 960	-	-	251 - 300	3	3
961 +	1	-	301 - 350	3	-
			351 - 400	-	-
			401 - 450	-	-
			451 - 500	-	-
			501 - 550	1	1
Total	20	20	Total	20	20

There was not a great deal of difference between the individual items of expenditure.

The average total operating expense on the lowest labour income group was \$613 higher than that of the 20 highest. This was due to a greater amount of unpaid family labour employed on the lower labour income farms. This type of labour, under the circumstances, may seem to be valued somewhat high. However, since the labour is available on the farms of these operators in the lowest labour income group, there would seem to be an indication of inefficiency of use of same.

(3) Expenses per Acre Occupied

Since the farms in the 20 highest and 20 lowest labour income groups were unequal in size it was thought best to compare them on a base common to both. Average farm expenses per 100 acres occupied, of one group, were therefore compared with those of the other.

The individual expenses did not differ greatly between the two groups except in the cases of equipment repairs, tractor costs, hired threshing and taxes. Small differences also occurred in the amounts of seed and feed purchased and in the cost of the operation of automobiles. The greatest difference was again in the case of unpaid family labour. This item together with board brought the average operating expenses on the lower income group up to nearly double those in the higher income group.

COMPARISON OF 20 FARMERS WHO HAD THE HIGHEST LABOUR
INCOME WITH 20 FARMERS WHO HAD THE LOWEST LABOUR
INCOME IN 1929 - FOR FARM EXPENSES

Table No. 70
SWAN RIVER VALLEY

Farm Expenses	20 highest labour income (average)	20 lowest labour income (average)	Average for all of Swan River
Paid Labour	196	159	154
Board of Paid Labour	76	63	68
Cash rent	16	15	5
Hired field work	-	-	15
Cleaning seed	1	-	(x)
Seed purchased	72	62	46
Formalin, etc.	1	1	(x)
Feed purchased	34	32	29
Feed, grinding, etc.	4	6	6
Equipment repairs	32	38	27
Binder twine	52	40	32
Tractor costs	118	127	74
Hired threshing	161	156	112
Board of Crew	17	12	10
Separator costs	4	2	6
Automobile (farm use)	54	49	31
Truck costs	6	-	3
Hauling hired	8	(x)	3
Other gas, oil, greases, etc.	7	7	6
Blacksmith	10	11	9
Building repairs	8	7	5
Paint and painting	3	1	2
Fencing, new - repairs	8	7	6
Pasturing stock	-	4	2
Small hardware	13	11	5
Breeding fees	10	5	5
Hail insurance	2	4	2
Fire insurance	15	18	14
Taxes on real estate	177	186	135
Telephone (farm use)	8	3	4
Farmers' organization, etc.	(x)	(x)	(x)
Veterinary, medicines, etc.	4	2	3
Salt, stock, foods, etc.	7	8	7
Sprays, germicides, etc.	(x)	-	(x)
Total cash expense	1,143	1,039	839
Unpaid labour	204	621	228
Board labour	122	422	178
All Farm Expenses	1,469	2,082	1,245
CAPITAL EXPENDITURES:			
New buildings	18	-	19
New equipment	666	380	248
livestock bought	97	85	63
Total capital expenditure	780	465	330

(4) Expenses per Acre Improved

When expenses for the 2 groups were compared on the basis of improved acreage the differences between the individual items was not so great. This was due to a larger proportion of the land in the lower income group being improved. The total cost of operation was found to be higher in the case of the lower group on this basis.

(5) Cash Receipts

The 20 highest labour incomes were compared with the 20 lowest in the matter of cash receipts.

It was found that the 20 highest had an average of \$3,505 while the 20 lowest had only \$1,815. The 20 highest had larger receipts from every important phase of production than did the 20 lowest.

The fact that the average income from the 20 lowest was somewhat higher than the average for the whole of Swan River would indicate that there are other important factors affecting the labour income.

It is interesting to note the number of no returns in the labour income groups. This would seem to indicate a degree of specialization in certain enterprises.

Another significant point is that the expense of operating the farms in the lower income group is practically as high as in the case of the 20 highest. The farmer anticipates a return in the fall for his produce and he has to expend a certain

TABLE NO. 71

COMPARISON OF 20 FARMERS HAVING HIGHEST LABOUR INCOMES WITH
20 FARMERS HAVING LOWEST LABOUR INCOMES IN 1929 - SHOWING THE
AVERAGE FOR FARMS EXPENSES ON BASIS OF ACREAGE OCCUPIED & IMPROVED
SWAN RIVER VALLEY

Farm Expenses	Acreage Occupied		Acreage Improved	
	20	20	20	20
	highest	lowest	highest	lowest
	(Av. per 100 acres)		(Av. per 100 acres)	
Paid Labour	47	48	90	84
Board of Paid Labour	18	19	35	33
Hired field work	4	4	8	8
Cash rent	-	-	-	-
Cleaning seed	(x)	-	1	-
Seed purchased	17	18	33	32
Formalin, etc.	(x)	(x)	1	(x)
Feed purchased	8	10	16	17
Feed grinding, etc.	1	2	2	3
Equipment, repairs, etc.	8	11	15	20
Binder twine	12	12	24	21
Tractor costs	28	38	54	67
Hired threshing	39	47	74	82
Board of crew	4	4	8	6
Separator costs	1	1	2	1
Automobile, farm use	13	15	25	26
Truck costs	1	-	3	-
Hauling hired	2	(x)	4	(x)
Other gas, oil, greases, etc.	2	2	3	3
Blacksmith	2	3	5	6
Building repairs	2	2	5	4
Paint and Painting	1	(x)	1	1
Fencing; new, repairs	2	2	4	4
Pasturing stock	-	1	-	2
Small hardware	3	3	6	6
Breeding fees	2	1	5	2
Hail insurance	(x)	1	1	2
Fire insurance	4	5	7	9
Taxes on real estate	43	55	82	98
Telephone (farm use)	2	1	4	2
Farmers' organizations, etc.	(x)	(x)	(x)	(x)
Veterinary medicines, etc.	1	1	2	1
Salt, stock foods, etc.	2	2	3	4
Sprays, germicides, etc.	(x)	-	(x)	-
Other	5	1	9	1
Total cash expense	275	310	526	545
Unpaid labour	49	185	94	326
Board of Unpaid labour	29	126	56	221
Total Farm Expenses	352	620	674	1,090
Capital Expenditures:				
New buildings	4	-	8	-
New Equipment	160	113	306	200
Livestock bought	23	25	44	45
Total capital expenditure	187	139	359	244
(x) Less than one dollar				
Acreage	8,320	6,702	4,349	3,811

TABLE NO. 72

COMPARISON OF 20 FARMERS WHO HAD THE HIGHEST LABOUR INCOME WITH

20 FARMERS WHO HAD THE LOWEST LABOUR INCOME IN 1942

FOR CASH RECEIPTS

SWAN RIVER AREA

Farm Cash Receipts	20 Highest Labour Income			20 Lowest Labour Income			Average for all of Swan River
	Aver- age	Low- est	High- est	Aver- age	Low- est	High- est	
Crop sales	1,916	-	3,300	940	100	3,859	909
Stock sales	627	45	1,953	454	50	1,200	425
Other farm produce	301	-	1,884	139	-	541	181
Equipment, sales	213	-	1,073	20	-	216	50
Customs field work	18	-	32	12	-	117	19
Outside labour	180	-	763	92	-	850	110
Threshing	242	-	950	122	-	1,300	95
Trucking	23	-	450	-	-	-	4
All other #	17	-	106	27	-	200	6
Total cash receipts	3,505	2,040	8,473	1,515	422	8,042	1,722
Cash expense	1,143	225	3,175	1,022	242	2,042	532
Return to labour and capital	-1,746	-1015	-4,227	-423	-2,620	-50	-248
Labour Income	-1,095	651	-3,424	-1,565	-2,199	-1,122	-234

Included in "All Other"

Does not include such items as "Dividends" nor "Rental from farm land" nor "Teacher's board".
Does include "Fair price money".

This income represents a farm operated by two brothers who had very little to pay for outside labour (Schedule 200).

amount throughout the year regardless of this return. The farmers in the 20 highest income group have received higher returns either through good management or good luck, whilst the expenses of the two groups are practically the same.

(6) Financial Standing

The men having the 20 highest labour incomes were compared with the ones having the 20 lowest as to financial standing; and the results of this comparison may be seen in table No. 73. All items were presented on an acreage basis so that the results would be comparable.

The lower group was more heavily invested in real estate and machinery. The difference in livestock was not great.

The total receipts were lower and the total expenses were greater. As these items have been discussed above no more will be said of them here.

TABLE NO. 72

COMPARISON OF 20 FARMERS HAVING HIGHEST LABOUR INCOMES WITH 20
FARMERS HAVING LOWEST LABOUR INCOMES IN 1952 - SHOWING SUMMARY
OF FINANCIAL STANDING

SWAN RIVER AREA

	<u>Average Coupled</u>		<u>Average Improved</u>	
	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
	<u>highest</u>	<u>lowest</u>	<u>highest</u>	<u>lowest</u>
	<u>labour</u>	<u>labour</u>	<u>labour</u>	<u>labour</u>
	<u>incomes</u>	<u>incomes</u>	<u>incomes</u>	<u>incomes</u>
	<u>(AV. PER 100 ac's)</u>		<u>(AV. PER 100 ac's)</u>	
AVERAGE CAPITAL:				
Real Estate	1,774	2,628	2,294	4,022
Land	1,229	1,527	2,408	2,850
Buildings	516	770	987	1,743
Livestock	235	361	642	625
Machinery & Equipment	452	588	876	1,023
Feeds & Supplies	41	21	70	27
Total farm capital	2,608	3,598	4,990	6,228
RECEIPTS:				
Increase of Capital	173	107	322	168
Cash Receipts	847	548	1,621	929
Total Receipts	1,021	655	1,943	1,148
EXPENSES:				
Decrease of Capital	61	144	117	254
Capital Expenditures	127	129	229	244
Farm Expenses	352	620	674	1,090
Total Expenses	601	903	1,149	1,587
Income from Capital and Operator's Labour				
	+420	-250	+203	-440
Interest	157	216	299	350
Labour Income	+262	-466	+204	-209
Average	6,220	6,792	4,342	3,811

N -- SUMMARY

An attempt has been made in presenting the farm management material to give a picture of the type of farming carried on in the Swan River Valley. The measure of acres operated was adopted as a basis for the comparison of the different sized farms. The following comparison^s have been made by size of farm: capital investments; crop enterprises; livestock enterprises; other enterprises; machinery and equipment requirements; power units; labour requirements; expenses; receipts and labour income. In order to ascertain what factors influence labour income a number of tables were worked out to compare the factors on the twenty highest labour income farms and twenty lowest.

The following is a summary of the more important findings:

1. It was found that the majority of farms were under one section in size. For 198 farms the average size was 323 acres and the average amount improved on these farms was 155 acres.
2. The average farm had an investment of \$8,781.00 - of this 47.3% was invested in land, 23.6% in buildings, 16.6% in equipment and 12.6% in livestock.
3. The most common crop combination was: wheat 22.2%; barley

19.3%; oats 19.3%; rye 7.3%; forage crops and improved pasture 8.9%; and fallow 16.1%. This crop combination was fairly general for all sizes of farms. There was, however, a slight tendency for wheat acreage to increase relatively and coarse grain acreage to decrease relatively as the farm became larger. Operators on small farms marketed practically all their coarse grains through livestock, while those on the larger farms were selling larger quantities.

4. The livestock enterprise was more important relatively on the smaller farms than on the larger, both from the standpoint of organization and from income received.
5. Other enterprises engaged in by the operator may in some cases restrict the development of the farm.
6. Farmers in a settled area appear to receive a certain portion of their income from outside sources regardless of the size of their farms. Farmers owning threshing outfits tended to have a larger portion of their farms improved and a greater proportion of the men on larger farms received income from this source. There was a tendency for men on small farms to receive a larger portion of their income from outside labour.
7. Hired labour is of a seasonal nature in the Swan River Valley; and this would seem to indicate that labour is hired mainly for the production of crops. Efficiency

of labour, based on the cost per crop acre, increases with the size of farm, and it is obvious that there is an oversupply of labour on the smaller farms.

8. Operators with very small amounts of land under cultivation did not have a complete line of necessary implements. As the improved acreage increased, ownership in all lines of implements increased also. The increase in the number of plows per farm was the most rapid. After the 200 acre group was reached the majority of farmers required two gang plows. Three gang plows were generally used by the time the 400 acre group was reached. After the 100 acre group was reached all farmers owned one binder. The majority used only one until the acreage improved became greater than 400 acres. Only 16 of the 164 farmers in the smaller acreage groups had 2 binders and all but three of these had 200 acres improved. Farmers did not require 2 drills until they had over 400 acres improved.
9. Investment in machinery per acre of improved and occupied land was lowest on the three quarter and section sized farms. The larger farmers practically all had tractors and threshing outfits, which brought up the total investment to a proportionately higher figure.
10. Investment in power units per acre of improved land decreased rapidly as the size of farm increased. The majority of farmers owning tractors could well do without them for field work purposes. Especially is this true of

farms smaller than a three-quarter section.

11. The farmers receipts were not sufficient to meet expenses in the year 1929. Expenses per acre of improved land were lowest on the three-quarter section farm.
12. Income per acre improved was highest on the three-quarter section farm. The percentage of crop sales increased, stock sales decreased slightly and other farm products receipts decreased sharply as the size of farm increased. Farmers on the average received 13.11% of their income from outside sources. The percentage received was higher on one-quarter section farms than on half or three-quarter section farms.
13. Farms larger than one-quarter section received higher incomes in 1929.
14. The labour income measure revealed no significant difference as to the efficiency between different sizes of farm.
15. By comparing the twenty highest labour income farms with the twenty lowest as to size of farm operated no conclusion could be drawn as to the best size of farm; the factor of success would seem to be a matter of organization of the farm rather than a matter of size.
16. No general difference was found between the amounts improved on the twenty highest and twenty lowest labour income farms.

17. The average cash expenses on the twenty farms having the lowest labour incomes was nearly as great as that of the twenty highest. There was not a great deal of difference between the individual items of expense.
18. The average total operating expenses in the lowest labour income group was \$613.00 higher than that of the twenty highest. This was due to the greater amount of unpaid labour on the lower labour income farms. This would seem to indicate an inefficiency in the use of same.
19. The total operating expenses per acre occupied on the lowest labour income farms was about double those on the highest. The total cost of operation per acre was also found to be higher in this group when the improved acre basis was used.
20. The twenty highest had larger receipts from every important phase of production than did the twenty lowest.

In regard to the type of farming in the Swan River Valley, the foregoing analyses and conclusions would seem to indicate that there was but one general type, namely a combination of grain and livestock raising. Specialization in one to the exclusion of the other was not apparent and this would indicate a dependent relationship between the two enterprises. The organization of crops and livestock were, in general, the

same for all sizes of farm. There was, however, a slight tendency for wheat acreage to increase relatively and coarse grains to decrease relatively as the size of farm became larger. It was also found that livestock were relatively more important on the smaller farms. Operators on the smaller farms fed most of their coarse grains to livestock, while those on the larger farms were selling larger quantities. This would seem to indicate two things: (1) that the men on the larger farms do not think it profitable to increase their livestock enterprise to the point where all the coarse grains would be consumed, (2) that they do not wish to be too dependent on wheat alone as a revenue crop.

The Swan River farmer, then, seems to be faced with two problems in regard to organization: (1) How far should his grain growing activities be developed, (2) What part should livestock play in his business.

From the data presented it seems evident that farms smaller than a three-quarter section have not the same advantage in regard to straight grain growing. Distinct disadvantages occur both in the utilization of man labour, machinery, and power to operate the machines. But there are factors which keep constantly pulling in the opposite direction with respect to extensive grain growing. The erratic nature of the seasons causes an apparent reluctance on the part of the operator to rely on wheat production alone as a source of income. Then too, there is the factor of natural advantages for livestock production. Good water is available in abundance; natural

pasture can be had by a great number of the farmers and forage crops do fairly well throughout the district.

If, then, it is agreed that livestock are essential the next question is - what kind and how many are to be kept? The answer rests almost entirely with the individual farmer. The situation of the farm, its peculiar advantages and the personal likings of the farmer all play a part in the choice of enterprises.

An attempt was made by comparing the twenty highest labour income farms with the twenty lowest, to determine the factors which were responsible for success. The results which occurred would clearly show that organization of enterprises, use of available family labour and general managerial ability are the dominant ones.

From one year's figures, however, one cannot draw any definite conclusions as to the proper size and organization of the farm. Fluctuating yields and prices would directly affect labour income and there is no assurance that a farm with a high labour income one year will remain among the highest the next year. The factor of managerial ability also plays an important part and cannot be measured except over a period of years. These facts make it well nigh impossible to state definitely from one year's figures what size and type of farm is best.

In this thesis certain tendencies only have been stated and the most common farming practices of the community portrayed and no attempt has been made to set up a model farm.

It seems evident then that the individual farmer must work out his own ^{solution} situation, after studying the general factors and taking into account his particular circumstances.

BIBLIOGRAPHY

1. Types of Farming in North Dakota. Bul. 102. Elliot, Top and Willard -- Experimental Station, North Dakota.
2. Farm Business in Saskatchewan. W. Allen, Alameda, Melfort and Swift Current Studies -- University of Saskatchewan.
3. Economic Adjustments on Farms in Southeastern South Dakota. Bul. 249. Agri. Experimental Station, South Dakota.
4. Farm Management and Incomes of Farm Families in Loure Country, Kentucky. Bul. 305. -- University of Kentucky.
5. Farm Types in Nebraska as Determined by Climate, Soil, and Economic Factors. Bul. 2015. -- R. R. Stafford, Experimental Station, Nebraska.
6. Outline of Agricultural Economics. Taylor -- Published by the MacMillan Co.
7. Economics of Farm Organization and Management. Holmes.
8. Types of Farming Studies. Spillman & Elliot -- U.S.D.A. 1928.
9. Unused Lands of Manitoba. Murchie & Grant. -- Published by Dept. of Agric. Manitoba.
10. Agronomic Aspects of Manitoba. Ellis -- Man. Agric. College. Manitoba.
11. An Economic Study of Farming in Southwestern North Dakota -- Bul. 180-- Williard and Renynoldson. Experimental Station, North Dakota.
12. Profitable Farm Organization for the Coastal Plain of North Carolina. Foster 1926.
13. Farm Business Analysis Using Score Card Method. Thorffinnson-- Cir. 71.
14. Farm Cost Studies on U. S. A. Bennet.

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