

**MARKETS FOR CANADIAN FARM PRODUCE AND THEIR  
RELATION TO AGRICULTURAL DEVELOPMENT IN  
WESTERN CANADA**

**by**

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## OUTLINE

### MARKETS FOR CANADIAN FARM PRODUCE AND THEIR RELATION TO AGRICULTURAL DEVELOPMENT IN WESTERN CANADA

#### PURPOSE

To ascertain, if any, the relationship which exists between the world market demand and the type of development or settlement in Western Canada.

#### METHOD

- (1) Historical Statistics of the Growth of Markets and Agricultural Development.
- (2) Statistical Analysis of Data.
- (3) Analysis of Recent Surveys of Pioneer Belts.

### 1 - HISTORICAL CHANGES IN WESTERN CANADA SINCE 1868

- (a) Population.
- (b) Transportation.
- (c) Production.

### 2 - HISTORY OF EXPORTS SINCE 1868

- (a) General
  - (1) As to destination.
  - (2) As to products exported.
- (b) In Proportions of Productions Exported.
- (c) Total Value and Proportion which is in Agricultural Products.
- (d) Effects on Production.

### 3 - AGRICULTURAL DEVELOPMENT IN WESTERN CANADA OR INCREASING PRODUCTION

- (a) By Census Years 'till 1908.
- (b) Annually since 1908.
- (c) Summary of Trends Shown.

MARKETS FOR CANADIAN FARM PRODUCE AND THEIR RELATION  
TO AGRICULTURAL DEVELOPMENT IN WESTERN CANADA

New or pioneer areas do not have distinct or stable types of farming. The manner of conducting the operations of a new homestead is necessarily a compromise between the developed type of farm which will yield highest returns and the undeveloped homestead. The extent of the compromise will depend on the means the homesteader has for making improvements.

However, Western Canada has now many areas which are old enough to be completely developed and to show trends and tendencies in their production. They have passed the stage where the value of land increased rapidly enough to ensure a good return for the farmer's efforts, and have reached the stage where the income must be derived from farming operations. Hence the land must all be put to its most economical uses.

The three prairie provinces have developed many peculiarities of production which are difficult to understand unless one has an understanding of the background of the development and of the modern forces which tend to shape Western Canadian Agricultural production to an unusual pattern.



It is such an understanding that this thesis attempts to provide.

The purpose of the investigation involved in this work was to determine the effects of markets on development. Other factors are mentioned also because they are known to have an influence on the progress of settlement, and to assume that agricultural advancement is entirely a function of the markets provided would present an erroneous picture.

The method of approaching this problem has been both historical and deductive. Historical statistics provide a true measure of growth although they do not in themselves provide an infallible basis of forecasting future trends. Unfortunately the securing of data on Western Canadian grain acreages and livestock population has been started too recently to permit reliable correlation studies. The data are useful, however, for analysis by inspection and this method has the advantage that early trends, obtained from the census returns at ten year intervals, can also be included.

The data given on the Swan River and Peace River settlements were obtained from a recent survey of pioneer areas by the Canadian Pioneer Problems Committee of all Canadian universities. The Peace River area is outlined from a personal knowledge of the country as a student investigator and the Swan River from material gathered by associates.

P A R T I

HISTORICAL CHANGES IN WESTERN CANADA

(a) POPULATION

While the increase of human population within a country cannot be counted as a form of production or development in itself, it is normally looked upon as an asset. In olden times this was due largely to each country desiring as many citizens capable of bearing arms as possible. In modern times we stress population as the source of the second factor of production; namely labour. In a country with an abundance of natural resources, like Western Canada, wealth is normally yielded with comparative ease of development and in turn forms a source of capital. This makes labour, and consequently population, a limiting and very important factor in the development of a new country.

The credit for taking the first census of population belongs to Canada. The year was 1665, and the

census that of the colony of New France. This was a simple enumeration of the people within the small colony and these counts were continued at more or less regular intervals under French rule. After the beginning of British rule, census taking became more difficult for a time. Canada was enlarged and divided into provinces with separate governments and possessed very poor means of communication. The sporadic attempts at census taking did not coincide in the different provinces and due to lack of roads and other means of communication a complete census in any one province or section was nearly impossible.

The census of 1665 revealed a population of 3,215.<sup>(1)</sup> In 1685 the population had risen to 12,263 including 1,538 Indians residing in villages. By the end of the seventeenth century the population had passed the 15,000 mark and had more than doubled in the next quarter century. At the time of the British Conquest, in 1763, the population of New France was about 70,000, which did not include 10,000 French who had settled throughout what is now known as the Maritime Provinces.

The British population of Nova Scotia at this time was about 9,000, bringing the population of the potential or future Canada to somewhere about 89,000 people. Accurate and complete returns are not available for the period following

the advent of British rule, but an estimate of the Dominion Bureau of Statistics based on the many local reports about the beginning of the nineteenth century places the population as not less than 260,000.

In 1847 a Board of Registration and Statistics was created by an Act of Parliament of the United Provinces of Canada. Thereafter, the census was taken regularly every ten years starting with 1851; the purpose being at first to secure a basis for redistribution of parliamentary seats at regular intervals.

In 1851 Canada had a population of 2,384,919 including an estimated population of 6,000 for the North-West Territories, and the 1861 census gave the population as 3,156,418. The larger proportion of the population was still in Ontario and Quebec; in fact over 1/3 in each. (Table No. 1). Mr. J. H. Coats <sup>(2)</sup> points out that the centre of population was moving West, slowly until 1901, and since that time quite rapidly. In 1891 and 1901 the centre was at Ottawa, but since 1901 it has moved to Victoria county, Ontario. In 1911 and 1921 it was West into Simcoe county.

This phenomenon of a westward-reaching population is well illustrated by Table No. 1 showing the population by provinces in the census years, 1861 to 1921 inclusive. This table features a declining population in Prince Edward Island since 1891, a slowly increasing population in Nova Scotia and

TABLE NO. 1

POPULATION OF CANADA BY CENSUS YEARS

Province	1861	1871	1881	1891	1901	1911	1921
Prince Edward Island	80,857	94,021	108,891	109,078	103,259	93,728	88,615
Nova Scotia	330,857	387,800	440,572	450,396	459,574	492,338	523,837
New Brunswick	252,047	285,594	321,233	321,263	331,120	351,889	387,876
Quebec	1,111,566	1,191,516	1,359,027	1,488,535	1,648,898	2,003,232	2,361,199
Ontario	1,396,091	1,620,851	1,926,922	2,114,321	2,182,947	2,523,274	2,933,622
Manitoba	- - - -	25,228	62,260	152,506	255,211	455,614	610,118
Saskatchewan	- - - -	- - -	- - -	- - -	91,279	492,432	757,510
Alberta	- - -	- - -	- - -	- - -	73,022	374,663	588,454
British Columbia	- - -	36,247	49,459	98,173	178,657	392,480	524,582
Yukon	- - -	- - -	- - -	- - -	27,219	8,512	4,157
N. W. Territories	15,000 <sup>x</sup>	48,000 <sup>x</sup>	56,446 <sup>x</sup>	98,967	20,129	18,481	7,988
<b>Totals</b>	<b>3,156,418</b>	<b>3,689,257</b>	<b>4,324,810</b>	<b>4,833,239</b>	<b>5,371,315</b>	<b>7,206,643</b>	<b>8,788,483</b>

<sup>x</sup>Estimated

1926 Prairie Census

Manitoba --- 639,056; Saskatchewan --- 820,738; Alberta --- 607,599.

New Brunswick and a more rapid growth of population in Quebec and Ontario. But the most rapid growth from the point of percentage increase is in the Western prairie provinces. The percentage increase based on the increase over the former census figures is given in Table No. 2. Manitoba, in its first fifty years, from 1871 to 1921, increased 2,318.42% or acquired 23 times its original population of 25,228. The provinces of Saskatchewan and Alberta, though only formed in 1905, were, nevertheless, already experiencing a rush of land-hungry settlers who virtually peopled a vast area and built cities in the decade from 1901 to 1911. The tables mentioned above do not give the increase of population in Saskatchewan and Alberta in percent but inasmuch as Saskatchewan caught up to and passed Manitoba; and Alberta almost reached Manitoba in population in the two decades from 1901 to 1921, their settling was indeed spectacular. The rapidity of increase is accounted for by a number of factors, not the least of which was the offer of free lands, backed by an active advertising, immigration and railway-building campaign indulged in by governments, railways, real estate companies and by not a few enthusiasts amongst the Canadian people. In other words it was an outburst of pioneer sentiment.

TABLE NO 2

INCREASE IN PERCENT OF CANADIAN POPULATION  
BY DECADES FROM 1871 - 1921

Provinces or Territories	Percent increase by decades					Percent increase in 50 years
	1871 to 1881	1881 to 1891	1891 to 1901	1901 to 1911	1911 to 1921	
P. E. Island	15.82	0.17	-5.33	-9.23	-5.46	-5.75
Nova Scotia	13.61	2.23	2.04	7.13	6.40	35.08
New Brunswick	12.48	0.01	3.07	6.27	10.23	35.82
Quebec	14.06	9.53	10.77	21.64	17.72	98.17
Ontario	18.88	9.73	3.25	15.77	16.08	80.99
Manitoba	146.79	144.95	67.34	80.79	32.23	2,318.42
Saskatchewan	- -	- -	- -	439.48	53.83	- - -
Alberta	- -	- -	- -	412.58	57.22	- - -
British Columbia	36.45	98.49	81.98	119.68	33.66	1,347.24
Yukon Territories	- -	- -	- -	-68.73	-51.16	- - -
North West Territories	17.60	75.33	79.66	-67.67	22.76	-83.36

X The decreases in the Northwest territories were due to the immense areas separated and annexed to form the provinces of Saskatchewan and Alberta and also to make additions to Northern Ontario and Quebec and Manitoba.

(Reference: - Page 94, Canada Year Book for 1930)

TABLE NO 2-A

INCREASE IN POPULATION OF CANADA BY DECADES  
1871 - 1921

Province or Territories	Increase in each decade				
	1871 to 1881	1881 to 1891	1891 to 1901	1901 to 1911	1911 to 1921
Prince Edward Island	14,870	187	-5,891	-9,531	-5,113
Nova Scotia	52,772	9,824	9,178	32,764	31,499
New Brunswick	35,639	30	9,857	20,769	35,987
Quebec	167,511	129,508	160,363	356,878	355,423
Ontario	306,071	187,399	68,626	344,345	406,370
Manitoba	37,032	90,246	102,705	206,183	148,724
Saskatchewan	- - -	- - -	91,279	401,153	265,078
Alberta	- - -	- - -	73,022	301,273	214,159
British Columbia	13,212	48,714	80,484	213,823	132,102
Yukon Territory	- - -	- - -	27,219	- 18,707	-4,355
Northwest Territory	8,422	42,521	-78,838	-13,622	1,481
Royal Can. Navy	- - -	- - -	- - - -	- - -	485
Canada	635,553	508,429	538,076	1,835,328	1,581,840

(Reference: - Canada Year Book, as at page 93, 1930)



A more detailed summary of the population of the prairie provinces is presented in Table No. 3. The feature of this table is the rapid increases of populations of all three provinces but particularly Saskatchewan and Alberta from 1906 to 1916. A slower rate of growth prevails since 1916. From 1906 to 1911 Saskatchewan gained 234,669 while Alberta gained 189,100 in the same period and Manitoba in this period gained 95,706. Since 1911, however, the rate of gain has steadily decreased, 'till the five year period of 1921 to 1926 the gain of population is: Manitoba 28,938, Saskatchewan 63,228, and Alberta only 19,130.

The slowness of Alberta's gain during this period is noteworthy. Alberta was the highest in homestead entries in two of the five years but the city expansion, notably in Winnipeg, brought Manitoba ahead despite very little expansion of her rural population. This was also an emigration period in southern Alberta. The northern edge of the dry area had been encroached on by land-hungry homesteaders between 1911 and 1921 and thereafter there was a continuous exodus from the area, culminating in government assistance to quit the area and file on lands elsewhere during the period referred to.

In table No. 3, which gives a summary of the Prairie population, it is important to note the balance of rural over urban dwellers. Since the classification specifies as rural

TABLE NO 3

SUMMARY OF POPULATION OF PRAIRIE PROVINCES BY CENSUS YEARS

P r o v i n c e s	P o p u l a t i o n i n C e n s u s Y e a r s					I n c r e a s e 1926 o v e r 1921
	1906	1911	1916	1921	1926	
Manitoba	365,688	461,394	553,860	610,118	639,056	28,938
Saskatchewan	257,763	492,432	647,835	757,510	820,736	63,228
Alberta	185,195	374,295	496,442	588,454	607,584	19,130
Totals	808,646	1,328,121	1,698,137	1,956,082	2,067,378	111,296
Rural	562,614	861,228	1,094,820	1,252,604	1,313,681	61,077
Urban	246,032	466,893	603,317	703,478	753,697	50,219

Reference ( page 149, 1929 Canada Year Book)

only those dwelling outside all incorporated cities, towns or villages, this means that other primary producers, such as, miners, and lumber-mills workers would be largely classified as urban and the rural would be almost wholly agricultural.

From the table mentioned one may compare the ratio of Rural and Urban for each of the census years as follows:

<u>Year</u>	<u>Rural</u> %	<u>Urban</u> %
1906	69.6	30.4
1911	64.8	35.2
1916	64.5	35.5
1921	64.0	36.0
1926	63.5	36.5

Thus there has been a constant trend towards urbanization, but it is not very marked. Even in Manitoba, up to 1926 at least, there has been a very constant proportion of rural to urban population.

The high proportion of rural population provides a commentary on the basis of our early population increases. In spite of the fact that Western Canada is as far advanced in the use of machinery, and consequently production per man, as any farming country in the world, Canada still maintains a large proportion of population in agriculture.

In 1928 Manitoba derived \$135,000,000, or 55.3% of its total net revenue from agriculture; while Saskatchewan derived \$364,000,000, or 86.5% and Alberta \$248,000,000, or 71% of its net revenue from agriculture. In the same year Western Canada derived \$748,000,000, from Agriculture or 73.8%. (3) Again, if one takes 1928 as an example, Saskatchewan derived 38% of its total revenue from wheat alone or almost half of its total agricultural revenue. In 1928 the wheat production of Canada is estimated at 566,726,000 bushels and the home consumption at 160,508,000 bushels or only 28.3% of its production. (4)

Thus it would seem that Western Canada's population, when encouraged by free land, has increased very rapidly and that the main basis of western expansion has been agricultural. Inasmuch as most of the staple agricultural products are produced in excess and are partly exported, as will be shown later, it would seem that the large new population was able to maintain itself chiefly by catering to export demand. It is now meet to consider the forms of development allied or coincident with growth of population.

(b) RAILROADS

Nowhere was the part played by the railway so momentous as in the vast spaces of the North American continent, and not the least in the northern half. The railway found Canada scarcely a geographical expression and made it a nation. (5)

Prior to 1835 both Canada and the United States relied on lakes, rivers and canals as the chief means of inland transportation. With this in view, the Canadians made feverish efforts to improve canals, linking Montreal to inland ports through to Lake Superior, in hopes that they might thus catch their share of the far western traffic to the Atlantic. The Welland Canal was no sooner completed, however, than an all year rail route to New York rendered it partly futile, at least so far as a means of catching the through traffic from the Mid-Western States was concerned, and at this time, 1848, there was nothing but a wilderness to be tapped at the Canadian extremity of the route. In 1832 a Charter was granted by the legislature of Lower Canada to the Champlain and St. Lawrence railroad to

build a line from La Prairie on the St. Lawrence to St. John's on the Richelieu river, 16 miles distant. This was designed to be a connecting link around the Falls. It was at first operated only in summer when its value as a connecting link in the water route was greatest. However, after a decade of moderate success it was decided to lengthen the rail and shorten the water section of the route. This is significant as the first attempt in Canada to substitute railway for water carriage. During the decade in which Canada only possessed this sixteen miles of rail, Great Britain had built over twenty-eight hundred miles and the United States nearly five thousand. (6) It was not until the railway mania broke out in England in the middle forties that Canadian promoters found interest awakened and capital more readily available.

The second line built was the Montreal and Lachine route begun in 1846 around the Lachine Rapids. This was a short stretch of rail connecting the better water routes rather than a complete route in itself. It took the place of a former stage route. The third venture was to build a connection between Montreal and New York, and thus compete with the water traffic route; but it was not very successful. Even yet, the railways did not provide inland freighting service, and settlement was necessarily confined to the proximity of water courses, lakes, streams, or canals.

From 1845 on there was a rapid increase in the promotion of railways, mostly supplementary to the water route, but rendering some inland service as well.

The decade following 1850 was featured by almost uncontrolled railway promotion, in which lobbying, wholesale bribery, and commercialized politics played no small part, but it resulted in Canada's railway mileage increasing from 66 to 2,065 miles. (7)

In the seven years following, the results of such development and unsound organization became apparent. The methods of the railway promoters had brought many towns and municipalities to the brink of bankruptcy and had seriously embarrassed the provincial governments. The important feature of this period was the founding of the Grand Trunk railway, largely on British capital and Canadian government guarantees. The period was also marked by many amalgamations and the enlarging of the sphere of operations.

Several attempts were made in the sixties to secure backing for a railway to link the east with western prairies. Allan MacDonell of Toronto petitioned twice for a Charter and when the second petition was granted, he found that he could not secure financial backing. In 1862 Sandford Fleming on behalf of the Red River settlers prepared an elaborate memo on the subject. However, the decisive political

factor was injected when British Columbia entered Confederation in 1870 and stipulated that an overland railway be built as the price of its joining. The premier, Sir John A. MacDonaid, accepted these terms and in 1871 his government decided that the road should be built by a private enterprise; that it should be aided by liberal subsidies in cash and in land; and that it should be begun in two, and ended in ten years, in order to meet the insistent demands and needs of British Columbia. These decisions, unfortunately, were more easily made than carried out, and the first attempt at chartering a company brought on a chain of corruption and lobbying which ended in exposure and defeat of the government of the day. Many contracts were let by the new government for part of the road and charters were granted and revoked. Sir John A. MacDonaid was restored to the premiership to complete the road and his government was determined to do it. After a brief attempt at government construction, a charter was issued with promises of cash subsidies and land grants to a group of Canada's most astute railway promoters. The company thus formed later became the Canadian Pacific Railway. The contract was drawn and signed in October the 18th., 1880, and was laid before the House of Commons in December of the same year. O. D. Skelton in his book of Railway Builders says of it, " The terms were princely.



For constructing some nineteen hundred miles the syndicate were to be given, free and complete, the seven hundred and ten miles under construction by the government, \$25,000,000 in cash and 25,000,000 acres of selected land in the fertile belt of Western Canada. They were promised exemptions from import duties on construction materials, from taxes, on land for twenty years after the patents were issued, and on stock and property forever and exemption from regulation of the rates until ten per cent per annum was earned on the capital. Assurance was given that for twenty years no competitive roads connecting with the Western States would be chartered: "Nor any line of railway south of the Canadian Pacific except such line as shall run southwest or to the westward of southwest nor to be within 15 miles of latitude 49°. Ten years were given to complete the task and a million dollars were to be deposited as security."

Regardless of what may be said of this wholesale hand-out to private companies, it produced a railway through the fertile plains of Western Canada. This new line first proved its worth during the Riel rebellion of 1885 when William Van Horne on behalf of the new syndicate offered to take troops through from Kingston or Ottawa to Qu'Appelle in ten days. Though the line was not completed, rails were laid

on ice and snow and drivers from the construction camps filled in the gaps in the route and troops were landed in Winnipeg in four days.

The eastward and westward track-layers met in the Eagle Pass on November 7, 1885 to complete the longest railroad in the world and also to open up a new Empire. With it began the real history of development in Western Canada.

After the completion of the Intercolonial, the Grand Trunk and the Canadian Pacific, a complete chain of east and west lines were secured. From then on it was a question of branch lines or additional through-lines. With the through-lines completed tremendous areas could be brought within reach of the existing railways with comparatively little building. In 1882 a new policy of branch lines encouragement was embarked on by the Minister of Railways, Sir Charles Tupper, who introduced a resolution to grant a subsidy of \$3,200 per mile for each of four selected railroads, which at that time was just equivalent to the cost of the rails. These grants, however, were for extensions in Eastern Canada. In Western Canada the policy of land grants was followed and this was not sufficient inducement to provide all the branch lines the new settlers felt that they were entitled to. Furthermore, the federal

government was inclined to stick to its pledge of chartering no lines competing with the Canadian Pacific, and in Manitoba charter after charter was disallowed by the federal government. But the West vehemently protested that the Canadian Pacific rates were exorbitant, otherwise they would not have feared American competition. They pointed to the exodus of settlers from the Western plains and the disappointingly slow growth in the West as the fruits of this practical monopoly. In 1888 the Dominion government was forced to yield, and by granting a bond guarantee for some necessary extensions they persuaded the Canadian Pacific Railway to relinquish the no-competition clause. It was some eight years later that the rapid development and settlement began in Western Canada, as may be seen on the Chart No. 1, showing Homestead entries and cancellations.

In 1895 a Charter was granted for the first competing railway in the West. It ran 100 miles, and had no definite terminus at the start, but later developed into the Canadian Northern Railway with lines from ocean to ocean. The Northern Pacific from the States had entered Manitoba with the lifting of the ban in 1888 and had built 320 miles of branch lines in Manitoba but it did not compete directly with the Canadian Pacific Railway, preferring to divide traffic rather than cut rates. As it was in a receiver's hands in 1902 the Manitoba

CHART NO. 1

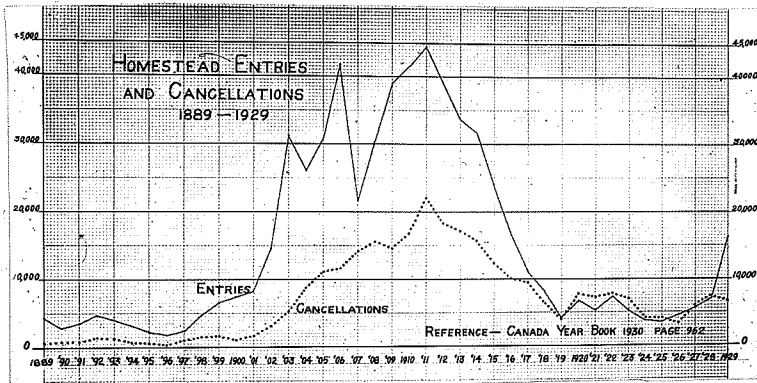


TABLE NO 4

NUMBER OF HOMESTEAD ENTRIES IN CANADA

<u>Year</u>	<u>Entries</u>	<u>Number Cancelled</u>	<u>Net Entries</u>
1874	1,376	889	485
1875	499	303	196
1876	347	153	194
1877	845	457	388
1878	1,788	1,377	411
1879	4,068	2,045	2,023
1880	2,074	679	1,395
1881	2,753	937	1,816
1882	7,483	3,485	3,998
1883	6,063	1,818	4,245
1884	3,753	1,330	2,423
1885	1,858	597	1,261
1886	2,657	812	1,845
1887	2,036	459	1,577
1888	2,655	668	1,987
1889	4,416	639	3,877
1890	2,955	794	2,161
1891	3,523	934	2,589
1892	4,840	1,322	3,518
1893	4,067	899	3,168
1894	3,209	648	2,561
1895	2,394	683	1,711
1896	1,857	301	1,556
1897	2,384	1,090	1,294
1898	4,848	1,546	3,302
1899	6,689	1,746	4,943
1900	7,426	1,096	6,330
1901	8,167	1,682	6,485
1902	14,633	3,296	11,337
1903	31,383	5,208	26,175

(Reference:- Canada Year Book, 1930, page 962)

TABLE NO 4 Cont'd

NUMBER OF HOMESTEAD ENTRIES IN CANADA

<u>Year</u>	<u>Entries</u>	<u>Number Cancelled</u>	<u>Net Entries</u>
1904	26,073	8,702	17,371
1905	30,819	11,296	19,523
1906	41,869	11,637	30,232
1907	21,647	14,110	7,537
1908	30,424	15,668	14,756
1909	39,081	14,667	24,414
1910	41,568	16,832	24,736
1911	44,479	22,122	22,357
1912	39,151	18,486	20,665
1913	33,699	17,101	16,598
1914	31,829	15,854	15,975
1915	24,088	12,351	11,737
1916	17,030	10,070	6,960
1917	11,199	9,570	1,629
1918	8,319	6,314	2,005
1919	4,227	4,115	112
1920	6,732	7,891	-1,159
1921	5,389	7,336	-1,947
1922	7,349	7,806	-457
1923	5,343	7,061	-1,718
1924	3,843	4,187	-344
1925	3,653	4,171	-518
1926	4,685	3,400	1,285
1927	5,760	5,809	-49
1928	7,223	7,315	-0,092
1929	16,157	6,632	9,525

TABLE NO 5

STEAM RAILWAY MILEAGE IN CANADA

Years	Miles of Railway	Years	Miles of Railway	Years	Miles of Railway	Years	Miles of Railway
1835	-	1868	2,270	1889	12,628	1910	24,731
1836 - 46	16	1869	2,524	1890	13,151	1911	25,400
1847 - 49	54	1870	2,617	1891	13,838	1912	26,840
1850	66	1871	2,695	1892	14,564	1913	29,304
1851	159	1872	2,899	1893	15,005	1914	30,795
1852	205	1873	3,832	1894	15,627	1915	24,882
1853	506	1874	4,331	1895	15,977	1916	36,985
1854	764	1875	4,804	1896	16,270	1917	38,369
1855	877	1876	5,218	1897	16,550	1918	38,252
1856	1,414	1877	5,782	1898	16,870	1919 <sup>x</sup>	38,330
1857	1,444	1878	6,226	1899	17,250	1920	38,496
1858	1,863	1879	6,858	1900	17,657	1921	38,806
1859	1,994	1880	7,194	1901	18,140	1922	39,192
1860	2,065	1881	7,331	1902	18,714	1923	39,360
1861	2,146	1882	8,697	1903	18,988	1924	39,665
1862	2,189	1883	9,577	1904	19,431	1925	40,061
1863	2,189	1884	10,273	1905	20,487	1926	40,352
1864	2,189	1885	10,773	1906	21,423	1927	40,352
1865	2,240	1886	11,793	1907	22,446	1928	40,572
1866	2,278	1887	12,184	1908	22,966		41,024
1867	2,278	1888	12,163	1909	24,104		

<sup>x</sup> Note: - As at June the 30th., 1833 to 1919 and at December 31, 1919 to 1928.

(Reference - Canada Year Book 1930, p 620)

government arranged a nine hundred and ninety-nine year lease on the Manitoba lines and then, as it had no connections to Port Arthur and east, the government sub-let the lines to the new Canadian Northern which had completed its lake-head connections in 1901. The Canadian Northern thus became the third largest railway in Canada and a powerful competitor of the Canadian Pacific in Western Canada. In the meantime, the Grand Trunk Pacific had constructed a trans-continental line through Northern Canada. From this time on the three great roads; the Canadian Pacific Railway, the Grand Trunk Pacific and the Canadian Northern all launched into a programme of Western branch line extension aided by Dominion and Provincial subsidies. This outburst of railway building corresponds very well with the most rapid settlement of the country as gauged by the increase of population previously mentioned and also with the rush of homestead entries. (See Table No.6)

It must be remembered that in Western Canada railway building was closely connected with land settlement because there was no other development immediately possible. During the first years of the operation of the Canadian Pacific Railway there were practically no white settlers between Portage la Prairie and



TABLE NO 6

STEAM RAILWAY MILEAGE OF WESTERN CANADA

Year	Manitoba	Saskatchewan	Alberta
1906	2,780	1,950	1,235
1907	3,074	2,024	1,323
1908	3,110	2,081	1,323
1909	3,205	2,631	1,322
1910	3,221	2,932	1,488
1911	3,466	3,121	1,494
1912	3,520	3,754	1,897
1913	3,933	4,651	2,212
1914	4,076	5,089	2,545
1915	4,498	5,327	3,174
1916	4,309	5,378	3,894
1917	4,194	6,124	4,444
1918	4,168	6,162	4,273
1919	4,190	6,148	4,285
1920	4,403	6,220	4,474
1921	4,417	6,296	4,557
1922	4,527	6,438	4,567
1923	4,521	6,518	4,784
1924	4,520	6,942	4,818
1925	4,540	7,056	4,965
1926	4,296	7,268	5,048
1927	4,293	7,358	5,139
1928	4,293	7,551	5,307

Note: - As at June 30, 1919, and as at Dec. 31, 1920 - 28.

(Reference: - Canada Year Books as at page 621, 1930)

Kamloops, B. C. O D. Skelton says "they could be counted on the fingers of one hand". In order to give the line some traffic, the Canadian Pacific Railway started shipping train loads of buffalo bones to factories in the east.

It also became a part of the company's policy to advertise the free government lands along its lines, for the double purpose of receiving the settler's freight haul and to create a demand for its own land grants when the best government land was taken. Very little encouragement was given to Western industries because the railways preferred the long haul east of agricultural goods and the return haul of manufactures.

With two transcontinental main lines; besides branches under construction, Canadian railway mileage was doubled between 1900 and 1915; increasing from 17,657 miles in the former year to 34,882 miles in the latter. The builders of the new lines as well as the Canadian government had expected that the immigration of capital and labour from Europe would rapidly settle the areas tributary to the new lines and given them abundant and lucrative traffic as had been the case with the Canadian Pacific Railway. Instead the war came and Europe was engrossed by the struggle. Immigration fell off while cost of operation increased, owing to the scarcity of labour and material in Canada. The Canadian Northern and Grand Trunk Pacific were loaded with bonded indebtedness and in

1915 the government gave the railways financial assistance. In 1916 a commission of three was appointed by the Dominion government to enquire into - (a) The general problem of transportation; (b) The status of each of the three trans-continental systems; (c) The reorganization of any of the three or their acquisition by the State; (d) Any other matters considered relevant. A majority report of the commission formed the basis of the subsequent railway policy. It was known as the Drayton-Aerworth report and recommended that the public should take control of the Canadian Northern and Grand Trunk Railways and that they should be administered on purely business principles by a Board of Trustees; such compensation as seemed proper to be determined by a Board of Arbitration and given to the shareholders of the Canadian Northern and the Grand Trunk. In 1917 by an Act of Parliament the two systems were taken over by the Federal government and in 1922 the two systems were consolidated under one management. Since 1924 the trend has been steadily towards a more profitable operation, with a hope of turning the deficit into a profit in the not too distant future. (8) The Canadian Pacific Railway seems to have been consistently prosperous.

In 1928 there was an estimated total of 763,197 miles of railways in the world; of this total 252,383 miles or

nearly one-third lay in the United States. Canada was second with 40,688 miles (exclusive of Canadian rails in the U. S.) and British India was third with 38,509 miles. Canada has the smallest population per mile of railway as stated affirmatively, the largest railway mileage per capita in the world, viz 1 mile to each 233 persons. (9)

Thus an analysis of the Canadian railway system shows that they were built rapidly and, in many cases, in advance of actual settlement and traffic.

The creation of the first Western railroad lines was largely for political reasons. The Canadian Pacific through-line was built when there was no visible traffic between Fortage la Prairie and British Columbia. The other lines were largely aided by governments and municipalities and while they touched and connected many existing settlements they also ran through much unsettled territory which was opened up after the advent of the railway. The railway, therefore, was a factor in inducing expanding production and settlement. Also, as pointed out in previous paragraphs, there was a large degree of correspondence in the rates of railway building, homestead filings, and increases of population.

(a) REVIEW OF THE HISTORY OF WESTERN AGRICULTURE

The complete history of Western Canada is too voluminous to be presented here. Good books on the subject are available for every phase of development and a brief summary of the economic effects of the history is all that is permissible or desirable in this treatise. To condense the information available and to clarify it, this treatment will divide it into six periods as given below.

1 - The Period of Early Settlement.

Western Canadian Agriculture is still in its infancy. It is less than a hundred years since the West was looked upon as a fit habitation only for the Indians, and the wild animals which they hunted. Thus the first interest of white men was directed towards trading with the Indians and not permanent settlement. This led, however, to an appreciation of its farming possibilities and the desire of a few visionaries to see the land peopled by settlers. Several colonisation schemes soon developed, among which were Catholic Church settlements of French and Half-breeds scattered along the river courses.

The record for the first grain production in Western Canada must go to the Peace River area. The records of the Hudson's Bay factor, recently discovered at Fort Dunvegan, give an account of the successful growth of seven acres of rye in 1800, or over 100 years ago.

(2) The Selkirk Settlers.

The first extensive settlement, however, was along the Red and Assiniboine rivers in Manitoba. Lord Selkirk, of the Hudson's Bay Company placed a group of Scottish crofters here in 1812, who, despite the antagonism of a fur trading company, the discouragements of frost, hail and locust plagues, remained to settle in Kildonan and to become the nucleus of settlement around which the province of Manitoba was forming.

Settlement progressed slowly after the coming of the Selkirk settlers. A few people moved in via the United States or by the water route across the Lake of the Woods each year. But after the fifty-eight years between the coming of the Selkirk settlers and the formation of the province of Manitoba in 1870, the population had grown to only 25,000, in the area of the new province.

As there were no complete water nor rail connections before the building of the Canadian Pacific Railway, the early settlers raised their own wool, then spun it into yarn and made

cloth and garments. They ground their own flour or took it to a local mill. They built their own buildings and carved their own furniture. Their farming was truly only self-sufficing.

The creation of the province of Manitoba in 1870 marked the formation of the first Political Unit of Western Canada and it also marked the beginning of an attempt to link the West with the East economically.

### (3) The Advent of the Railways

After the completion of the Canadian Pacific Railway line in 1885 changes came quickly. The much advertised "Government free land" was rapidly being settled and after the lifting of the "No-competition" ban on railways in 1888 there was a continuous and fairly rapid extension of Western lines. With the railway came commerce, agricultural machinery and a flood of settlers.

### (4) The Beginnings of Grain Export

The year 1887 may be said to mark the beginning of the exportation of grain from Western Canada. That year the crop grown passed all expectations and arrived at the railway shipping points in such quantities that the Canadian

Pacific Railway found itself unable to take it away fast enough. Thus began the seasonal rush to eastern markets which is an annual phenomenon of the marketing of Canadian grain. In their helpless incapacity to meet the situation the company officials hurriedly sought a solution to their problem.

(5) The Rise of the Marketing Problem

They decided to stem the tide of grain by increasing storage facilities rapidly. They announced that the company would make special concessions to any one who would build an elevator along the right-of-way with a capacity of not less than 25,000 bushels equipped with cleaning machinery and steam or gasoline power; in short, a standard elevator. The special inducement offered was an agreement that at points where such elevators were erected, the railway company would not allow cars to be loaded with grain through flat warehouses, direct from farmers' vehicles or in any other way than through such elevators. The only condition was that elevator owners would furnish storage and shipping facilities to all those wishing to store or ship grain. (c.f. Deep Furrows).

The encouragement thus given a naturally economical system of grain handling swept the previous systems of flat warehouses and bags out of existence in summary fashion.



While this new system, due to its virtual monopoly powers, brought forth a continuous round of protest from the farmers, it did provide a remarkably efficient system of grain handling early in this history of Western development and there is no doubt that it was a factor in the opening of the great North-West. The great volumes could not have been handled by any other means, particularly when it is remembered that the wheat area is about 5,000 miles from the point of consumption and about 1,000 miles from a sea port.

#### (6) The Twentieth Century

The beginning of the Twentieth Century found Manitoba fairly well settled. Its growth thereafter was slow compared with its sister provinces. The provinces of Saskatchewan and Alberta were formed in 1905 and their development for the most part dates after this. Saskatchewan at this time was in the midst of its first big rush of settlement which reached one peak in 1906 and another in 1911. Over one half of the Western homestead entries between 1903 and 1915 were on Saskatchewan lands. Alberta at the time of formation was still a distinctly pioneer area, given over largely to ranching and homesteading except along the main railway lines. Its peak of permanent settlement came in

1911 and thereafter. The centre of wheat production like the centre of population was steadily moving west. In 1870 Ontario produced 85% of Canada's wheat crop. By 1900 'Manitoba No. 1 Hard' was making a name for itself and by 1910 the greatest wheat production for one province was in Saskatchewan and by 1927 Saskatchewan was producing 53% of Canada's total wheat crop. (10) Ontario had fallen behind till in 1927 it was only producing 5% of Canada's wheat but a new movement had begun in the east and moved west.

Diversification and livestock production started in Eastern Canada while grain was making rapid strides in Western Canada. Diversification had spread over the Maritimes, Quebec and most of Ontario. It has been making its appearance in the prairie provinces though at present it is most noticeable in Manitoba and it cannot be said to be typical of the prairies as yet.

PART II

HISTORY OF EXPORTS

Exports are goods consigned from one country or fiscal political unit to another. The fiscal unit of which Western Canada is a part politically is the Dominion of Canada. Therefore, we will have to shift our perspective to Canada as a whole even though it does not give us a true picture of Western Canada as a surplus producing area.

The only compromise which can be effected under the circumstances is to centre the detailed attention on those products which Western Canada produces in greatest quantity and leave to a later section an appropriate summary of home markets for the surplus production of Western Canada.

(a) GENERAL HISTORY

1. Destination

Any treatise on the destination of exports must be

subject to considerable error. Goods do not necessarily arrive at the port they are consigned to when cleared from Canadian ports. An export firm may decide to start cargo for England in the expectation of an immediate sale, but if a better offer is received from Italy the boat may be notified in mid-ocean to change its course for Rome. Canadian wheat may be sold to a New York exporter and consigned to New York when it is really meant to fill his orders abroad and is immediately reshipped on arriving at New York.

Thus French import statistics of Canadian wheat do not agree with Canadian figures of exports to France. Selling in export is a matter of trade connections and relative prices the world over. If Canadian wheat were sold largely in Great Britain last year it does not necessarily mean that it was consumed there, for it might have been reexported; neither would it mean that Great Britain would necessarily be the biggest buyer this year.

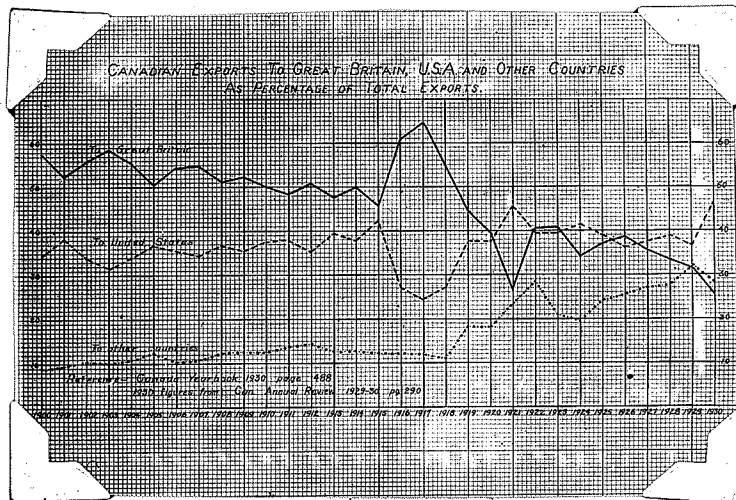
A study of the ultimate markets would have to be based on a study of all surplus producing areas for the products and the areas of underproduction or import and the established trade connections between them. Since this would be a life work and would be correct for only the

years studied, it cannot be included here . (c.f. Dr. Grant's thesis on Barley Marketing).

Destinations of goods cleared for export do tell something about exports. They indicate at least where established trade connections operate. They also indicate in general, though not accurately, where products are in demand. Therefore, it has been considered expedient to include a summary showing for what ports Canadian exports are cleared. This is given in Chart No. 2 below which is based on the percentages given, as to Great Britain, United States of America and other countries, in the 1930 Year Book, at page 488.

It will be seen that Canadian clearings to Great Britain, which were formerly highest, have been declining relatively, with the exception of the war period when Great Britain was a focusing point for war supplies. Clearings to the U. S. A. have remained relatively constant. They have shown many variations but they have tended to fluctuate around 38% of the total exports. The use of New York as an export centre has tended to keep clearings to the U. S. A. high, though much Canadian produce has been shut out of its markets by the various tariff regulations.

CHART NO. 2



The significant feature of the Chart, however, is the relative use of clearings direct to foreign countries since the war.

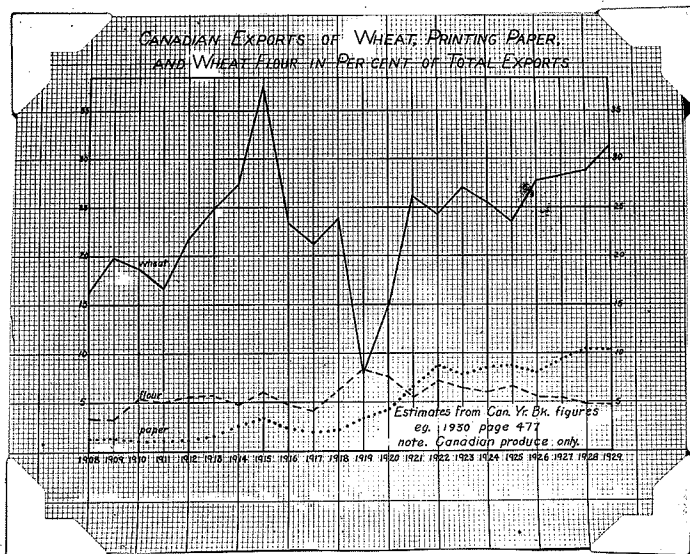
As Canada becomes older, it will undoubtedly develop its own commercial relations, and the recent trend towards direct clearing to foreign countries may be looked upon as the result of direct trading as well as an increase of exports seeking new markets.

### 2. Products Exported

Canada exports a myriad of products in varying quantities. Exports by years are given in detail in the Year Books of Canada but one might lose a true perspective of the relative importance of articles in attempting to analyze in detail the various items of export. Canada has general exporters with trade connections in other countries prepared to export all goods from shoe strings to automobiles, to any country, but for the purpose of this treatise the interest lies in the major exports only, and particularly in those which are of Western Canadian origin.

Only three items of export stand out as providing any considerable proportion over a long period of time. These are portrayed graphically in Chart No. 3, in percentage of

**CHART NO. 3**





total exports by values. In order of present importance they are; Wheat, printing paper, and wheat flour. The fourth and fifth items listed for 1928 are lumber and wood pulp respectively. In other words the five leading exports come from the lumbering and wheat growing industries and they are the only ones which produce any considerable proportion of the exports. Wheat alone has, on two occasions, equalled one-third of the total exports by values. In one year, namely 1919, it dropped to 7% of the total exports due to a light crop in the year of 1918. It will be seen that these comprise roughly about 40% of the total exports. The balance, though considerable, is comparatively insignificant, as the remainder is spread over a few hundred items, none of which equals four per cent of the total.

Other products listed, which are produced in excess in Western Canada, are meats, and cattle. These figure in the seventy leading exports <sup>(11)</sup> and many advocates of more livestock would like to see them more prominent. In 1928 meats ranked seventh and cattle seventeenth in the list of seventy leading exports. However, meats were only 2% of the total exports or 6.9% of the value of wheat alone. Cattle equalled 1.1% of total exports and 3.9% of the value of wheat exported.

(b) PROPORTIONS OF PRODUCTION EXPORTED

The importance of exports and export markets to any industry will depend on the proportion of that industry's production which is exported. The importance of foreign markets to western agriculture then will depend largely on the proportions of the agricultural produce which is exported. Again, Canada must be considered as a whole, though in this case the types of production mainly prevalent in Western Canada will be considered.

Therefore, tables indicating the value of the major forms of agricultural production have been prepared and are presented with the corresponding value of exports. In Table No. 7 the production and exports of wheat, oats and barley are given from 1908 to 1929 inclusive. All figures are those given in the Canada Year Books.

Wheat has been mentioned as the largest single item of export. From the table presented it is calculated that in the 12 years from 1908 to 1919 inclusive, 60.8% of the Canadian wheat production was exported and in the last ten years given, 1920 to 1929 inclusive, the average export has been 86% of the total wheat production. The

TABLE NO 7

CANADIAN AGRICULTURAL PRODUCTION OF  
WHEAT OATS & BARLEY

Year	Wheat		Oats		Barley	
	Prod.	Exports	Prod.	Exports	Prod.	Exports
('000's omitted)						
1908	91,228	48,288	96,489	3,171	21,353	1,223
1909	151,320	55,819	122,390	2,175	25,434	1,744
1910	105,817	67,341	86,796	1,566	14,654	1,107
1911	148,123	58,927	132,949	2,145	24,704	831
1912	139,090	78,852	126,304	3,819	22,354	1,324
1913	156,462	107,651	128,893	5,067	20,144	3,851
1914	196,418	139,328	151,811	13,379	21,557	6,513
1915	356,817	97,025	171,009	8,961	27,986	3,262
1916	344,096	205,201	210,958	14,638	35,024	3,775
1917	453,039	287,747	277,065	33,918	59,654	7,800
1918	381,678	474,050	331,357	37,644	73,797	8,202
1919	457,722	192,269	317,097	15,193	69,330	5,290
1920	427,357	279,332	280,115	9,349	52,821	20,206
1921	242,936	376,663	146,395	14,152	28,254	11,469
1922	339,419	224,206	185,455	18,717	33,335	9,821
1923	316,995	305,482	184,857	14,533	32,571	9,165
1924	320,362	321,970	200,688	11,146	61,760	9,143
1925	487,736	316,229	167,171	16,044	46,014	18,120
1926	442,221	430,790	184,098	24,237	52,059	23,182
1927	477,791	417,710	225,879	8,599	64,193	25,875
1928	451,235	408,071	210,956	4,275	76,112	23,473
1929	346,502	255,053	169,433	10,242	63,071	25,744

original figures will be open to some correction due to variations in the methods of obtaining estimates but the large number of years involved will tend to lessen differences.

Oat exports are such a small part of production that casual inspection is sufficient to classify oats as largely grown for home markets. In many years the exports have been 2.0% of the production or less. The exports have evidently been only an outlet for surpluses, though the volume has been great on a few occasions.

Barley is the smallest of the three given in volume and value of production, but the proportion exported is much higher than that of oats. In some years the value of barley exports has exceeded that of oats. This condition has been helped no doubt by the higher value per bushel of barley.

Table No. 8 gives the production by value of cattle, sheep and swine with the corresponding values of quantities exported. These figures are not as accurate for either the exports or production as were the figures for grain. The export figures are complicated by the high proportion of meat to live animals exported and the question of how much of value in meat is attributable to the cost of animals before slaughtering. The method was used of taking the value of the

TABLE NO. 8

CANADIAN AGRICULTURAL PRODUCTION  
OF CATTLE SWINE AND SHEEP

Year	Cattle		Swine		Sheep	
	Prod.	Exports	Prod.	Exports	Prod.	Exports
	('000's omitted)					
1908	122,000	9,301	31,000	11,238	15,000	1,239
1909	126,326	10,771	34,368	8,651	15,735	127
1910	131,781	10,734	31,157	6,853	15,819	11
1911	92,189	8,537	24,729	8,521	10,894	2
1912	84,202	4,098	26,080	7,826	10,412	6
1913	86,537	2,237	26,656	4,424	10,664	137
1914	144,632	7,906	41,211	14,661	10,464	406
1915	152,962	9,267	43,567	26,177	16,309	607
1916	203,079	12,265	62,547	41,348	20,229	515
1917	268,963	7,883	94,104	66,072	35,540	1,861
1918	396,943	14,137	111,532	49,035	48,844	1,579
1919	379,121	30,069	101,002	80,044	51,329	3,199
1920	285,173	46,064	80,884	35,340	37,208	2,953
1920	181,139	22,099	53,968	26,195	22,055	1,823
1922	155,326	8,538	58,735	22,842	26,108	1,153
1923	145,259	10,127	52,864	19,551	22,031	657
1924	154,814	12,623	60,830	23,009	24,163	348
1925	169,791	15,859	70,818	34,135	27,556	1,024
1926	146,682	12,223	69,753	28,490	31,425	507
1927	205,839	12,490	65,727	16,430	32,627	647
1928	230,034	12,977	67,460	11,127	34,579	450
1929	242,177	15,329	70,108	8,806	37,283	316

meat as the export value of animals slaughtered and of omitting minor items like hides, canned beef etc. For production, estimates are available in the 1930 Year Book on the number of animals slaughtered yearly in various places, i.e., on farms, in abattoirs and in small butcher shops. Estimates on the numbers and values of livestock in Canada are available since 1907. The number slaughtered of each class in 1928 was expressed as a function of the number of animals in the country that year and from this a constant was derived which was applied to the estimated values of livestock in Canada, of each class for each year. This gave the figures presented.

Less than 10% of Canadian cattle appear to have been exported. In recent years there has been less than 8% exported. Hogs have been much more of an export proposition, though only during the war was more than one-half the value of our production exported. The recent trend up to 1929 has been distinctly towards lower hog exports. Mr. J. S. McLean, President of the Industrial and Development Council of Meat Packers says, "The campaign, begun in 1921 to improve the quality of Canadian hogs, has been most successful, ---but, just at the moment of success we find we have few hogs to export! (A letter on Canadian Livestock Products March 1930).

The only conclusion that can be reached about sheep exports is that they are very erratic, but in general, are of little significance as in recent years they equal about 1 or 2% of a very small production.

The Exports and Production of Dairy Products in Canada are presented in Table No. 9. The exports were extracted from the year books by adding the exports of butter, cheese and milk powder exported. Whole milk was also added in the years when it was an important item. The production estimates were much more difficult to obtain. Regular annual estimates of dairy production have been undertaken only since 1916 though estimates were made for food study purposes in 1908 and 1909. As the census of 1911 gave a complete estimate of the production which could be regarded as reliable, the estimates for the other years were prepared by expressing the 1911 production as a function of the number of milch cows. The annual estimates were then prepared by taking the estimates of the numbers of milch cows in Canada times the constant secured from the 1911 figures.

As the trend of production per cow was increasing during these years, adjustment was made by calculating the production for 1912 - 13 - 14 - 15 and 16. The 1916 figure

TABLE NO 9

CANADIAN AGRICULTURAL PRODUCTION  
DAIRY PRODUCTS

( '000's omitted )

<u>Year</u>	<u>Prod.</u>	<u>Exports</u>
1908	34,547	23,956
1909	34,000	21,906
1910	37,233	22,617
1911	37,089	21,483
1912	40,588	22,967
1913	45,721	20,930
1914	48,213	19,178
1915	51,482	19,853
1916	59,179	27,709
1917	75,455	39,213
1918	81,316	38,603
1919	100,958	41,365
1920	102,726	35,042
1921	74,508	42,276
1922	75,278	28,665
1923	85,519	29,071
1924	84,697	28,497
1925	99,580	32,828
1926	90,561	42,492
1927	91,232	28,308
1928	95,197	22,154
1929	88,679	25,947



was subtracted from the estimates of the Dominion Bureau of Statistics for that year and the difference was treated as a measure of the increasing production per cow by value. Then the spread or difference was distributed over the years by adding one-fifth to the estimate for 1912, two-fifths to that of 1913 etc. This is assuming a constant or steadily rising price for dairy products during the years estimated, but, this condition was fairly well fulfilled during the years estimated. The estimates since 1916 are from the Dominion Bureau of Statistics.

It will be seen that exports have fluctuated around 50% of our production though allowance must be made here for the fact that dairying tends to become centralized in Eastern Canada and to be exported direct from certain districts while other areas are importing heavily. Again the figures for export may be high as they include the cost of manufacturing butter and cheese whereas the production is based largely on whole milk. Dairy production is not a particularly large part of the total production, so it will not throw the estimates out of line for the summary of agricultural products presented in Table No. 10.

This table gives the summary of livestock, grain and dairy produce in Canada, in production, and exports, by

TABLE NO 10

TOTALS OF PREVIOUS TABLES ON CANADIAN  
AGRICULTURAL PRODUCTION

Y e a r s	Total Agricultural Production : Exports		Percentage of Produce EXported
	(000's omitted)		%
	\$	\$	
1908	411,617	98,416	23.9
1909	509,573	101,193	19.8
1910	423,257	110,229	26.0
1911	470,677	100,446	21.3
1912	449,030	119,499	26.6
1913	475,077	144,297	30.4
1914	620,306	201,371	32.5
1915	820,132	165,152	20.1
1916	935,412	305,451	32.6
1917	1,263,820	438,495	34.7
1918	1,425,467	623,250	43.7
1919	1,476,559	367,429	24.9
1920	1,266,284	428,286	33.8
1921	749,255	494,677	66.0
1922	873,656	313,942	36.0
1923	840,096	388,586	46.2
1924	907,314	406,736	44.8
1925	1,068,666	434,239	40.6
1926	1,016,799	561,921	55.2
1927	1,163,288	500,059	43.8
1928	1,135,573	482,527	42.5
1929	1,017,253	341,437	33.5

values. The percentage of produce exported is calculated for each year, based on the total values presented in the previous tables. No very definite trends are shown in the percentages of production exported. It would hardly be expected that there would be as the cereal production varies from year to year as a result of weather conditions.

The effect of cereal production on the percentage export may be measured by considering its proportion of the total. The first twelve years or 1908 - 1919 inclusive, wheat averaged 32% of the total value of agricultural production estimated, and 65% of the total exports. In the last ten years, 1920 - 1929 inclusive, the wheat production averaged 38% of the total of production and 76% of the value of the total exports.

More up to date figures on the percentage exported are given in Table No. 11. This shows the wheat production as being 70% exported. Oats suddenly dropped from 2.8% exported in 1928 - 29 to 0.7% in 1929 - 30, and barley from 29.4% exported in 1928 - 29 to 2.69% in 1929 - 30. Rye changed even more. The latter declines were largely the result of European tariffs going into effect in 1929.

Potatoes increased slightly in proportion exported and flaxseed decreased. It will be seen that cheese is the only animal product which depends largely on sales in export.

The other items with the possible exception of wool were obviously for home markets, with a small surplus going into export.

TABLE NO //.

FARM PRODUCTS OF CANADA WITH PERCENTAGES  
REPORTED AND CONSUMED AT HOME

Description	Consumed in Canada		Reported from Canada	
	1928 - 9	1929 - 30	1928 - 9	1929 - 30
<u>Field Crops</u>				
Wheat	28.2	30.9	71.8	69.1
Oats	97.2	99.3	2.8	0.7
Barley	70.6	97.4	29.4	2.6
Rye	61.0	97.4	39.0	2.6
Potatoes	93.9	92.3	6.1	7.7
Flaxseed	99.6	88.7	46.4	11.3
<u>Animal Products</u>				
Butter	99.3	99.5	0.7	0.5
Cheese	22.2	23.3	77.8	76.7
Beef	93.2	95.6	6.8	4.4
Pork	93.8	95.3	6.2	4.7
Mutton & Lamb	98.2	99.2	1.8	0.8
Pool	76.2	81.7	23.8	18.3
Eggs	99.7	99.8	0.3	0.2

(Reference: Page 312. Monthly Bulletin of Agricultural  
Statistics for September 1930).

(c) TOTAL VALUE AND PROPORTION WHICH IS FROM  
AGRICULTURAL PRODUCTS

The trend of exports and imports of a country is an indication of the degree of specialization of that country. Specialization of districts may result only in an exchange of goods within a country; but when the specialization is carried to the point where the country as a whole cannot normally absorb the bulk of a product then one can safely assume that country has either naturally, or by planning of production, secured an advantage in the production of that particular form of produce. It may be that a small surplus periodically accumulates which must be removed from home markets. In this case the advantage is effective only while competing in home markets with the cost of transportation and tariffs acting as an additional detriment to outside competitors. In the latter case the exports are a relief only for congested home markets caused by uncontrollable production as in field crops, or in a temporary over-expansion in times of prosperity. In either case the exports would likely be small and intermittent.

The total value of Canadian exports is of interest because of the phenomenal rise since the beginning of the world war. This rise is depicted graphically in Chart No. 4.

The Chart portrays the value of exports, total and agricultural, in millions of dollars. The agricultural products, include all the items normally called agricultural or plant products in the Year Books and animal products not including furs. The figures for total exports were those given under that heading in the various Year Books.

It will be seen by the Chart that agricultural exports have hovered somewhere near one-half of the total exports. They have tended to be slightly over one-half of the total since 1920. When it is remembered that agriculture is a basic industry, and that until recently the largest manufacturing industry was the slaughtering and meat packing industry, while the third largest manufacturing industry still is the flour milling industry and both are based on agricultural products, it can be said that agriculture forms the largest part of our exports.

The value of ~~our~~ exports has been increasing. During the war, part of the increase was due to a rising level of prices but this cannot explain all the increase

The trend line can be observed to rise in both total and agricultural exports, slowly before the war, and very rapidly since. The high degree of correspondence in the value of total and agricultural produce trends would suggest that most of the wide fluctuations in the total value of exports come largely from changes in agricultural exports.

Classifying agricultural plants and animals all as agricultural produce gives a proportion of agricultural products equal to 64.3% of the total exports in 1914; 56.4% in 1921; and 59.0% in 1929.<sup>(12)</sup> This places agricultural products definitely in the forefront of our exports.



**CHART NO. 4**

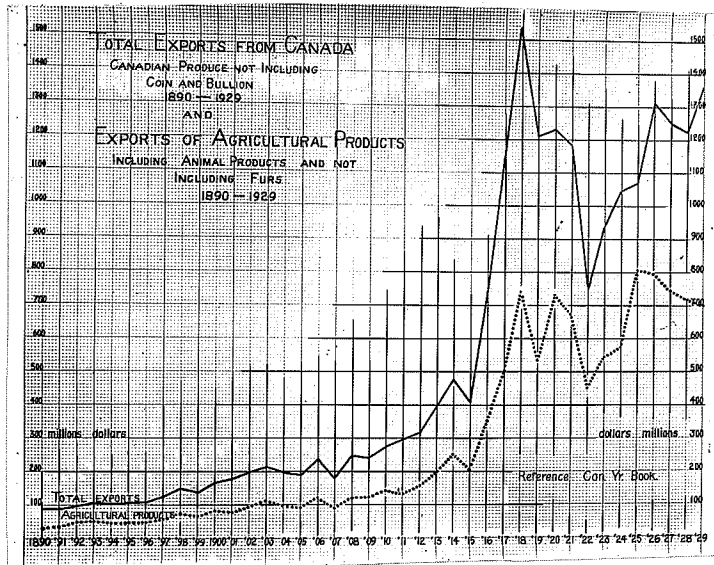


TABLE NO 12

TOTAL CANADIAN EXPORTS

(Produce of Canada and not including coin and bullion)

<u>Year</u>	<u>Total</u>	<u>Year</u>	<u>Total</u>
1868	48,504,899	1899	137,380,792
1869	52,400,772	1900	168,972,308
1870	59,043,590	1901	177,431,386
1871	57,630,024	1902	196,019,763
1872	65,831,083	1903	214,401,674
1873	75,533,026	1904	193,414,439
1874	76,741,997	1905	190,854,948
1875	69,709,823	1906	235,483,956
1876	72,491,437	1907	180,545,306
1877	68,030,546	1908	246,960,968
1878	67,939,800	1909	242,603,584
1879	62,431,025	1910	279,247,551
1880	72,899,597	1911	297,196,365
1881	83,944,701	1912	315,317,250
1882	94,137,657	1913	393,232,057
1883	87,702,431	1914	478,997,923
1884	79,833,098	1915	409,413,836
1885	79,131,735	1916	741,610,638
1886	77,756,704	1917	1,151,375,768
1887	80,960,909	1918	1,540,027,788
1888	81,382,072	1919	1,216,443,806
1889	80,272,456	1920	1,239,492,098
1890	85,257,566	1921	1,189,163,701
1891	88,671,738	1922	740,240,680
1892	99,032,466	1923	931,451,443
1893	105,483,738	1924	1,045,351,056
1894	103,951,764	1925	1,069,067,353
1895	103,085,012	1926	1,315,355,791
1896	109,707,805	1927	1,252,157,506
1897	123,532,540	1928	1,228,349,343
1898	144,548,662	1929	1,363,709,672

(Reference: - Page 436, 1930 Canada Year Book)

TABLE NO 13

TOTAL CANADIAN EXPORTS OF AGRICULTURAL PRODUCTS

(Sum of animal and vegetable products separated)

<u>Year</u>	<u>Total</u>	<u>Year</u>	<u>Total</u>
1868	19,341,387	1900	81,858,450
1869	20,584,552	1901	78,630,966
1870	25,504,703	1902	94,517,019
1871	22,146,808	1903	112,043,365
1872	25,494,393	1904	98,803,034
1873	28,302,384	1905	93,331,608
1874	32,635,810	1906	120,518,297
1875	28,634,859	1907	91,279,115
1876	32,878,281	1908	121,171,199
1877	27,587,236	1909	123,346,853
1878	30,802,010	1910	144,360,262
1879	32,537,712	1911	134,845,458
1880	38,866,280	1912	155,354,029
1881	40,645,450	1913	194,930,040
1882	50,212,131	1914	251,569,148
1883	42,015,339	1915	209,136,793
1884	34,224,195	1916	352,543,470
1885	38,228,571	1917	501,209,169
1886	38,062,008	1918	740,456,665
1887	41,357,870	1919	533,884,044
1888	38,187,456	1920	730,140,715
1889	35,472,541	1921	671,284,629
1890	35,443,629	1922	453,612,826
1891	38,205,370	1923	543,601,734
1892	49,153,010	1924	571,355,434
1893	52,302,906	1925	606,330,292
1894	47,802,859	1926	796,871,089
1895	48,531,344	1927	742,285,751
1896	48,791,344	1928	720,955,694
1897	55,533,592	1929	705,271,330
1898	75,834,858		
1899	68,140,758		

(Reference: - Page 488, 1930 Canada Year Book)

TABLE NO 14.

TOTAL EXPORTS OF AGRICULTURAL PLANT PRODUCTS

Year	Total Exports	Year	Total Exports
1868	12,871,055	1898	33,063,285
1869	12,182,702	1899	22,952,915
1870	13,676,619	1900	27,516,609
1871	9,853,924	1901	24,781,486
1872	13,378,891	1902	37,152,688
1873	14,995,340	1903	44,624,321
1874	19,590,142	1904	37,138,875
1875	17,258,358	1905	29,994,150
1876	21,139,665	1906	54,062,337
1877	14,689,376	1907	35,856,616
1878	18,008,754	1908	66,069,939
1879	19,628,464	1909	71,997,207
1880	22,294,328	1910	90,453,747
1881	21,268,327	1911	82,601,284
1882	31,035,712	1912	107,143,375
1883	22,818,519	1913	150,145,661
1884	12,397,843	1914	198,220,029
1885	14,518,293	1915	134,746,050
1886	17,652,779	1916	249,661,194
1887	18,826,235	1917	373,413,701
1888	15,436,360	1918	567,713,584
1889	13,414,111	1919	288,893,218
1890	11,908,030	1920	416,122,771
1891	13,666,858	1921	482,924,672
1892	22,113,284	1922	317,814,106
1893	22,049,490	1923	407,760,092
1894	17,677,649	1924	430,932,150
1895	15,719,128	1925	443,298,877
1896	14,083,361	1926	605,895,672
1897	17,982,646	1927	574,994,162
		1928	555,110,598
		1929	646,514,058

(Reference: C.F. Canada Year Book, 1930, p. 116)

TABLE NO. 15

TOTAL EXPORTS OF AGRICULTURAL ANIMAL PRODUCTS

Year	Total Exports	Year	Total Exports
1868	6,893,167	1899	46,743,130
1869	8,769,467	1900	56,148,807
1870	12,138,161	1901	55,495,311
1871	12,608,506	1902	59,161,209
1872	12,706,967	1903	69,817,542
1873	14,243,017	1904	63,812,117
1874	14,679,169	1905	63,337,458
1875	12,700,507	1906	66,855,960
1876	13,614,569	1907	55,422,499
1877	14,220,617	1908	55,101,260
1878	14,019,857	1909	51,349,646
1879	14,100,604	1910	53,296,515
1880	17,607,577	1911	52,244,174
1881	21,360,219	1912	48,210,654
1882	20,454,759	1913	44,784,593
1883	20,284,343	1914	53,349,119
1884	22,946,108	1915	74,390,743
1885	25,337,104	1916	102,882,276
1886	22,065,433	1917	127,795,468
1887	24,246,937	1918	172,743,081
1888	24,719,297	1919	244,990,826
1889	23,894,707	1920	314,017,944
1890	25,106,995	1921	188,359,937
1891	25,967,741	1922	135,798,720
1892	28,594,850	1923	135,841,642
1893	31,736,499	1924	140,423,284
1894	31,881,973	1925	163,031,415
1895	34,387,770	1926	190,975,417
1896	36,507,641	1927	167,291,589
1897	39,245,252	1928	165,845,096
1898	44,301,470	1929	158,757,272

(Reference: C.F. Canada Year Book, 1930, page 492)

(a) EFFECT OF EXPORT MARKETS

Exports provide a market at some price for everything Canada is likely to produce. However, those export markets are a long distance away and the cost of transportation must be added to the difficulties of competing with another country in its home market. This automatically eliminates articles of large bulk and low value from the list of products which can be successfully exported from Canada. The long transportation also places many difficulties in the way of exporting highly perishable products.

A country to export an article permanently must possess some advantage in the production sufficient to overcome the cost of transportation and any artificial handicaps such as tariffs. The one great advantage possessed by Western Canada has been an abundance of productive land. The population of Canada is far too small to absorb all the agricultural produce the West is capable of producing and so Western agriculture has been developed around an export market.

While it is possible for everything to be produced for home consumption, the quantities required are limited and the major farm enterprises have had to be those which

conform to the export requirements of high value per unit weight and volume and a natural adaptation to the area of production. From the very start of exports in 1876, wheat has maintained the lead in cereal exports and cattle in livestock exports.

Cattle were raised in Canada in the Selkirk settlement before the flood of 1826. Their numbers were limited, however, until after 1886 when the coming of the Canadian Pacific Railway provided a possible market outlet. Still, however, they did not increase rapidly until a decade later when the buffalo had largely disappeared and the possibilities of ranching became more manifest. In table No. 16 is presented the numbers of cattle exported from Canada to all countries, giving the number, value and price per head. These are extracted from Year Books and a thesis on file in the Library of the Department of Agriculture, Ottawa.

The feature of cattle exports seems to be a lack of a distinct trend. There has been no noticeable increase in numbers exported, since 1900. It appears that the increase of cattle on farms has been counterbalanced over a period of years by a decrease of range stock. This is discussed more fully later.

TABLE NO 16

CATTLE REPORTED FROM CANADA  
(By Fiscal Years)

<u>Year</u>	<u>Total No. to All Countries</u>	<u>Value</u>	<u>Price</u>
1877	22,656	718,758	31.57
1878	27,225	1,152,354	30.51
1879	46,567	2,696,696	45.02
1880	54,944	2,764,437	30.30
1881	62,277	3,464,871	35.65
1882	62,186	3,256,338	32.43
1883	66,396	3,828,028	38.68
1884	89,263	5,621,682	63.64
1885	143,683	7,377,777	51.58
1886	91,866	5,825,188	63.41
1887	116,276	6,486,718	35.79
1888	100,747	5,612,713	49.75
1889	102,919	5,708,128	35.46
1890	81,454	6,949,417	85.31
1891	117,781	5,772,499	74.59
1892	107,179	7,748,949	72.29
1893	107,224	7,745,083	72.23
1894	86,856	6,499,597	75.52
1895	95,802	7,120,223	74.33
1896	104,431	7,682,542	67.80
1897	161,369	7,159,588	44.31
1898	215,610	8,725,292	40.95
1899	211,841	8,522,838	40.23
1900	215,324	9,680,776	44.14
1901	169,279	9,064,362	35.55
1902	185,473	10,663,219	37.70
1903	176,780	11,342,632	63.26
1904	197,417	10,424,711	66.22
1905	167,102	11,360,369	67.99
1906	176,830	11,656,829	66.22
1907	162,141	10,932,337	67.47
1908	190,993	9,301,179	61.60
1909	162,945	10,771,366	66.30
1910	197,386	10,734,330	68.97
1911	124,923	8,537,473	68.34
1912	61,517.	4,098,173	66.64



TABLE NO 16 *Continued*

CATTLE EXPORTED FROM CANADA  
(By Fiscal Years)

<u>Year</u>	<u>Total No. to All Countries</u>	<u>Value</u>	<u>Average Price</u>
1913	44,296	2,237,135	50.50
1914	219,729	7,906,794	35.98
1915	185,903	9,267,534	49.85
1916	241,560	12,625,760	52.27
1917	166,182	8,883,842	47.43
1918	191,356	14,176,944	73.88
1919	311,496	30,069,490	96.53
1920	518,352	46,064,631	88.86
1921	297,883	22,099,553	74.20
1922	213,484	8,538,051	39.99
1923	160,771	10,126,721	62.99
1924	183,242	12,622,863	68.89
1925	204,378	15,859,562	77.60
1926	176,343	12,228,848	69.30
1927	216,209	14,490,388	57.80
* 1928	109,276	12,977,477	76.61
* 1929	258,933	15,328,863	59.39

\* Year ending August 1929 (Cattle & Calves), From Henton's  
Hand Book.

Further information on our cattle exports is given in Tables No. 17 and No. 18, which give our cattle exports to Great Britain and the United States of America respectively. By a comparison of the tables it will be seen that the U. S. A. took the bulk of our exported cattle until 1880 when Great Britain received the largest number, which it continued to do until 1913, when our cattle exports to Great Britain dropped right away and our exports to the U. S. A. increased enormously.

The U. S. A. was the receiver of the largest number of Canadian cattle from then until 1925 when the tariff was raised further against Canadian cattle entering the U. S. A. In any case many of our cattle entering the United States were slaughtered there and exported as meat or shipped on direct to other countries. The same is true of Great Britain.

In contrast with the even or downward trend of livestock exports is the upward trend of wheat exports presented in Table No. 19, since 1890.

As the flour exports are given by barrels in the Year Books, these were changed to bushels by calculation on the basis of 4 1/2 bushels = 1 barrel. The values per bushel are the average export values quoted and the total value is calculated on the basis of bushels times price.

TABLE NO. 17

CATTLE EXPORTED FROM CANADA  
TO  
GREAT BRITAIN

(By Fiscal Years)

Year	Number	Value	Average Price
1877	4,007	\$ 315,250	78.66
1878	7,437	686,700	92.58
1879	20,537	1,571,211	76.52
1880	52,639	2,222,161	70.14
1881	49,409	3,157,000	63.89
1882	41,519	2,706,051	65.16
1883	37,393	3,209,176	84.40
1884	53,962	4,651,767	85.80
1885	69,446	5,732,248	83.83
1886	60,549	4,998,327	82.55
1887	63,622	5,544,375	84.00
1888	54,248	4,123,673	76.02
1889	60,000	4,992,161	83.20
1890	66,965	6,568,315	96.54
1891	107,639	8,425,396	78.24
1892	101,428	7,431,613	73.76
1893	99,904	7,402,203	74.09
1894	80,531	6,316,373	78.43
1895	85,833	6,797,615	79.16
1896	97,042	6,616,561	70.23
1897	120,063	6,454,313	54.76
1898	122,106	7,405,990	60.64
1899	115,476	7,127,450	61.58
1900	115,056	7,579,030	65.87
1901	119,030	8,029,476	67.44
1902	143,927	9,742,733	68.42
1903	161,170	10,842,433	67.23
1904	143,301	10,046,651	67.75
1905	159,073	11,047,167	69.33
1906	163,994	11,045,473	67.35
1907	149,340	10,200,137	68.75
1908	124,015	8,594,806	69.32
1909	143,661	10,115,793	70.42
1910	140,424	9,979,913	71.07
1911	113,793	7,942,144	69.89
1912	47,363	3,345,623	69.85

TABLE NO. 17 Cont'd.

CATTLE EXPORTED FROM CANADA  
TO  
GREAT BRITAIN

(By Fiscal Years)

Year	Number	Value	Average Price
1913	12,069	915,954	75.64
1914	9,778	697,607	69.52
1915	- -	- -	- - -
1916	752	105,120	139.78
1917	- - -	- - -	- - -
1918	- - -	- - -	- - -
1919	- - -	- - -	- - -
1920	479	70,002	146.10
1921	151	19,550	129.71
1922	35,413	4,129,591	116.67
1923	57,672	6,033,507	105.05
1924	79,435	8,402,377	105.00
1925	110,863	11,796,503	106.40
1926	79,985	8,176,620	102.23
1927	8,263	866,840	104.91
1928	405	61,770	152.52
1929	- - -	- - -	- - -

TABLE NO. 18

CATTLE EXPORTED FROM CANADA  
TO  
UNITED STATES OF AMERICA

(By Fiscal Year)

Year	Number	Value	Average Price
1877	13,851	266,517	19.15
1878	17,657	330,562	18.72
1879	21,316	402,799	18.90
1880	16,044	287,057	17.89
1881	7,323	154,831	21.14
1882	15,914	425,807	26.63
1883	23,230	516,535	22.19
1884	30,593	692,759	22.61
1885	67,753	1,411,642	20.85
1886	25,333	652,094	24.93
1887	45,765	837,756	18.61
1888	49,047	647,173	16.85
1889	37,360	439,266	15.12
1890	7,340	104,625	15.54
1891	2,765	26,975	9.76
1892	551	21,327	39.63
1893	402	11,032	27.44
1894	256	3,771	14.73
1895	982	19,216	19.54
1896	1,646	6,870	6.53
1897	55,992	509,123	14.15
1898	87,905	1,339,443	14.99
1899	92,830	1,298,170	15.99
1900	86,989	1,401,137	16.11
1901	46,244	891,340	19.27
1902	31,743	737,864	24.32
1903	13,032	292,233	23.02
1904	3,517	119,942	34.10
1905	3,696	152,084	41.15
1906	4,728	206,102	43.75
1907	3,134	473,765	53.30
1908	23,612	535,790	24.91
1909	16,130	545,456	33.69
1910	12,210	642,874	52.64
1911	7,676	465,079	61.33
1912	9,307	615,399	62.75

TABLE NO. 18

CATTLE EXPORTED FROM CANADA  
TO  
UNITED STATES

(By Fiscal Years)

Year	Number	Value	Average Price
1913	88,268	1,116,923	58.51
1914	206,446	7,043,033	54.79
1915	188,653	9,182,537	49.83
1916	227,134	11,142,794	49.03
1917	114,113	7,765,907	47.32
1918	139,226	13,991,153	73.94
1919	303,552	29,662,663	90.73
1920	302,553	44,021,537	87.59
1921	295,279	21,243,322	73.99
1922	172,331	3,930,301	23.02
1923	96,373	3,301,243	37.17
1924	97,347	3,334,730	39.40
1925	86,743	3,321,259	41.87
1926	92,932	3,324,134	41.14
1927	204,353	11,423,321	55.90
1928	133,469	12,737,306	76.64
1929	* * *	* * *	* * *

TABLE NO 19

EXPORTS OF WHEAT AND FLOUR

Year	Wheat & Flour in Bushels	Value per Bus.	Wheat & Flour Value in Dollars
1868	4,201,422	1.60	6,722,275
1869	4,685,303	1.13	5,294,392
1870	5,467,986	1.04	5,686,705
1871	3,280,912	1.31	4,297,994
1872	5,258,919	1.47	7,730,610
1873	6,513,630	1.31	8,532,855
1874	9,012,643	1.42	12,797,935
1875	5,745,545	1.12	6,435,010
1876	7,940,161	1.24	9,845,799
1877	3,601,877	1.16	4,178,177
1878	6,537,474	1.33	8,694,840
1879	9,197,985	1.06	9,749,864
1880	7,541,164	1.24	9,351,043
1881	4,232,449	1.11	4,698,018
1882	5,958,860	1.18	7,031,454
1883	8,068,165	1.12	9,036,344
1884	1,633,776	1.06	1,731,802
1885	2,897,952	0.86	2,492,238
1886	5,156,613	0.87	11,486,253
1887	7,972,684	0.89	7,095,688
1888	3,739,271	0.85	3,178,380
1889	1,081,219	0.89	962,285
1890	940,219	0.92	865,001
1891	3,443,744	0.75	2,582,808
1892	10,428,636	0.80	8,342,909
1893	11,117,717	0.76	8,449,464
1894	11,200,953	0.66	7,392,628
1895	9,829,076	0.61	5,995,736
1896	10,759,764	0.58	6,240,663

p. 73

1929 Wheat + Flour in bushels  
should be 421, 785, 327  
instead of 221, 785, 327



TABLE NO. 19 (Cont'd.)

EXPORTS OF WHEAT AND FLOUR

<u>Year</u>	<u>Wheat &amp; Flour in Bushels</u>	<u>Value per Bushel</u>	<u>Wheat &amp; Flour Value in Dollars</u>
1897	9,753,185	0.71	6,924,761
1898	24,689,698	0.91	22,467,625
1899	13,987,927	0.76	10,570,024
1900	20,365,393	0.71	14,459,429
1901	14,867,133	0.71	10,555,664
1902	31,098,000	0.72	22,390,560
1903	38,888,006	0.74	28,777,124
1904	24,055,528	0.80	19,244,422
1905	20,646,925	0.84	17,343,417
1906	47,293,465	0.83	39,253,576
1907	30,394,680	0.80	24,315,744
1908	52,486,998	0.92	48,288,038
1909	56,958,620	0.98	55,819,448
1910	63,529,476	1.06	67,341,244
1911	59,522,822	0.99	58,927,593
1912	81,291,048	0.97	78,852,316
1913	113,317,202	0.95	107,651,340
1914	142,171,402	0.98	139,327,972
1915	94,198,901	1.03	97,024,868
1916	186,546,432	1.10	205,201,040
1917	223,059,599	1.29	287,746,884
1918	195,082,203	2.43	474,049,746
1919	83,233,372	2.31	192,269,089
1920	117,861,843	2.37	279,332,466
1921	156,291,801	2.41	376,633,238
1922	169,853,507	1.32	224,206,620
1923	261,096,336	1.17	305,482,671
1924	309,587,417	1.04	321,970,896
1925	241,396,058	1.31	316,228,760
1926	295,061,853	1.46	430,790,228
1927	294,162,154	1.42	417,710,182
X 1928	309,144,917	1.32	408,071,268
X 1929	221,785,327	1.15	255,053,095

X Subject to revision.

(Ref. - Produce of Canada - Canada Year Books as at p 466, 1926 Year Bo

Western Canada was not a large factor in exports until after 1890 though it began to export wheat in 1876 via the U. S. A. from Winnipeg.

By Chart No. 1 it was shown that the trend of homestead entries was low until 1897. The great increase of wheat production started in 1898. The increase in exports, however, shown in Table No. 19 is slow until 1911.

Wheat volume exported continued increasing rapidly after the peak of homestead filings had been reached. This would be the natural effect of more land being improved.

The effect of price as a factor in development can be judged only from the point of results at present. We can assume that prices have been such as to encourage production at certain periods of time. Otherwise our production would not have increased so rapidly. Again one could safely assume that livestock prices have, at certain periods of time, been too low relatively, otherwise the volume would not have declined. The farmer's decisions to curtail or expand output, however, must be made many months in advance of the marketing of his products.

Even when prices are lowest a farmer can rarely make a net saving by curtailing his individual output. The

test of whether it pays to curtail production in a given year is not the relation of the total cost to the probable price at market time but the relation of the anticipated price to those costs which could be cut off by curtailing operations. Thus one finds a peculiar lack of adaptability to price changes in agriculture. It is significant that there has been no recession of wheat acreage in Western Canada though successive depressions have undoubtedly rendered its production temporarily unprofitable.

It is frequently more profitable to stay and get as much as possible out of an investment, than to let it lie idle. There are a number of factors whose effect has been to expand agricultural production regardless of price fluctuations. Such factors are; the government land policy; particularly the Homestead Act; the building of railroads, the 'Go-west-young-man' tradition; the liberal immigration policy; the colonization activities of railways; state immigration commissions, irrigation and other reclamation projects; and the improvement of agricultural machinery. (13) To this must be added that correlation studies of Russel C. Engberg in the U. S. (15) showed the greatest single factor in agricultural prices to be the volume of agricultural products; world volume showed the greatest relationship to prices in the case of products depending on an export market and local volume where the market is local.

Thus the export trade has always supplied Western Canada with a market at some price. That price was affected largely by the volume of production, which in new countries like Western Canada, has been affected by a number of other factors as well as price.

PART III

AGRICULTURAL DEVELOPMENT IN WESTERN CANADA

(a) BEFORE 1905

Sufficient has been said about Western Canada already to indicate that prior to 1900 it was a vast pioneer area with only the Red River Valley and reaches along the Assiniboine showing distinct marks of an older settlement. Nevertheless, production has begun and development was under way when the railways touched the prairies.

In the accompanying Table, No. 20, the reports of crop acres and number of livestock are given for the years of the decennial census of 1881 - 1891 and 1901. Ten years is a wide interval at which to present figures on the growth of a rapidly developing country but the development of Western Canada prior to 1900 is not important except from the standpoint of its rapid change, which the census returns amply portray.

TABLE NO 20

STATISTICAL SUMMARY OF PROGRESS OF CANADA

	1881	1891	1901
Wheat in Canada (acres)	2,342,355	2,723,861	4,224,542
Oats in Canada (acres)	3,135,965	3,781,830	5,367,655
Barley in Canada (acres)	1,037,611	786,988	871,800
Wheat in Manitoba(acres)	51,293	896,610	1,965,200
NorthWest Territories Wheat (Acres)	5,678	113,811	530,274
Manitoba (Horned Cattle	60,281	230,696	349,886
N.W. Territories Horned Cattle (No)	12,872	231,827	571,739
Manitoba Sheep (No.)	6,073	35,838	29,464
N. W. Territories Sheep (No)	346	64,920	154,152
Manitoba Swine (no.)	17,358	54,177	126,459
N. W. Territories Swine (No.)	2,775	16,283	73,926

(Reference: - Canada Year Book for 1903 - page 131)

Table No. 21 is derived from the census figures for 1881 - 1891 and 1901 and gives the calculated gains for each class of production. The Territories, so called in the census tables, were all the unorganized territories of the time, which included all the present provinces of Saskatchewan and Alberta, also Northern Manitoba, Ontario and Quebec. Mainly, however, it comprised the two complete provinces which had scattered settlements but were not organized until 1905.

By Table No. 21 on Summary of Gains it will be seen that while Canada as a whole made substantial gains in wheat acreages in the decade 1881 - 1891 the gains in wheat acreage in Manitoba and the Territories were greater by over 500,000 acres than the gain for the whole of Canada. Thus part of the acreage gain in Western Canada must have been compensated by a loss of wheat acreage in Eastern Canada. The East, however, must have held its own in the next decade for Canada as a whole gained more than Western Canada alone.

Oats made substantial acreage gains in both periods in Canada. The tendency of Eastern Canada to turn to livestock would not affect its oat acreage as it apparently did its wheat acreage. The loss in Barley acreage is somewhat difficult to explain. Western Canada was not yet

TABLE NO 21

SUMMARY OF GAINS IN PRODUCTION

	1881 to 1891	1891 to 1901
Wheat in Canada (Acres)	381,506	1,500,681
Oats in Canada "	645,865	1,585,825
Barley in Canada "	- 250,623	84,812
Wheat in Manitoba "	845,317	1,068,590
" " North West Territories "	108,133	416,463
Horned Cattle Manitoba (No.)	170,415	119,190
" " North West Territories "	218,955	339,912
Sheep Manitoba	29,765	6,374
" North West Territories	64,574	89,232
Swine Manitoba	36,819	72,282
Swine North West Territories	13,508	57,643

(Reference: - Table No )



interested in barley and apparently Eastern Canada took a decided swing away from it, in spite of a general increase of livestock. The McKinley tariff of 1890 in the U. S. A. cut off one of Canada's best barley markets and this seems the most logical cause of the decline.

The changes in livestock population provide some peculiar anomalies. The numbers of cattle rose rapidly in Western Canada in both periods. Unlike grain, however, they tended to increase faster in the Territories than in Manitoba. This was due chiefly to the development of stock ranching in southern Alberta and southwestern Saskatchewan. The same applies to sheep. Manitoba had very little area adapted to ranching due to the severity of the winters and furthermore the land was more closely settled and railways were the most numerous in Manitoba.

The decline of sheep in Manitoba coincided with the coming of the railways and the change from a self-sufficing agriculture, with its homespun cloth, to greater trade with the outside world.

However, Manitoba kept the lead in swine raising. This branch of livestock raising was probably a home requirement of grain growing and consequently the provision of more hog feed. Much of Manitoba was afflicted with a short frost

free period and had to rely on coarse grains in the early days of settlement.

(b) 1906 TO THE PRESENT

The decade of 1901 - 1911 was phenomenal in many respects in Western Canada. It was the era of most rapid railway extension. It was the era of most rapid gains in population and it was the decade in which agricultural production gained most rapidly.

Settlement extends farther north as one goes west so that the settled area of Manitoba is now much less than in her sister provinces. Manitoba led in wheat acreage until 1907 then Saskatchewan outstripped her and has held the lead ever since. Alberta lagged in wheat acreage till 1916, then it also outstripped Manitoba and with the exception of 1919 when all crops in Alberta underwent a slump. It has held second place ever since. The 1919 slump in Alberta was the result of the cessation of immigration during the war and the wholesale emigration from the dry southern area starting about 1918 and continuing steadily until it increased and finished with government assistance from 1921 - 1925.

Oat acreage for Manitoba has been remarkably constant. It is due to the local feed requirements that it is grown, except in some of the northern areas where it is a major crop, because

TABLE NO 22

ACREAGE OF PRINCIPAL CEREAL CROPS IN MANITOBA

Year	Spring* Wheat	Oats	Barley
1905	2,643,588	1,031,239	432,298
1906	3,141,537	1,155,961	474,242
1907	2,789,553	1,213,596	649,570
1908	2,850,640	1,216,632	658,441
1909	2,642,111	1,373,683	601,008
1910	2,755,818	1,209,173	416,016
1911	3,081,542	1,307,434	448,105
1912	2,824,000	1,348,000	481,000
1913	2,785,000	1,398,000	496,000
1914	2,601,000	1,331,000	468,000
1915	2,797,719	1,317,365	567,080
1916	2,721,896	1,443,599	687,503
1917	2,445,000	1,500,000	708,000
1918	2,980,968	1,718,894	1,102,965
1919	2,880,301	1,847,267	893,947
1920	2,705,622	1,873,954	839,078
1921	3,501,217	2,226,376	1,043,144
1922	3,125,556	1,851,608	968,783
1923	2,915,915	1,834,504	1,156,212
1924	2,459,408	1,953,337	1,372,803
1925	1,902,714	1,623,238	1,645,195
1926	2,085,547	1,654,474	1,760,563
1927	2,195,377	1,544,511	1,512,457
1928	2,660,125	1,458,404	1,937,263
1929	2,300,615	1,558,404	2,181,895
1930	2,470,000	1,590,000	1,991,000

\* Fall wheat acreage not tabulated, very small in comparison with Spring Wheat Acreage.

(Reference: - Figures supplied by Dr. T. W. Grindley,  
Dominion Bureau of Statistics, Ottawa)

TABLE NO 23

ACREAGE OF PRINCIPAL CEREAL CROPS IN SASKATCHEWAN

Year	Spring Wheat	Oats	Barley	Fall Rye <sup>x</sup>	Spring Rye <sup>x</sup>	All Rye
905	1,130,084	449,936	32,946	-	-	-
906	1,730,586	369,873	53,565	-	-	-
907	2,047,724	801,810	79,339	-	-	-
908	3,703,563	1,772,976	229,574	-	-	-
909	4,085,000	2,240,000	244,000	-	-	-
910	4,664,834	2,082,607	238,394	-	-	754
911	5,256,474	2,332,912	273,988	-	-	2,271
912	5,384,092	2,421,932	267,139	-	-	2,700
913	5,760,249	2,638,562	307,177	-	-	3,000
914	6,003,522	2,792,611	313,537	-	-	2,600
915	8,523,600	3,200,400	285,000	-	-	7,207
916	8,532,700	3,543,600	357,400	-	-	22,759
917	8,273,253	4,521,642	669,927	-	-	53,250
918	9,249,260	4,988,499	699,296	-	-	123,500
919	10,587,363	4,837,747	492,586	-	-	190,482
920	10,061,069	5,106,822	519,014	-	-	172,449
921	13,556,708	5,681,522	497,730	-	-	1,208,299
922	12,332,297	5,098,104	636,456	-	-	900,931
923	12,791,000	4,898,771	640,402	385,876	183,048	568,924
924	13,033,000	4,942,465	953,851	105,986	72,108	178,094
925	13,002,741	5,071,507	1,065,398	141,796	49,035	190,831
926	13,558,384	3,921,461	872,140	238,594	68,905	307,499
927	12,979,279	4,412,556	925,889	288,450	69,765	358,215
928	13,790,854	4,358,747	1,621,463	335,772	135,301	471,073
929	14,445,286	4,255,789	2,228,604	452,194	189,444	641,638
930	14,326,000	4,531,000	2,016,000	818,000	192,000	1,010,000

<sup>x</sup> No acreage for spring rye or fall rye separately, prior to 1923.

(Reference: - Figures supplied by Dr. T. W. Grindley, Dominion Bureau of Statistics, Ottawa.)

TABLE NO 24

ACREAGE OF PRINCIPAL CEREAL CROPS IN ALBERTA

Year	Fall Wheat	Spring Wheat	All Wheat	Oats	Barley
06	61,625	115,502	177,127	335,728	73,588
07	83,965	123,935	207,900	307,093	54,698
08	104,956	212,677	317,633	431,145	77,876
09	102,167	324,472	426,639	693,901	107,764
10	142,467	450,493	592,960	492,589	90,901
11	182,671	757,493	940,164	669,827	103,302
12	120,811	957,874	1,078,685	971,969	225,055
13	83,719	1,043,114	1,126,833	1,221,450	333,462
14	49,930	989,561	1,039,491	1,147,382	340,992
15	39,908	2,098,123	2,138,031	1,570,596	374,062
16	18,663	1,549,075	1,567,738	1,394,927	297,967
17	51,704	2,622,853	2,674,557	2,667,291	462,726
18	44,065	3,018,371	3,062,436	2,651,548	470,073
19	38,475	2,827,935	2,866,410	2,329,025	414,212
20	37,990	4,035,003	4,072,993	3,089,757	480,666
21	85,114	4,564,290	4,649,404	2,139,743	523,891
22	64,554	5,701,041	5,765,595	1,614,500	378,053
23	84,260	5,088,383	5,172,643	2,299,546	383,858
24	24,261	5,549,552	5,573,813	1,847,632	494,718
25	32,300	5,687,449	5,719,749	2,397,200	552,727
26	58,000	6,057,000	6,115,000	1,907,000	405,000
27	86,000	6,165,000	6,251,000	2,248,000	400,000
28	110,262	6,597,264	6,707,526	2,340,263	545,524
29	128,253	7,422,962	7,551,215	1,917,744	703,704
30	124,000	7,040,000	7,164,000	2,165,000	748,000

(Reference: - Figures supplied by Dr. T. W. Grindley,  
Dominion Bureau of Statistics, Ottawa)

of its peculiar adaptation to their short growing season and cool weather. Hence the acreage is adjusted to local demands and it is probably more affected by the dryness of the previous season than by any other factor as a farmer, carrying over a surplus of feed oats would be inclined to cut his oat acreage but would increase the oat acreage if he were facing shortage.

The trend of the cash crops acreage in Manitoba has been upward. The wheat acreage registered most of the gain until 1918 and then barley began to appear as a substitute. Rye and flax have never occupied a very prominent place in Manitoba's crop acreage though they may be important on a few individual farms or in certain districts.

In Saskatchewan all cereal crop acreages have increased enormously; wheat acreage in 1930 is over twelve times that of 1905 and barley increased from 32,946 acres in 1905 to 2,016,000 in 1930 or approximately 61 times. The oat acreage increase has also been spectacular, rising from 449,936 acres in 1905 to 4,531,000 in 1930 or an increase to ten times the acreage in 1905.

Alberta was slower in starting into heavy production but a glance at the cereal acreages indicates that Alberta's rose steadily with its most startling increases in 1912, during the war and again starting with 1928. Its increases on the basis of production in 1905 is quite as spectacular as that of Saskatchewan but the final figures are not as imposing. This is

due to a smaller settled area in the southern portion and also to later settlement. The far northern parts of Alberta e.g. Peace River, when developed, may even the scales with Saskatchewan, but at present Alberta is still far behind in production, though it has already outstripped Manitoba in wheat and oat acreage.

The numbers of milch cows in the prairie provinces have varied greatly. Table No. 25 shows that they have increased and decreased frequently and show only a slight upward trend, such as might be in keeping with an increasing human population.

There was an increase of milch cows in all three provinces during the war, a reaction in 1920 and an increase during the post-war depression of 1921 - 24. Since 1924, however, the trend has been downward. One can dismiss the early years before the war as the country was being rapidly settled and the trends greatly affected thereby. 1918 and 1919 might be called years of hardship as they were years of very small grain yields and high costs throughout the greater part of Western Canada. The years of 1921 - 24 were depression years, due to the low prices obtained for agricultural products. It may be significant that these years were the years of the greatest number of milking cows in Western Canada. If so, it would also explain the decrease of milch cows in 1920 and since 1925, when good grain crops and fairly good prices were obtained, on the basis of the supplementary

TABLE NO 25

NUMBER OF MILCH COWS IN PRAIRIE PROVINCES

Year	Manitoba	Saskatchewan	Alberta
1908	173,546	119,375	110,537
1909	167,442	124,186	116,371
1910	164,746	138,455	124,470
1911	155,337	181,146	147,687
1912	148,471	184,896	157,922
1913	152,792	194,843	168,376
1914	156,306	204,624	179,068
1915	157,494	211,684	183,974
1916	196,288	322,185	277,324
1917	202,177	354,403	325,861
1918	225,659	352,989	328,702
1919	227,872	374,062	336,596
1920	221,785	354,507	305,607
1921	251,799	421,706	423,838
1922	252,425	456,006	392,037
1923	253,715	403,813	253,715
1924	263,577	468,151	433,528
1925	233,273	496,502	460,722
1926	245,901	438,245	405,718
1927	255,874	462,270	379,992
1928	248,630	418,506	344,495
1929	222,672	420,004	345,566

(Reference: - Figures supplied by Dr. T. W. Grindley,  
Dominion Bureau of Statistics, Ottawa)



revenue not being needed in times of financial prosperity. Numbers of cattle other than milch cows are presented in Table No. 26. In as much as they are partly the progeny of the milch cows and in any case are affected by many of the same influences, it is not surprising that their trends are much similar. However, "Cattle, other than milch cows" includes range cattle and farm cattle raised for beef only and, therefore, this table shows certain peculiarities. The first is the sudden drop in numbers in Alberta in 1911. It will be recalled that this was the year in which much of the range land was thrown open for homesteading with a consequent drop in the range cattle population.

Another point of interest in this table is that the big drop in the numbers of "Other cattle" after the post-war depression, was a year later than in the case of milch cows. This may be due to requiring an extra year of maturity after the birth rate had dropped. Though Alberta is only second in numbers of milch cows, it leads quite markedly in the numbers of "Other cattle" which is due largely to its cattle ranged.

Table No. 27 shows that Alberta leads quite distinctly in numbers of sheep kept. As sheep also lend themselves to range production, this is not surprising. It is not an indication of greater diversification but is due to greater specialization in stock raising in a country where the winter climate is more favourable. However, the total number kept in

TABLE NO. 26

NUMBER OF CATTLE OTHER THAN MILCH COWS  
IN PRAIRIE PROVINCES

Year	Manitoba	Saskatchewan	Alberta
1908	357,988	378,248	934,236
1909	333,752	391,789	910,547
1910	314,915	431,164	926,937
1911	279,776	452,466	592,163
1912	267,130	461,244	587,307
1913	256,926	468,255	610,917
1914	251,996	474,436	633,032
1915	246,603	543,609	660,000
1916	357,870	689,208	882,766
1917	357,870	856,687	1,209,433
1918	521,240	926,342	1,362,880
1919	553,899	1,005,500	1,247,448
1920	536,189	969,555	1,050,334
1921	565,960	1,141,626	1,430,364
1922	488,495	1,146,780	1,261,005
1923	437,996	1,131,274	1,110,682
1924	446,705	1,060,716	1,188,468
1925	487,472	1,002,909	1,006,007
1926	346,101	721,880	763,294
1927	451,336	842,020	1,155,008
1928	430,279	762,873	955,000
1929	461,782	746,909	944,434

(Reference: - Figures supplied by Dr. T. W. Grindley,  
Dominion Bureau of Statistics, Ottawa).

TABLE NO 27

NO. OF SHEEP IN PRAIRIE PROVINCES

<u>Year</u>	<u>Manitoba</u>	<u>Saskatchewan</u>	<u>Alberta</u>
1908	29,265	116,438	161,979
1909	29,074	129,630	171,422
1910	30,266	135,360	179,067
1911	37,322	114,216	133,592
1912	40,800	114,810	135,075
1913	115,568	178,015	45,000
1914	45,303	126,027	211,001
1915	50,880	133,311	238,579
1916	76,750	124,237	292,620
1917	80,588	127,892	276,966
1918	136,782	134,177	332,179
1919	167,170	146,911	364,498
1920	156,716	160,918	383,424
1921	131,361	188,021	523,599
1922	112,863	191,937	260,366
1923	93,162	137,240	239,174
1924	94,787	123,826	206,458
1925	101,997	131,359	236,804
1926	112,703	161,831	504,849
1927	135,982	170,038	510,000
1928	142,713	183,098	515,000
1929	182,240	207,551	520,000

(Reference: - Figures supplied by Dr. T. W. Grindley,  
Dominion Bureau of Statistics, Ottawa)

Western Canada is not sufficient to meet Canada's home demand and the supplies are supplemented from New Zealand and Australia.

In swine production, however, Alberta leads the way. Apart from a naturally mild winter, favourable to all livestock raising, much of Alberta is a long way from market and the farmer finds it cheaper where coarse grains are grown to market it through hogs as the freight does not absorb as much of the value of the finished product. This tendency is most marked in the Park country of Northern Alberta, where coarse grains are more suited to the leached forest soils than is wheat, and where the shorter frost-free period is also a limiting factor. Many settlers in the new areas of the Peace River country have prospered on this method of marketing coarse grains through hogs where wheat growing was temporarily out of the question. Sometimes this hog raising is combined with dairying. This might apply equally to Saskatchewan which is also a long way from market but there are two differences in the situation in Saskatchewan; first, Saskatchewan is not as far from markets as Northern Alberta, as the hog and feed market is largely in Canada, east of the prairies; and second, Saskatchewan has much less land area adapted to coarse grains than has Alberta.

TABLE NO 28

NUMBER OF SWINE IN PRAIRIE PROVINCES

Year	Manitoba	Saskatchewan	Alberta
1908	192,489	141,264	115,769
1909	172,374	131,757	139,270
1910	142,312	126,788	143,560
1911	188,416	286,295	237,510
1912	183,370	344,298	278,747
1913	184,745	386,784	350,692
1914	186,276	454,703	397,123
1915	163,308	411,324	229,696
1916	205,898	530,727	205,898
1917	175,013	573,938	730,237
1918	284,596	521,240	601,534
1919	261,542	432,367	445,858
1920	212,542	321,900	212,542
1921	224,704	432,776	574,318
1922	235,214	563,069	623,188
1923	291,236	679,867	706,681
1924	425,747	872,819	949,891
1925	298,507	610,973	854,902
1926	304,434	597,660	701,277
1927	387,260	616,603	742,671
1928	330,803	602,156	680,000
1929	295,330	599,909	770,233

(Reference: - Figures supplied by Dr. T. W. Grindley,  
Dominion Bureau of Statistics, Ottawa)

Poultry production in Western Canada has been largely confined to local needs. Many points have no real shipping outlet satisfactory for such a highly perishable product. It is a distinctly secondary form of income for Western Canada and while a pooling system has been evolved with local candling stations and improved handling methods, the market is as yet confined to Canada. The increased production of 1930 - 31 has put prices to an unprecedented low figure, which suggests that the limit of expansion in this line of production is a very rigid one at present.

While, as has previously been mentioned, by far the greater part of the agricultural income has been derived from cereals, livestock also plays a part. While the greater part of Western soils lend themselves remarkably well to cereal production, it is not true to say that they all do, nor to say that all the soils in the majority of districts do. Nearly everywhere one goes there is some untillable land or, if not untillable, rendered highly unprofitable for tillage, by reason of weeds or soil drifting or low moisture holding capacity which could be helped materially by the maintenance of livestock. This then is the usual function of livestock in the prairies. The effect of having large areas of rich grass lands ready for the plow has been to encourage

TABLE NO 29

NUMBER OF POULTRY IN PRAIRIE PROVINCES  
(1918 - 1929)

Year	Manitoba	Saskatchewan	Alberta
1918	2,354,023	8,000,369	3,022,333
1919	2,731,166	8,515,527	4,426,375
1920	3,373,500	6,607,140	2,399,855
1921	3,756,290	9,554,009	4,963,565
1922	3,612,018	8,455,950	5,422,139
1923	3,289,051	9,101,752	6,630,163
1924	3,693,886	8,831,629	6,482,084
1925	3,890,843	7,944,400	6,352,717
1926	4,516,450	9,180,674	6,127,541
1927	4,163,750	7,516,678	5,854,229
1928	4,414,056	8,450,345	6,213,706
1929	5,584,083	9,302,452	7,597,879

(Reference: - Figures supplied by Dr. T. W. Grindley,  
Dominion Bureau of Statistics, Ottawa)

rapid breaking and sowing to cereals, in the production of which the country has seemed to enjoy an advantage.

Perhaps the best way to illustrate what actually has happened is to take wheat as representative of the grains, as it is the most important, and give its relative growth in importance alongside of livestock. For livestock a comparable basis of all species has been obtained by bringing them to the Ontario standard of:

1 Unit = 1 cow or 7 sheep or 5 hogs. (Table No. 30).

Thus Table No. 31 gives the number of wheat acres and livestock units, from 1906, in the case of wheat acres, and from 1908 in the case of livestock; those being the years in which estimates of each were begun. In this Table it will be seen that wheat acreage already had a good lead in 1908 and that lead or relative importance has been increasing ever since.

Wheat has been increasing steadily in acreage with the greatest increase coming between 1907 and 1921 with a slight dip in acreage in 1916 and in the years immediately following the depression of 1921. This temporary slackening of the rate of wheat acreage increase was partly a slowing down of the development process, and partly a transfer to other grains. This latter process was most marked in Manitoba where barley was becoming popular.



TABLE NO 30

TOTAL NUMBER OF ANIMAL UNITS IN WESTERN CANADA  
(MANITOPA SASKATCHEWAN AND ALBERTA)

<u>Year</u>	<u>No. of Cattle</u>	<u>No. of Sheep</u>	<u>No. of Swine</u>	<u>Total No. of Animal Units</u>
1908	2,073,750	307,682	449,522	2,207,608
1909	2,044,087	330,126	443,401	2,179,928
1910	2,100,687	344,693	411,660	2,232,261
1911	1,808,575	285,130	712,221	1,991,752
1912	1,806,970	290,685	806,415	2,009,778
1913	1,852,109	338,583	922,221	2,084,922
1914	1,899,462	382,331	1,020,102	2,158,101
1915	2,003,364	422,770	804,328	2,224,625
1916	2,725,641	493,607	1,340,179	3,064,192
1917	3,306,431	485,446	1,479,188	3,671,617
1918	3,717,812	603,138	1,407,370	4,085,429
1919	3,745,378	678,579	1,139,767	4,070,271
1920	3,437,977	701,058	820,998	3,702,327
1921	4,235,293	842,981	1,231,798	4,587,792
1922	3,996,748	565,166	1,421,471	4,361,780
1923	3,747,722	469,576	1,677,784	4,150,361
1924	3,861,145	424,568	2,248,457	4,371,488
1925	3,746,885	470,160	1,764,382	4,166,927
1926	2,921,139	779,383	1,603,371	3,353,153
1927	2,546,500	816,020	1,746,534	3,012,381
1928	3,159,783	840,811	1,612,959	3,602,476
1929	3,141,367	909,791	1,665,472	3,604,431

Basis: 1 Unit = 1 Cow or 7 Sheep or 5 Hogs

Erratum

1914 - acres of wheat  
shown as 19,644,013  
& not 99,644,013

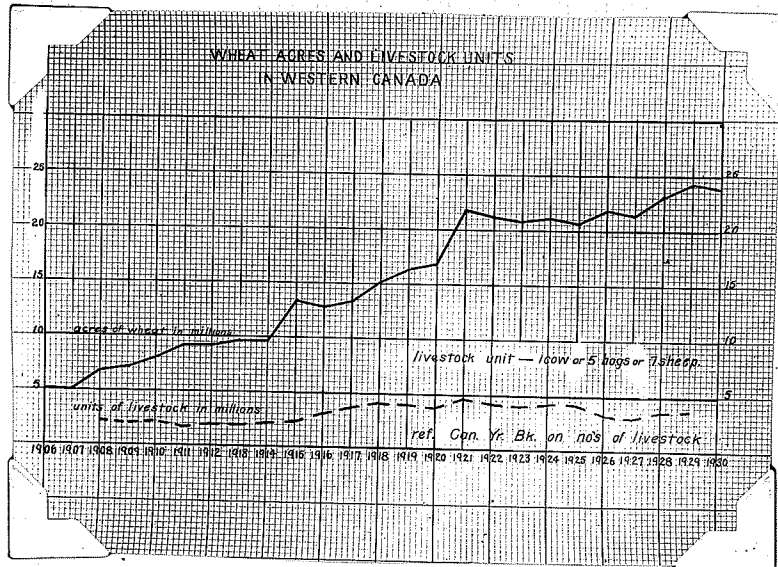
TABLE NO 31

WHEAT ACRES AND LIVESTOCK UNITS IN WESTERN CANADA

<u>Years</u>	<u>Livestock Units</u>	<u>Acres of Wheat</u>
1906	- - - -	5,049,250
1907	- - - -	5,045,177
1908	2,207,608	6,871,836
1909	2,179,928	7,153,750
1910	2,232,261	8,013,612
1911	1,991,752	9,278,180
1912	2,009,778	9,286,777
1913	2,084,922	9,672,082
1914	2,138,101	99,644,013
1915	2,224,623	13,459,350
1916	3,064,192	12,822,334
1917	3,671,617	13,392,810
1918	4,085,429	15,292,664
1919	4,070,271	16,334,074
1920	3,702,327	16,839,684
1921	4,587,792	21,707,329
1922	4,361,780	21,223,448
1923	4,150,361	20,879,558
1924	4,371,488	21,066,221
1925	4,166,927	20,625,204
1926	3,353,153	21,758,931
1927	3,012,381	21,425,656
1928	3,602,476	23,158,903
1929	3,604,431	24,297,116
1930	- - -	23,960,000

(Reference: - Tables No.

**CHART NO. 5**



(c) SUMMARY OF PRODUCTION TRENDS

The first livestock production was on the new lands of the unbroken prairie. It was a specialization in livestock production on unimproved lands. The homesteaders did not bother much with livestock and they tended to displace the range cattle, and sheep and not to replace them. Hogs, however, tended to follow grain production and increase with the improved land. The effect of the homestead law was primarily to push cereal production.

Later, as settlement advanced, it became more and more a question of making the most profitable use of all land. Livestock became less of a range proposition and more of a farming sideline. During the war, the high prices obtaining in Europe made agricultural production profitable in all lines that could be produced. Grain was limited by yield, which during 1917 - 19 was low in most of the West. Livestock, however, was fairly constant in rate of increase so the numbers went up rapidly.

In the post-war depression readjustments were made, livestock production was reduced, grain production increased and natural zoning of production was brought about by force of economic pressure. This natural zoning is still uneven in its application and is subject to change with such factors as

agricultural prices, deterioration of the soil or increase of weeds and soil drifting.

The trend of cereal acreages as a whole has been steadily and rapidly upward. The working of the homestead law, the sale of land grants, the railway and bulk handling of grain have been the big factors in that trend.

It is noteworthy that there has been no reactionary movements in the cereal acreages. Even wheat has remained constant or has increased through two depressions since 1906. This is partly due to new land being improved but it is interesting to note that not even economic depressions could check the tendency to improve more land.

Livestock has long been produced in excess of local demand in Western Canada. This is more because of a small population than because livestock is a major enterprise.

During the post-war depression and since, Canada's produce markets to the south have been seriously curtailed by tariffs. The lower prices obtained in other countries have not been remunerative enough to pay the high cost of transportation and leave enough to encourage the farmers to produce livestock extensively. Consequently the livestock population declined and that decline was most marked in the most favoured grain-producing areas. (See section (d) Part 4).

PART IV

ECONOMIC STRUCTURE OF WESTERN CANADA

(a) Place of Agriculture in Economic Structure  
of the Country

Agriculture has long been spoken of as the backbone of a nation. This analogy began in the days when agriculture was self-sufficing and the population of any district was limited by the food that district could produce. It is now less accepted as times goes on. In our modern world-wide economy, agriculture is just one branch of production; but it is an important one.

The French have favoured agriculture for many reasons; one being that tilling the soil maintains a large population of bold and independent citizenry who can be counted on to defend their country in time of war and to support law and order in peace time. Canada produces agricultural products far in excess of home consumption and manufacture, and does not maintain a relatively large population on the soil, in view of the immense production, but agriculture does play a larger part

in Canadian economic life than in France or England.

In the accompanying Table, No. 32, is given the wealth of the three prairie provinces in 1926 classified in 19 groups. Agriculture is totalled and provides the largest group in each province. In Manitoba it represents 37.3% of the total wealth; in Saskatchewan 60.9% and in Alberta it equals 50.3% of the total wealth of the province. Taking Western Canada as a single unit one finds that agriculture forms 51% of the total fixed investment in productive enterprises.

The net revenue produced is even more indicative as a measure of the importance of agriculture. In Table No. 33 is given the net production of the prairie provinces classified by industries. In all three provinces agriculture provides over half the net income of industries. The three provinces being regarded as a unit again, agriculture provides 77.6% of the total net revenue.

Thus an industry which provides over 3/4 of the net revenue, employs 63% of the population and 51% of the invested capital of the country may be hailed as the backbone of the country. In addition one must remember that the biggest manufacturing enterprises in Canada, exclusive of the pulp and paper industry, are those manufacturing animal and vegetable products. The second largest manufacturing industry



TABLE NO 32

WEALTH OF THE PRAIRIE PROVINCES CLASSIFIED

(1926 - '000's omitted).

Classification	Manitoba	Saskatchewan	Alberta
Farm Values	558,504	1,411,037	848,199
Agrie. Products	147,050	366,848	254,739
Total Agrie. Wealth	705,554	1,777,877	1,102,938
Mines	10,636	5,120	102,875
Forests	40,797	83,691	126,067
Fishing	970	95	237
Central Electric Stations	19,804	4,708	7,937
Manufacturers			
Machinery & Tools	28,439	66,995	14,786
Manufactures Stocks on hand	19,365	6,272	11,907
Construction and Repair	5,230	4,007	3,235
Trading Establish- ments	67,726	58,596	56,778
Steam Railways	310,254	324,890	364,563
Electric Railways	15,410	3,587	6,161
Telephones	21,848	13,907	26,278
Urban Real Property	478,470	228,492	224,615
Shipping	511	38	- - -
Imported Merchandise			
in store	24,487	9,782	10,379
Automobiles	37,104	62,679	42,170
Household furnishings etc.	82,000	104,000	78,000
Specie, coin etc.	20,700	26,600	19,700
<b>Grand Totals</b>	<b>1,870,000</b>	<b>2,921,000</b>	<b>2,192,000</b>

Agricultural wealth as percentage of total  
                                         57.3                                  60.9                                  50.3

As percentage of total for Western Canada \* 51 1/2

( \* Reference page 831, "Can. Year Book, 1929)

- 10 -  
TABLE NO 33

NET PRODUCTION OF WESTERN CANADA 1926 - CLASSIFIED ACCORDING TO INDUSTRIES

Industries	Manitoba		Saskatchewan		Alberta	
	Values in Dollars	Per cent of Total	Value in Dollars	Percent of Total	Value in Dollars	Percent of Total
Agriculture	120,166,000	59.8	316,886,000	90.1	219,877,000	74.8
Forestry	3,904,185	1.9	2,476,729	0.7	4,017,875	1.4
Fisheries	2,328,803	1.2	444,288	0.1	749,076	0.2
Trapping	1,448,238	0.8	1,609,622	0.5	2,178,567	0.7
Mining	3,073,528	1.5	1,193,394	0.3	26,977,027	9.2
Electric Power	4,770,166	2.4	3,071,082	0.9	3,452,654	1.2
Construction	12,479,354	6.2	9,260,000	2.6	6,519,000	2.2
Custom & Repair	5,334,000	2.7	4,296,000	1.2	4,525,000	1.5
Manufactures	57,717,923	23.5	17,980,062	3.6	33,599,099	8.8
<b>Total</b>	<b>200,835,198</b>	<b>100</b>	<b>351,744,946</b>	<b>100</b>	<b>294,101,181</b>	<b>100</b>

For Western Canada Agriculture = 77.6% of the total production.

(Reference - 1929 Canada Year Book, page 210)

is that of flour and grist mill products. The third is slaughtering and meat packing, and the sixth is butter and cheese. (14)

It is very difficult to determine to what extent agriculture is basic in all Canadian economic life but sufficient has been written to indicate its great importance in the economic structure.

Note: 1926 figures are given because the values in this year were equivalent to an average of 1925 to 1927 and, therefore, are used by the Dominion Bureau of Statistics as a base year for present day index numbers. Furthermore, 1926 was the last prairie census and the figures based on an appraisal of the country's worth or production are likely to be most nearly accurate in this year.

(b) HOME MARKETS

The home market as yet is not as important to Western Canada as the foreign market. As long as there is an exportable surplus, the returns are likely to be determined by world price minus cost of transportation. The world market is large and could absorb all Canadian production at some price but as yet the home market can absorb only a few complete lines of production.

There are many reasons why home markets are desirable. They are less complicated and varying. A given population within a country has a fairly constant food requirement which is much easier to calculate than a proportion of the world demand. Home markets are regulated by uniform laws, subject only to their own modification as need arises. From the producer's point of view a home market in excess of supply is desirable as it would return the world price plus transportation and freight charges instead of world prices minus transportation charges. However, if production were limited to a home market, the development of the provinces of Saskatchewan and Alberta would not be justified as yet, as an amount of wheat and cattle approximately equal to their entire production is exported from Canada.

Western commerce and transportation have been organized around the export traffic. All Canadian railroads have main lines east and west and possess connections with the seaboard. The largest stockyards are in St. Boniface, to the east of the main production area. Grain prices are quoted as in store at the lakehead enroute for export and the principal flour mills and abattoirs are located along the main lines leading to the seaboard.

Nevertheless the home market, including the whole of Canada is a large market and it is the only market for some highly perishable products like vegetables and fresh eggs.

With meats, as in all production, there are some imports as well as exports. In the case of beef, imports are insignificant. Port imports run about one-fourth of the exports or less in the three years given and mutton imports are equal to or greater than exports. (15)

It must be remembered that the figures given are for the whole of Canada. Western Canada is a surplus producing area for nearly all cereals and livestock. It has to be shipped out to Eastern markets. Whether it gets beyond there is a question.

There is an interesting comparison of home consumption with exports in the Monthly Bulletin of Agricultural Statistics for September 1930. On page 310 there is presented

a detailed account of imports, exports, production and apparent home consumption, of wheat since 1868, which shows the rapid change from being an importer of wheat in 1868 to an excess exporter in 1928 of about 406,000,000 bushels. On page 312 of the bulletin is given a table of the various farm products exported from Canada and those consumed at home. In Table No. 11 was presented an extract of the percentages of the produce exported and that consumed at home to give a relative comparison of the importance of the home market for the major farm products of Western Canada.

While the percentages given are for the whole of Canada, it must be remembered that the whole of Canada may be regarded as a home market and that it is impossible to isolate Western Canada's portion of the exports.

Over two-thirds of the major crop, namely wheat, is sold for export. Barley and rye were sold in export to over one-fourth of the production but the German tariff in 1929 closed the main barley market. Oats are too low in value for their bulk for long transportation sales. The same may be said for potatoes. Flax in Canada is a very small and variable crop. It is only a small portion of the total acreage and is very responsive to prices.

Butter is not at present an export with Canada but cheese decidedly is. Beef is produced largely for home consumption though not entirely and the same may be said for pork. Sheep are produced in insufficient quantities for home consumption even though part of the wool crop has to seek a foreign market. Eggs are a home market proposition.

(c) ORGANIZATION OF THE FARM BUSINESS

The organization of the farm business involves a consideration of the magnitude of the farm business, the selection of crops and livestock, the relative and absolute magnitude of these enterprises and the kind and amount of equipment.

The size of farm will be considered later in a comparison with production per man so it need not be included here. The ratio of livestock and crops may be arrived at, by considering the proportion of income from each or it may be considered from the point of view of investment in land, buildings, equipment and livestock. Both systems have peculiar limitations as indicators of farm organizations. The income from field crops and livestock must be stated in terms of values for the current crop which are subject to great variations in the physical volume of production due to annual climatic factors and are also subject to tremendous variations in the

price received per unit. The proportions of investment in property are less subject to seasonal fluctuations in volume or value but they do not indicate the amount of labour employed and hence may fall short of giving a true picture of the dependence of the farm on the various sources of income. Therefore, a combination of the two seems advisable.

A complete and exhaustive analysis of farm values in Western Canada cannot be presented in the brief confines of this section. Complete data on farm machinery are not available and it is the proportions of investment in the various farm enterprises which is of main interest in considering development.

Presented herewith are Charts prepared from the census reports indicating the percentages of investment in land, buildings, machinery and livestock for the three prairie provinces for the census years 1901, 1911, 1916, 1921 and 1926.

The outstanding feature in all cases is the large proportion invested in land, which runs over 50% in all cases except in Alberta in 1901. This was due to the undeveloped state of Alberta at this time and the large proportion of investment in the ranching industry which was not decreased appreciably till the rush of settlers in 1906 caused the decline of land available for grazing and simultaneously increased the total value of farm lands.



TABLE NO 34

VALUE OF FARM PROPERTY

MANITOBA

Year	Total	Land	Buildings	Machinery	Livestock
	\$	%	%	%	%
1901	155,355,081	61.59	13.24	8.04	17.11
1911	463,243,591	66.91	13.51	6.03	13.53
1916	471,517,321	62.82	13.15	7.61	16.40
1921	637,388,045	59.75	17.72	10.64	11.88
1926	475,711,736	55.98	20.16	12.18	11.66

TABLE NO: 35

VALUE OF FARM PROPERTY

SASKATCHEWAN

<u>Year</u>	<u>Total</u>	<u>Land</u>	<u>Buildings</u>	<u>Machinery</u>	<u>Livestock</u>
1901	44,460,874	51.46	11.64	8.73	20.17
1911	832,812,560	70.10	9.14	6.90	13.87
1916	1,102,858,732	65.28	8.19	8.06	17.45
1921	1,650,069,196	64.27	13.11	10.70	11.90
1926	1,343,357,826	60.94	16.00	12.61	10.43

TABLE NO 36

VALUE OF FARM PROPERTY

ALBERTA

<u>Year</u>	<u>Total</u>	<u>Land</u>	<u>Buildings</u>	<u>Machinery</u>	<u>Livestock</u>
1901	34,677,781	37.92	10.34	6.28	45.46
1911	492,636,008	69.98	8.25	4.87	16.89
1916	597,716,819	61.06	9.18	6.83	22.91
1921	968,437,018	63.04	12.57	10.20	14.19
1926	790,347,084	62.03	14.83	11.11	12.02

CHART NO. 6

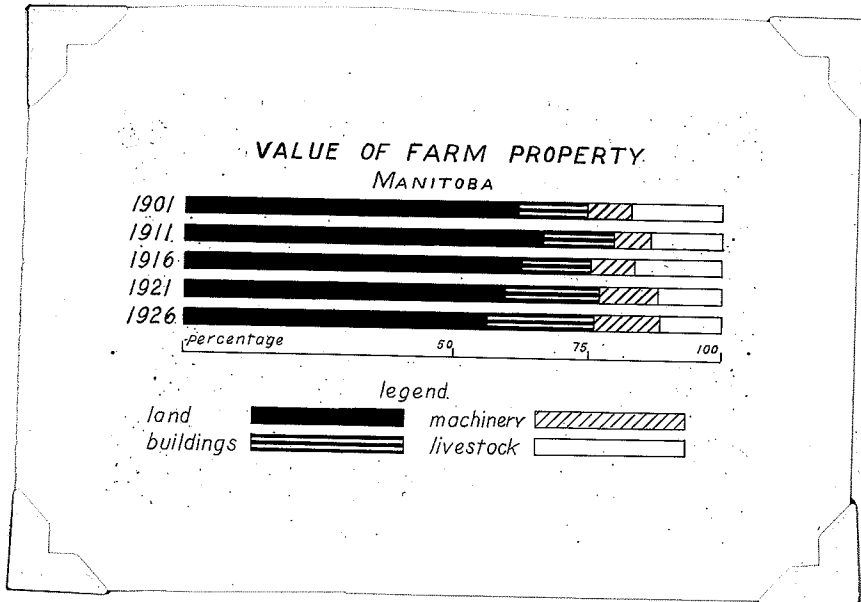


CHART NO. 7

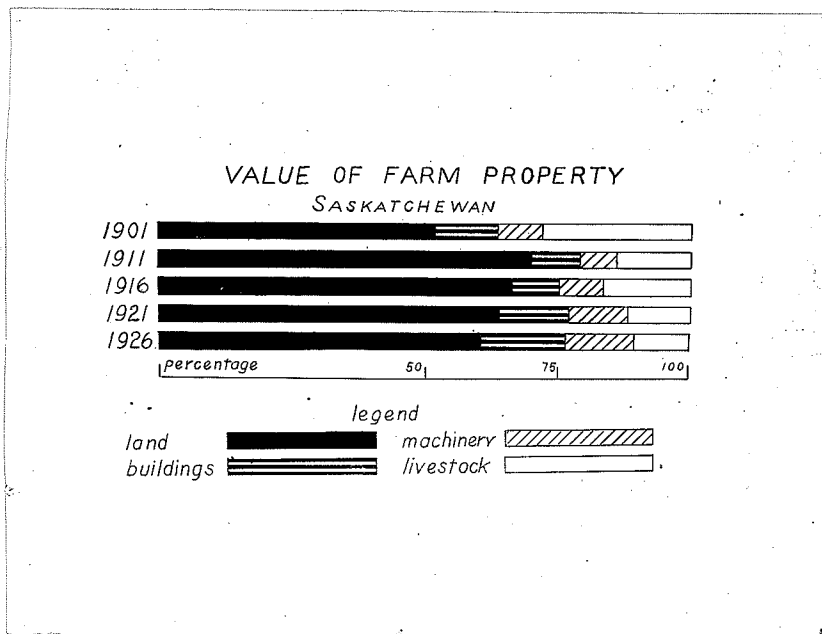
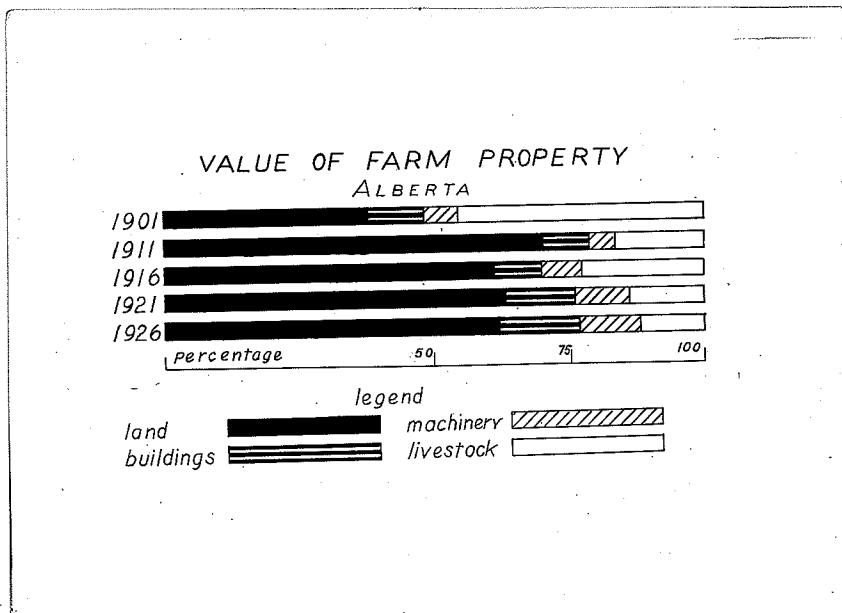


CHART NO. 8



With the decline of new homestead entries after 1911 the settlers were more engrossed in improving land, in building and in acquiring more equipment for their increased crop acreage. Thus after 1911 there was a steady decrease in the percentage invested in land and an increase in the percentage invested in buildings and machinery. Alberta had complications in its development not felt in the other two provinces.

Part of the decline in livestock in Alberta, before 1911, had been due to a depression in the livestock industry causing the falling off in ranching not entirely due to range scarcity as there were newer regions as yet untouched. With the revival of prices during the war, ranching revived somewhat and with the cessation of land settlement tended to increase the percentage invested in livestock; again chiefly at the expense of land values. Since the war, new settlement has been the greatest in Alberta and the trend has been the same as in other provinces; namely, towards more of the investment in buildings and machinery and less in livestock and land.

Part of this trend was due to a decline of livestock population and part to a readjustment of relative values during the post-war depression. Building materials and farm machinery did not decline in price nearly as much as did agricultural produce.

produce. The livestock decrease from 1916 to 1921, was mainly in value per head and from 1921 to 1926 in actual number of head. Land had begun its decline in value in 1921 and continued until 1926. To illustrate this decline of land values a map of Western Canada, giving the average values for 1921, by census divisions, is presented, and below is given the same for 1926.

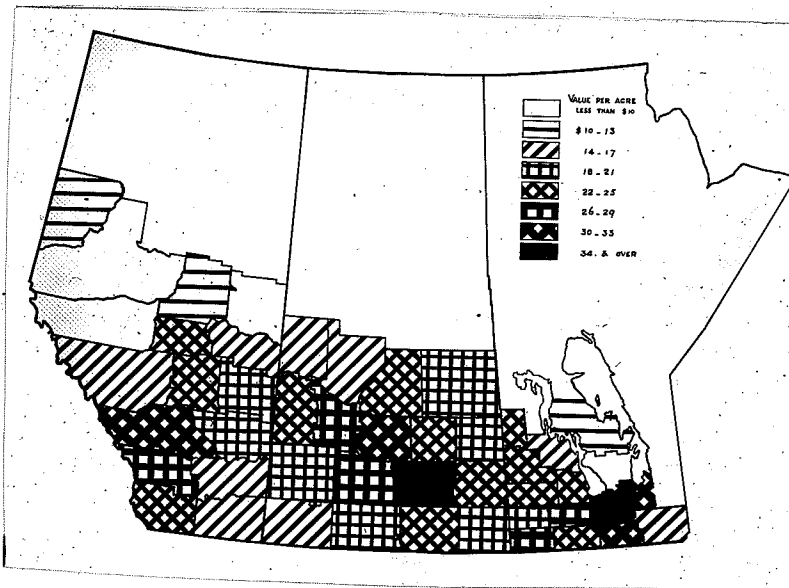
The classification is the same in both maps. It will be seen that the areas averaging over \$34 per acre in 1921, declined to between \$26 and \$29 per acre in 1926, and the land valued from \$30 to \$33 per acre in 1921 to between \$22 and \$25 in 1926, a drop of \$8 per acre. The other sections have likewise declined in value, excepting the newer northern areas like the Peace River in Alberta and the Carrot River Valley in Saskatchewan.

Thus for 1926 the proportion of agricultural investment in Manitoba is 55.98% in land, 20.16% in buildings, 12.18% in machinery and 11.66% in livestock. In Saskatchewan the proportion is 60.94% in land, 16.00% in buildings, 12.61% in machinery and 10.43% in livestock. Alberta is of more recent development and less of its farm property is machinery and buildings than is the case with Saskatchewan and Manitoba. Its proportions are 62.03% in land, 14.83% in buildings, 11.11%



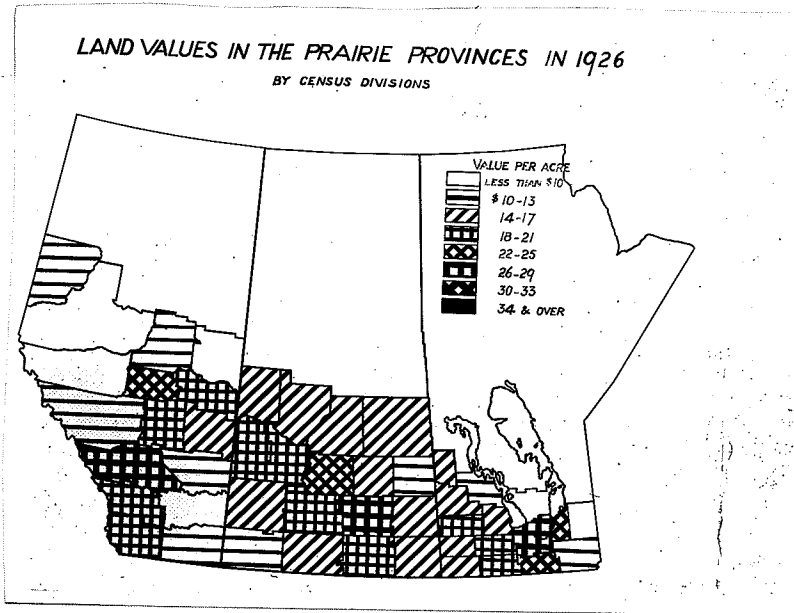
CHART NO. 9

LAND VALUES IN THE PRAIRIE PROVINCES IN 1921  
BY CENSUS DIVISIONS



(Reference: 1921 Census Reports).

CHART NO. 10



(Reference: 1926 Census Reports).

in machinery and 12.02% in livestock.

The method of averaging for the province has the weakness that it is not necessarily typical of any one farm or any one district but it does give a general picture of where the investment lies. The high proportion of fixed capital invested in land and buildings is one reason why farmers cannot readily adjust themselves to price changes. Land may be brought under cultivation during high prices but it is not easy to retire fixed capital in a time of depression; it may be better to continue operation at a small loss than to let it lie idle and take a big loss.

When one approaches farm organization from the point of view of farm income, it is essential to get a concise, yet representative picture. For reasons previously stated, 1926 has been looked upon as the most typical year in production of the last decade. Therefore, it has been selected from many years given in the Canada Year Book and it is presented in Table No. 37.

A glance at the table will impress the fact that agriculture in Western Canada is based chiefly on field crops. The percentage of field crops based on totals is 80% for Manitoba; 86% for Saskatchewan and 81% for Alberta.

**TABLE NO. 37**  
**ESTIMATED GROSS ANNUAL AGRICULTURAL REVENUE**  
**OF WESTERN CANADA FOR 1926**

( '000's omitted )

Source of Revenue	Manitoba	Saskatchewan	Alberta
Field Crops	111,937	309,128	202,149
Farm Animals	10,556	20,743	23,529
Wool	114	176	593
Dairy Products	9,444	14,906	12,279
Fruit & Vegetables	1,542	2,452	1,768
Poultry & Eggs	5,645	11,778	8,742
Fur Farming	118	98	197
Clover & Grass Seed	29	54	90
Honey	528	38	37
<b>Total</b>	<b>139,913</b>	<b>399,335</b>	<b>249,384</b>
<b>Field Crops in per cent of totals</b>	<b>80.0%</b>	<b>86.0%</b>	<b>81.0%</b>

The figures given are for gross annual production and while part of the field crops would be fed to livestock, no large proportion of it could have been because no attempt was made to deduct feed values from the finished livestock values which were very small in proportion to that of field crops.

The percentage calculated for farm animals as a source of agricultural revenue are 7.5% for Manitoba, 5.8% for Saskatchewan and 9.4% for Alberta. Thus it is seen that livestock does not feature largely in Western agriculture as yet and as gauged by the proportion of investment has been decreasing in importance since 1916. This may be more apparent than real since part of the percentage decrease in livestock investment has been taken up by an increase in buildings. The decrease in livestock as a percentage of total investment has been most noticeable in Alberta with its decrease of ranching.

There may have been small increase of diversification during this period. The small decrease of livestock in Manitoba, the older province, as compared with Saskatchewan and Alberta would suggest that the area of diversification may be creeping westward still, even though it has not made much headway as yet.

(d) REGIONAL TRENDS AND NATURAL ZONING

The types of farming prevailing in a country are the result of physical, biological and economic forces over which the farmer has little or no control.

The physical factors are soils, temperature, and rainfall. The biologic factors are diseases, parasites, and chemical conditions of the soil; while the economic factors are distance from the market, relative to the returns and weight per unit, or cost of transportation, and cost of the machinery and the materials of production.

Many examples of the action of these factors are to be found in Western Canada. In soils one finds that the sandy areas of the Carberry Hills are not productive even though close to markets while the clay belt of the Regina Plains is highly productive and sells at good prices. Temperature and frost-free days is a limiting factor of crops in the Northern areas and crops are affected by rainfall or moisture perhaps more than by any other factor. Rust has almost eliminated hard spring wheats in Southwestern Manitoba and parasites have caused much local annoyance and some readjustments of farm organization throughout the West. The Western soils are mostly alkaline in reaction. The economic factors of distance from market and cost of transportation are seen in the production

of oats and potatoes for home market only although these two crops are biologically well adapted to the cool northern climate.

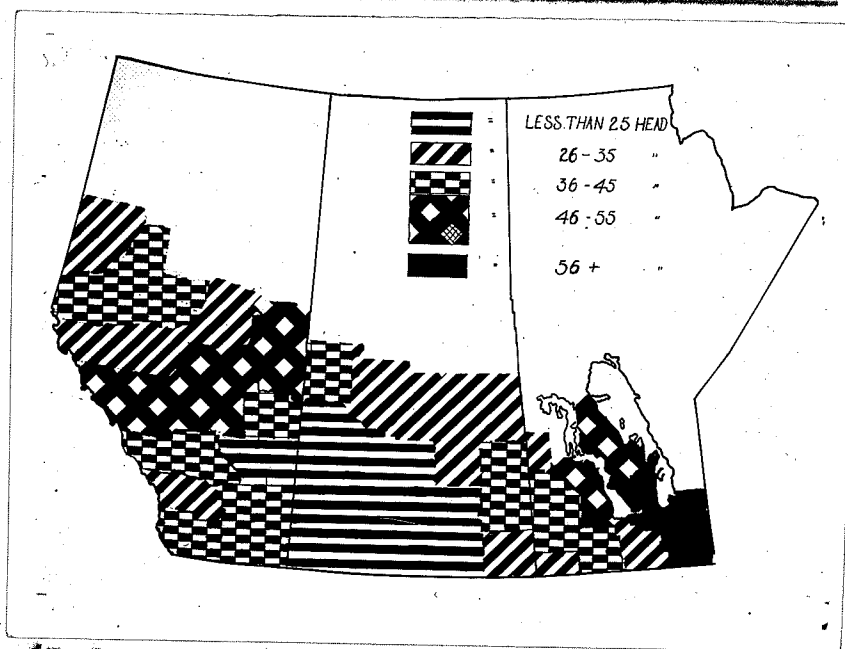
Needless to say no two plants react to all these factors in the same way. For some of them one factor is the limiting one; for others, another will be. The best forage crops, notably alfalfa, show preference for alkaline soils but they also favor high moisture. Only short growing period crops are useful in certain northern areas while the same crops do not yield well in the southern dry areas. It has already been seen that cereal crops are the main item of production in the prairie provinces but it does not follow that this holds good for each district, let alone every farm.

In certain areas, livestock may become the major source of income. This is illustrated in Chart No. 11, which gives a classification of the numbers of cattle per 1,000 acres occupied, by census divisions throughout Western Canada, 1926. In a comparison with Chart No. 10 showing the land values of Western Canada for 1926, it will be seen that there is a remarkable similarity of area between the lowest land values of each province and the greatest intensity of livestock population.

Manitoba's greatest concentration of livestock is the boggy meadow country in the southeast corner and on the

CHART NO. II

**NUMBERS OF CATTLE PER 1,000 ACRES OCCUPIED  
IN WESTERN CANADA 1926  
BY CENSUS DIVISIONS**



(Reference: Census Reports)



rocky lands between and around the lakes which is also the lowest valued land section. The Saskatchewan livestock population is concentrated in the Park area of the north while the high priced land of the Regina Plains supports a minimum of livestock. This is the result of economic factors - grain and livestock production competing for the use of land.

Alberta is somewhat mixed in its tendencies due to the recency of its settlement and the survival of cattle ranching alongside grain growing, but even here the area of low priced land and of the more concentrated livestock population coincides.

As settlement becomes older, and the encroaching problems of weeds and soil drifting intrude themselves further, the farmers will find livestock of invaluable assistance in control practices. One would expect the area of diversification to continue moving west and there may be some significance in the greater concentration of livestock in Manitoba than farther west, but with the natural adaptation of the Western Plains to cereal production, it is doubtful if anything short of a disappearance of the export market for grain can bring the plains to complete diversification during the life of the present generation.

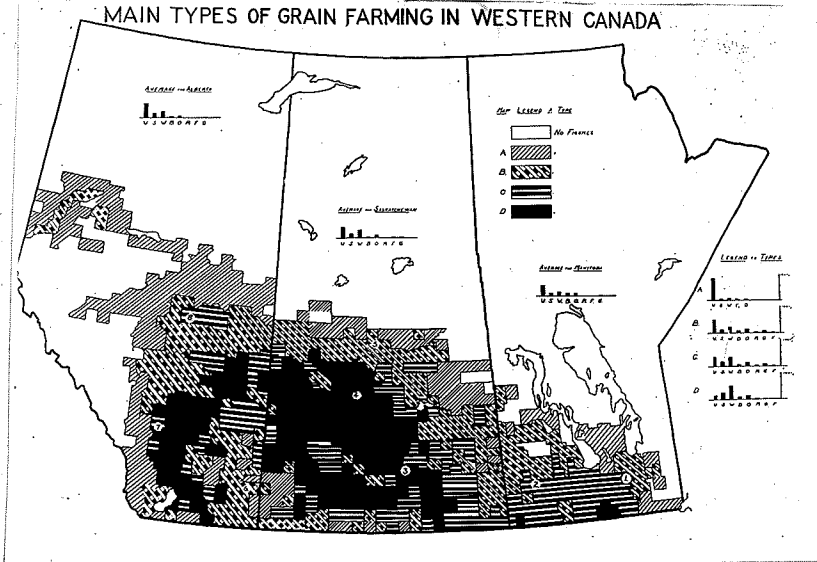
The main wheat area of Western Canada does not conform to the main livestock area. This would follow from the effect of

the two competing for the use of land. The difference of area can be discussed from a comparison of Chart No. 11 giving the concentration of cattle in Western Canada and the Chart No. 12 given below showing the main types of grain farming in Western Canada.

Chart No. 11 is prepared from the 1926 census to indicate the main types of grain production. It is chiefly of value in its portrayal of the main wheat areas, which are in black. The basis of the chart is the area occupied and it classifies the West by the percentage application to various purposes. Lands less than 30% improved are segregated because they indicate an area where grain production is not the major source of income. The second division of areas has 30% to 50% of the occupied land improved. This division really comprises two groups. The one would be land recently settled and not all broken yet and the other would be old settlement where a large part of the land is untillable because of hills, ravines, or stones. In either case there would be a fair percentage of the land growing native grasses and it will be noticed that the areas of the first two groups conform very well with the divisions of greatest livestock concentration shown in Chart No. 11. Type C represents farm land over one-half broken but growing wheat on less than 40% of the occupied land. In Manitoba barley is the second cereal in acreage, and its displacement of

**CHART NO. 12**

**MAIN TYPES OF GRAIN FARMING IN WESTERN CANADA**



**Legend:**

- |                            |                                |
|----------------------------|--------------------------------|
| <b>U = Unimproved land</b> | <b>O = Oats</b>                |
| <b>S = Summerfallow</b>    | <b>R = Rye</b>                 |
| <b>W = Wheat</b>           | <b>F = Flax</b>                |
| <b>B = Barley</b>          | <b>C = Grasses and Clovers</b> |

(Reference : 1926 Census Reports)

wheat accounts for the big area of mixed grain.

Type D however, shows the main area of specialization in wheat growing and the large area devoted to over 40%. Wheat acreage is a phenomenon peculiar to new countries with open plains like Western Canada. It is interesting to note that the areas shown as growing mainly wheat in each province are also the areas showing the highest average land values as shown in Chart No. 10. It will be interesting to note what the new areas will become when more completely developed.

Thus it would seem that wheat and livestock production are continually competing in the utilization of land. In Western Canada the areas best adapted to cultivation have become predominantly wheat producing while those areas less adapted to cultivation and wheat growing have been devoted more to coarse grains and livestock production as a means of putting the soil to its most economic use.

(e) PRODUCTION PER MAN AND SIZE OF HOLDINGS

The volume of production may be increased in several ways,

- (1) The numbers of laborers and the hours per day may be increased.
- (2) The machinery and equipment may be increased or improved.
- (3) A reorganization of the farm may be effected to permit greater ease and rapidity in operation.
- (4) The working conditions may be improved to permit of more productive labour per workman.

In Western Canada it is probable that all four methods have played a part in the phenomenal development. It has been a question of increasing the number of workers engaged in agriculture or increasing the productive labour per man. That it is not entirely due to the increase of workers is indicated by the following table:

TABLE NO. 38

<u>PERCENTAGE INCREASE</u>	-	<u>1901 - 1921</u>
		Per cent
Surplus of agricultural exports over imports by value		600
Acres Cropped		141
Acres Improved		135
Acres occupied in farms		122
Number employed		45
Number of farms		35

(Reference: J. E. Lattimer in Scientific Agriculture, October 1929, page 141).

No matter which of the measures of increasing production is used, it is far above the increase in numbers of workers engaged. It is highly improbable that the extra 100% of increase in production came from increasing hours of work as farmers have always been notorious for long hours.

It is possible that some reorganization of the farm could increase production but this is limited first by the existing awkwardness in size or shape of fields and second by the disinclination of the farmer to improve them. These two factors mean that very little change is likely to be made. Improved living conditions on the farm have very little effect in themselves and indeed it may be questioned whether living conditions on Western farms today are equally good with those of former generations.

The factor of more machinery and equipment creating greater production per man is the more logical explanation. It has already been seen that all three Western provinces have tended to increase the proportion invested in machinery and buildings at the expense of livestock and land. That the increase was greater in Saskatchewan with its vast prairies adapted to machinery is only natural. But the other provinces have also been increasing the areas cropped per man. (c.f. J. E. Lattimer in Scientific Agriculture, October 1929, on Production per Man.)

The first decade of the present century saw many new workers and many new farms added to the agricultural industry. During the second decade fewer farms were added and the number of workers increased less rapidly but the acres cultivated per man increased by 75% or from 32.7 acres in 1911 to 57.3 acres ten years later. That Western Canada is unique in the high acreage cultivated per man is shown in figures supplied by the Dominion Bureau of Statistics.

AREA GROPPED PER MAN BY PROVINCES

	<u>Acres</u>
Saskatchewan	124.8
Manitoba	85.4
Alberta	82.5
Quebec	36.4
Ontario	34.9
Prince Edward Island	29.8
New Brunswick	24.9
Nova Scotia	16.4
British Columbia	10.3

(16)

It will be seen at a glance that Western Canada and particularly Saskatchewan is on a much larger scale of farming in so far as cultivated acres are concerned, than prevails elsewhere

in Canada. Only machinery could make such large acreages possible.

The size of holdings is somewhat of an indication of production per family in Canada, because there is no large permanent force of farm labourers and most of the farms are of family size. The labour hired is usually for the rush seasons in the west and is recruited in part from farmers who have not full time work at home or prospective farmers who are working for experience and cash to enable them to start on their own.

The tables No. 39, 40, and 41 give a resume of the farm holdings by size for the three prairie provinces. No attempt has been made to divide the holdings into percentage of total acreage but they are simply divided by numbers of holdings regardless of size. Were these divisions to be expressed as percentage of the total acreage the results would be even more overwhelmingly towards the larger acreages.

However, a glance is sufficient to indicate that even by number of holdings the two groups below 101 acres are insignificant in percentage of the total. They are particularly so in Saskatchewan with its large rural population while in Manitoba the smaller groups are of more importance. Manitoba is more nearly urbanized than the other provinces and the small dairy and truck farms operated to supply town and city populations probably



TABLE NO. 39

FARM HOLDINGS BY SIZE

CENSUS YEARS 1901 - 1926

MANITOBA

Census Years	Number of Holdings				Percent of Holdings				
	Total	Under 51 Ac.	51 - 100 Acres	101 - 200 Acres	201 Acres	Under 51 Ac.	51 - 100 Acres	101 - 200 Acres	201 Acres
1901	32,252	1,400	1,254	14,394	15,204	4.34	3.89	44.63	47.14
1906	36,141	- -	- -	- -	- -	- -	- -	- -	- -
1911	43,631	3,670	1,943	17,610	20,408	8.41	4.45	40.36	46.77
1916	46,580	3,236	2,277	20,548	20,519	6.95	4.89	44.11	44.05
1921	53,232	3,103	2,599	22,696	24,854	5.83	4.88	42.62	46.67
1926	53,251	4,318	2,895	20,790	25,248	8.11	5.44	39.04	47.41

TABLE NO 40

FARM HOLDINGS BY SIZE

CENSUS YEARS 1901 -26

SASKATCHEWAN

Census Years	Number of Holdings					Percent of Holdings			
	Total	Under 51 Ac.	51 - 100 Acres	101 - 200 Acres	201 Acres	Under 51 Ac.	51 - 100 Acres	101 - 200 Acres	201+ Acres
1901	13,445	148	72	8,041	5,184	1.1	.53	59.81	38.56
1906	55,971	--	--	--	--	--	--	--	--
1911	95,013	657	598	48,350	45,428	.69	.63	50.87	47.81
1916	104,006	543	476	39,256	63,631	.62	.46	38.74	61.18
1921	119,451	1,025	797	37,059	80,570	.86	.67	31.02	67.45
1926	117,781	1,226	759	33,276	82,520	1.04	.65	28.25	70.06

TABLE D 41

FARM HOLDINGS BY SIZE

CENSUS YEARS 1901 - 26

ALBERTA

Census Years	Number of Holdings					Percent of Holdings			
	Total	Under 51 Ac.	51 - 100 Acres	101 - 200 Acres	201+ Acres	Under 51 Ac	51 - 100 Acres	101 - 200 Acres	201 + Acres
1901	9,479	161	154	6,577	2,587	1.70	1.62	69.39	27.29
1906	30,286	--	--	--	--	--	--	--	--
1911	60,559	1,195	907	34,436	24,021	1.97	1.50	58.56	39.67
1916	67,977	1,185	793	34,584	31,415	1.74	1.17	50.88	46.21
1921	82,954	1,301	1,216	35,278	45,159	1.57	1.46	42.53	54.44
1926	77,130	1,987	1,150	29,605	44,388	2.58	1.49	38.38	57.55

account for the greater number of small farms.

It is the two groups of over 100 acres per farm that are most common in Western Canada. Together they represent over 80% in each of the prairie provinces. In Saskatchewan they accounted for 98.31% in 1926. In Alberta they accounted for 95.93% and in Manitoba they equalled 86.45% of the total number of holdings. It is noteworthy that as the minor groups are comparatively insignificant, a gain in one of the large groups is compensated by a loss in the other.

It must be remembered that homesteads were of 160 acres more or less and while sometimes a man might acquire more than one quarter by pre-emption, the general rule was 160 acres to each homesteader and the effect of this was to maintain or increase the percentage of farms having 101 - 200 acres. The tendency of this group to be large up to 1911 or 1916 is probably the direct result of the homestead policy and the extraordinarily large number of homesteads filed on between 1901 and 1916.

To correctly interpret the trend of size of holding then it is necessary to eliminate the years featured by a large number of homestead entries and that means up to 1911 or possibly 1916. On that basis it will be found that Saskatchewan and

Alberta have steadily increased their percentage of holdings over 200 acres and decreased the percentage between 100 and 201 acres since 1911; while Manitoba has shown the same trend since the 1916 census.

In Manitoba the number of larger farms has not increased very markedly as it has only changed from 44.05% of the total holdings in 1916 to 47.41% in 1926. There was, however, a positive increase in number of farms over 200 acres steadily from 1901. This is perhaps a better measure of the trend as the percentage of larger holdings is held down by a greatly increasing number of very small holdings at the same time.

In Saskatchewan the number of holdings over 200 acres has increased markedly since 1901, both in percentage and in numbers. The holdings of over 200 acres increased from 5,184 in 1901 to 82,520 in 1926. The holdings of 101 to 200 acres started to increase from 8,041 in 1901 to 48,330 in 1911. Since 1911, however, they have been steadily decreasing. The larger group of holdings, which in 1926 represented 70.06 of the total farm holdings in Saskatchewan, absorbed a number of the smaller farms in regrouped units.

Alberta shows the same general trends as Saskatchewan. They have both increased the holdings of over 200 acres by percentage and by numbers since 1901. Alberta, however, was later in settlement than Saskatchewan; and this affected the number

of farms between 101 and 200 acres which continued to increase in number until 1921 and then only decreased by about the same number as the total holdings in Alberta. The big Peace River section of Alberta is still mainly a pioneer or homestead country.

The holdings of less than 101 acres can be dismissed from practical consideration of economic units for the bulk of Western Canada. They include the dairy and truck farms in the proximity of large centres of population or farms where the operator has an income from outside sources. The small number of these holdings indicate that they are not a common unit outside of small areas.

The large number of holdings of 101 to 200 acres still remaining indicates that on some soils or in some districts they must still form an economical unit of work. It has been demonstrated, however, that the trend is towards larger holdings and that the largest group of holdings is now that of over 200 acres. The process of grouping quarters into larger holdings seems to begin as soon as the homestead is owned and comes within reach of a market. In the majority of cases then the quarter section has not proven an economical unit to work and it might be well to consider this in land settlement and homestead policies of the future. This increasing size of holding is closely linked with increasing production per man and increasing use of machinery.

PART V

THREE PIONEER AREAS

The changes that have taken place in Western Canada have not been the same in the whole area at once. First one and then another district became settled and each in turn has gone or is going through the four general stages of development, namely: -

(1) Hunting and fishing, (2) Nomadic or grazing, (3) Grain farming alone, (4) Diversified farming or complete utilization of land in the most economical way.

These areas spent different lengths of time in each early stage, according to time of settlement, natural adaptability of land to certain uses and the arrival of a railway. In order to give the local effects and show how they contributed to the general development of Western Canada, three successive pioneer areas are outlined. The first is the Red River area which became settled prior to 1900. The

second is the Swan River which was settled largely from 1898 to 1910 and the Peace River which was settled largely since 1910. The Red River was a settlement that was well planned, but was established under most unpromising circumstances. The Swan River was well planned ahead of settlement, and the Peace River was settled in a scattered way before adequate plans had been made for development.

(a) RED RIVER SETTLEMENT

The Red River settlement was the third project of Thomas, Fifth Earl of Selkirk, for the colonization of British territory in North America by British immigration (c.f. Canada and Its Provinces, page 14, printed by Fand A. Constable, Edinburgh University Press 1914). The motives of settlement largely arose out of the unhappy fate of the crofters in Great Britain, who were being displaced by stock raising and the consequent use of the land for grazing.

Lord Selkirk began in 1808 to purchase Hudson's Bay Company stock with the aim of securing sufficient control to carry the company with him in his project of colonization. Selkirk volunteered to take upon himself the charge of forming the intended settlement on condition of the company granting him a sufficient extent of land to indemnify him for the expense. (17)



In May 1811 at a general court of the Hudson's Bay Company, the directors granted him an area of 116,000 square miles, comprising land in what is now Manitoba, North Dakota and Minnesota.

From the first the projected settlement faced the scorn and veiled hostility of the Hudson's Bay officials and the open and virile hostility of the North-West fur traders. Thus when the first hired servants of Lord Selkirk arrived at Lake Winnipeg, they found scarcely a hundred pounds of food stored for them at inland 'Bay' posts. The superintendent at York Factory had entirely neglected the instructions given him concerning the formation of a colony at Red River.

Captain Macdennell, a Glengarry Highlander, once sheriff of the Home district of Upper Canada, was chosen to supervise the settlement. "I have no reason to believe" he wrote "that every means the North-West Company can attempt to thwart it will be resorted to".<sup>(18)</sup> He led the first group of workers into the country in 1811 to prepare for the colonists who arrived in 1812.

In 1813 the North-West Fur Trading partners realized the menace which the colony presented to their trading operations, more especially as Macdennell had forbidden the trading of pemmican to other than the colonists within the land area prescribed in Lord Selkirk's Grant. They directed a campaign

of intrigue and direct force against the colony which resulted in the settlers being driven out of the country twice. The second time was the occasion of the murder of Robert Semple, the governor of the colony at the new historic site of "Seven Oaks". (19)

Lord Selkirk himself was on the way to the new colony when the news of Seven Oaks reached him. He was appointed a magistrate by Governor Sherbrooke who was inclined to be friendly and as Selkirk could not get either of two magistrates in Upper Canada to order the arrest and trial of the North-West 'Partners' at Fort William, he proceeded in his own capacity as magistrate with men from two regiments of infantry disbanded after the war of 1812. He seized the 'Partners' in conference at Fort William liberated the Hudson Bay prisoners and sent Miles Macdonnell on ahead to reach the colony quietly and prepare the way. All this was upset by the news of Seven Oaks and the expulsion of the settlers from their homes.

Lord Selkirk left Fort William in December 1816, with 27 men and 2 cannons. Fort Douglas was reached and taken by a quiet night attack. Macdonnell proceeded to reestablish control over the district. That Lord Selkirk was intensely interested in the settlement was shown by his subsequent direction of settlement after the recapture of Fort Douglas. Sites for Church and School, public roads, by-roads and bridges, mill seats and

other important points were settled. "So correct and unerring was his judgment" writes Sheriff Ross "That nothing he planned could afterwards be altered to advantage." (20)

A voluminous correspondence discloses an intense interest in the practical problems of agriculture. There are instructions for the growth and storage of wheat at Red River, for an attempt to domesticate and utilize the buffalo, for the care of Spanish sheep, for the introduction of cattle from the United States, for an experimental farm on the Assiniboine and prizes for the best results attained by settlers.

Lord Selkirk had a vision of the Western Plains being peopled with agriculturists. A passage in the "Sketch of the Fur Trade" forms one of the most remarkable prophecies of that century; "If these regions were occupied by an industrious population, they might afford ample means of subsistence to more than thirty millions of British subjects."

The decade following Lord Selkirk's departure in 1817 was filled with disasters to the colonists. A week after his departure a heavy frost followed by a violent hurricane destroyed almost all the available supplies for the winter. The settlers were forced again to rely on the buffalo. (21) In 1818 locusts appeared in clouds that obscured the sun and swarmed upon the fields to a depth of many inches. Wheat stripped of all verdure, a few potatoes and ears of barley, "gleaned in the women's aprons"

were all that remained of a promising harvest. For three years the grass-hopper plague infested the area and devoured the wheat and tree leaves. Even the water was poisoned by them.

By an over-land journey on snowshoes and an early return by flat boat, seed wheat was secured from the Mississippi at a cost of 1,000 pounds to the Selkirk estate. A few French-speaking Canadian families with two Roman Catholic missionaries arrived in 1818 to share the lot of the colony and share the winter quarters at Pembina. Finally in 1826 the heavy snow drove the buffalo from the district and thirty-three of the hunters perished of cold or died of starvation while struggling back to Pembina.

In the spring the river rose 9 feet in 24 hours; two days later the water overflowed the banks and swept away houses cattle and farming implements. When the water subsided, many of the French returned to Canada; a group of the other settlers moved to the States. The fur company sped their departure by providing supplies for the journey.

The older settlers, resolved for the fourth time in 15 years, to begin anew. A buffalo wool company had been established to weave cloth for sale in Great Britain. The company was ill founded, mismanaged, and collapsed in 1825 but its one virtue was that it provided the farmers with money at a time when experimental shipments of cattle from the States were being tried out.

Captain Bulger, who became governor of Assiniboia in 1822 introduced the first traces of regularity into the management. A rough survey was completed. An Indian swash-buckler was lashed to a gun and publicly flogged. A council for the district of Assiniboia consisting of six of the settlers, met at Fort Douglas; the right of the settlers to trade with the Indians for provisions, leather and horses was vindicated against the ruling of the officials of the company.

After the flood of 1826 and the departure of the more shiftless element of the settlement, the colony thrived. Good harvests and less lawlessness made the colonists prosper and first awoke outsiders to the possibilities of the country. Governor Simpson of the Hudson's Bay Company had freely predicted the finish of the colony as such. Now he wrote "This settlement is in the most perfect state of tranquility, peace and plenty may be said to be its motto".

The prosperity of the colony paved the way for a return to the company of the original grant of land in 1834. The Sixth Earl of Selkirk received in consideration thereof, 15,000 pounds of Hudson Bay Company stock. The council of Assiniboia now was controlled by the company and was convened in 1835 under the presidency of the Governor of Rupert's Land. Four justices of the peace were appointed, a volunteer corps

was enrolled and the council proceeded to enact laws for the settlement. (22)

The personnel of the community underwent little change for a generation following 1827, except for the increasing number of retiring Hudson's Bay Company servants. Even though the colony was prosperous, there was no great incentive for immigration and the plodding farmers really created a small part of the history up 'till the coming of the railway. It was the Met's hunting the buffalo in summer, trapping in winter and working on the travel routes of the Hudson's Bay Co., who formed the most colorful part of the community. Their wild free life bred a spirit of restlessness under restraint and led up to petty insurrections and finally rebellion in 1869.

Repression rather than oppression was the sin of the company. Paternal government could not flourish indefinitely alongside the phenomenal growth and enterprises of Minnesota. To the American frontiersman the Red River trader and cartman with the marks of European extraction, "Emerge from the wilderness with the characteristics of a savage." (23) In 1856 when five hundred Red River carts with produce and furs crossed the American Border nearly six hundred names were signed to a petition to the Legislative Assembly of Canada in the cause of Union. So high did the feeling run that administration of justice became almost impossible, as all breaches of the trading acts were supported by public sympathy which rendered the

administration of court orders precarious.

Four political factions existed unofficially in the new and now expanding colony. The Metis and some others favoured the Hudson's Bay Company rule. A second group favoured annexation to United States. A third group favoured separate rule as a Crown Colony of Great Britain, and a group from the Canada's favoured union with their old home provinces. The latter group was given new life after Confederation in 1867. The deciding factor was the newly united provinces of eastern Canada, who successfully applied to Britain to have Rupertsland made a part of the new Dominion. The transfer of the lands (took place in 1870) held by the Hudson's Bay company to the Dominion of Canada.

At the time of the transfer there was only one settlement other than clusters around Hudson's Bay Trading Posts. That was at the fork of the Red and Assiniboine rivers. The official census of 1871 gave as the statistics of population: Whites 1,565; French half-breeds 5,757; English half-breeds 4,083. By religion they were divided - Catholic 6,247; Protestant 5,716; To the south up the Red River for thirty miles there was a straggling settlement of French half-breeds. West up the Assiniboine were settled French and Scottish for 65 miles or right out to Portage la Prairie. To the North along the Red were the original Scottish settlers and their descendants.

The racial character of each little group was so well defined that in the Convention held in December 1870 each district, through its representative, was enrolled as French or English. The English settlements were Winnipeg, Kildonan, St. John's, St. Pauls, St. Andrew's, St. Clements, St. Peter's, St. James, Headingly, Ste. Anne's, St. Margaret's and St. Mary's. The French were St. Francois X'avier, St. Boniface, St. Vital, St. Norbert, Point Coupee, Oak Point, Point a Grouette and St. Pauls. Only the last named showed a mixture of races.

The occupations of the residents of the Red River Settlement were those of a primitive people. Farming was not pursued on any extensive scale. There was no outside market, and the production was limited by the home consumption. Directly or indirectly, the whole community still lived on the proceeds of the chase. The great buffalo hunts upon the prairies to the West were still annual events which drew all the adventurous elements. A considerable portion of the population was engaged in freighting as the colony was dependent for supplies on St. Paul, Minnesota, 400 miles away. The freight rates from St. Paul were 16 shillings per 100 lbs., payable one-half in cash, and half in goods. (24)

These simple and primitive conditions of life were changed by the troubles attending the transfer of the province



in 1870. In a few years they had passed away forever. The province of Manitoba was created in 1870 and from then on the colonists were free to govern themselves. This time marks the beginning of improved connections with the outside world.

In 1871 a stage line, under contract with the government, began tri-weekly runs between Winnipeg and Abercrombie, Minnesota. In November, 1871, a telegraph line from Winnipeg to Pembina was opened. In 1872 the river steamer, Selkirk, owned by J. J. Hill, of railway fame, appeared on the Red River to mark the end of the historic overland-cart freighting. The Hudson's Bay Company steamer had been operating for years but it carried only the supplies for the Company. Later the number of steamers rose to 7. An all Canadian route was planned from Fort Carry to Thunder Bay but a million and a quarter of expenditure did not make it useable and not until the completion of the railway ten years later did the East and West obtain direct contact in trade.

Nevertheless, connections were better and settlement proceeded rapidly. In 1876 there were ten flour mills in the province, having a combined run of twenty stone. In that year the wheat yield of the West amounted to 480,000 bushels, the yield of oats to 380,000 bushels and barley to 373,000 bushels. The wheat crop averaged 32 1/2 bushels per acre; a record that was never afterwards reached. In this year the first export of wheat from the settlement, 857 bushels, was shipped by Higgins and Young to Steele Brothers of Toronto.

The first railway to reach Winnipeg was known as the Pembina branch. It connected with a Minnesota railway at Emerson. The first train reached Winnipeg on December 9th., 1878. This created a strong movement in Eastern Canada for a transcontinental system. In 1880 the Canadian Pacific Railway was chartered to carry it through. From this time on the Red River settlement ceased to be a distinctly pioneer area and its identity became lost in the larger unit of Manitoba, whose development is traced elsewhere.

(b) SWAN RIVER VALLEY

The Swan River Valley was first known to the fur traders. Through it lies one of the historic trails used by the Hudson's Bay Company, on its route from the Hudson Bay to York Factory. About 1898 the area around Dauphin was becoming well settled and the Minister of the Interior at Ottawa decided to add to the area for settlement by opening the Swan River area. Miners and trappers had brought favourable reports of the valley of Dauphin and the public interest was aroused.

Theodore A. Burrows was M. P. for the district and he made a trip through the area. His recommendation that the district have a wagon road out to it and be surveyed ready for settlers was followed (c.f. Dauphin Herald May 22, 1898.) These preparations were unusual and far reaching in their effects. Eighteen townships were outlined and ten subdivided and made available for homestead entry in the spring of 1898. In 1899 the railway was extended into the country.

The settlers moved into the country in groups and formed a consolidated settlement from the start. Thus school districts were immediately formed, roads were built and with the block type of settlement the other requisites of an organized community, namely, the Church and Social organizations followed quickly. Contrast this with the hardships of the Red River

settlers or even that of the later settlement of Peace River where the early settlers moved into the country five hundred miles in the middle of winter, because that was the only time the trail was passable with heavy loads. After arriving they had to wait from 5 to 20 years for a railway and organized community life, during which time development was necessarily slow.

The population of Swan River is presented below:

POPULATION OF SWAN RIVER VALLEY

(Including townships 32 - 45, and ranges 23 - 29,  
West of First Meridian.)

Year	Excluding Town of Swan River	Including Town of Swan River
1901	1,849	1,849
1906	3,833	3,833
1911	3,680	4,254
1916	4,680	5,242
1921	7,026	7,929
1926	6,921	7,821

(Reference: Census Reports 1926)

Thus, three years after the area was open for homesteads 1,849 people were settled in it.

Only 10 townships were thrown open for homestead in 1898 so the settlement must have been well grouped and consolidated. The present area included in the Table is 78 townships or an organized area of 1,041 square miles. The small increase since 1906 seems to suggest that the settlement must have been very rapid up 'till that time and a fairly complete development was achieved in the first eight years.

The percentage of cash income from various sources in 1929 is presented in figures in Table No. 42, and graphically in Chart No. 13. The table is based on a sample survey of farms in 1930. ( Pioneer Problems survey under Doctor Marchie, summer of 1930). It will be seen that the modal group in size of farm is the half-section size with the quarter section a close second. The numbers of farms trail off rapidly in the larger size of farms. This district has been settled for some time except the outlying points like Birch River so that it is evident that the quarter-section is a better economic unit in the Swan River than in many parts of Western Canada. This fact may have some connection with the large pasture areas in the Riding Mountains and the fact that the smaller sizes of farms show a larger percentage of returns from livestock than do the larger farms.

TABLE NO 42

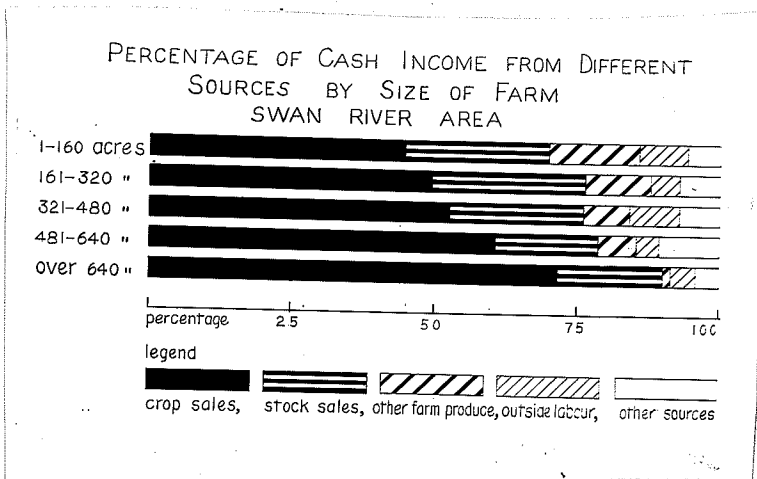
PERCENTAGE OF CASH INCOME FROM DIFFERENT SOURCES  
BY SIZE OF FARM

SWAN RIVER AREA

Size of Farm	Average acreage improved	No. of Farms	Crop Sales	Live-stock sales	Other Farm Produce	Outside Labour	Threshing	Custom Field Work	Feed Grinding Sawing & Other	Total
(Acres)										
1 - 160	75.04	73	44.54	25.48	15.86	8.53	3.40	1.79	.40	68,261
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	293.78	9	60.6	18.14	6.92	3.78	10.19	.36	-	27,601
641 - 800	401.00	4	71.64	18.54	1.40	5.60	2.33	.50	-	16,081
801 - 960	- - -	-	- -	- -	- -	- -	- -	- -	- -	- - -
961+	925.67	3	72.09	16.90	1.82	3.81	4.01	1.37	- -	17,456
Average all farms	152.35	- -	52.18	24.30	10.41	6.34	5.33	1.08	.36	1,741.43
No. of farms having item	197	- -	173	185	172	104	38	30	17	197

Note: One farm omitted in 961+ class; information not complete.

CHART NO. 13



The farms of less than 321 acres derive slightly less than 50% of their revenue from grain sales though it is the biggest single item of cash income for all sizes of farms. These farms larger than one-half section derive cash income more from grain sales as the size of farm increases. The inverse is true of other farm produce including dairy products, vegetables etc., though this item is relatively more important for Swan River than for Western Canada as a whole.

It might be agreed that the higher proportion of cash income from livestock and farm produce indicates a trend to diversification. This is true to some extent but grazing leases are not diversification, they are specialisation in livestock raising. By reference to Table No. 42 it will be seen that only about half of the possible acreage in each farm group is improved and the proportion is fairly constant in each group. If one-half of each (the actual proportion in 1926 is 43% improved) is unimproved then the only unimproved land utilization is by livestock; but this again is not diversification. The improved pasture in 1926 in census division No. 15 which includes Swan River and Minitonas municipalities, had only 4.8% of the improved land in pasture and 8.6% of the field crops used for growing hay or forage crops seed, including a large proportion of cereals cut for hay and summer feeding. Part of this



would be for work horses. Wheat alone accounted for 35.3% of all field crops.

The cash income received from grains shown in the survey is not entirely fair for comparison as it covers a year of average crops and low grain prices. When it is remembered that Swan River is in the Northern Park country which shows a tendency towards greater livestock population, the trend of settlement is not out of line with that of Western Canada generally.

The main feature of settlement in the Swan River Valley was the controlled and planned movement of settlers. This resulted in a consolidated settlement and a lack of unnecessarily hard years of pioneering. The early extension of the railway was a large factor in assisting the rapid development, but the railway was undoubtedly rendered much more feasible and less costly by the consolidated and rapid settlement resulting from planning beforehand.

(g) PEACE RIVER

The first interest of white men in the Peace River country lay in its fur trade. The first white settlement, however, arose from an unusual source. The country was known to fur traders from the visit of Alexander MacKenzie in 1692 chiefly because of its connected northern water routes. When gold was discovered in the Yukon in 1897 many routes were tried in an endeavour to get an easy passage. A large group left Edmonton and went westerly to Edson and then followed the foothills along what is now known as the Edson trail to the Peace River.

Here rafts were built and the party endeavoured to float down the river and cross the mountains from the east to Dawson city. Finding themselves unable to cross the mountains they returned to a point on the Peace River near the present Shaftesbury settlement. Here a number remained and maintained a little colony by a combination of farming and trapping.

The farming possibilities of the country were well known from before 1900 and settlement continued slowly even though the country was isolated from other settlement by 200 miles of forest and sand hills. When it was decided to open the country for settlement in 1910, a trek of homesteaders into

the Peace River preceded the railway.

The railway line started for Peace River but was halted at the outbreak of the World War and the rails were not finally laid to the heart of the country until 1916. Since that date extensions have been made both north and south of the river as new areas become settled.

The population of the Peace River has expanded rapidly, especially since the prospect of a railway has started permanent settlers rushing in. The census returns give the population of the Peace River constituency as follows:

POPULATION OF PEACE RIVER

<u>Year</u>	<u>Population</u>
1901	3,151
1906	5,543
1911	15,844
1916	25,717
1921	39,727
1926	42,784

It will be seen that rapid development began sometime after 1906 and the stories of the settlers seem to indicate that 1910 marked the beginning of the rush for homesteads. The figures given are for the Peace River federal constituency which includes all territory down to Edmonton and West to the provincial boundary. The territory popularly known as the Peace River country lies north of the 68th row of townships and west of the 5th. Meridian; mainly west of range 17.

If the population by townships is viewed it will be seen that there were very few people in Peace River proper up until 1911. This section in 1926 held 14,477 from the townships lying west of the 5th. Meridian and north of township 68. This same area in 1911 reported only 502 people in 19 townships. It is impossible to say how much of the population reported from un-organized territories and Indian Reserves in the larger constituency belongs in this area but in any case the increase of population is quite large in the 15 years. The increase in per cent is approximately 2,784% on the basis of the townships reporting.

The Peace River settlement was never attempted as a self-sufficing settlement. There were no large settlements in before the prospects of a railway. Those who were in for the most part supplemented their revenue by trapping and trading furs.

This source of income is still in vogue in all the new northern settlements. The local flour mills early took care of flour requirements of the community and local lumber mills began operation in time to start the displacement of log buildings but the settlers never weaved their own cloth from home grown wool, though buckskin garments were, and, in a few districts still are popular. With a profitable fur trade at hand the few early settlers had cash to trade for their wants and only the simpler requirements like flour and vegetables were home grown. Even yet many of the outlying districts obtain much of their meat by hunting, and thus wild geese, venison and even bear steaks form a part of the homesteaders menu.

The country had no railway and no other outlet to a market prior to 1916; nor was there a large enough population to consume any appreciable quantity of produce locally. Therefore, the production which the area has attained is very remarkable. This production can only be presented from census returns and a recent economic survey of the area based on the sampling principle.

The 1926 census shows the Alberta census division No. 11 which corresponds fairly well with the boundaries of the main settlement of Peace River, to have produced, on 100,651 acres, 1,520,953 bushels to 1,311,051 bushels of oats on 57,856 acres. Rye was grown on only 795 acres and mixed grains on 101. Flax was grown on 253 acres to yield 1,530 bushels while 380

bushels of grass seed were produced and 60 bushels of clover. The leading forage crop was grain cut for hay which accounted for 16,982 acres and 14,019 tons. The only root crop of importance was potatoes which were grown on 419 acres and produced 58,127 bushels.

Census division 16 is reported as possessing 20,280 horses of all ages; 22,372 head of cattle; 16,911 swine and 1,673 head of sheep in 1926. The value of domestic animals sold alive, including horses, however, is only \$559,513 compared with a valuation of grains and seeds of \$2,812,390, with wheat production alone being valued at \$1,765,396. (25) This gives a ratio between all livestock and wheat receipts of 1:3.15. There is a considerable acreage of rough untillable soils around the Peace, Smoky and Wapiti rivers which is used for grazing purposes and towards the B. C. boundary and in the Battle River small scale cattle ranching is conducted, but it tends to lessen as settlement and railways reach farther out. It is noteworthy that of the livestock sold, hogs lead in numbers with 15,578 to 7,798 cattle of all varieties and 590 sheep. The large volume of hog marketing is due to the high trucking and freight costs and the consequent attempt, especially in districts off the railroad, to find a more compact and hence more profitable outlet for coarse grains.

The 1926 figures, however, are a poor indication of the present volume of production as the most rapid and extensive

development of the area has been between 1926 and 1931. The next census will give a better picture of recent development. Grande Prairie district alone shipped out over 1,000,000 bushels of wheat in 1929 according to C. P. R. freight reports, compared with a total production of 230,188 bushels in 1926. The town of Grande Prairie, which is listed as having a population of 917 in 1926 is estimated by the town clerk to have over 2,000 population in 1930.

The recent economic survey by the Canadian Pioneer Problems (1930 Survey by Canadian Universities under direction of Dr. W. A. MacKintosh) while only covering 332 farms was based on an equitable sampling system and covers the whole territory including the Peace River Block of B. C. Therefore, the findings from this survey will give a truer picture of the recent developments. It includes the farm operations for 1929 and the farm buildings as at June 1930. Table No. 43 gives a good picture of the farms by size and the sources of income.

There were 332 farms studied. Of these 72 were new homesteads still insufficiently developed to contribute the information desired and 259 were developed. Thus 21.7% of the holdings were still undeveloped homesteads. Of the developed holdings about 32% were larger than a quarter section but within the one-half section size. Holdings of one quarter or less equalled only 12% of the total, exclusive of new homesteads. There were 55 farms of the three quarter section size or 21% and the

TABLE NO. 43

PERCENTAGE OF CASH INCOME FROM DIFFERENT SOURCES  
BY SIZE OF FARM

PEACE RIVER AREA

Size of Farm (ACRES)	No. of Farms	Average Acreage Improved	Crop Sales	Livestock Sales	Other Farm Products	Outside Labour	Dairying	Custom Field Work	Other	Total
1 - 160	51	82.19	54.0	20.67	5.96	17.13	.54	.55	1.15	29,484
161 - 320	84	152.95	67.16	18.29	4.47	3.32	4.15	.25	2.36	155,848
321 - 480	55	207.04	60.10	20.52	3.51	2.76	10.17	2.65	.30	133,702
481 - 640	47	305.94	75.01	10.60	4.44	1.14	5.26	1.77	1.77	144,276
641 - 800	19	373.74	64.46	15.02	3.46	1.07	7.90	7.13	.95	67,283
801 - 960	10	463.30	67.41	8.56	1.38	2.03	16.31	1.81	2.49	56,185
961 - 1120	8	430.50	44.60	31.15	1.00	3.96	7.33	4.48	7.48	40,372
1121 +	5	330.00	45.71	23.91	.41	13.63	5.13	-	10.88	29,359
Average all Farms	- -	223.43	64.26	17.04	3.57	3.51	7.14	2.17	2.32	656,487
No. of Farms having item	- - -	260	237	211	153	72	38	29	36	260

Note: 72 New homestead records omitted.

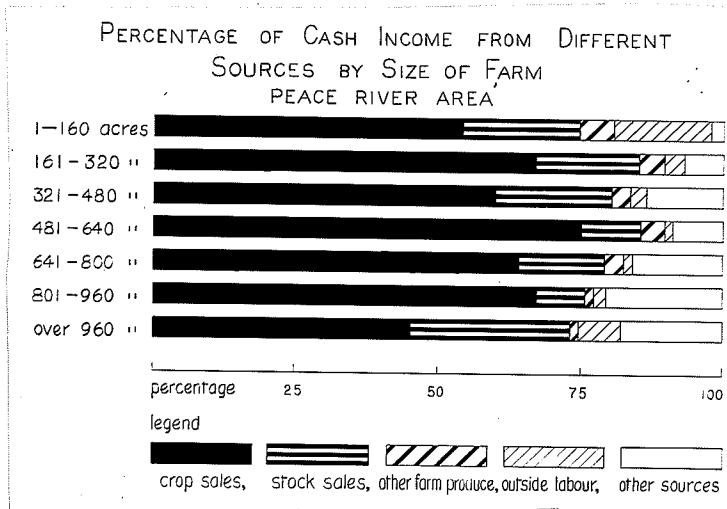


section group held 47 farms or 18%. There were only 19 farms of the one and one-quarter size or 7.3% of the holdings and the last three groups work out at 4%, 3% and 2% respectively.

All land in the Peace River was originally handed out in one-quarter sections, either as homesteads or land grant quarters. The small proportion of developed quarter-section holdings, in spite of the recency of settlement, would seem to indicate that the quarter section is not an economical unit of land in the Peace River area generally and also that the progression towards large holdings is fairly rapid after title has been established to homesteads. The percentages of cash income are presented in Table no. 43 in figures, and graphically in Chart No. 14 below. One peculiarity should be noted. The two groups over 960 acres are largely composed of farms with large grazing leases alongside. This accounts for their large total acreage as well as their lower acreage improved and their higher proportion of livestock sales to crop sales. Were it not for these semi-range farms and the use of hogs in outlying districts to consume low-priced coarsest grains, the livestock population would be very low.

With the exception of the large farms just mentioned the cash income from all sizes of farms is over 50% from crops sales.

CHART NO. 14



The average for all farms reporting is 64.26%, being 17.04% from livestock sales for all farms reporting. The sales of other farm produce include butter, eggs, cream, poultry, vegetables and dressed meats etc., but as seen in Table No. 43 it is a very insignificant item of income. This item to be properly accorded it's place would have to be considered from the standpoint of its lowering the cost of living and cost of production rather than as cash income. Besides the townspeople, many of the new settlers buy their butter, eggs and milk, and that which is sold, for the most part, finds a local market.

Strangely enough, the income from outside labour is highest on the largest and the smallest group of farms and for the same reason in both cases, namely, insufficient work for full time occupation at home. However, it will be remembered that the larger farms are mainly grazing leases and that the owners are freer at the time of harvest when high wages are obtainable.

Returns from threshing are to be expected most from those farms which are of a size to warrant owning an outfit and in general this is true, but the number of owners is too small to give a clear out trend. Custom field work is common in the newer districts where the area improved per farm is too small to

justify owning a complete line of machinery.

The settlement of the Peace River has been a replica of all Western settlement. First it was known only to the traders. Then a few of the more venturesome settlers came and pioneered. When the railway arrived, the country began changing very rapidly into a farming country whose production was mounting with unbelievable rapidity. A few of the older districts are already fully developed and seem to have struck their maximum of production; Grande Prairie and Clairmont are examples. These latter districts now resemble thousands of other good farming districts in Western Canada.

PART VI

C O N C L U S I O N S

- 1 - Western Canadian population has increased very rapidly since 1885. The main increase occurred between 1900 and 1911.
- 2 - This latter period was the time of rapid homestead filing and rapid railway extension in Western Canada. In some cases railways preceded settlement, and in others, settlement preceded the railways, but the most rapid gains in development were recorded where railway building and settlement coincided.
- 3 - White men were first attracted to Western Canada by the fur trade. The country was changed from this primitive state by a series of innovations, the main features of which were: group immigration from overcrowded older countries; the growth of railways and consequently international exchange of bulky goods from inland points; the development of efficient bulk-handling of grain with inland storage; and the great improvement of agricultural machinery.
- 4 - While Canada was young, its foreign commerce was handled through Great Britain or the United States. Lately Canada has been promoting its own foreign commercial relations.

- 5 - The three leading items of export from Canada are wheat, printing-paper and wheat flour in the order named. The wheat comes largely from Western Canada where it is the main item of production. Livestock is also exported but the value exported is very low in comparison with that of wheat.
- 6 - Canada produces most of the agricultural products in sufficient quantities for home requirements but only two products, namely wheat and cheese depend largely on sale abroad.
- 7 - Both agricultural and total exports have been increasing rapidly in value. The big fluctuations in Canadian exports are due primarily to variations in the volume of plant products which form a large part of the exports. Agricultural products form over half of the exports. The value of wheat alone constitutes over one-half of the value of agricultural products exported.
- 8 - The export trade has always supplied Canada with a market at some price. That price must have been adequate at certain periods to justify production, although the price received was not the chief cause of the rapid development in Western Canada.

- 9 - Before 1900 the settled parts of Western Canada were mainly in Manitoba stock ranching had risen in Saskatchewan and Alberta but the main grain acreage was still in Manitoba.
- 10- After 1900 settlement moved rapidly westward until Saskatchewan and Alberta both passed Manitoba in numbers of population and in grain acreage. The ease of breaking the plains encouraged cereal production and the export requirements resulted in a trend towards the growing of wheat as the main crop.
- 11 - Agriculture is the main enterprise and source of income in Western Canada. In all three provinces agriculture has produced over one-half of the net income of all industries. Western Canada as a unit derives 77.6% of the total net revenue from agriculture. Some of Canada's largest manufactures are founded on the processing of agricultural products.
- 12 - The home market has many advantages but it is not as important to Western Canada as is the export market. Western Canada derives its revenue largely from field crops and they are produced either for export or for the home market at export prices.
- 13 - Wheat and livestock production are continually competing in the utilization of land. The areas best adapted to cultivation

have become predominantly wheat-producing while those areas less adapted to cultivation have been devoted more to coarse grains and native pasture for livestock.

- 14 - The trend is towards a larger size of farm holding. In the majority of districts the quarter-section of land has not proven an economical unit, and land settlement based on quarter-section holdings for all districts tends to delay but not permanently change the trend of development.
- 15 - The Red River settlement is an example of a movement that was planned ahead but because it was started without due regard for the difficulties involved, resulted in severe hardships for the pioneers before the settlement became permanent and progressive. The Swan River settlement is an example of a well planned movement where the economic factors were propitious and there was consolidated settlement and a minimum of hardships. The Peace River area was settled in a very scattered way during a boom of settlement and then it was found very difficult to provide all the needed services to the outlying districts. The result was many hardships and frequent emigration movements from the district before settlement became permanent in each locality. In many districts less than twenty per cent of the original settlers have remained.



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