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CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
AGRICULTURAL BRANCH

THE PRODUCTION AND DISTRIBUTION OF COARSE GRAINS

1. BARLEY

A survey of statistical and other data relating
to Canadian barley and its place in world
production and trade.

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DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS - CANADA
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Dominion Statistician:	R. H. Coats, B.A., F.S.S. (Hon.), F.R.S.C.
Chief, Agricultural Branch:	T. W. Grindley, Ph.D.

Barley

Barley is probably the oldest of all cultivated cereals. History suggests that at one time barley was the only cereal under cultivation and it is thought to have originated in south-eastern Europe. Present day two-row varieties are thought to have descended from a species of wild barley that is still found in southern Russia. The lineage of modern six-rowed varieties is doubtful but it is probable that they were developed from a wild barley with the same general characteristics.

At one time barley was cultivated and harvested for human consumption and constituted an important part of the diet of people in southern Europe and in parts of Asia. As wheat, oats and rye were developed, however, barley became of less importance as a human food. The particular qualities of wheat and rye made these grains more suitable for human consumption. Measured in bushels barley is to-day the third most important cereal produced throughout the world. The widespread production of barley is partly due to the fact that it can be successfully grown in a wide range of climatic conditions extending from semi-tropical to northerly areas.

Barley - Its Uses

Barley enters into commercial channels in a number of ways. In order to evaluate barley in relation to other cereals, a brief outline of some of its main uses is advisable. The most important use of barley to-day is as a feed grain for live stock. The feeding qualities of barley have been long recognized in Europe, parts of Asia, in the United States and Canada. In Canada the use of barley in the live-stock industry has been general for many years but has received more emphasis recently. Feeding tests have shown that barley is undoubtedly the best substitute for corn as a feed for fattening animals. In most of the feeding tests that have been carried out in order to compare the feeding value of corn and barley, corn has proved itself superior, but the difference between the two grains has not been very great. Probably the greater palatability of corn accounts for the margin of superiority. In regions where corn cannot be produced, barley is the leading feed for hogs and for fattening steers. Corn is higher than barley in fat but lower in protein. In general, it is the digestible carbohydrate content of a feed that determines its fattening value.

An interesting discussion of the feeding value of barley is found in Pamphlet No. 127 published by the Department of Agriculture (Ottawa). The following analysis of various cereals is extracted from this report:-

	Water	Ash	Crude Protein	Fibre	N-free Extract	Fat	T.D.N. ¹
	%	%	%	%	%	%	lb.
Barley	9.3	2.7	11.5	4.6	69.8	2.1	79.4
Corn	10.5	1.5	10.1	2.0	70.9	5.0	85.7
Oats	9.2	3.5	12.4	10.9	59.6	4.4	70.4
Wheat	10.2	1.9	12.4	2.2	71.2	2.1	80.1

¹Total digestible nutrients per 100 pounds.

"The foregoing comparative analyses of the more common grains grown on Canadian farms go to show that barley compares favourably with the best of them, being well up to the average in protein, low in fibre for a grain carrying a hull, and relatively high in carbohydrates and fat, all of which are readily digestible, so that in total digestible nutrients it is excelled only by corn and wheat. The former gets its higher value through carrying more fat and having a slightly higher digestibility, while wheat contains slightly more starch and has no hull, therefore having a slightly higher digestibility."

The value of barley as a feed product for various classes of live stock is summarized by the Department of Agriculture (Ottawa) as follows:-

1. In total digestible nutrients, barley is excelled only by wheat and corn.
2. Barley lacks slightly in palatability as compared with corn and is best fed in conjunction with other grains.
3. Being of a carbonaceous or fattening nature, it may be most advantageously used with meat producing animals in both the growing and fattening stages.
4. It is generally recognized as the most useful Canadian-grown grain for swine feeding.
5. It is almost equally useful in the feeding and finishing of beef cattle.
6. With oats, it forms a good base for dairy cattle grain mixtures where the additional protein required to balance the ration is otherwise supplied, for example, by alfalfa or high protein cereal-legume hay crops.
7. Barley may be safely and economically fed to work horses as a part of the grain ration. It is best rolled or bruised.
8. Barley, rolled, cracked or coarsely ground, combines well with oats in the fattening of lambs.

The foregoing paragraphs are intended to show the importance of barley as a basic requirement of the live stock industry and to indicate in a general way the importance of animal consumption in the disposition of domestic and foreign barley crops.

Barley in the Malting Industry

Barley is used extensively in the malting industry. The process of malting consists of allowing the germination of barley grains to proceed to a certain stage, when it is arrested by the withholding of water and the application of heat. The object of this procedure is to modify certain constituents of the grain, thus rendering them more amenable to the subsequent operations of brewing.

The barley is first steeped for about 48 to 70 hours in water at a temperature of approximately 55°F. It is then removed from the steep, spread thinly on the malting floor, and allowed to germinate. Before steeping, the barley may be said to be in a condition of dormant vitality; but under the stimulus of moisture and warmth, a complicated series of vital activities is initiated. The most important of these, from the point of view of the maltster, is the production and liberation of enzymes. These act on the reserve materials, starch and proteins, in the endosperm of the grain, transforming them in part into simpler and more soluble compounds.

The malting industry requires certain standards in the barley which it consumes. All barleys do not make good malting barley. It is generally recognized, in Canada at least, that six-rowed barley is superior for malting purposes. O.A.C. 21 is the standard malting variety in Canada although other varieties are used.

In general, malting barley must germinate uniformly and have a high percentage of germination. The grain must be capable of yielding a maximum of starch in the malting process and must be free from foreign material. The requirements of the malting trade are such that only certain barley can qualify and generally speaking only barleys that are grown specifically for the purpose.

Barley malt is in turn a product with a wide variety of uses. It is extensively used in the brewing and distilling industries, in the manufacture of yeast, in the manufacture of a wide range of food and medicinal products and as a flavouring material.

Limited quantities of barley are used in manufacturing prepared soups and rolled barley is used as a breakfast cereal.

The following table summarizes the main uses of barley in its various forms:-

1. Feed for live stock.
2. Preparation of soups.
3. Rolled barley for cereal food.
4. Barley flour.
- (5. Preparation of breakfast foods and as a
flavouring material.
- (6. Preparation of invalid and infants' foods.
- (7. Malt Coffee and barley coffee.
- (8. Malt flour.
- Malt Products (9. Malt extract.
- (10. Fermented alcohol and non-alcoholic beverages.
- (11. Distilled alcoholic beverages.
- (12. Industrial alcohol.
- (13. Malted stock food.
- (14. Yeast.

Production of Barley in Canada

The relative position of barley as a cereal crop is shown in the following table. The percentages are based upon the January estimates of the 1932 crop:-

	<u>Acreage</u>	<u>Per cent</u>	<u>Production</u> (Bushels)	<u>Production</u> (Tons)	<u>Per cent</u>
Wheat	27,182,100	60.6	428,514,000	12,855,400	59.2
Oats	13,148,400	29.3	391,561,000	6,656,500	30.7
Barley	3,757,600	8.4	80,773,000	1,953,500	8.9
Rye	773,300	1.7	8,933,000	250,300	1.2
T O T A L	44,861,900	100.0	909,786,000	21,706,700	100.0

The area sown to barley in Canada in 1932 amounted to 3,757,600 acres compared with an area of 27,182,100 acres sown to wheat; 13,148,400 acres sown to oats and 773,800 acres sown to rye. In other words, of the total area sown to the four leading cereal crops 8.4 per cent was sown to barley.

According to the third estimate of 1932 cereal production, issued by the Dominion Bureau of Statistics on January 20, 1933, production of barley in Canada amounted to 80,773,000 bushels compared with wheat production of 428,514,000 bushels, oat production of 391,561,000 bushels, and rye production of 8,938,000 bushels.

Converting the foregoing production figures to a tonnage basis, as shown in the above table, total production of the four cereals amounted to 21,700,464 tons of which 1,933,500 tons or 8.9 per cent consisted of barley.

The above figures show the relative position occupied by the four cereal crops in Canada in 1932. However, it must be remembered that barley acreage has decreased from 5,926,000 acres in 1929 to 3,757,600 acres in 1932. The relative positions occupied by cereal crops in 1929 when barley acreage was at its maximum are shown in the following table:-

	<u>Acreage</u>	<u>Per cent</u>	<u>Production</u> (Bushels)	<u>Production</u> (Tons)	<u>Per cent</u>
Wheat	25,255,002	56.6	304,520,000	9,135,600	54.5
Oats	12,479,477	27.9	282,833,000	4,803,246	28.7
Barley	5,925,542	13.3	102,313,300	2,455,519	14.6
Rye	991,944	2.2	13,160,500	363,494	2.2
T O T A L	44,651,965	100.0	702,831,800	16,767,859	100.0

The above table shows that when barley acreage reached its peak in 1929, the area sown to this grain constituted 13.3 per cent of the total area sown to cereals. In that year barley production amounted to 102,313,300 bushels, 2,455,519 tons or 14.6 per cent of the cereal tonnage produced in 1929.

It is apparent, therefore, that the relative importance of barley acreage in Canada has declined considerably since the period of expansion which ended in 1929. Part of the relative decline in barley acreage is due to decreased acreage sown to barley and part is due to an increase in acreage sown to wheat and oats since 1929.

Development of Barley Production in Canada

The following table shows the acreage sown to barley, and estimated production of barley, by years, since 1910:-

Production of Barley in Canada

	<u>Area</u> (acres)	<u>Production</u> (bushels)
1910	1,286,611	28,846,425
1911	1,521,694	44,415,000
1912	1,531,300	49,398,000
1913	1,613,000	48,319,000
1914	1,495,600	36,201,000
1915	1,718,432	54,017,017
1916	1,802,996	42,770,000
1917	2,392,200	55,058,000
1918	3,153,711	77,287,000
1919	2,645,509	56,389,000
Average 1910-19	1,921,105	49,270,044
1920	2,551,919	63,311,000
1921	2,796,000	59,709,000
1922	2,600,000	71,865,000
1923	2,785,000	76,998,000
1924	3,407,000	88,807,000
1925	3,524,000	87,118,000
1926	3,647,000	99,987,000
1927	3,506,000	96,938,000
1928	4,881,000	136,391,000
1929	5,926,000	102,313,300
1930	5,559,000	135,160,000
1931	3,768,000	67,383,000
1932	3,757,600	80,773,000
Average 1920-32	3,745,609	89,920,100

The development of the barley industry in Canada may be traced through two major periods of expansion since 1910. In the first place Canadian barley acreage doubled during the war, or from 1914 to 1918. After a moderate recession another period of expansion commenced in 1920, and again barley acreage was doubled in the 10 year period from 1920-29. As was the case after the expansion during the war, the expansion from 1920 to 1929 was followed by a fairly sharp recession in the two succeeding years.

In the ten year period from 1910 to 1919 acreage of barley in Canada increased from 1,286,611 acres to 2,645,509 acres--or more than doubled. From 1910 to 1914 expansion was moderate. In the war years, however, barley acreage increased sharply and acreage was more than doubled between 1914 and 1918.

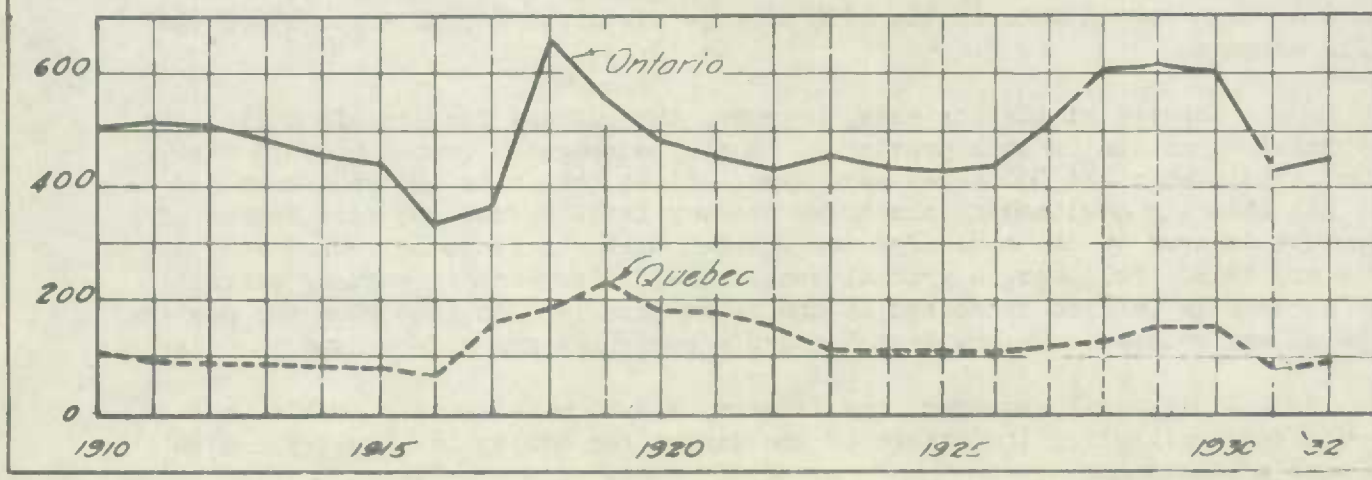
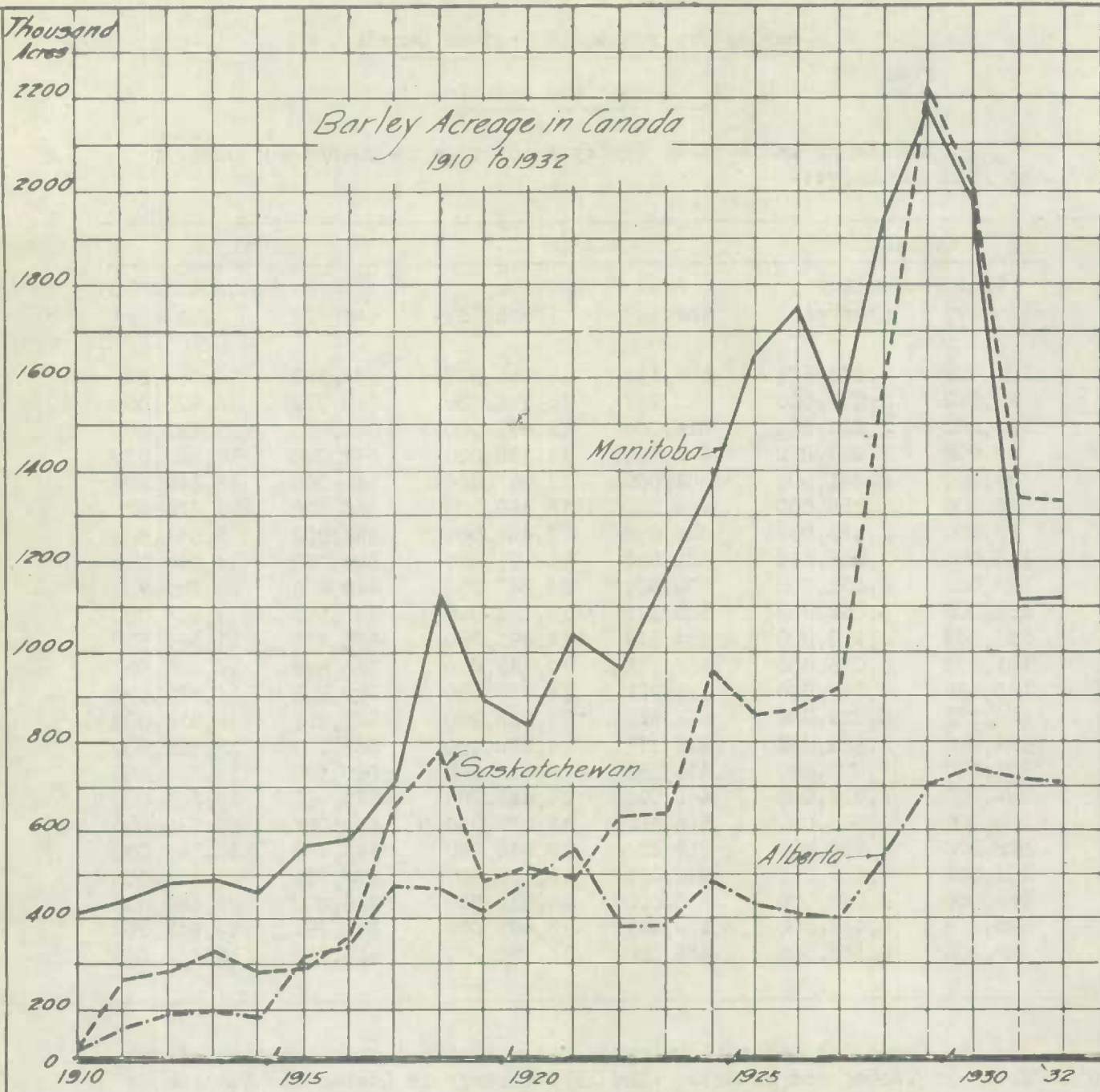
In 1919 and 1920 a sharp decrease in barley acreage took place, a net decrease from the peak acreage of 1918 of about 600,000 acres. Following the reaction which ended in 1920, barley acreage commenced to expand and continued to increase for the ensuing nine years with but slight recessions in 1920 and 1927. In the ten year period from 1920 to 1929 barley acreage again more than doubled itself as during the war years. In 1929, 5,926,000 acres were sown to barley as compared with 2,551,919 acres in 1920. From the high point reached in 1929 barley acreage decreased by over 2 million acres during 1930 and 1931, and remained at about the 1931 level in 1932.

The following table shows index numbers of barley acreage from 1910 to 1932:-

(Base 1926 = 100)

1910	35.0	1921	77.0
1911	42.0	1922	71.0
1912	43.0	1923	76.0
1913	44.0	1924	93.0
1914	41.0	1925	97.0
1915	47.0	1926	100.0
1916	49.0	1927	96.0
1917	66.0	1928	154.0
1918	86.0	1929	162.0
1919	73.0	1930	152.0
1920	70.0	1931	103.0
		1932	103.0

The above indices show the relative change in barley acreage over the 25 years from 1910 to 1932, and show the relative expansion that took place during the war and post-war periods.



Barley Production in Eastern Canada

A. Quebec and Ontario

The following table shows barley production in Quebec and Ontario from 1910 to 1932 inclusive:-

	QUEBEC		ONTARIO		TOTAL	
	Area (Acres)	Production (Bushels)	Area (Acres)	Production (Bushels)	Area (Acres)	Production (Bushels)
1910	101,728	2,378,372	503,129	14,055,327	604,857	16,433,699
1911	99,762	2,271,000	519,967	13,722,000	619,729	15,993,000
1912	94,000	2,226,000	512,000	15,093,000	606,000	17,319,000
1913	89,000	2,263,000	485,000	14,589,000	574,000	16,852,000
1914	85,000	2,261,000	461,000	13,987,000	546,000	16,248,000
1915	85,000	2,255,000	449,000	15,369,000	534,000	17,624,000
1916	72,800	1,456,000	326,000	7,493,000	398,800	8,954,000
1917	165,000	3,063,600	361,000	11,191,000	526,000	14,254,600
1918	189,000	4,551,000	660,404	24,247,700	849,404	28,793,700
1919	234,000	5,344,000	569,183	13,134,000	803,183	18,473,000
1920	194,044	4,910,000	484,328	16,660,350	678,772	21,570,350
1921	191,673	4,073,000	462,176	10,149,000	653,849	14,222,000
1922	155,578	3,549,000	433,922	13,972,000	589,500	17,521,000
1923	124,771	2,895,000	452,490	13,523,000	577,261	16,418,000
1924	124,000	2,939,000	439,177	14,570,000	563,177	17,509,000
1925	124,000	2,976,000	436,383	14,917,300	560,383	17,893,000
1926	124,000	2,914,000	449,095	14,447,000	573,095	17,361,000
1927	125,000	3,083,000	514,302	17,238,000	639,082	20,326,000
1928	123,000	2,803,000	615,433	19,944,000	743,433	22,747,000
1929	154,016	3,512,000	622,063	18,032,000	776,079	21,544,000
1930	156,000	3,678,000	610,000	20,911,000	766,000	24,589,000
1931	95,279	2,449,000	439,483	13,492,000	543,762	15,941,000
1932	99,000	2,366,000	456,000	14,090,000	555,000	16,456,000

The foregoing table illustrates the relatively stable nature of the barley industry in Quebec and Ontario. The 1932 acreage in Quebec was just under the 1910 acreage and in Ontario the 1932 acreage was about 50,000 acres lower than the 1910 acreage.

Acreage statistics show, however, that demand for cereals during the war produced expansion in both provinces. Barley acreage in Quebec reached its maximum in 1919 when 234,000 acres were sown. Since that time the area sown to barley has steadily declined to about the pre-war level. Much the same course of development is seen in the case of Ontario, when barley acreage increased sharply in 1918 and 1919. Following a gradual contraction in acreage in ensuing years, barley acreage in Ontario increased in the years from 1926 to 1929 when the post-war high point was reached. In the last 3 years acreage has again decreased in Ontario.

In general, however, the industry has been relatively stable in eastern Canada reflecting the nature of the market for barley in industry and in live stock production.

Millions
Bushels

160

140

120

100

80

60

40

20

0

*Production of Barley in Canada
1910 to 1932*

1910 '11 '12 '13 '14 '15 '16 '17 '18 '19 '20 '21 '22 '23 '24 '25 '26 '27 '28 '29 '30 '31 '32



Historical Reference

The production of barley in Ontario used to be of greater relative importance than at the present time. A study of cereal statistics in Ontario prior to 1890 shows that barley was a considerably larger crop than at any time since. In 1888 Ontario produced 23,366,569 bushels of barley and in 1889 the crop was estimated at 23,386,388 bushels. In 1890 however production decreased sharply to 15,600,169 bushels and from 1893 to 1899 averaged only about 12 million bushels.

Reference to Canadian trade figures for this early period shows that Canada used to export a considerable quantity of barley to the United States. For the fiscal year ending April 1, 1890, exports of Canadian barley to the United States amounted to about 10 million bushels. In the following year exports to the United States dropped sharply to 4.8 million bushels and in succeeding years dropped to insignificant proportions.

The position of the Ontario barley industry was definitely affected in 1890 by the tariff policy of the United States. Under the United States tariff of 1883 Canadian barley was subject to a duty of 10 cents per bushel. In 1890 the tariff was increased to 30 cents per bushel and this important increase in duty practically stopped the importation of Canadian barley into the United States.

B. Production of Barley in the Maritime Provinces

The production of barley in the Maritime Provinces has been relatively stable in the past 20 years. As in other parts of Canada, barley production received an impetus during the war years and the largest production recorded since 1910 in the Maritime Provinces occurred in 1919 when 383,000 bushels were grown. In the same year the total area sown to barley amounted to 30,192 acres. Acreage and production gradually receded from 1920 to 1925 when 17,030 acres were sown to barley. From 1926 to 1930 another expansion of barley acreage took place and in the latter year 27,000 acres were sown. In 1931 total barley acreage in the Maritime Provinces decreased sharply but some recovery is noted in 1932.

The following table shows the estimated area and production of barley in Prince Edward Island, Nova Scotia and New Brunswick from 1910 to 1932:-

Year	Prince Edward Island		Nova Scotia		New Brunswick		Total -- Three Provinces	
	Area (Acres)	Production (Bushels)	Area (Acres)	Production (Bushels)	Area (Acres)	Production (Bushels)	Area (Acres)	Production (Bushels)
1910	4,878	114,430	5,348	142,223	2,603	56,758	12,829	313,411
1911	4,615	118,000	5,551	143,000	2,791	79,000	12,957	340,000
1912	5,000	145,000	5,000	143,000	2,700	74,000	12,700	362,000
1913	4,000	111,000	5,000	134,000	2,500	74,000	11,500	319,000
1914	3,800	119,000	4,800	138,000	2,400	64,000	11,000	321,000
1915	3,700	106,800	4,900	128,400	2,100	48,000	10,700	283,200
1916	3,600	105,000	4,700	123,000	1,900	45,000	10,200	273,000
1917	3,500	99,750	4,800	118,800	1,800	39,600	10,100	258,150
1918	5,672	162,000	11,571	347,000	6,601	163,140	23,844	672,140
1919	5,636	164,000	13,894	434,000	10,662	285,000	30,192	883,000
1920	5,046	123,000	11,487	298,400	8,177	194,200	24,710	615,600
1921	6,334	147,400	8,686	200,100	8,898	151,000	23,918	498,500
1922	4,716	136,300	7,155	194,000	7,551	188,000	19,422	518,300
1923	7,464	205,000	7,130	207,100	5,596	166,500	20,190	578,600
1924	5,201	138,000	7,122	186,000	5,069	150,000	17,392	474,000
1925	4,663	124,000	6,401	176,500	5,966	151,500	17,030	452,000
1926	5,235	172,000	7,065	191,600	6,558	136,500	18,858	500,100
1927	5,081	122,000	7,718	211,000	6,387	147,000	19,186	480,000
1928	5,179	148,000	9,396	259,000	8,930	246,800	23,505	653,800
1929	5,870	145,000	10,868	292,500	9,448	258,800	26,186	696,300
1930	5,400	151,000	10,800	309,500	10,800	320,700	27,000	781,200
1931	3,732	85,000	7,672	221,000	9,845	284,600	21,249	590,600
1932	4,000	101,000	7,900	229,000	12,000	332,000	23,900	662,000

Production of Barley in Western Canada

In marked contrast to the relative stability of the barley industry of eastern Canada, barley production in the Prairie Provinces followed a course of steady expansion from 1910 to 1929. During the past two years a violent contraction has taken place in the acreage sown to barley in Manitoba and Saskatchewan.

The first period of expansion occurred during the war years from 1914 to 1918 when barley acreage doubled in Manitoba, Saskatchewan and Alberta. Moderate declines in acreage occurred in early post-war years. In 1922, however, barley acreage again commenced to increase in the Prairie Provinces and by 1926 over one million acres had been added. In 1928 and 1929 barley acreage increased sharply and over 2 million additional acres were sown to barley. Barley acreage in western Canada reached its maximum in 1929 when 5,114,203 acres were sown. This compared with 3,048,413 acres in 1926 and 1,983,292 acres in 1922.

The distribution of the increase in barley acreage is shown as follows:-

	<u>1 9 2 2</u> (acres)	<u>1 9 2 9</u> (acres)	<u>Increase</u> (acres)
Manitoba	963,733	2,181,895	1,213,112
Saskatchewan	636,456	2,223,604	1,592,148
Alberta	373,053	703,704	325,651
T O T A L	1,983,292	5,114,203	3,130,911

The above table shows that the increase in barley acreage between 1922 and 1929 took place largely in Manitoba and Saskatchewan. The table further shows that a net increase of 3,130,911 acres took place in the three provinces during the 8 year period.

The years 1930, 1931 and 1932 have been years of adjustment as far as the barley acreage of western Canada is concerned as shown by the following figures:-

	<u>1 9 2 9</u> (acres)	<u>1 9 3 2</u> (acres)	<u>Decrease</u> (acres)
Manitoba	2,181,895	1,123,300	1,058,595
Saskatchewan	2,223,604	1,329,500	899,104
Alberta	703,704	701,300	2,404
T O T A L	5,114,203	3,154,100	1,960,103

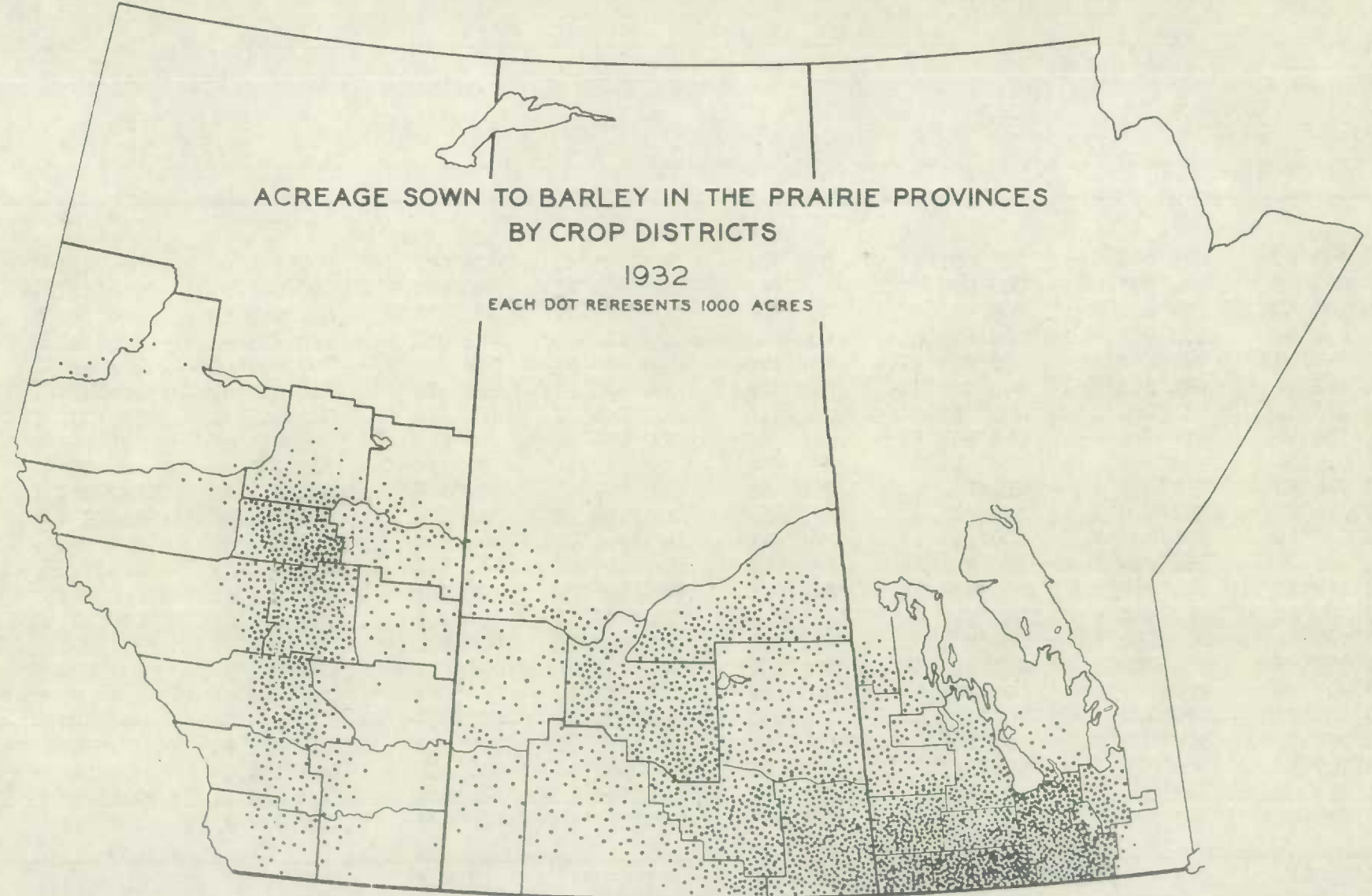
As shown by the above table the decrease in barley acreage in Manitoba from 1929 to 1932 amounted to 1,058,595 acres. In Saskatchewan the decrease amounted to 899,104 acres while in Alberta only a slight decrease of 2,404 acres occurred. The total decrease in the three provinces amounted to 1,960,103 acres. As a result of these changes in sown areas 1932 acreage was on about the same level as acreage in 1926.

Acreage and Production

The table on Page 14 shows acreage and production of barley in the Prairie Provinces by years from 1910 to 1932. The table shows the steady expansion of barley acreage in all three provinces from 1910 to 1929 and the sharp decline in the area sown to barley in 1930 and subsequent years. It will be noted further that barley acreage in Alberta has been expanding slowly and has been maintained in recent years. Contraction in barley acreage in the west since 1929 has taken place almost entirely in Manitoba and Saskatchewan.

Distribution of Barley Acreage in Western Canada

The map on Page 13 shows the distribution of barley acreage in the Prairie Provinces. The map shows the relatively heavy concentration of barley acreage in the south-central and south-western sections of the province. In Saskatchewan, barley acreage is distributed over the eastern half of the province while in Alberta barley acreage is located mainly in the central portion of the province.



ACREAGE SOWN TO BARLEY IN THE PRAIRIE PROVINCES
BY CROP DISTRICTS

1932

EACH DOT REPRESENTS 1000 ACRES

Acreege and Production of Barley in the Prairie Provinces, 1910-1932.

Year	MANITOBA		SASKATCHEWAN		ALBERTA		TOTAL	
	Acreege (Acres)	Production (Bushels)	Acreege (Acres)	Production (Bushels)	Acreege (Acres)	Production (Bushels)	Acreege (Acres)	Production (Bushels)
1910	416,016	6,507,000	129,621	3,061,000	121,435	2,480,000	667,072	12,048,000
1911	448,105	14,949,000	273,988	8,661,000	164,132	4,356,000	886,225	27,966,000
1912	481,000	15,826,000	292,000	9,595,000	187,000	6,179,000	960,000	31,600,000
1913	496,000	14,305,000	332,000	10,421,000	197,000	6,334,000	1,025,000	31,060,000
1914	468,000	9,828,000	290,000	4,901,000	178,000	4,806,000	956,000	19,535,000
1915	567,080	16,658,000	299,993	9,523,000	304,009	9,822,000	1,171,082	36,003,000
1916	687,503	13,729,000	367,207	9,916,000	336,586	9,774,000	1,391,296	33,419,000
1917	708,000	15,930,000	669,900	14,068,000	472,100	10,386,000	1,850,000	40,384,000
1918	1,102,965	27,963,000	699,296	11,888,000	470,073	7,756,000	2,272,334	47,607,000
1919	893,947	17,149,000	492,586	8,971,000	414,212	10,562,000	1,800,745	36,682,000
1920	839,078	17,520,000	519,014	10,502,000	480,699	12,739,000	1,838,791	40,761,000
1921	1,043,144	19,682,000	497,730	13,343,000	568,191	11,657,000	2,109,065	44,632,000
1922	968,783	28,863,000	636,456	18,511,000	378,053	6,238,000	1,983,292	53,612,000
1923	1,156,212	25,726,000	640,402	19,278,000	383,858	14,774,000	2,180,472	59,778,000
1924	1,372,803	40,923,000	953,851	17,360,000	493,891	12,347,000	2,766,545	70,720,000
1925	1,645,195	39,213,000	858,445	18,105,000	436,772	11,273,000	2,940,412	68,591,000
1926	1,760,563	50,880,000	872,140	21,891,000	415,710	9,146,000	3,048,413	81,917,000
1927	1,512,457	36,717,000	925,889	27,129,000	400,000	12,000,000	2,838,346	75,846,000
1928	1,937,263	52,569,000	1,621,463	44,266,000	545,524	15,849,000	4,104,250	112,684,000
1929	2,181,895	36,518,000	2,228,604	30,755,000	703,704	12,514,000	5,114,203	79,787,000
1930	1,991,000	49,974,000	2,016,000	40,522,000	748,000	18,999,000	4,398,000	109,495,000
1931	1,112,863	15,400,000	1,336,092	14,340,000	723,772	20,800,000	3,202,727	50,540,000
1932	1,123,300	20,014,000	1,329,500	23,400,000	701,300	19,700,000	3,154,100	63,114,000

Distribution of Barley Acreage in Western Canada

The following table shows the distribution of barley acreage in Western Canada by census divisions:-

Acreage Sown to Barley - Prairie Provinces - 1932

- By Crop Districts -

Crop District	Manitoba (Acres)	Saskatchewan (Acres)	Alberta (Acres)
1.	73,290	236,507	9,300
2.	205,470	181,289	23,900
3.	231,970	130,467	20,400
4.	16,140	17,244	32,700
5.	43,300	137,410	6,600
6.	11,680	253,989	110,700
7.	150,550	45,536	25,600
8.	102,920	153,072	158,000
9.	68,230	68,975	44,700
10.	70,120	-	44,700
11.	41,930	-	130,900
12.	16,130	-	6,800
13.	25,550	-	14,700
14.	5,470	-	56,300
15.	-	-	3,700
16.	-	-	6,400
17.	-	-	400
T O T A L	1,123,300	1,329,489	701,300

Advantages of Barley in Western Canada

The popularity of barley as a field crop in certain areas of the Prairie Provinces lies in the fact that it can be used to advantage in a plan of crop rotation. Barley is an excellent cleaning crop and can be used to combat wild oats and other noxious weeds. In the first place barley can be sown late allowing the killing of weeds in early spring. In the second place barley will yield fairly well on land that is too heavily infested to grow wheat and oats.

Another factor which has tended to increase the production of barley in Western Canada, is the fact that barley is an early maturing cereal and therefore can be grown in areas where early frost is a factor in cereal production. Varieties of barley grown in Canada are early maturing and can be grown where wheat and oats would be subject to greater frost hazard.

Production of Barley in British Columbia

The following table shows area and production of barley in British Columbia from 1910 to 1932:-

	(acres)	(bushels)		(acres)	(bushels)
1910	1,853	51,509	1921	8,333	307,000
1911	2,783	116,000	1922	7,306	214,000
1912	2,600	117,000	1923	6,648	223,000
1913	2,500	88,000	1924	6,327	194,000
1914	2,600	97,000	1925	6,108	182,000
1915	2,650	106,900	1926	7,096	209,000
1916	2,700	124,000	1927	8,379	236,000
1917	5,500	160,900	1928	9,552	306,000
1918	7,927	209,000	1929	9,074	286,000
1919	10,497	346,000	1930	10,000	295,000
1920	9,646	364,100	1931	9,531	311,000
			1932	9,300	238,000

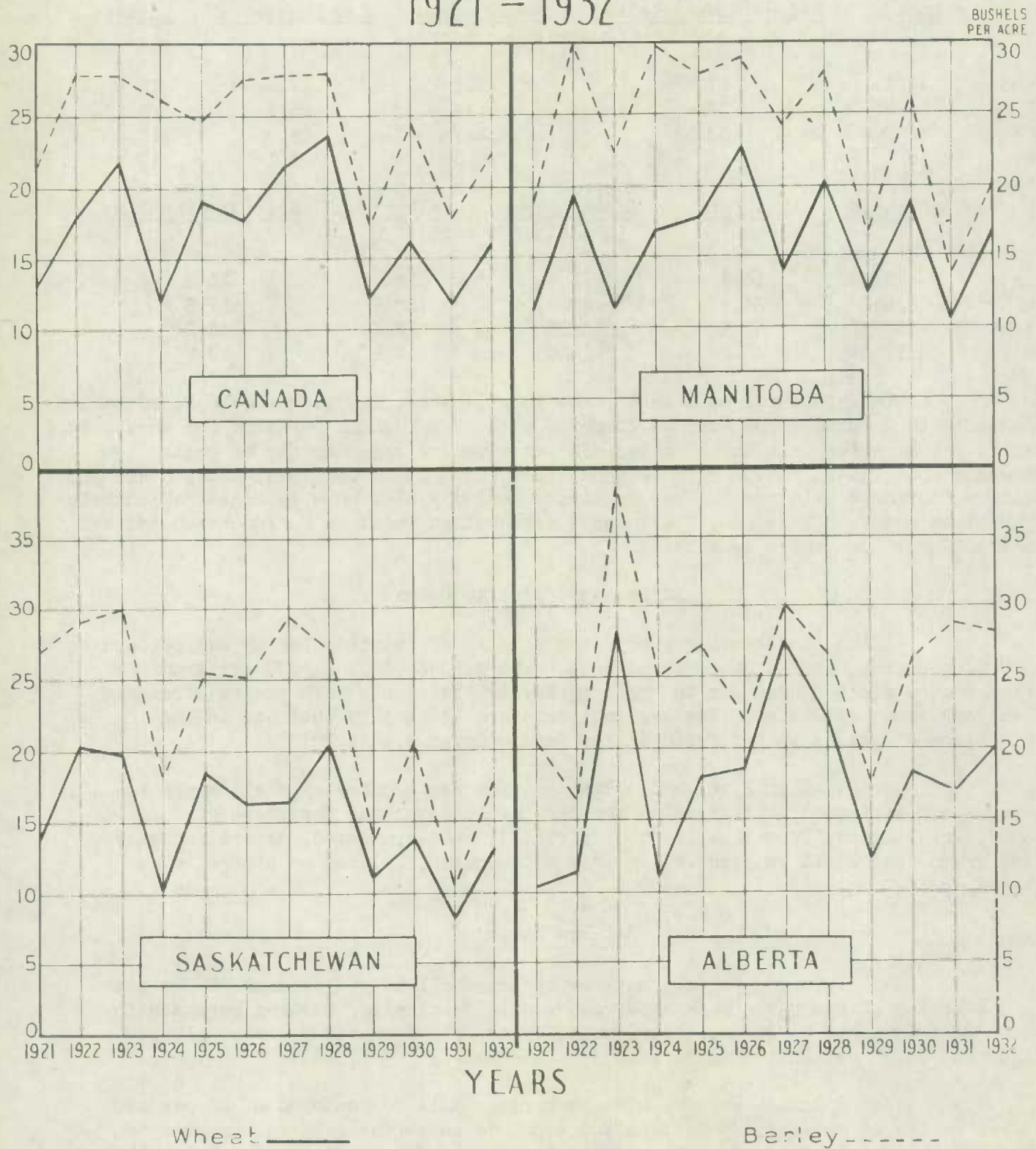
A gradual expansion in barley acreage in British Columbia is noted prior to 1916. In the subsequent four years the area sown to barley expanded rapidly, acreage in 1919 being about four times the 1916 acreage. A small shrinkage occurred between 1919 and 1925 followed by expansion from 1926 to 1930 when 10,000 acres were sown to barley.

Comparative Yields per acre of Cereal Crops

The following table shows the yield per acre of cereal crops in Canada and separate yields for the Prairie Provinces:

Year	CANADA				PRAIRIE PROVINCES			
	Wheat	BARLEY	Oats	Rye	Wheat	BARLEY	Oats	Rye
	(bushels per acre)				(bushels per acre)			
1922	17.8	27.8	33.8	15.5	17.7	27.0	33.8	15.3
1923	21.7	27.8	39.3	16.0	21.7	27.4	43.4	16.0
1924	11.9	26.1	28.0	15.4	11.2	25.0	24.3	15.0
1925	19.0	24.7	32.0	14.2	18.6	23.3	29.0	13.4
1926	17.8	27.4	30.1	16.2	17.5	26.9	29.4	16.0
1927	21.4	27.7	33.2	20.9	21.2	26.7	32.8	21.4
1928	23.5	27.9	34.4	17.4	23.5	27.4	36.5	17.4
1929	12.1	17.3	22.7	13.3	11.6	15.6	18.3	13.0
1930	16.0	24.3	31.9	15.2	16.0	24.8	34.7	18.7
1931	12.3	17.9	25.5	6.8	11.8	15.7	22.1	5.9
1932	15.8	21.5	29.8	11.6	15.5	20.0	28.8	10.9

COMPARISON OF WHEAT AND BARLEY YIELD PER ACRE 1921 - 1932



Long-Time Average Yields of Cereals

The following table shows long-time average yields for various cereals in Canada:-

	<u>Canada</u>	<u>Prince Edward Island</u>	<u>Nova Scotia</u>	<u>New Brunswick</u>	<u>Quebec</u>
	(bushels per acre)				
Wheat	17.1	17.9	19.1	17.5	16.4
BARLEY	25.2	27.6	27.4	25.5	23.1
Oats	32.3	33.3	32.7	28.9	26.6
Rye	16.1	-	19.0	19.1	16.5

	<u>Ontario</u>	<u>Manitoba</u>	<u>Saskatchewan</u>	<u>Alberta</u>	<u>British Columbia</u>
	(bushels per acre)				
Wheat	23.2	16.8	16.3	18.0	24.2
BARLEY	30.4	24.5	22.7	25.2	32.8
Oats	30.4	32.2	31.5	34.6	48.2
Rye	17.0	16.0	16.0	15.1	19.2

Taking Canada as a whole, the long-time average yield per acre of barley amounts to 25.2 bushels per acre as compared with 17.1 bushels per acre for wheat, 32.3 bushels per acre for oats and 16.1 bushels per acre for rye. As far as barley is concerned the highest yields have been harvested in British Columbia, Ontario and the Maritime Provinces. In the Prairie Provinces barley yields have averaged 7.7 bushels higher than wheat in Manitoba, 6.4 bushels higher than wheat in Saskatchewan and 7.2 bushels higher than wheat in Alberta.

Adjusting Grades to Demand

After considerable study, the grading of Canadian barley was revised in 1929 under the amended Canada Grain Act. The purpose of the 1929 revision of barley grades was to endeavour to grade barley in accordance with the requirements of various types of demand. The grading structure is clearly outlined in the definitions of grades as set forth in the Canada Grain Act (1929).

Grades Nos. 1, 2, and 3 Extra Canada Western Barley shall apply to barley that is of good utility value for malting purposes and for these grades, 'sound,' shall mean, free from frosted, sprouted, heated, musted, or artificially dried grain, and shall be practically free from broken, skinned or otherwise damaged grain.

Six-Row Barley

No. 1 Canada Western six-row barley shall be composed of 95 per cent six-row barley of one variety or type, and equal in value for malting purposes to O.A.C. 21. It shall be sound, clean, practically free from other grain, plump, bright and weigh not less than 50 pounds to the bushel.

No. 2 Canada Western six-row barley shall be composed of 95 per cent six-row barley of one variety or type and equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, free from other grains but not plump or bright enough to be graded No. 1, and shall weigh not less than 49 pounds to the bushel.

No. 3 Extra Canada Western six-row barley shall be composed of 90 per cent six-row barley equal in value for malting purposes to O.A.C. 21. It shall be sound, reasonably clean, reasonably free from other grains, but may include weather stained and slightly shrunken barley and shall weigh not less than 43 pounds to the bushel.

Two-Row Barley

No. 1 Canada Western two-row barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, clean, practically free from other grain, plump, bright and shall weigh not less than 52 pounds to the bushel.

No. 2 Canada Western two-row barley shall be composed of 95 per cent two-row barley of one variety or type and equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grains, but not plump or bright enough to be graded No. 1, and shall weigh not less than 50 pounds to the bushel.

No. 3 Extra Canada Western two-row barley shall be composed of 90 per cent two-row barley equal in value for malting or pearling purposes to Canadian Thorpe. It shall be sound, reasonably clean, reasonably free from other grains, but may include weather stained and slightly shrunken barley and shall weigh not less than 48 pounds to the bushel.

Trebi Grades

No. 1 Canada Western Trebi barley shall be composed of 95 per cent barley of trebi type, shall be plump, bright, sound, practically free from other grain and weighing not less than 50 pounds per measured bushel.

No. 2 Canada Western Trebi barley shall be composed of 95 per cent barley of trebi type, shall be reasonably clean, sound, reasonably free from other grains, but not bright or plump enough to be graded No. 1, weighing not less than 49 pounds per measured bushel.

No. 3 Extra Canada Western Trebi barley shall be composed of 90 per cent barley of trebi type, shall be reasonably clean, sound, reasonably free from other grains, but may include weather stained barley and weigh not less than 43 pounds per measured bushel.

Feed Barleys

No. 3 Canada Western barley shall be barley composed of any variety or type or combination of varieties or types, shall be sweet, reasonably clean and reasonably free from all other grains, may include weather-stained immature, shrunken, slightly frosted and otherwise damaged barley and shall not weigh less than 46 pounds to the bushel.

No. 4 Canada Western barley shall be barley composed of any variety or type or combination of varieties or types, shall be sweet, and may include damaged or stained barley and shall not weigh less than 46 pounds to the bushel.

No. 5 Canada Western barley shall include damaged and badly weathered barley and shall not weigh less than 42 pounds to the bushel.

No. 6 Canada Western barley shall include all barley excluded from the preceding grades on account of weight or admixtures.

Barley inspected as "No grade," "Tough," or "Damp," and artificially dried shall not be graded higher than No. 3 Canada Western barley.

The Purpose of the Grades

The intentions of the barley grades established under the revised Canada Grain Act (1929) are concisely described by Prof. J.T. Harrison in "Canadian Barley" as follows:

No. 1 Canada Western Six Row, No. 2 Canada Western Six-Row, and No. 3 Extra Canada Western Six-Row, were defined to suit the Canadian Maltsters, the British Grain Distillers, the Yeast Manufacturers, the Malt Food and Malt Extract Manufacturers, and the Vinegar Manufacturers.

No. 1 Canada Western Two-Row, No. 2 Canada Western Two-Row, and No. 3 Extra Canada Western Two-Row, were defined to suit the pot and pearl barley manufacturers in Canada, Great Britain, Holland and Germany; the maltsters in Canada, the malt distillers in Great Britain, and the malt coffee manufacturers in Germany.

No. 1 Canada Western Trebi, No. 2 Canada Western Trebi, and No. 3 Extra Canada Western Trebi, may be used in limited quantities by the brewing industries in Great Britain and Belgium.

No. 3 Canada Western Feed Barley should suit the requirements of the feed market in Great Britain and Northern Ireland, and in Denmark.

No. 4 Canada Western Feed Barley should suit the requirements of the feed market in Germany, Holland and Belgium.

The No. 5 Canada Western Barley, and No. 6 Canada Western Barley will likely find a feed market in Canada. These grades were not designed to suit any particular market, but to take care of the grower of very dirty, low quality barley.

Under section ninety-six of the Canada Grain Act, in the first paragraph, it will be noted that grades Nos. 1, 2 and 3 Extra, in Six-Row, Two-Row and Trebi, must be "Sound." Sould in this case, means that it must be free from frosted, sprouted, heated, musted or artificially dried grains, and be practically free from broken, skinned, or otherwise damaged grains. In other words, this practically guarantees the germination of the barley. This is essential in the industrial barley market in both Canada and Europe."

Grading of Western Barley Crops

The following table shows the grading of the Western Barley Crops in 1930-31, 1931-32, and for the first six months of 1932-33:-

		1930-31		1931-32		1932-33 (August to January)	
		Cars	% of total Inspection	Cars	% of total Inspection	Cars	% of total Inspection
Six Row	(No.1 C.W.)	-	-	-	-	-	-
	(No.2 C.W.)	6	-	10	-	2	-
	(No.3 Ex.C.W.)	1,103	-	1,457	-	1,097	-
	TOTAL	1,109	7.5	1,467	16.3	1,099	26.5
Two Row	(No.1 C.W.)	-	-	2	-	-	-
	(No.2 C.W.)	20	-	3	-	2	-
	(No.3 Ex.C.W.)	125	-	119	-	90	-
	TOTAL	145	1.0	124	1.4	92	2.2
Tribi	(No.1 C.W.)	-	-	-	-	-	-
	(No.2 C.W.)	1	-	1	-	1	-
	(No.3 Ex.C.W.)	82	-	137	-	50	-
	TOTAL	83	.6	138	1.5	51	1.2
Feed	(No.3 C.W.)	10,237	-	4,455	-	2,062	-
	(No.4 C.W.)	1,716	-	1,266	-	485	-
	(No.5 C.W.)	645	-	557	-	184	-
	(No.6 C.W.)	107	-	91	-	22	-
	TOTAL	12,705	86.1	6,369	70.8	2,753	66.5
	(No Grade	16	-	-	-	-	-
	(Rejected	13	-	8	-	2	-
	(Sample	-	-	9	-	-	-
	(Tough	594	-	881	-	129	-
	(Damp	89	-	10	-	15	-
	TOTAL	712	4.8	908	10	146	3.5
TOTAL ALL GRADES (Cars)		14,754	100	9,006	100	4,141	100
(Bushels)		23,568,187	-	13,863,746	-	6,375,359	-

The above table shows the grading of barley inspections in the Western Inspection Division during 1930-31, 1931-32 and during the first six months of 1932-33. It will be noted that in 1930-31 86.1 per cent of barley inspections graded No. 3, 4, 5, and 6 C.W. or in the feed barley classification. In 1931-32 70.8 per cent of inspections were placed in the same grades. These figures indicate that Western Canada is primarily interested in the production of feed barley. Inspections of six rowed malting barleys amounted to 7.5 and 16.3 per cent of total inspections in 1930-31 and 1931-32.

Disposition of Canadian Barley Production

Estimated Disposition of Barley Crops--1920-21 to 1931-32

	TOTAL SUPPLIES			STOCKS ACCOUNTED FOR				
	Inward Carry-over	New Crop	Imports ^{1/}	Total Supplies	Exports	Outward Carry-over	Total	Domestic Disappearance ^{2/}
(Bushels)								
1920-21.	1,502,430	63,311,000	1,232	64,814,662	10,815,597	3,849,439	14,665,036	50,149,626
1921-22	3,849,439	59,709,000	2,669	63,561,108	12,422,151	2,186,514	14,608,665	48,952,443
1922-23	2,186,514	71,865,000	852	74,052,366	13,841,605	3,359,990	17,201,595	56,850,771
1923-24	3,359,990	76,998,000	2,017	80,360,007	15,396,167	3,477,919	18,874,086	61,485,921
1924-25	3,477,919	88,807,000	395	92,285,314	27,771,960	4,556,667	32,328,627	59,956,687
1925-26	4,556,667	87,118,000	8,845	91,683,512	34,181,589	8,439,340	42,620,929	49,062,583
1926-27	8,439,340	99,987,000	23,327	108,449,667	38,795,169	5,651,547	44,446,716	64,002,951
1927-28	5,651,547	96,933,000	9,904	102,599,451	26,442,027	3,459,297	29,901,324	72,698,127
1928-29	3,459,297	136,391,000	7,770	139,858,067	40,147,702	11,020,857	51,168,559	88,689,508
1929-30	11,020,857	102,313,000	14,255	113,348,112	2,604,612	22,875,432	25,480,044	87,868,068
1930-31	22,875,432	135,160,000	4,138	158,039,570	19,194,207	29,461,716	48,655,923	109,383,647
1931-32	29,461,716	67,332,600	647	96,844,963	13,538,225	7,161,920	20,700,145	76,144,818
TOTAL	99,841,148	1,085,979,600	76,051	1,135,896,799	255,151,011	105,500,638	360,651,649	825,245,150

1/ Imports on Fiscal Year Basis.

2/ Including the factor of error in crop estimates.

Disposition of the Canadian Barley Crop

The table on the preceding page shows the estimated disposition of the Canadian barley crop from 1920-21 to 1931-32 a period of twelve years. In the lack of accurate data of farm feeding of barley, the calculation of domestic disappearance must be made on the basis of known factors, namely - estimated production, year end stocks, imports and exports. The figures under the heading "Domestic Disappearance" include any error that may be present in the crop estimate. In this connection it should be pointed out that owing to the small proportion of barley that enters into commercial channels, it is difficult to check barley estimates at the end of the crop year as is done in the case of wheat. Therefore, the relative error in final estimates of barley production may be somewhat larger than in the case of wheat.

Reference to the material presented in the foregoing table brings out the following main points in connection with the production and distribution of the Canadian barley crop.

(I) In the twelve year period from 1920-21 to 1931-32 total production of barley amounted to 1,085 million bushels of which 225 million bushels were exported. In other words exports amounted to 24.0 per cent of total production. The balance of production, 76 per cent, went into domestic consumption or into year end stocks.

(II) Imports of barley are very small and are confined to special grades of barley not produced in Canada.

(III) Domestic disappearance of barley in Canada over the twelve year period amounted to 825 million bushels or 76.0 per cent of total production. These data show that domestic disappearance of barley in Canada ranged from 50 million bushels in 1920-21 to 109 million bushels in 1930-31, the latter year when exceptional conditions obtained. On the whole the figures show that the use of barley increased substantially during the twelve year period.

(IV) The foregoing table shows that outward carry-overs steadily increased from 1920-21 to 1930-31 when year end stocks amounted to 29 million bushels. Acreage adjustments and a short crop in 1930 served to reduce year-end stocks to 7 million bushels by July 31, 1932.

(V) Exports of barley were steady and generally increasing from 1920-21 to 1928-29, reaching a high point in 1928-29 when 40 million bushels were sold abroad. Owing to special conditions in Canada and a peculiar situation in Europe in 1929-30, exports of Canadian barley declined sharply to 2.6 million bushels and year-end stocks increased from 11 to 23 million bushels. Exports during the past two crop years have been moderate.

Industrial Uses of Barley in Canada^{1/}

Barley has many uses as an industrial product but is mainly used by the milling and malting industries. Barley malt is in turn used in the preparation of a wide range of products.

1/ Data by General Manufactures Division, Dominion Bureau of Statistics.

The Milling Industry

The milling industry uses barley by itself and in combination with other grains. Used by itself barley is the material from which barley flour and meal and pot and pearl barley are made. The quantity of barley used as such by the milling industry is shown as follows:-

	<u>Bushels</u>
1926	1,645,957
1927	1,545,000
1928	1,560,863
1929	1,667,230
1930	2,176,188
1931	2,163,002
Average 1926 to 1931	1,793,040

In addition barley is used in conjunction with other grains in the manufacture of mixed feeds. On the basis of a barley content of 40 per cent, the following quantities of barley have been used for the production of mixed feeds:-

	<u>Bushels</u>
1926	12,598,610
1927	14,026,250
1928	13,177,114
1929	12,697,851
1930	12,210,324
1931	13,192,651
Average 1926 to 1931	12,983,800

From the above figures it may be estimated that the milling industry has used an average of from 14 to 15 million bushels of barley per year since 1926.

The Malting Industry

The malting industry used the following amounts of barley during the six years from 1926 to 1931:-

	<u>Bushels</u>
1926	2,965,091
1927	3,595,093
1928	4,116,217
1929	4,724,054
1930	4,067,126
1931	4,587,499
Average 1926 to 1931	4,009,000

Barley malt is used in the preparation of a wide range of products but is chiefly used by the brewing and distilling industries. The following table shows the important uses of barley malt in Canadian industry:-

Utilization of Malt in Canada

	1 9 2 6 (pounds)	1 9 2 7 (pounds)	1 9 2 8 (pounds)	1 9 2 9 (pounds)	1 9 3 0 (pounds)	1 9 3 1 (pounds)
Brewing Industry -						
Domestic	92,922,272	103,091,595	115,894,501	122,975,279	118,764,000	112,907,746
Foreign	17,470,453	22,072,127	30,134,034	25,158,676	12,231,000	7,007,862
Distilleries -						
Domestic	6,786,626	13,589,488	29,021,350	33,356,042	21,281,000	14,726,128
Foreign	637,649	3,267,460	2,912,049	5,387,378	638,000	800,000
Malt Mills -						
Domestic	8,428,640	7,598,200	7,490,400	6,452,000	6,888,000	7,308,314
Foreign	-	1,700,356	4,260,128	-	-	-
Biscuit and Confectionery Industry	22,499	23,254	41,964	48,000	48,000	93,281
Baking Industry	3,582,886	3,726,253	3,892,161	4,325,901	4,496,000	2,923,349
Miscellaneous Food Industries	1,243,016	1,243,016	1,249,728	2,002,671	1,380,000	1,915,254
Chemical Industries	61,200	54,000	61,200	43,200	25,000	2,795
T O T A L	131,155,241	156,366,249	194,957,515	200,249,147	165,751,000	147,684,729

Summary

With the milling industry using from 14 to 15 million bushels of barley each year and with from 4 to 5 million bushels being used by the malting industry, it would appear that, in so far as statistics are available, that the actual industrial demand for barley in Canada ranges from 18 to 20 million bushels.

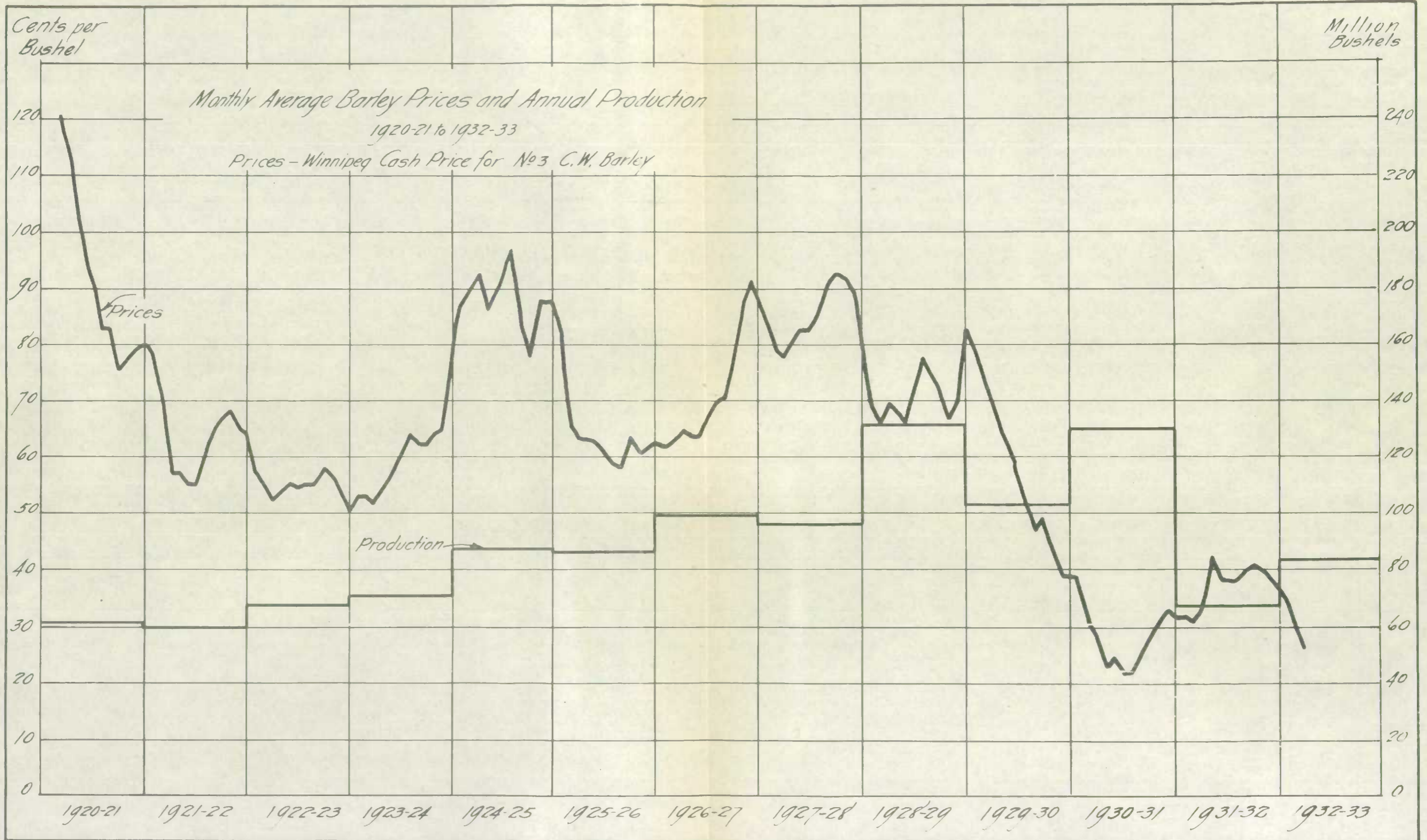
Barley Prices

The following table shows monthly average prices for No. 3 C.W. Barley at Winnipeg from 1920-21 to 1932-33. On the following page is shown a series of barley prices in Ontario for good barley as reported at Toronto:-

Monthly Average Cash Price for No. 3 C.W. Barley at Winnipeg, 1920-21

	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29	1929-30	1930-31	1931-32	1932-33
	to 1932-33												
	(dollars per bushel)												
August	1.41	.78	.57	.53	.87	.82	.62	.84	.69	.79	.39	.32	.34
September	1.21	.70	.55	.52	.89	.65	.63	.79	.66	.75	.32	.31	.29
October	1.14	.57	.52	.51	.93	.63	.65	.78	.70	.70	.28	.33	.26
November	1.05	.57	.54	.54	.86	.63	.64	.81	.68	.65	.23	.43	.30
December	.95	.55	.55	.56	.88	.63	.64	.83	.66	.62	.25	.38	.28
January	.94	.55	.54	.60	.94	.61	.67	.83	.75	.57	.22	.38	.28
February	.83	.61	.55	.64	.97	.59	.70	.86	.78	.51	.22	.38	.27
March	.83	.65	.55	.62	.84	.58	.71	.91	.75	.47	.25	.40	
April	.75	.67	.58	.62	.78	.64	.79	.93	.72	.49	.28	.41	
May	.77	.68	.56	.64	.89	.61	.87	.92	.67	.45	.31	.40	
June	.79	.65	.53	.65	.88	.62	.92	.89	.70	.39	.33	.38	
July	.80	.64	.50	.81	.88	.63	.88	.83	.83	.39	.32	.37	
AVERAGE	.90	.62	.54	.63	.88	.64	.72	.85	.71	.56	.28	.37	





The Export Market

For many years Canada has been a moderate exporter of barley, principally of feeding types. In order to give a clear picture of the export movement of Canadian barley, the following table showing barley exports from 1863 to 1911 is included:-

Canadian Exports of Barley

Fiscal Year	Quantities			Totals
	United Kingdom	United States	Other Countries	
				(Bushels)
1868	18,198	3,937,647	27	4,055,872
1869	400	4,629,608	61	4,630,069
1870	6,003	6,657,360	14	6,663,377
1871	11,645	4,321,065	237	4,332,997
1872	59,302	5,547,006	35	5,606,343
1873	-	4,346,345	78	4,346,923
1874	24	3,745,037	3,159	3,748,270
1875	-	5,413,844	5,210	5,419,054
1876	22	10,164,551	3,603	10,168,176
1877	95,696	6,333,093	6,963	6,440,762
1878	764,062	6,493,444	4,393	7,267,399
1879	186,530	5,193,324	4,013	5,383,922
1880	436,806	6,732,403	20,353	7,239,562
1881	69,133	3,724,951	6,460	3,800,579
1882	6,306	11,577,251	4,339	11,533,446
1883	63,729	3,741,626	6,361	3,817,216
1884	65,238	7,700,581	14,443	7,730,262
1885	30,077	9,023,514	9,004	9,067,395
1886	19,153	3,523,237	6,362	3,554,302
1887	10,443	9,437,717	8,304	9,456,964
1888	1,637	9,360,521	7,950	9,370,158
1889	6,312	9,934,501	7,394	9,948,207
1890	27,132	9,939,745	9,031	9,975,908
1891	132,650	4,752,953	6,724	4,892,327
1892	2,439,959	2,721,168	41,641	5,202,768
1893	550,695	1,431,398	53,555	2,040,648
1894	97,971	493,551	5,833	597,405
1895	30,365	1,674,193	3,812	1,708,370
1896	45,769	787,787	7,169	840,725
1897	534,096	1,246,343	50,655	1,831,094
1898	308,424	34,033	51,149	443,656
1899	116,131	122,374	443	253,948
1900	1,753,135	164,463	233,679	2,156,232
1901	2,009,708	190,547	186,116	2,386,371
1902	345,936	17,461	93,720	457,117
1903	626,006	37,112	283,394	947,012
1904	703,166	36,175	268,329	1,057,670
1905	787,577	101,111	152,520	1,041,208
1906	790,304	47,245	41,979	880,028
1907 ¹	1,115,979	19,094	63,057	1,198,130
1908	1,392,733	210,788	336,873	1,990,444
1909	2,160,890	266,096	532,349	2,959,335
1910	1,431,922	147,596	465,333	2,044,901
1911	1,116,116	36,295	342,342	1,545,253

¹ 9 months.

The foregoing table is included largely for its historical value. The table shows a steady export movement to the United States from 1868 to 1890. As already indicated tariff changes in the United States about 1890 affected this movement. With the partial closing of the United States market exports of Canadian barley to the United Kingdom increased only slightly and in the main diminution in exports was taken care of by decreased production especially in the Province of Ontario:

The following table shows Canadian exports of barley from 1913-14 to 1931-32 on a crop year basis:-

	<u>Bushels</u>
1913-14	12,299,377
1914-15	2,836,046
1915-16	8,483,709
1916-17	8,008,389
1917-18	6,636,098
1918-19	6,602,918
1919-20	11,832,324
1920-21	10,815,597
1921-22	12,422,151
1922-23	13,841,605
1923-24	15,396,167
1924-25	27,771,960
1925-26	34,181,589
1926-27	38,795,169
1927-28	26,442,027
1928-29	40,147,702
1929-30	2,604,612
1930-31	19,194,207
1931-32	13,533,225

The above table shows the growth of Canadian barley exports during the War and in post-war years, reaching the highest point in 1928-29 when 40 million bushels were exported. In 1929-30 barley exports were very small but the movement improved in 1930-31 and 1931-32. In the 12 years from 1920-21 to 1931-32 about 24 per cent of annual production found its way into export trade.

Overseas Markets

It is very difficult to trace the destination of Canadian barley exports. In general Canadian trade returns have shown too much barley going to the United Kingdom and too little to Continental European countries. The Canadian export returns for barley combine in one total direct consignments to the United Kingdom from Canadian ports and indirect consignments to the United Kingdom through the United States. In practice, a large proportion of the latter consignments is re-directed to Continental European countries before leaving the United States and never reaches Great Britain. A smaller proportion is re-routed back through Canada and having once appeared in Canadian export returns as 'exports to Great Britain via the United States' is listed as 'United States grain in transit to the United Kingdom'.

The United Kingdom import figures on the other hand are based on country of port of shipment, and include Canadian grown barley shipped via the United States as imports from the United States and such American grain as is shipped via Canadian ports, as imports from Canada.

There is consequently a wide discrepancy between Canadian records of exports to the United Kingdom and Great Britain's records of receipts from Canada. The magnitude of this discrepancy may be illustrated by the figures for the past six calendar years.

	Canadian Trade Figures on Exports to the United Kingdom	United Kingdom Trade Figures on Imports from Canada
	Bushels	Bushels
1927	20,665,000	3,184,000
1928	28,408,000	4,798,000
1929	11,608,000	3,216,000
1930	2,058,000	810,000
1931	8,100,000	2,388,000
1932	5,416,197	1,639,600

Obviously, neither set of data represents the amount of Canadian grown barley actually entering the United Kingdom. The Canadian figures overestimate the quantities going to Great Britain and underestimate exports to other European countries. The United Kingdom figures generally underestimate the amount of Canadian grown grain received into that country by crediting the United States with shipments of Canadian grain routed through that country.

The method here adopted of estimating the amount of Canadian grown barley exported to the United Kingdom involves the addition of shipments by three routes:

- (1) Direct shipments of Canadian barley through Canadian ports to the United Kingdom as supplied by the Canadian Customs Department.
- (2) Direct shipment of Canadian barley through United States ports to the United Kingdom as supplied by the United States Customs Department.
- (3) 'United States barley in transit to the United Kingdom' and shipped from Canadian ports. The major portion of barley so classed is re-routed Canadian grain.

The resulting total is a maximum figure including as it may a small indeterminate amount of bona fide United States grain. Furthermore, it is a direct consignment figure and makes no allowance for possible diversions at sea. Experts on both sides of the Atlantic, however, agree that little diversion at sea takes place in the case of barley shipped direct to the United Kingdom so that the error on this count is no doubt comparatively small.

Canadian Barley Shipments to the United Kingdom

1927-31 (Calendar Years)

	1 9 2 7	1 9 2 8	1 9 2 9	1 9 3 0	1 9 3 1
	(Bushels)				
Direct Shipments of Canadian Barley					
to the United Kingdom through Canadian					
Ports	2,114,000	1,314,000	1,313,000	537,000	2,299,000
Shipments re-routed from the United					
States to Canadian ports for direct					
Shipment to the United Kingdom	52,000	479,000	3,202,000	1,717,000	3,000
Canadian barley shipped from United					
States ports direct to the United					
Kingdom	3,419,000	2,262,000	4,065,000	320,000	571,000
 TOTAL	 5,535,000	 4,055,000	 8,580,000	 1,574,000	 2,873,000

Estimates for the five calendar years 1927-31 appear below:-

<u>Shipments to the United Kingdom</u>	
	<u>Bushels</u>
1927	5,535,000
1928	4,055,000
1929	8,580,000
1930	1,574,000
1931	2,875,000
Av. 1927-31	<u>4,524,000</u>

Other Markets

The results obtained indicate that during the six year period 1927-31, the average annual imports of Canadian grown barley by the United Kingdom for home consumption were somewhat less than five million bushels. Total exports of Canadian barley to all countries averaged 22,600,000 bushels in the same period. The United Kingdom thus absorbed only about 20 per cent of all Canadian exports, and virtually the entire balance went to Continental European countries.

During the same period average annual direct shipments to Germany amounted to 4,200,000. It is estimated that an additional 5,000,000 to 7,000,000 bushels of Canadian barley finds its way to that country via the United States, the United Kingdom and other European countries, making a total import of from 9,000,000 to 11,000,000 bushels. Normally, therefore, Germany is Canada's largest market for barley, imports being double those by the United Kingdom. Practically all such barley is used for feed purposes.

Much the same situation exists with respect to Holland and Belgium. Practically all Canadian barley imports are used for feed including a large portion which is transhipped up the Rhine into Germany. The Danish market received 2,500,000 bushels of Canadian barley in 1931 by direct shipment and an indeterminate amount via other routes. Danish imports also are exclusively for feed purposes.

The chief foreign markets for Canadian barley then are Germany, Holland, the United Kingdom, Belgium and Denmark in descending order of importance.

During 1930, Canadian feed barley exports fell to an abnormally low level, being largely replaced by Russian, Danubian and Persian supplies. In that year the United Kingdom imported 14,000,000 bushels from Russia as against 1,600,000 bushels from Canada. That was the first calendar year since 1927 in which Russian barley entered the British market.

In 1931, Argentine corn because of its exceedingly low price was the cheapest live-stock feed on the British Market. The chemical constituents of corn and barley being practically identical, these grains come into direct competition as live-stock feed and on more or less equal terms except in bacon production where barley produces a superior type of product.

World Production of Barley

The distribution of world barley acreage and production is shown in the following tables:-^x

Barley Acreage

EUROPE

	Average 1924-23	1929	1930	1931	1932
	(Thousand Acres)				
Germany	3,639	3,835	3,753	4,001	3,875
Austria	361	391	430	416	428
Belgium	80	63	84	70	89
Bulgaria	559	542	692	605	569
Denmark	792	909	928	889	851
Spain	4,438	4,490	4,543	4,644	4,837
Estonia	290	281	276	279	266
Irish Free State	139	113	116	116	103
Finland	271	272	272	276	300
France	1,740	1,853	1,836	1,865	1,359
United Kingdom	1,336	1,223	1,129	1,118	1,033
Greece	463	535	529	550	574
Hungary	1,020	1,173	1,131	1,165	1,165
Italy	576	579	533	533	530
Latvia	434	451	437	451	457
Lithuania	485	529	529	474	495
Luxembourg	7	14	7	11	10
Malta	6	6	7	7	6
Norway	143	132	134	139	137
Netherlands	68	73	76	71	50
Poland	2,761	3,110	3,048	3,144	2,982
Portugal	190	186	171	170	170 [/]
Roumania	4,260	5,074	4,881	4,742	4,416
Sweden	372	307	326	311	292
Switzerland	16	16	16	18	17
Czechoslovakia	1,732	1,839	1,673	1,775	1,759
Yugoslavia	941	1,108	1,133	1,065	1,006
T O T A L	27,119	29,119	28,740	28,909	28,275

NORTH AMERICA

Canada	3,793	5,926	5,559	3,763	3,753
United States	3,993	13,068	12,662	11,419	13,213
T O T A L	12,786	18,994	18,221	15,187	16,971

ASIA

Japan	2,388	2,202	2,110	2,097	2,107
Syria	741	750	831	818	766
T O T A L	3,129	2,952	2,941	2,915	2,873

^xData from the International Institute of Agriculture.
/ 1931 figures.

AFRICA

	Average 1924-28	1929	1930	1931	1932
(Thousand Acres)					
Algeria	3,380	3,536	3,650	3,178	3,279
French Morocco	3,004	3,240	3,207	3,222	2,930
Tunis	1,143	1,236	1,202	1,223	1,483
T O T A L	7,527	8,012	8,059	7,623	7,692

SOUTH AMERICA

Argentine	726	802	1,422	1,439	1,520
Chile	178	195	166	144	111
T O T A L	904	997	1,588	1,583	1,631

SUMMARY

Europe	27,119	29,119	28,740	28,909	28,275
North America	12,786	18,994	18,221	15,187	16,971
Asia	3,129	2,952	2,941	2,915	2,873
Africa	7,527	8,012	8,059	7,623	7,692
South America	904	997	1,588	1,583	1,631
T O T A L	51,465	60,074	59,549	56,217	57,422

World Barley Acreage

Acreage and production statistics shown in the foregoing table indicate the wide-spread nature of the barley industry. In 1932 about 57 million acres of land were sown to barley in the countries included in the foregoing tables. One-half of this acreage, or 28 million acres, were in Europe, the balance of the 1932 acreage being distributed among North America, Asia, Africa and South America. These figures indicate that the continent of Europe is by far the most important barley producing area in the world. In 1932 European cereal acreages and production were distributed about as follows:-

Million acres

Wheat	75
Rye	41
Barley	28
Oats	42

It will be seen therefore, barley is the fourth most important cereal in Europe as far as area sown is concerned and barley acreage in 1932 constituted about 15 per cent of the area sown to the four leading crops.

Canada and the United States had a barley acreage in 1932 of 16,971,000 acres or a little more than one-half the European acreage. Of the North American acreage Canada had a total of 3,753,000 acres as compared with 13,213,000 acres in the United States.

North Africa, including Algeria, French Morocco and Tunis had a barley acreage of 7,692,000 acres in 1932, or equivalent to about one-half the area sown in the United States and Canada. Japan and Syria in 1932 reported an area of 2,873,000 acres sown to barley while the Argentine and Chile reported 1,631,000 acres sown to this crop. In addition to the countries shown in the above table there are other barley producing areas scattered throughout the world. Russia is an important barley producing country with a total of 16,329,000 acres reported as sown to barley in 1932. Also barley is produced in small amounts in South Africa, New Zealand and Australia. There is also an indeterminate acreage in China and Manchuria.

Recent Trends in Acreage

Examining the acreage figures of the countries listed in the foregoing tables it may be said that barley acreage in total has been relatively stable. A considerable increase took place from 1924 to 1929. The average acreage for all the countries from 1924 to 1928 amounted to 51,465,000 acres. In 1929 a total of 60,074,000 acres was reported. In 1930 a slight decrease is noticed while 1931 acreage was about 3 million acres less than in the previous year. Acreage in 1932 increased slightly over 1931.

Analyzing European barley acreage, very little change is noticeable in recent years. The area reported sown to barley in 1932 amounted to 28,275,000 acres as compared with 27,119,000 acres during the five year period from 1924 to 1928. Comparing 1932 barley acreages with the acreage sown from 1924 to 1928, increases are noted in Germany, Spain, France, Hungary, Poland and Roumania. But even in these cases the increase has not been large, 1932 acreage in Canada and the United States was larger than during the five years from 1924 to 1928 but smaller than the 1929 and 1930 acreages. In South America it will be noted that the Argentine has doubled its barley acreage since the 1924-28 period while acreage in Chile has decreased.

In general acreage figures reveal a moderate expansion in barley acreage in recent years as compared with the 1924-28 period with a tendency toward smaller acreages in 1931 and 1932 as compared with 1929 and 1930.

Barley Production

EUROPE

	Average 1924-28	1929	1930	1931	1932
(Thousand bushels)					
Germany	124,433	146,093	131,573	133,627	147,653
Austria	9,877	12,374	12,278	9,948	13,802
Belgium	4,127	2,334	3,825	3,552	4,308
Bulgaria	11,741	9,381	19,869	15,861	14,102
Denmark	33,167	51,094	43,272	43,974	45,471
Spain	90,799	97,342	103,926	90,727	127,267
Estonia	5,082	5,637	5,893	5,916	4,147
Irish Free State	6,213	5,960	5,517	4,921	4,921 [/]
Finland	6,339	6,163	6,223	6,430	3,015

[/] 1931 figures.

EUROPE - Cont'd.

	Average 1924-28	1929	1930	1931	1932
(Thousand bushels)					
France	48,451	59,025	45,336	47,732	53,680
United Kingdom	50,411	51,372	38,914	39,545	38,926
Greece	6,678	4,724	8,173	7,146	11,433
Hungary	24,002	31,353	27,605	21,867	32,498
Italy	10,607	12,071	11,202	11,062	11,537
Latvia	6,703	9,543	8,605	3,809	8,849
Lithuania	9,471	12,286	10,834	10,845	10,173
Luxembourg	182	431	206	266	276
Malta	235	286	295	285	269
Norway	4,961	4,533	4,922	4,207	5,578
Netherlands	3,701	5,010	4,040	3,274	2,710
Poland	57,574	76,235	67,238	67,781	70,607
Portugal	1,838	1,958	2,367	2,025	2,598
Roumania	56,465	125,371	108,916	64,964	67,479
Sweden	12,300	11,435	11,021	10,716	10,105
Switzerland	549	556	496	565	597
Czechoslovakia	55,633	64,074	55,934	49,357	69,121
Yugoslavia	16,291	13,918	13,574	13,000	17,932
T O T A L	662,940	826,669	761,904	688,404	784,014
<u>NORTH AMERICA</u>					
Canada	101,850	102,313	135,160	67,382	80,773
United States	240,743	302,892	303,752	198,389	299,950
T O T A L	342,593	405,205	438,912	265,771	380,723
<u>ASIA</u>					
Japan	83,715	30,360	72,472	76,522	77,744
Syria	10,375	23,366	22,621	14,193	9,163
T O T A L	94,090	104,226	95,093	90,715	86,907
<u>AFRICA</u>					
Algeria	30,487	40,446	38,183	27,069	29,855
French Morocco	49,812	47,318	37,491	59,032	37,254
Tunis	6,995	11,483	5,512	8,263	15,616
T O T A L	87,294	99,247	81,186	94,369	82,725
<u>SOUTH AMERICA</u>					
Argentina	14,755	16,132	14,238	22,125	32,151
Chile	5,660	7,071	3,376	3,097	30,971
T O T A L	20,415	23,203	18,114	25,222	63,122

SUMMARY

	Average 1924-28	1929	1930	1931	1932
	(Thousand bushels)				
Europe	662,940	826,669	761,904	638,404	734,014
North America	342,593	405,205	433,912	265,771	330,723
Asia	94,090	104,226	95,093	90,715	36,907
Africa	37,294	99,247	81,186	94,369	82,725
South America	20,415	23,203	18,114	25,222	63,122
T O T A L	1,207,332	1,458,550	1,395,209	1,164,481	1,397,491

Exports and Imports of Barley, by Countries, Calendar Years 1926 to 1930.

Exports

	1926	1927	1928	1929	1930
	(Bushels)				
Australia	1,154,305	1,967,603	1,045,362	1,359,210	1,469,375
British India	81,903	2,041,941	7,760,737	264,560	54,506
Canada	34,727,465	32,130,701	36,773,967	16,987,703	2,834,304
Cyprus	263,726	339,367	27,710	340,020	143,595
Irish Free State	905,577	617,151	450,965	125,170	40,125
New Zealand	2,388	101,433	33,764	501	304
Palestine	264,422	429,543	310,675	167,922	319,723
United Kingdom	433,176	507,318	973,426	155,241	55,764
Other British	1,658	3,077	9,875	10,348	6,738
Total, British Empire	37,839,620	38,233,634	47,336,481	19,410,675	5,429,934
Algeria	1,147,562	3,789,826	7,392,466	6,035,768	3,142,847
Argentina	7,959,282	13,648,553	10,424,501	11,482,967	6,538,390
Austria	119,121	309,595	91,613	21,096	46,367
Belgium	196,174	322,070	209,738	176,631	411,258
Bulgaria	1,061,442	3,571,008	1,637,950	320,491	2,031,506
Chile	5,035,656	2,477,212	2,617,236	2,332,370	2,012,174
Czechoslovakia	5,603,285	7,302,314	3,246,242	5,599,985	6,563,907
Denmark	3,011,335	2,341,220	3,302,915	3,269,634	1,925,314
Egypt	92	405,627	924,863	174,951	21,055
Italy	26,823	15,295	5,695	19,475	597
Japan		1,445,505	739,433	542,969	393,476
France	536,309	1,504,921	2,010,920	271,252	533,208
French Morocco	724,252	942,877	12,377,543	10,373,676	561,391
Germany	233,029	209,669	133,153	356,367	2,352,721
Hungary	2,196,199	2,423,161	1,311,484	4,120,797	1,976,407
Latvia	49,210	66,967	4,942	1,479	909
Lithuania	91,320	159,747	53,073	32,105	283,644
Mesopotamia	1,723,256	3,953,762	4,300,078	4,096,771	2,777,272
Netherlands	471,000	633,075	1,033,526	1,037,940	335,073
Poland	6,338,923	2,933,897	5,104,737	11,219,729	9,959,757
Roumania	26,635,316	32,293,540	19,040,484	53,036,509	36,317,390
Spain	633,475	959,045	522,337	237,930	419,300
Sweden	1,492,355	531,132	13,355	101,176	3,195
Syria and Lebanon	46	1,309,091	65,910	467,698	1,120,384
Tunis	4,082,904	459,724	6,800,053	7,460,737	1,290,955
Turkey	1,176,522	2,056,423	653,115	79,690	264,016
Union of Socialist Soviet Republics	33,093,498	2,923,603	134	7,200,551	54,233,732
United States	13,367,390	33,255,601	52,051,247	39,693,441	10,057,692
Yugoslavia	1,233,958	1,094,554	255,567	400,633	159,692
Total, Foreign Countries	118,930,789	133,849,605	136,880,570	160,945,939	176,434,434
Total, All Countries	156,770,409	172,083,239	184,267,051	180,356,614	181,864,368

Barley Exports

The foregoing table shows world exports of barley during the five year period from 1926 to 1930. The table shows that world exports of barley averaged about 175 million bushels during the period under consideration. The table further shows that during the five years from 1926 to 1930 Roumania was the most consistent exporter of barley, exports for the period averaging 39 million bushels per year. Exports from the United States averaged 29 million bushels, the average being affected by exports of over 52 million bushels in 1923. Canadian exports averaged 24.6 million bushels for the five year period. Russia appeared as a large exporter of barley in 1926 but neglected the market in the three following years. In 1930 however, Russia exported 54 million bushels. These exports from Russia along with shipments of 66 million bushels from Roumania greatly reduced exports from Canada and the United States. As shown by the foregoing table, a large number of countries export barley in small quantities.

Imports

	1926	1927	1928	1929	1930
	(Bushels)				
Australia	565	230	266	353	1,612
British India	120,122	11,758	46	4,363	19,357
Ceylon	12,626	13,572	13,816	14,450	14,459
Irish Free State	270,775	500,960	544,677	1,069,035	704,066
Malta	237,213	252,549	162,333	137,935	396,441
New Zealand	56,302	2,353	2,416	4,221	59,246
United Kingdom	26,997,851	38,310,597	30,276,234	27,949,459	35,435,274
Other British	19,920	26,226	6,242	13,643	11,326
Total, British Empire.	27,715,379	39,118,075	31,006,080	29,243,519	36,691,761
Algeria	1,109,578	1,954,228	312,654	331,449	20,366
Argentina	762	17,219	372	239	312
Austria	3,437,690	2,926,794	2,076,146	3,155,795	4,122,276
Belgium	11,338,148	13,540,511	12,772,354	14,987,251	13,447,777
China	10,569	13,862	4,759	37,764	29,010
Czechoslovakia	299,256	9,668	65,520	13,187	29,037
Denmark	2,795,869	2,204,661	2,299,768	1,787,132	23,751,522
Egypt	734,058	94,232	4,074	20,393	143,239
Estonia	224,812	134,861	329,603	353,450	111,745
Finland	29,161	22,699	103,153	149,072	49,747
Formosa	237,668	367,817	301,934	241,191	133,139
France	2,316,785	1,663,953	3,030,225	5,323,427	7,039,999
Germany	79,915,413	91,375,693	38,623,056	31,105,645	69,943,955
Greece	316,471	952,279	179,106	1,094,021	377,641
Hawaii	273,114	277,265	369,237	170,446	153,661
Italy	953,795	1,115,237	857,300	733,674	1,322,250
Japan	55,062	2,765	121,969	383,133	239,252
Korea	425,400	1,103,956	475,014	513,924	232,537
Latvia	142,605	143,370	637,953	1,705,426	366,553
Netherlands	14,054,401	11,456,116	15,364,626	14,633,036	24,579,990
Norway	1,734,391	1,155,403	1,033,030	1,105,361	1,913,632
Poland	47,359	163,754	153,445	20,163	2,751
Portugal	94,203	84,209	107,634	53,251	71,799
Spain	715,645	138	70,394	263,394	3,339
Sweden	1,176	5,030	39,220	3,027	13,453
Switzerland	2,462,574	3,194,353	3,746,127	3,533,341	4,379,340
Syria and Lebanon	354,423	143,301	563,616	313,919	9,765
Tripolitania	5,930	243,970	1,133,757	612,316	1,771,649
Tunis	40,731	1,323,314	134,623	51,310	442,533
Turkey	988	2,398	43,355	14,294	5
Yugoslavia	261,520	375,506	434,444	374,340	305,324
Total, Foreign Countries	124,445,062	137,593,267	135,505,067	133,020,933	160,063,718
Total, All Countries	152,160,941	176,711,342	166,511,147	162,269,452	196,760,479

The foregoing table shows world imports of barley for the five year period from 1926 to 1930. It will be noted that six countries take a large percentage of the world's surplus barley. These countries are: the United Kingdom, Germany, Belgium, Netherlands, Denmark and Switzerland. In 1926, 1927 and 1928 these countries absorbed 91 per cent of world imports, while in 1929 and 1930 they took 89 and 80 per cent respectively. Germany is by far the largest barley importing country. The United Kingdom ranks second and the Netherlands third.

Foreign Tariffs on Barley

Specific rates have been converted into Canadian dollars at prevailing rates of exchange (June 15, 1932).

<u>France</u>	General	Minimum	Rate to Canada since abrogation of Franco-Canadian Convention of 1922.
Barley	30¢ per bush.	15¢ per bush.	General
Plus depreciated currency surtax of 11 per cent ad valorem.			

<u>Germany</u>		<u>General</u>	<u>Super tariff</u>
<u>Feeding barley, under customs control provided that an amount of home grown barley, potato flakes or other agricultural products corresponding to the quantity of barley to be imported is purchased in accordance with regulations laid down by the Minister of Finance</u>			
		24¢ per bush.	\$1.20 per bush.

NOTE: For every 100 kilogs, of home-grown potato flakes purchased, 300 kilogs. of feeding barley may be imported at the above rate, and for every 100 kilogs. of home-grown barley purchased, 200 kilogs. of feeding barley may be imported.

Other Feeding Barley	\$1.07 per bu.	\$1.20 per bush.
Barley other than feeding	\$1.20 per bu.	\$1.30 per bush.

<u>Belgium</u>	<u>Rate of Duty</u>
Barley and winter barley	Free

<u>Netherlands</u>	
Barley imported in bulk	Free
Barley packed in packages weighing 2.64 lbs. or less	10 p.c. ad valorem

<u>Switzerland</u>	
Barley	3¢ per bushel

Rate of Duty

NOTE: Under a Swiss decree of June 22, anyone proposing to buy, sell, stock or use cereals (including rye) must report to the Customs Administration and be entered in the commercial register. The dealer is compelled to furnish a guarantee to the effect that he undertakes among other things to sell or deliver bread cereals only to authorized millers or dealers. Bread cereals may, however, be imported without complying with the regulations on payment of a supplementary duty in addition to the customs duty of 20 francs per 100 kilogs. (\$2.05 per 100 lbs.)

Norway

Barley Free

Sweden

Barley 17 $\frac{1}{2}$ ¢ per bushel

Denmark

Barley Free

Finland

Barley 43 $\frac{1}{2}$ ¢ per bushel

United States

Barley, hulled or unhulled per bushel,
(48 lbs.) 20¢

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