

BARLEY SECTOR

OVERVIEW OF THE BARLEY SECTOR IN MANITOBA



- Barley is one of the oldest crops in the world since it was domesticated thousands of years ago. It is a member of the grass family of plants and is grown worldwide.
- Canada is one of the world's largest barley producers and exporters, renowned for its consistent high quality, used in the malt, feed, and food industries.
- In 2011, Manitoba reported 2,417 barley farms compared to 4,339 in 2006. This represents 8.1% of barley farms in Canada. Annually, Manitoba produces approximately 7 to 8% of Canada's total barley production.
- Production of barley in Manitoba peaked in the early 1980s with over 2 million acres harvested annually. More recently, barley production in the province has declined, largely due to low barley prices on the world market.
- There are two broad categories of barley varieties: two-row and six-row. Both varieties are used by the malting and livestock feed industries. Over 50 barley varieties are registered for production in Western Canada including 8 hullless, 13 malting and several others ideally suited to feed.
- Each year a portion of Manitoba's barley crop is selected for use by either the domestic or foreign food and beverage industries and the remainder is used domestically for animal feed, mainly in Manitoba's pork industry.
- Only about 20% of the total malting barley grown is selected by maltsters, based on taste and purity; the remainder ends up primarily as livestock feed. The financial premium for malting barley over livestock feed is generally about \$50 per tonne and farmers follow highly exacting requirements in every stage of production, harvesting and storage to increase the likelihood that their grain will be selected for malting.

Barley	Manitoba	Manitoba	Canada	Canada
	2011	2006	2011	2006
Number of farms	2,417	4,339	29,943	43,411
Acres	483,432	837,758	6,888,693	9,118,090
Hectares	195,638	339,029	2,787,755	3,689,960

Source: Census of Agriculture 2011

Processing Barley in Manitoba

- Domestically, barley is processed into malt, used as a food ingredient for human consumption, and consumed as livestock feed.
- Malt is the main ingredient for brewing beer. Various specialty malt with particular colour or flavour intensities can be produced by selecting barley types and by varying the process conditions employed. Manitoba has one major maltster, Dominion Malting Ltd., and the malt is either used by the province's breweries, such as Fort Garry Brewing Co. Ltd., or exported.
- Quality trends for malting barley focus on specific quality characteristics that provide direct economic value to its customers including filterability, head retention, improved shelf life, haze and flavour. The ongoing trend towards tighter specifications is driving higher extract varieties. Selection, on a least cost basis, of varieties based on individual quality characteristics enable maltsters to achieve the specific demands of brewers.
- Barley grain can be milled to produce barley flour, flakes, bran and used to make noodles, breakfast cereals and instant baby formulas. Some of the selected or designated barley is processed into pot or pearl barley, flavourings and extracts, bioproducts and as a sweetener in a variety of foods.
- Barley is an excellent source of dietary fibre (soluble and insoluble), protein and complex carbohydrates, and is a good source of certain vitamins and minerals. Beta-glucan is a major component of barley soluble fibre found throughout the kernel, with slightly higher concentrations in the outer layers. "Waxy" barley varieties are higher in beta-glucans than other barleys. Barley contains a high concentration of tocotrienols and tocopherols (tocols) - oils that act as natural antioxidants. It is a good source of B-vitamins and minerals.
- Barley is also used as livestock feed. To improve its digestibility, barley grain is cracked or rolled for cattle feed and ground to make feed for hogs and chickens.
- Barley straw is the dried stems of the barley plant after the head that holds the grain kernels has been removed. Straw is often used as a soft, dry bed for livestock. It can also be made into building materials, paper, newsprint and fibreboard.
- To make silage, the entire plant is cut down, piled, compacted, and then allowed to ferment. Fermentation preserves this highly nutritious feed for beef and dairy cattle.
- Barley is expected to face increased competition due to greater supplies of ddgs resulting from the expansion of the ethanol sector in Canada and in the US.
- While barley cultivars are generally developed for the conventional malting and feed markets, breeding efforts targeting specialty markets include hull-less barley cultivars for the poultry and hog industries, and cultivars with high beta-glucan content and/or waxy types (special starch composition) for specialty food markets.

Trade

- The majority of Manitoba's exported barley is malting barley in unprocessed form, while smaller amounts of barley malt and malt extract are also exported.
- Of the total malting barley destined for alcohol, about three-quarters is brewed in Canada. The other quarter is exported to international brewers, mostly in China, the United States, South Africa, Colombia, Japan and Mexico.
- Canada has consistently been a major producer of high-quality barley on the world stage. Strict quality standards of the Canadian Grain Commission's grain quality program include varietal control, licensing of elevators, product inspection and weighing, and sanitation and quality monitoring programs.
- Contracts and options for feed barley can be traded on the Winnipeg Commodity Exchange.
- Barley is grown in about 100 countries with major production centered in the European Union, North America, the Black Sea region and Australia.
- In Japan, roughly 80% of barley is consumed as feed where it is used in the production of compound and mixed feed for the cattle sector. It is particularly important in feeding beef cattle because it produces high quality beef with the white marbling that Japanese consumers favour. The largest non-feed uses are for the production of shochu, a traditionally distilled liquor, and beer. Other uses include miso (soybean paste) and barley tea. Yearly consumption of barley is estimated to be around 1.6 million tonnes but demand for barley is expected to decrease over the next few years as the cattle population continues to shrink.
- In China, barley is mostly used for brewing but domestic barley production is inadequate to supply the expanding brewing industry. The sector's total demand for malting barley is estimated at 4.5 million tonnes annually. The recent sharp declines in international barley prices is expected to mitigate China's practice of substituting feed barley for malting barley in beer production with a subsequent impact on quality. Due to the high barley prices in recent years, brewers had reduced the use of malting barley and lowered the wort density in efforts of marketing beer with a lighter taste. Other ingredients frequently used by brewers as a substitute for malting barley include rice, wheat and syrup.
- The global expansion in flour milling and vegetable oil processing is generating greater quantities of by-product which in turn is increasing the development of feed mills for pelletized feed and other complex feed grain products.
- World feed barley trade has declined over the last 10 years, resulting from changing customer requirements, price sensitiveness and a trend towards least cost formulation feed mixes. Ongoing emphasis on yield is expected to direct more attention on nutritional aspects within the grain mix of feed barley, while the high metabolic energy varieties focus more on quality.

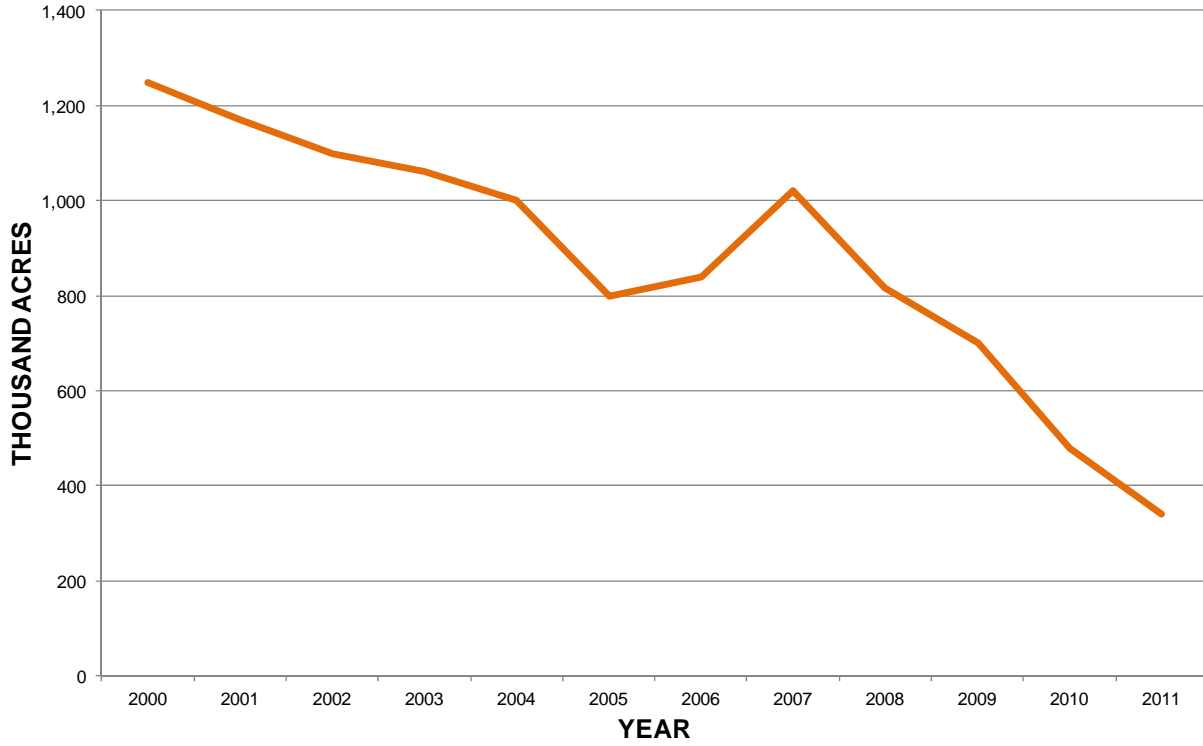
Barley Outlook for Canada 2012-2013

- For 2012-13, seeded area is forecast to increase by 23% due to good prices and lower summerfallow, and harvested area is expected to increase by 21%.
- Production is forecast to increase by 19% and remain at trend levels.
- Total supply is forecast to increase by only 9% due to lower carry-in stocks.
- Domestic feed use is forecast to increase only slightly.
- Total exports are forecast to decrease slightly due to increased competition as larger world barley crops and malt supplies are expected.
- Carry-out stocks are forecast to double due to increased supply.
- The in-store Lethbridge price for feed barley is forecast to decrease from 2011-12 due to the increase in total barley supply and a sharp decline in US corn prices. Lower US corn prices in 2012-13 could make US corn and DDGS imports more competitive against prairie barley. In the 2012-13 crop year, the CWB will market only the single grade of Select 2Row malt barley for its two pools, the Early and Harvest pools, which are six, and 12 months, respectively. Any grades other than Select will be handled through its cash-trading division. If a producer's malt barley goes out-of-condition and gets de-selected they will have the opportunity to deliver the feed barley against a CWB spot feed barley contract.
- There are ample old crop malt barley supplies in Australia and good new crop prospects forecast for Argentina, the EU and US. Although winter barley had suffered setbacks in the EU, larger spring barley area and good conditions will more than offset the winter crop's production decline. World carry-in barley stocks for 2012-13 are 4% lower than in 2011-12. Total world barley production and supply are forecast to increase slightly. Due to lower trade, world barley carry-out stocks are forecast to rise by 5%.

Outlook for Barley	2010-2011	2011-2012p	2012-2013f
Area Seeded (kha)	2,797	2,619	3,225
Area Harvested (kha)	2,387	2,365	2,850
Yield (t/ha)	3.19	3.28	3.23
Production (kt)	7,605	7,756	9,200
Imports (kt)	43	42	42
Total Supply (kt)	10,231	9,239	10,042
Exports (kt)	2,014	1,900	1,800
Food & Industrial Use (kt)	144	136	137
Feed, Waste & Dockage (kt)	6,406	6,168	6,255
Total Domestic Use (kt)	6,776	6,539	6,642
Carry-out Stocks (kt)	1,441	800	1,600
Average Price (\$/t)	188	205 to 235	175 to 205

Source: Statistics Canada and Agriculture and Agri-Food Canada, June 2012

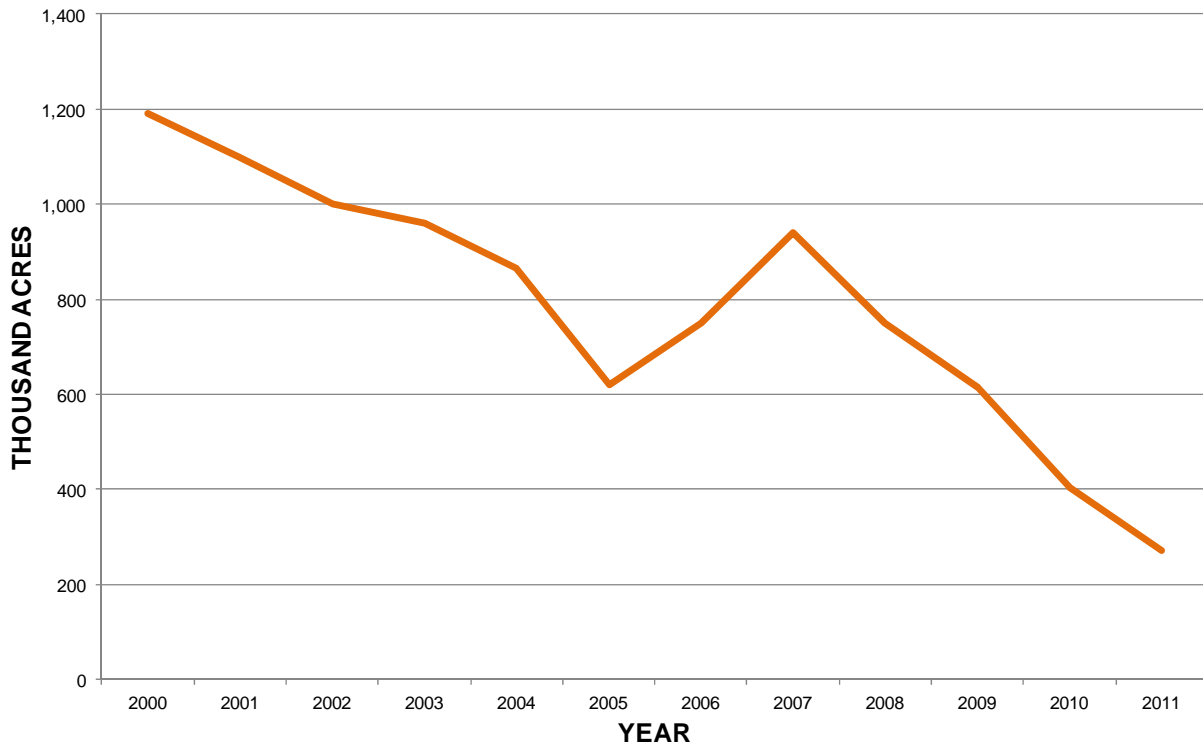
Barley - Seeded Acres in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

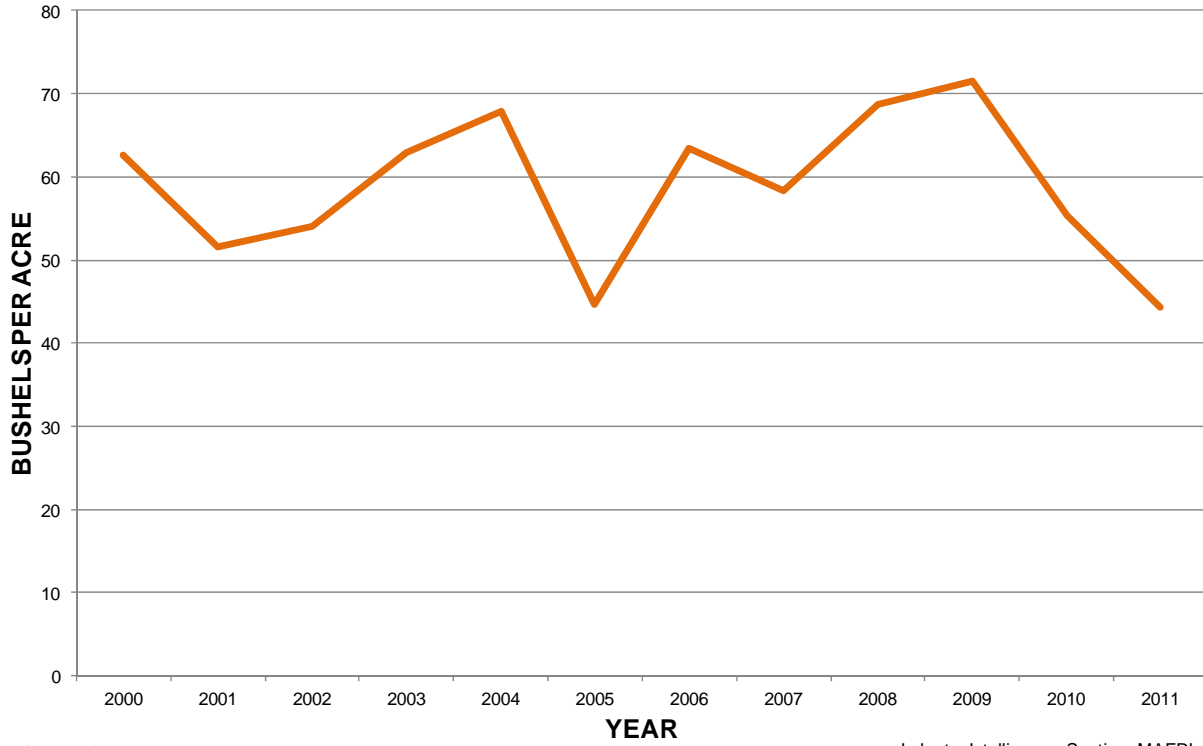
Barley - Harvested Acres in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

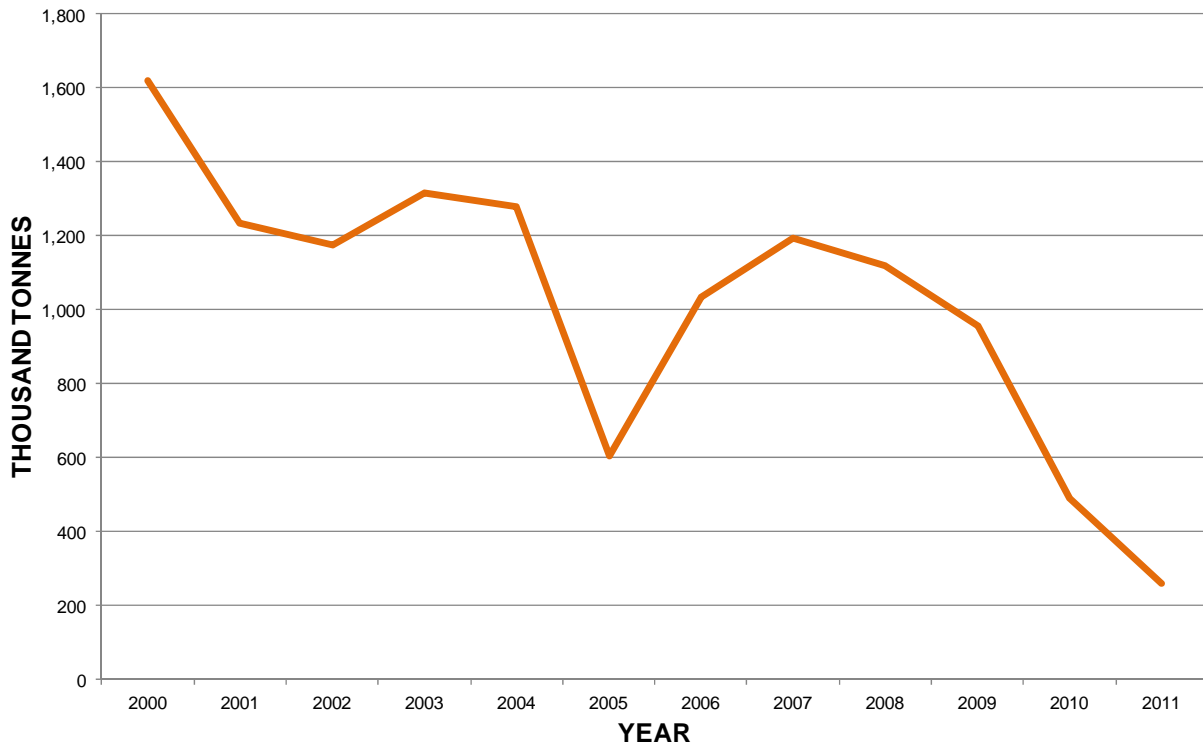
Barley - Yield per Acre in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

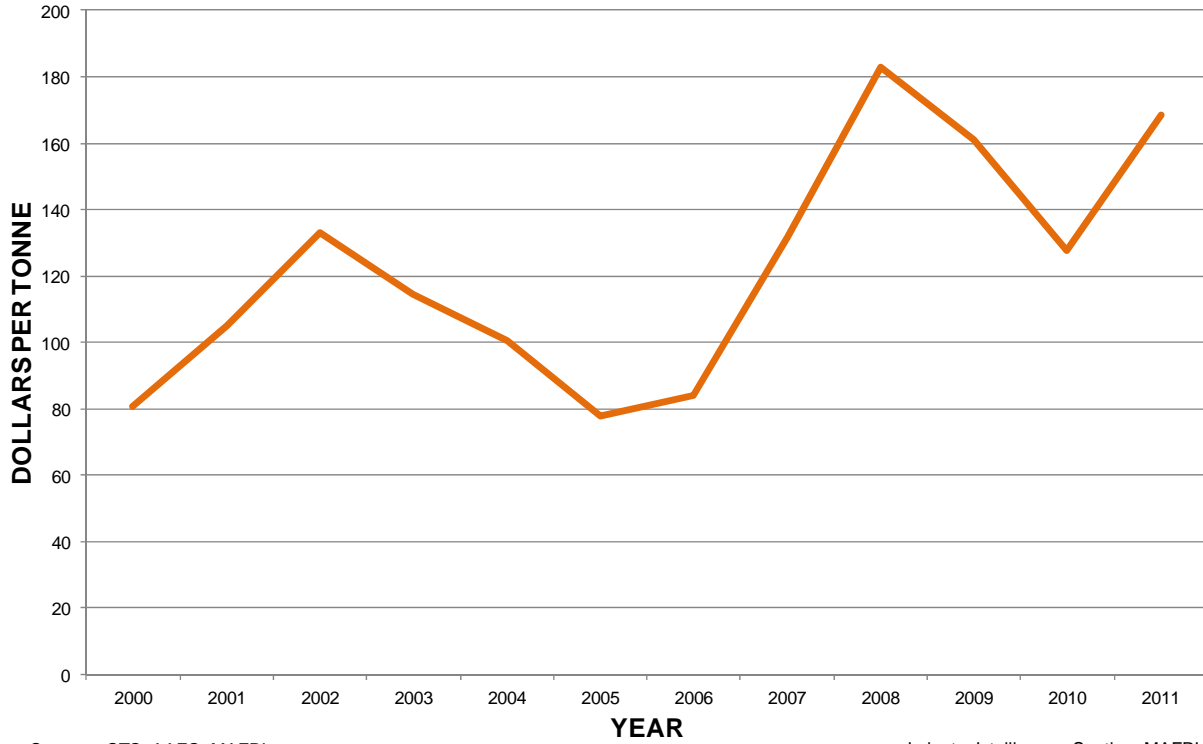
Barley - Tonnes Produced in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

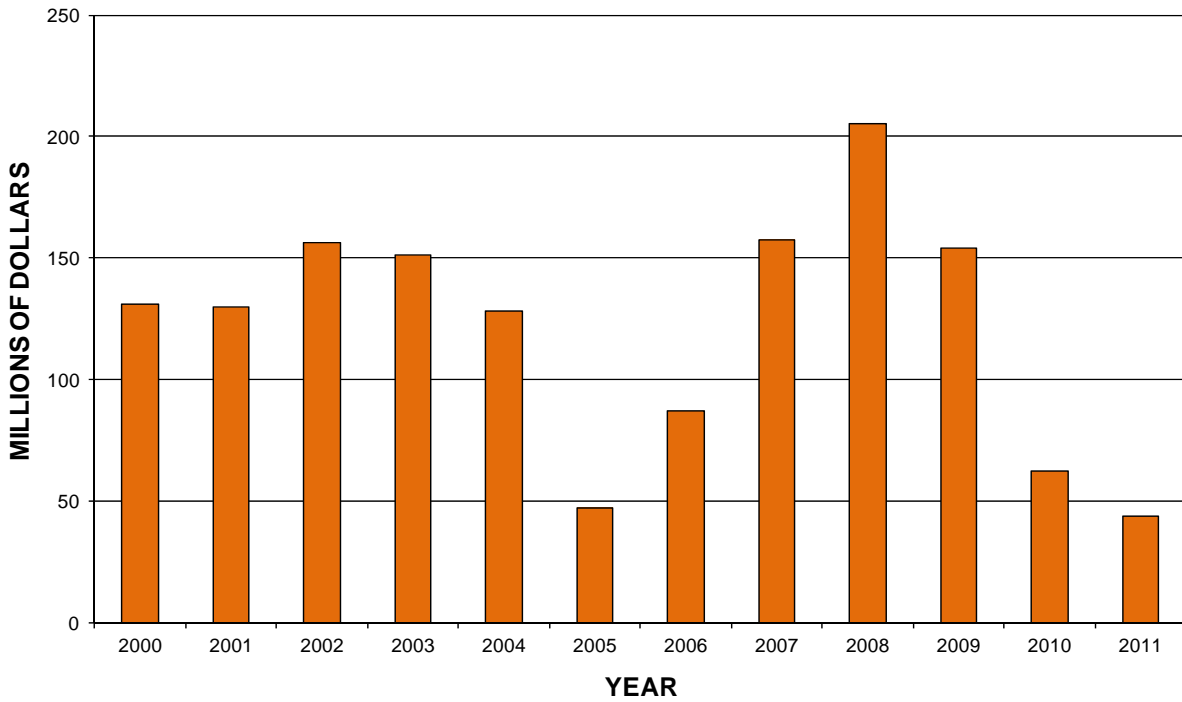
Barley Prices in Manitoba 2000 - 2011



Sources: STC, AAFC, MAFRI

Industry Intelligence Section, MAFRI

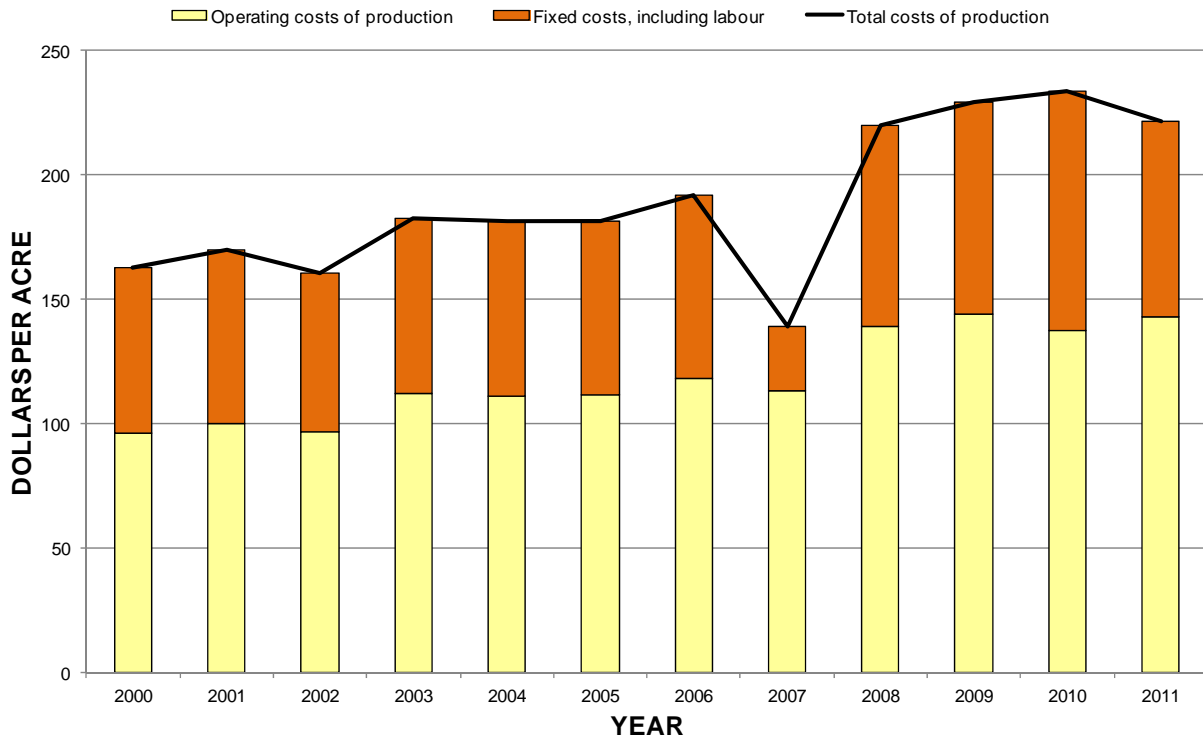
Value of Barley Production in Manitoba 2000 - 2011



Source: STC, AAFC, MAFRI

Industry Intelligence Section, MAFRI

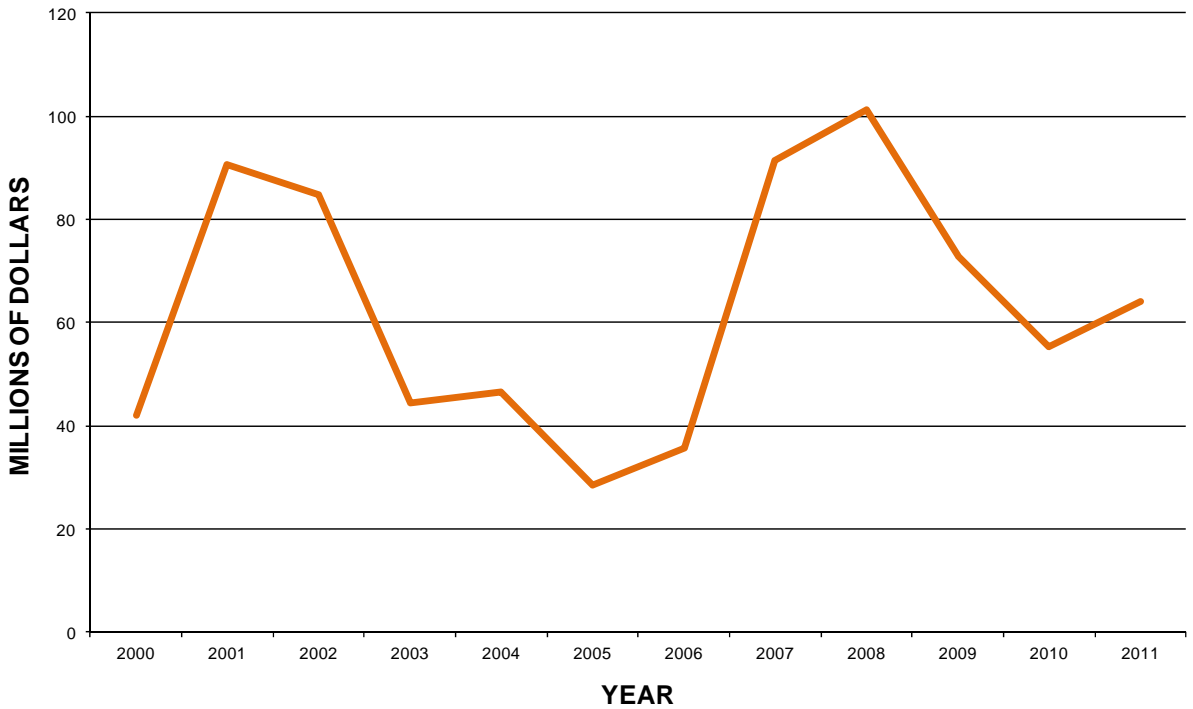
Cost of Barley Production per Acre in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

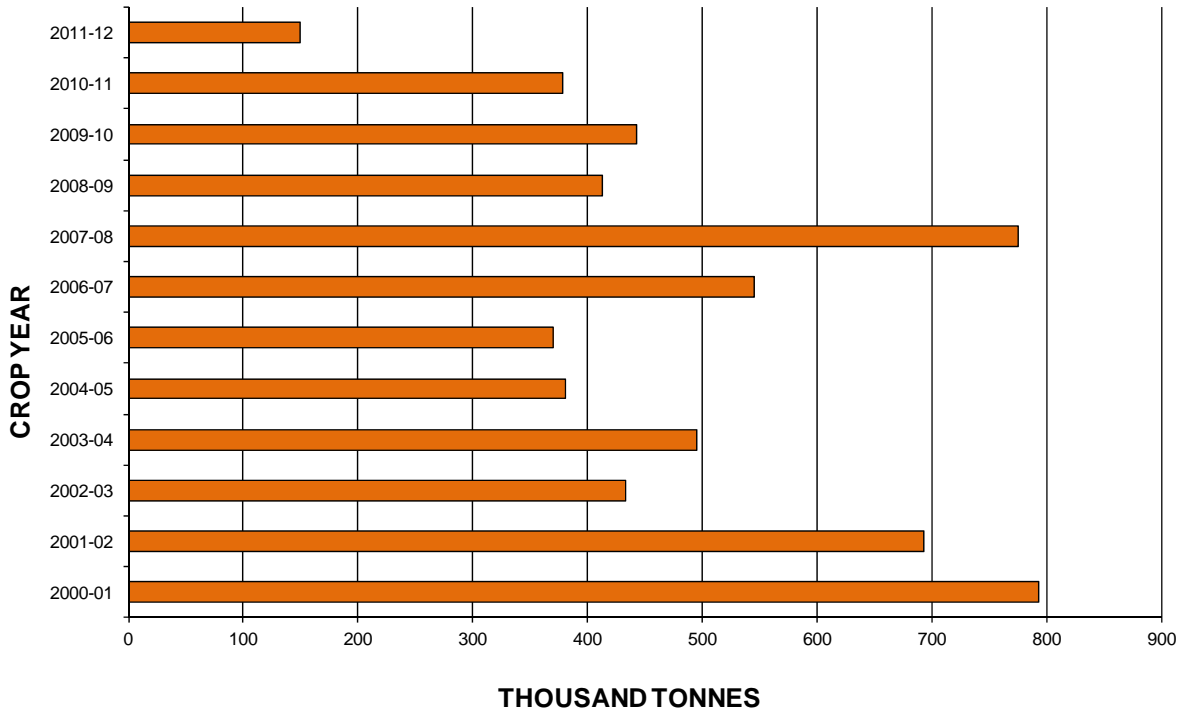
Farm Cash Receipts for Barley in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

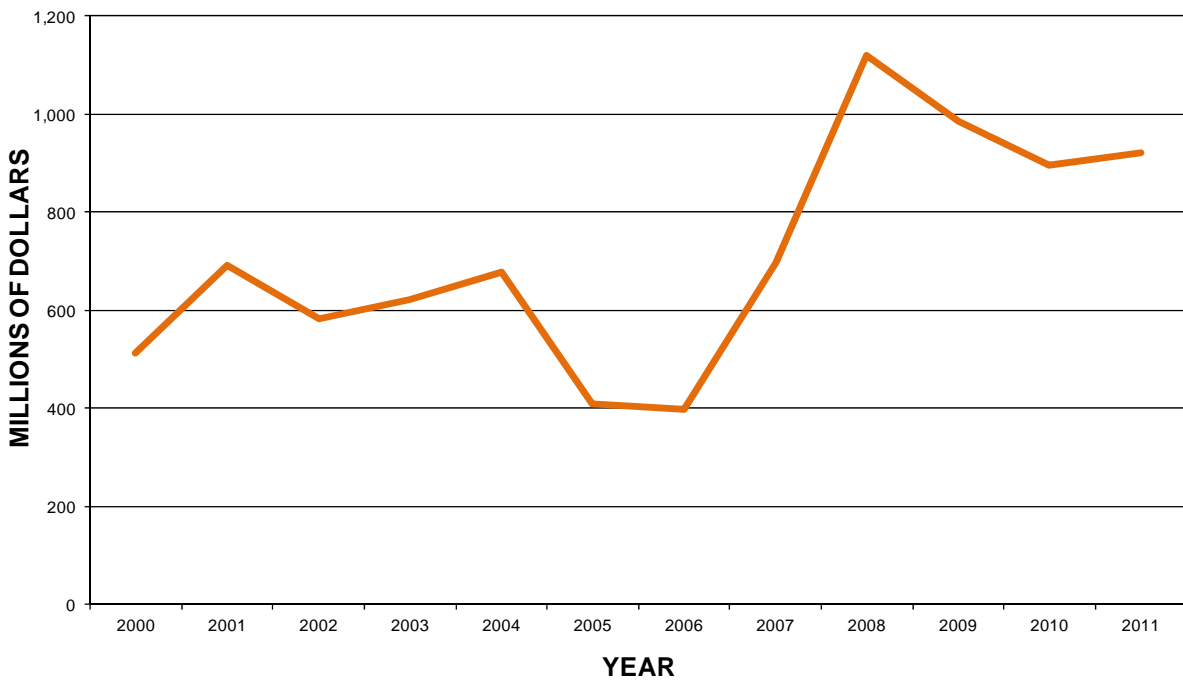
Marketings of Manitoba Barley 2000 - 2011



Source: STC, AAFC, MAFRI

Industry Intelligence Section, MAFRI

Manitoba Barley Exports 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

Farm Supply and Disposition of Manitoba Barley Crop, 2000/01 to 2011/12

<i>000 tonnes</i>	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Opening Stocks Aug1	350	260	170	125	230	250	80
Production	603	1,035	1,195	1,121	958	488	261
Total Supply	953	1,295	1,365	1,246	1,188	738	341
Marketings	370	545	774	413	442	378	150
Seed	25	30	24	21	14	10	5
Carry-over	260	170	125	230	250	80	80
Feed/Waste/Dockage	298	550	442	582	481	270	107
Total Disposition	953	1,295	1,365	1,246	1,188	738	341

<i>000 bushels</i>	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Opening Stocks Aug1	16,076	11,946	7,808	5,741	10,564	11,483	3,674
Production	27,700	47,551	54,900	51,501	44,001	22,400	12,002
Total Supply	43,776	59,498	62,708	57,243	54,565	33,883	15,676
Marketings	17,001	25,026	35,571	18,980	20,319	17,349	6,890
Seed	1,149	1,400	1,118	960	658	439	219
Carry-over	11,946	7,808	5,741	10,564	11,482	3,674	3,674
Feed/Waste/Dockage	13,679	25,264	20,278	26,738	22,105	12,420	4,893
Total Disposition	43,776	59,498	62,708	57,243	54,565	33,883	15,676

- **BARLEY - Common Conversions**

1 metric tonne barley = 45.929 bushels.

There are 48 pounds in 1 bushel of barley.

Production and Value of Manitoba Barley

Year	Seeded Area (hectares)	Harvested Area (hectares)	Average Yield (kg per ha)	Production (tonnes)	Price per Tonne (\$/tonne)	Total Value (\$000)
1990	635,400	607,000	3,200	1,959,500	79	154,840
1991	544,457	505,900	2,800	1,426,100	80	114,730
1992	455,300	424,900	3,700	1,567,600	85	132,680
1993	465,400	445,200	2,800	1,241,000	80	99,280
1994	445,200	424,900	3,100	1,328,100	97	128,830
1995	485,600	465,400	2,900	1,328,100	163	216,480
1996	627,300	627,300	3,400	2,111,900	118	249,200
1997	566,600	546,300	3,100	1,685,200	108	182,080
1998	526,100	501,800	3,200	1,630,800	94	153,440
1999	429,000	404,700	3,000	1,214,900	94	114,201
2000	505,900	481,600	3,400	1,622,000	81	131,252
2001	473,500	445,200	2,800	1,234,500	105	129,635
2002	445,200	404,700	2,900	1,175,700	133	156,591
2003	429,000	388,500	3,400	1,317,200	115	151,017
2004	404,700	350,100	3,700	1,278,000	100	128,196
2005	323,700	250,900	2,400	603,100	78	46,867
2006	339,000	303,500	3,400	1,035,300	84	87,172
2007	412,800	380,400	3,100	1,195,300	132	157,385
2008	329,800	303,500	3,700	1,121,300	183	205,153
2009	283,300	248,900	3,800	958,000	161	154,305
2010	194,200	163,900	3,000	487,700	128	62,357
2011	137,600	109,300	2,400	261,300	168	43,985

Year	Seeded Area (acres)	Harvested Area (acres)	Average Yield (bu per acre)	Production (000 bushels)	Price per Bushel (\$/bushel)	Total Value (\$000)
1990	1,570,000	1,500,000	60.0	90,000	1.72	154,840
1991	1,345,382	1,250,000	52.4	65,500	1.75	114,730
1992	1,125,000	1,050,000	68.6	72,000	1.84	132,680
1993	1,150,000	1,100,000	51.8	57,000	1.74	99,280
1994	1,100,000	1,050,000	58.1	61,000	2.11	128,830
1995	1,200,000	1,150,000	53.0	61,000	3.55	216,480
1996	1,550,000	1,550,000	62.6	97,000	2.57	249,200
1997	1,400,000	1,350,000	57.3	77,400	2.35	182,080
1998	1,300,000	1,240,000	60.4	74,900	2.05	153,440
1999	1,060,000	1,000,000	55.8	55,800	2.05	114,201
2000	1,250,000	1,190,000	62.6	74,500	1.76	131,252
2001	1,170,000	1,100,000	51.5	56,700	2.29	129,635
2002	1,100,000	1,000,000	54.0	54,000	2.90	156,591
2003	1,060,000	960,000	63.0	60,500	2.50	151,017
2004	1,000,000	865,000	67.9	58,700	2.18	128,196
2005	800,000	620,000	44.7	27,700	1.69	46,867
2006	837,758	750,000	63.4	47,550	1.83	87,172
2007	1,020,000	940,000	58.4	54,900	2.87	157,385
2008	815,000	750,000	68.7	51,500	3.98	205,153
2009	700,000	615,000	71.5	44,000	3.51	154,305
2010	480,000	405,000	55.3	22,400	2.78	62,357
2011	340,000	270,000	44.4	12,000	3.67	43,985

Source: Statistics Canada; Agriculture and Agri-Food Canada; Manitoba Agriculture, Food and Rural Initiatives.

