

GRAIN CORN SECTOR

OVERVIEW OF THE GRAIN CORN SECTOR IN MANITOBA



- Prior to 1978, Manitoba producers grew very little corn for grain since most corn was produced for silage and fodder. Corn production expanded into non-traditional areas with the development of varieties more suited to the Manitoba climate and availability of improved hybrids.
 - The steady increase in corn production was due to a growing need for feed corn by the livestock industry and as input to the fuel ethanol industry.
 - Dent and Flint are the principal types of corn. In North America dent is the principal corn type grown. Flint corns were probably grown extensively in Colonial times but are of little importance today.
 - Ontario, Quebec and Manitoba are the three main corn producing provinces.
- In 2011, Manitoba reported 713 corn farms compared to 577 in 2006. This represents 3.0% of corn farms in Canada and approximately 4 to 6% of Canada's total corn production.

Corn	Manitoba	Manitoba	Canada	Canada
	2011	2006	2011	2006
Number of farms	713	577	23,472	21,494
Acres	211,148	150,420	3,296,587	2,752,716
Hectares	85,449	60,873	1,334,081	1,113,984

Source: Census of Agriculture 2011

- The price of corn in Canada is determined by: the price of corn on the CBoT in the US, the Canada-US dollar exchange rate, Canadian supply and demand conditions, freight from origin to destination and brokerage fees. Domestic corn is priced on an import basis as Canada has become a corn deficit country. Corn prices are generally lower than in the US in the fall because of ample domestic supplies. As the corn is consumed, prices rise to the point where it becomes economic to import US corn. Consequently, Canadian corn prices are normally discounted to the US and any price increases are capped by US imports.

PROCESSING CORN IN MANITOBA

- The distillery at Gimli uses about 60,000 metric tonnes (2.4 million bushels) of corn annually. Manitoba producers supply most of the distillery requirements for high quality corn. This market demands a clean sample of screened corn of high test weight (56 lbs./bushel), with 14.5% moisture or lower. Corn is accepted up to 15% moisture, but at a discount. Storage management practices are very important in ensuring that the corn does not have any objectionable odours.
- Corn is also processed and used for hog and poultry feed. Corn silage is fed to dairy and beef cattle. Manitoba corn is used across the Prairies as a livestock feed.
- Hundreds of edible and non-edible products are made from corn and new uses are emerging rapidly.
- Physical and chemical processes used to break down the grain greatly increase the value of the original product.
- Wet milling and dry milling techniques are used to separate components, which are then further processed. Wet milling, with water and heat, produces cornstarch that is used in industrial applications (manufacture of paper and adhesives) or as a food material (thickeners, extenders, corn syrups, and sweeteners).
- Dry milling produces corn oil, corn meal (for corn chips, flakes, and tortillas), and corn grits for brewing.
- The whole grain is used to produce whisky, gin and vodka, ethanol production (blended with gasoline to produce a biofuel) and for manufacturing bioplastics.
- Corncobs are used in the production of solvents, abrasives and absorbents.
- Cornstarch is an ideal substrate or food for microorganisms that are used in fermentation processes (pharmaceutical and industrial chemical production). The starches in corn can also be converted using chemical techniques into an assortment of other chemicals.
- Corn is a domestic renewable resource with value added properties on processing.
- Special types of corn are produced under contract; to earn a premium, the grain must be kept separate from other types until it is delivered to the market.
 - High-Lysine Corn
 - High Oil Corn
 - Low-Phytate Corn
 - White Corn
 - High-Starch Corn
 - Sweet Corn
 - Popcorn

Trade

- The United States is the world's largest producer and exporter of corn, accounting for 40% of world output and 60% of world trade. Consequently, world corn prices are largely determined by US corn prices.
- US production of Dried Distillers Grains with Solubles (DDGS) rises in tandem with ethanol production. DDGS are a substitutable source of protein and energy in animal rations and offset some of the decrease in corn consumption by livestock.
- Corn accounts for over 70% of the world coarse grain market and about one half of the growth in coarse grain consumption is expected to occur in the US and China.
- China is the world's second largest corn producer. Domestic consumption is expected to rise slightly as higher feed usage is partly offset by lower food, seed and industrial consumption.
- World corn consumption is projected to rise as the sharp increase in food and industrial use more than offsets the decline in feeding. The largest increases in industrial demand are linked to expanded ethanol production.
- According to the USDA Agricultural Projections to 2018, US corn area is expected to rise slowly over the next ten years, and is forecast to peak at 90.5 Mha by 2016-2017 before stabilizing.
- Over the medium term, much of the expected increase in production is projected to occur through higher yields.
- Total usage of corn is projected to grow over the medium term. Industrial usage of corn, which rose with the rapid expansion in US ethanol sector, began tapering off in 2009-2010 and is expected to grow at a slower pace until 2018-2019.
- Over the medium term, the average annual farm price of corn is projected to decline slightly until 2013-2014, then begin rising moderately by 2018-2019.
- US exports are projected to rise slowly on support from the growing livestock sectors in Asia, Latin America, North Africa and the Middle East. However, most of the expansion in world trade in corn is expected to occur outside the US.
- For Canada, production is expected to gradually trend upwards, due to the slow and steady upward rise in trend yields.
- By 2018-2019, about 2.84 Mt of corn and 1.09 Mt of wheat, respectively, are expected to be used to produce ethanol in Canada
- Feed use of corn in Canada is expected to decline marginally by 2018-2019 due to fewer market hogs and feedlot cattle and increased supplies of alternative feed ingredients such as DDGS.

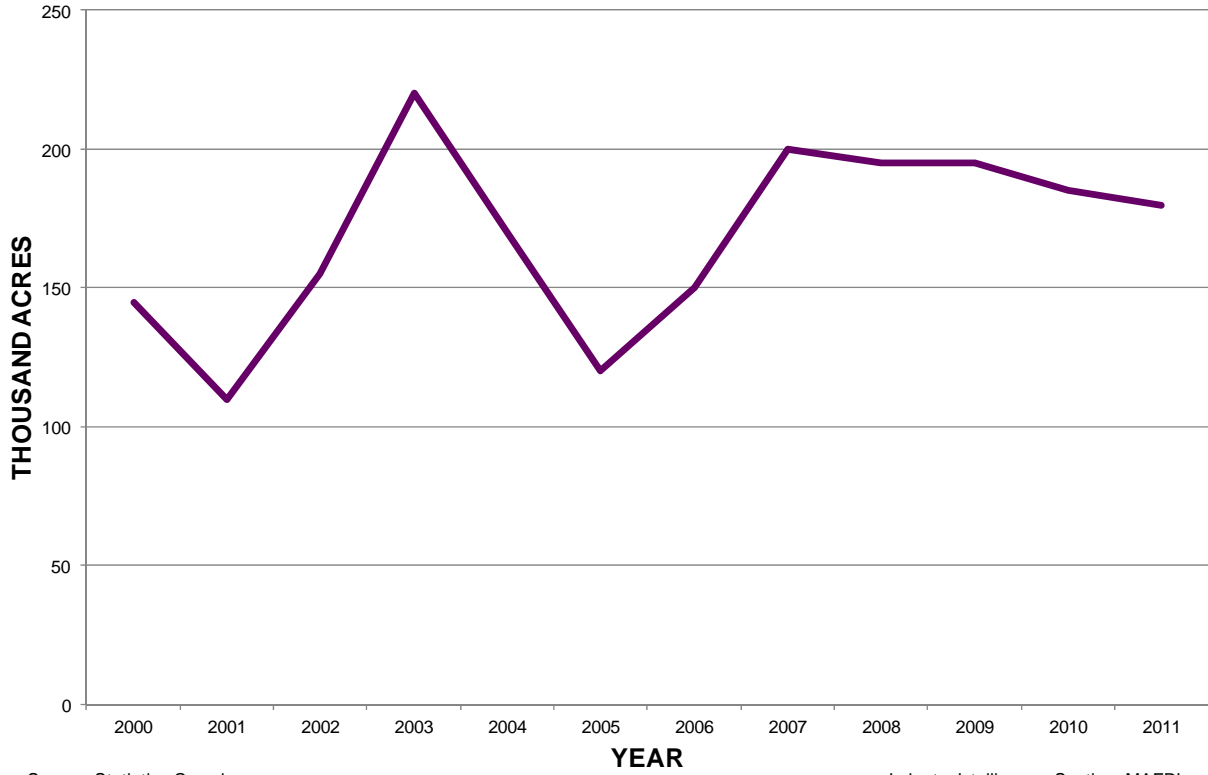
Corn Outlook for Canada 2012-2013

- For 2012-13, seeded area is intended to increase by 18%, to a new Canadian record. The corn crop was seeded early and is generally off to a good start.
- Production is expected to increase by 19% based on trend yields.
- Imports are expected to decrease slightly due to the large production but stay below the previous five-year average.
- Supply is forecast to increase by 16% due to large increases in area and production.
- Exports are forecast to increase substantially with the larger total supply and softer Canadian basis values.
- A 3% increase in total domestic use is forecast as industrial use grows at trend and there is only modest feed usage growth.
- Carry-out stocks are forecast to increase by almost 80% due to increased supply.
- The average Chatham elevator price is forecast to decrease sharply due to the large Canadian and US crops, weak basis levels and strong Canadian dollar. US corn seeding got off to a very early start, which will support yields but the summer weather, especially during the critical pollination stage, will ultimately determine the final yield. The US corn market, as it moves to a “weather market”, will be especially volatile given the low carry-in stocks and yield uncertainty.
- Throughout 2011-12, the US has not been as price competitive on the world market as in the past and has lost market share to other corn competitors and feed wheat. Even the US's top export destination, Japan, has substituted Australian feed wheat for corn in feed rations. Ukraine is forecasting a large corn crop for 2012-13 and could overtake Argentina as the world's number two corn exporter. The USDA is projecting world corn production to increase by 9% but, with total usage increasing by only 6%, world corn carry-out stocks are expected to increase significantly.

Outlook for Corn	2010-2011	2011-2012p	2012-2013f
Area Seeded (kha)	1,214	1,218	1,441
Area Harvested (kha)	1,203	1,202	1,420
Yield (t/ha)	9.74	8.89	8.94
Production (kt)	11,715	10,689	12,700
Imports (kt)	1,233	1,000	900
Total Supply (kt)	14,705	12,967	15,000
Exports (kt)	1,688	375	1,000
Food & Industrial Use (kt)	4,750	4,800	5,000
Feed, Waste & Dockage (kt)	6,976	6,378	6,486
Total Domestic Use (kt)	11,739	11,192	11,500
Carry-out Stocks (kt)	1,278	1,400	2,500
Average Price (\$/t)	236	220-250	165-195

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

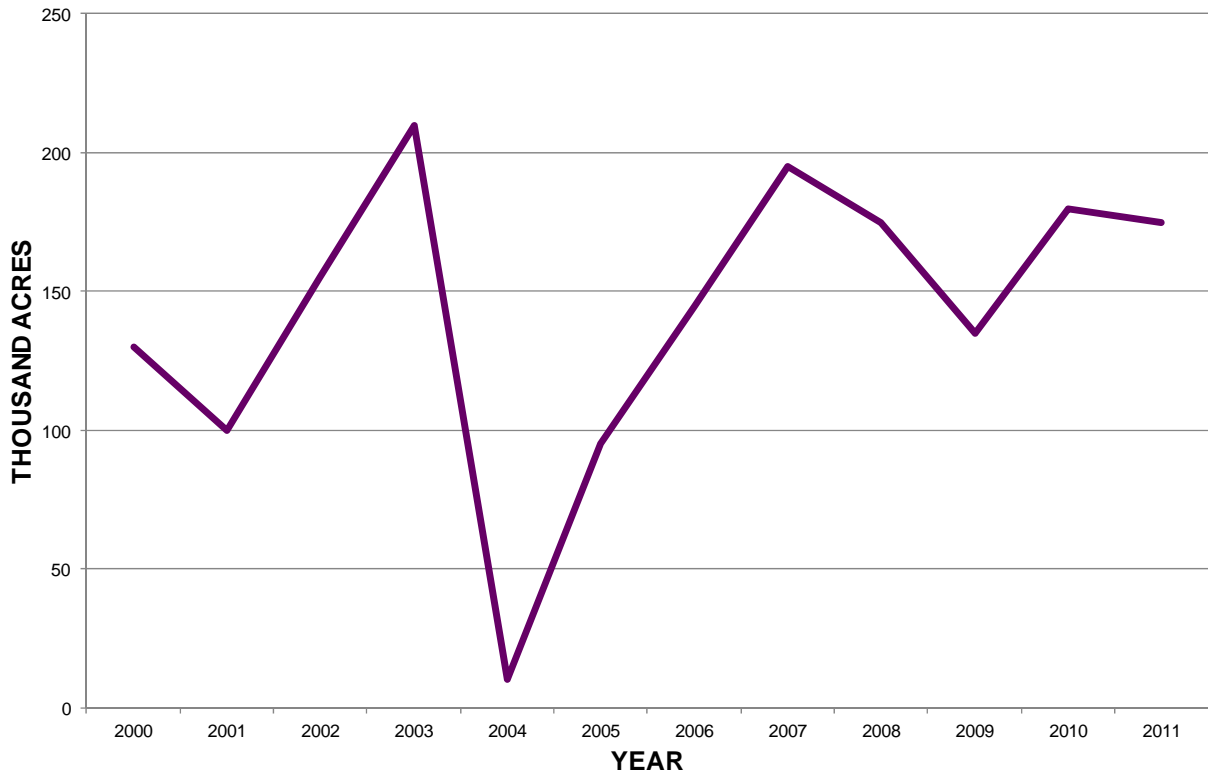
Grain Corn - Seeded Acres in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

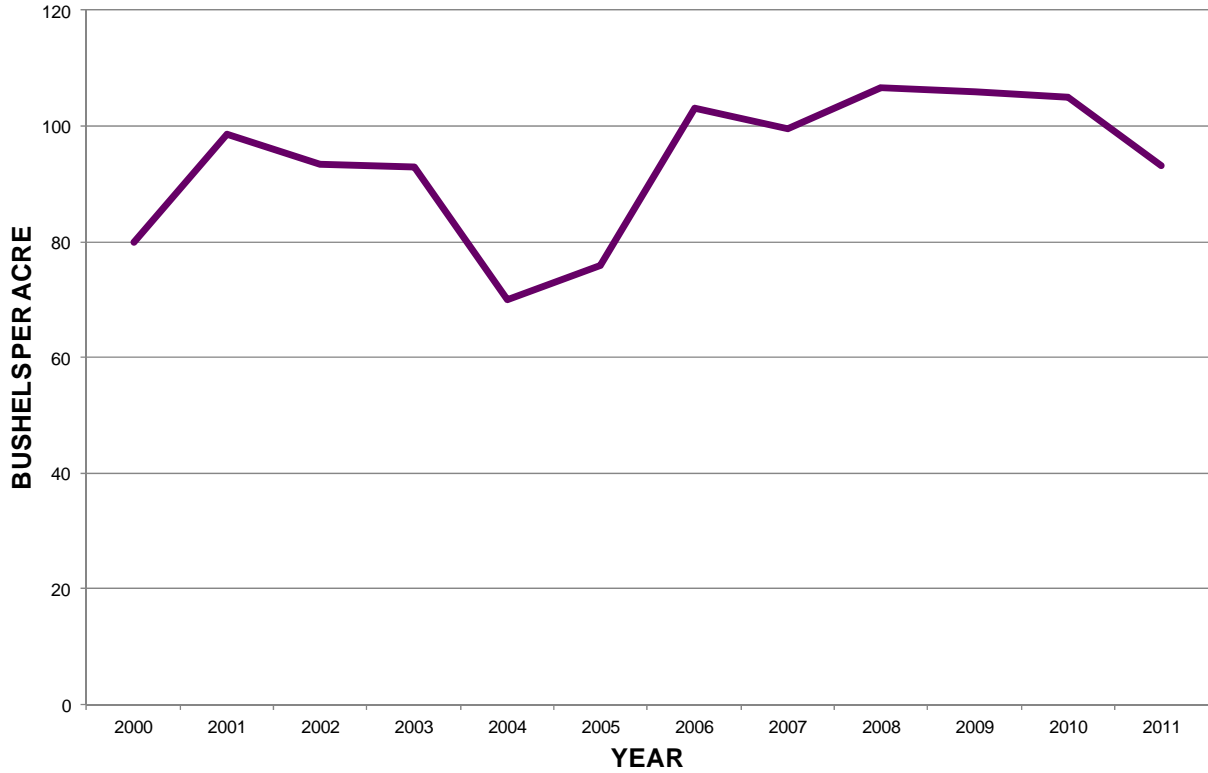
Grain Corn - Harvested Acres in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

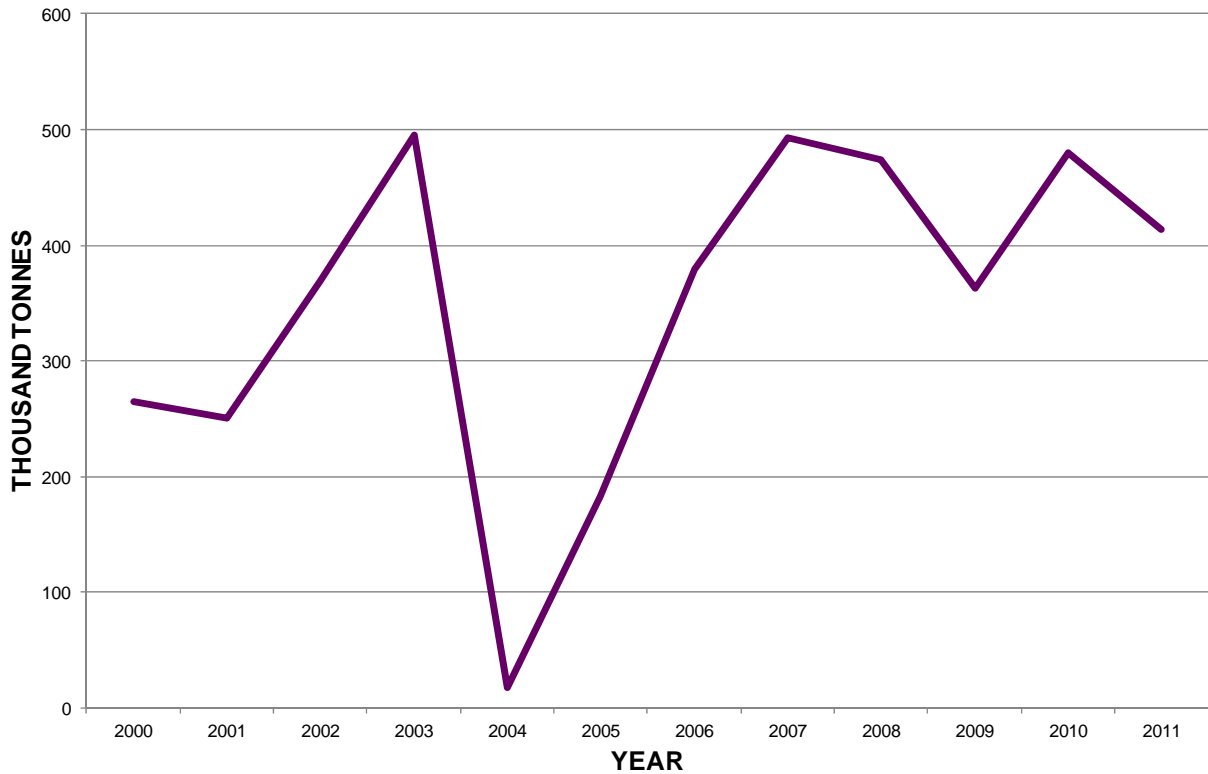
Grain Corn - Yield per Acre in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

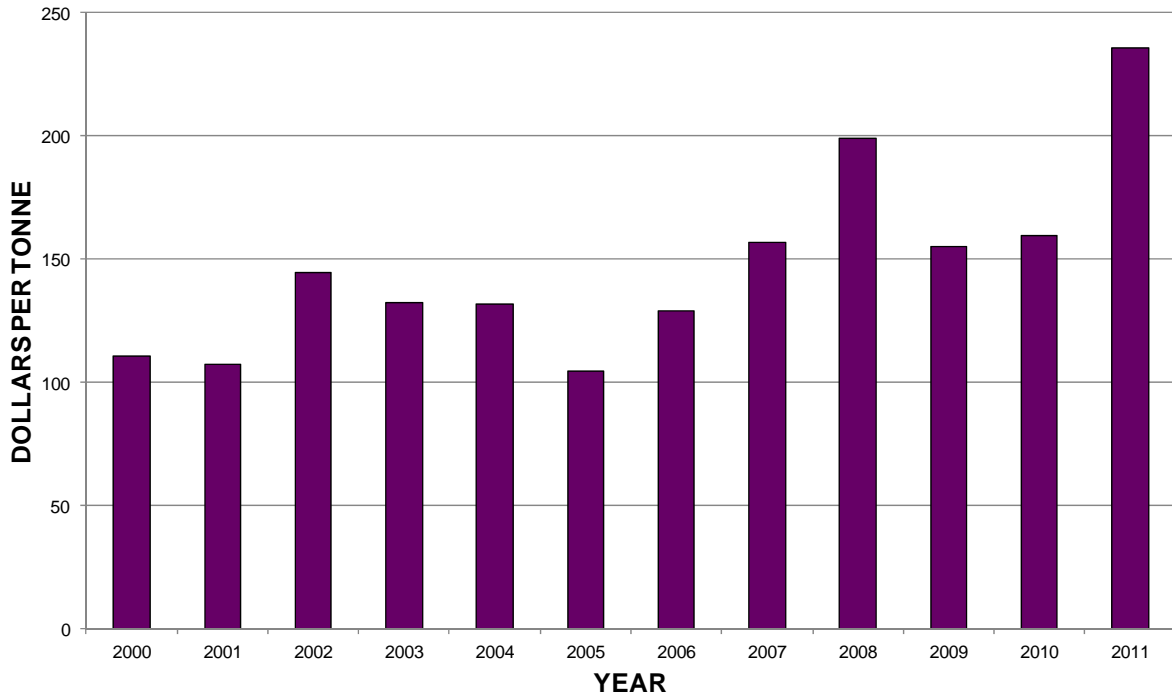
Grain Corn - Tonnes Produced in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

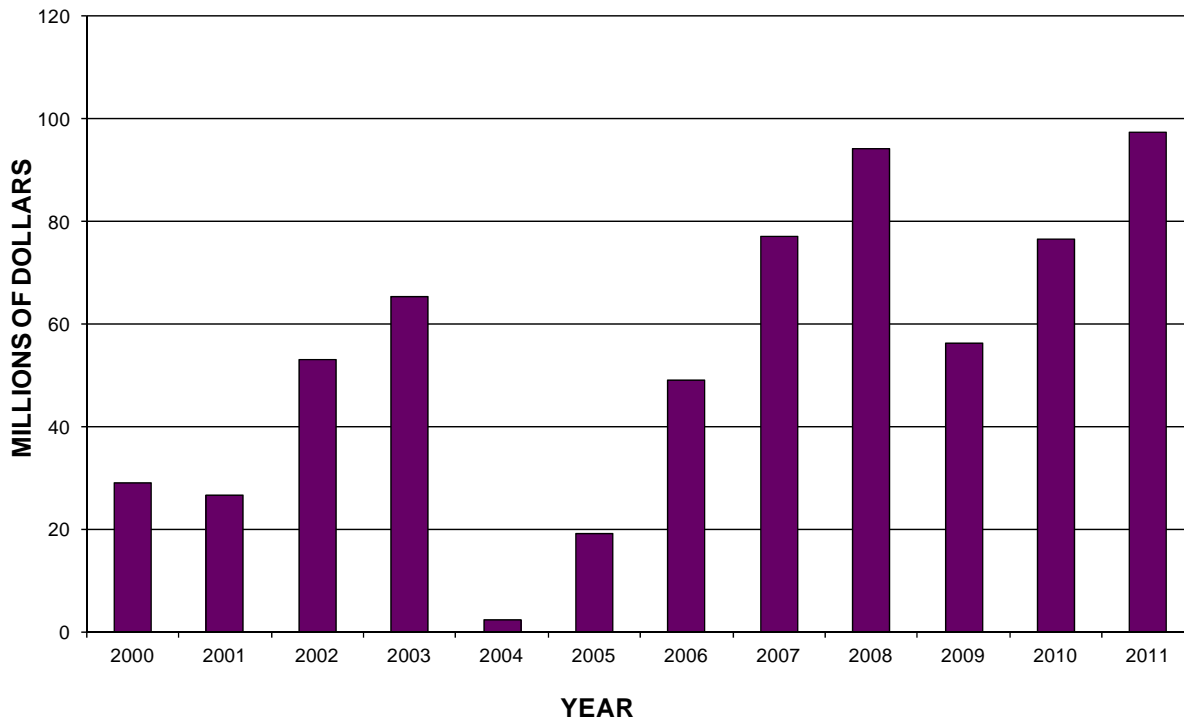
Grain Corn Prices in Manitoba 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section,

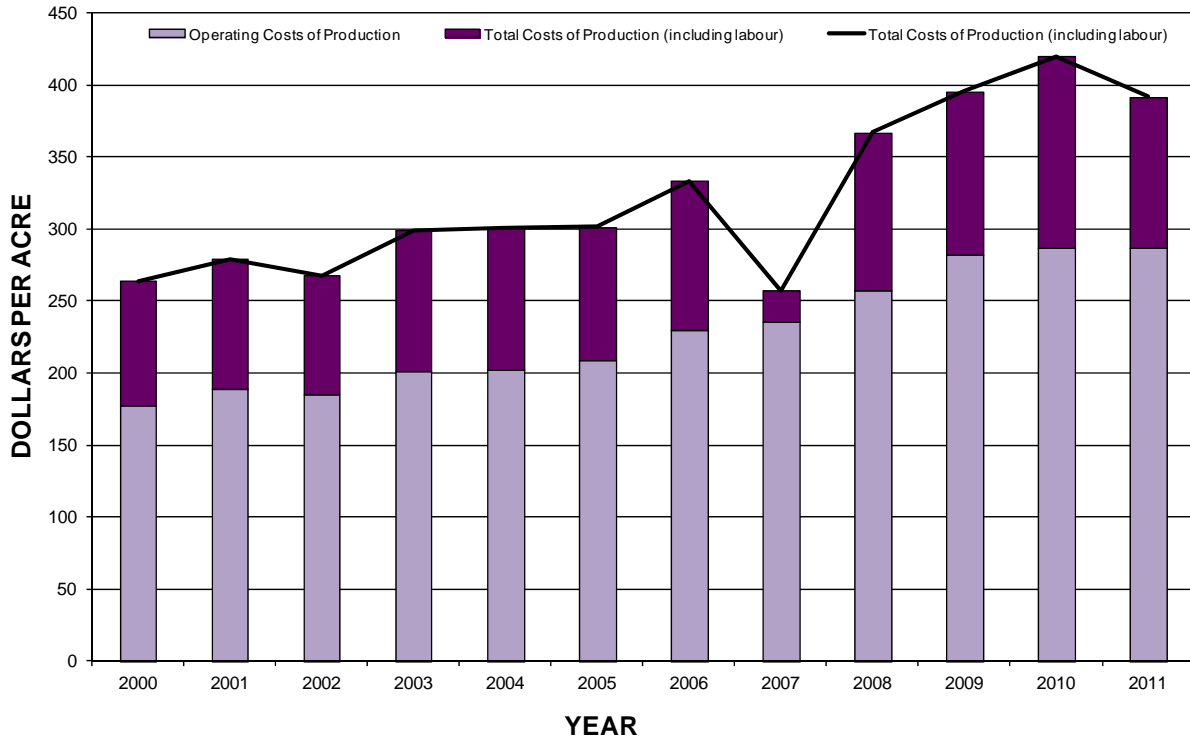
Value of Grain Corn Production in Manitoba 2000 - 2011



Source: STC, AAFC, MAFRI

Industry Intelligence Section, MAFRI

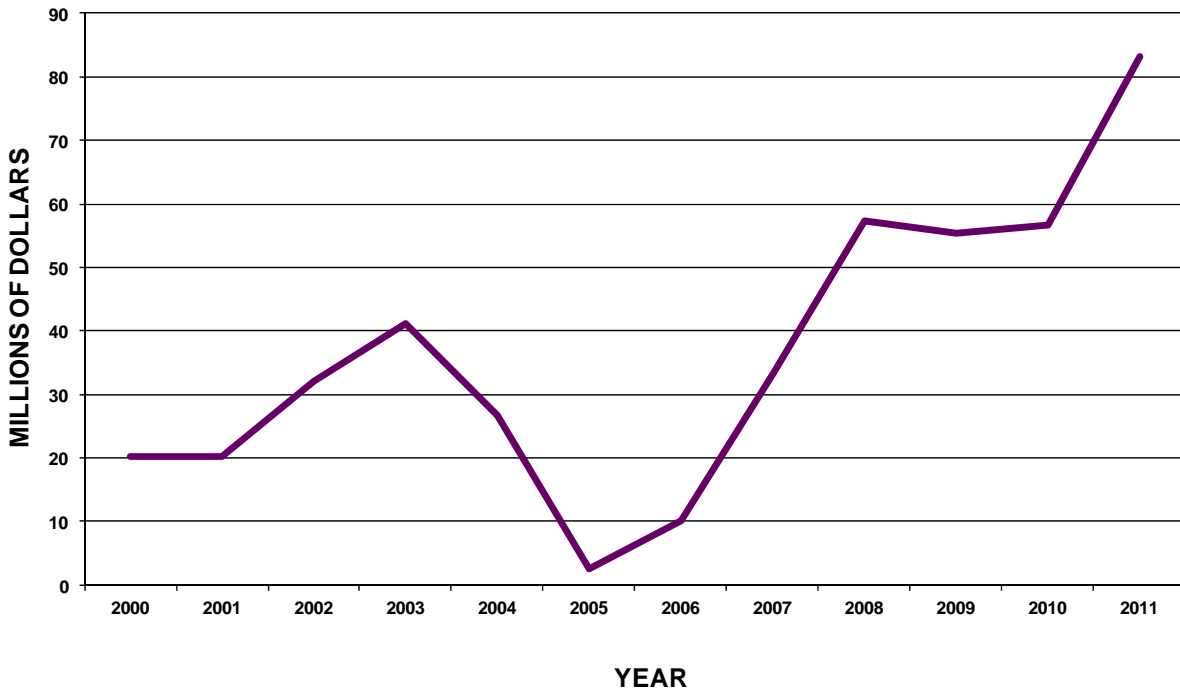
Cost of Grain Corn Production in Manitoba 2000 – 2011



Source: MAFRI

Industry Intelligence Section, MAFRI

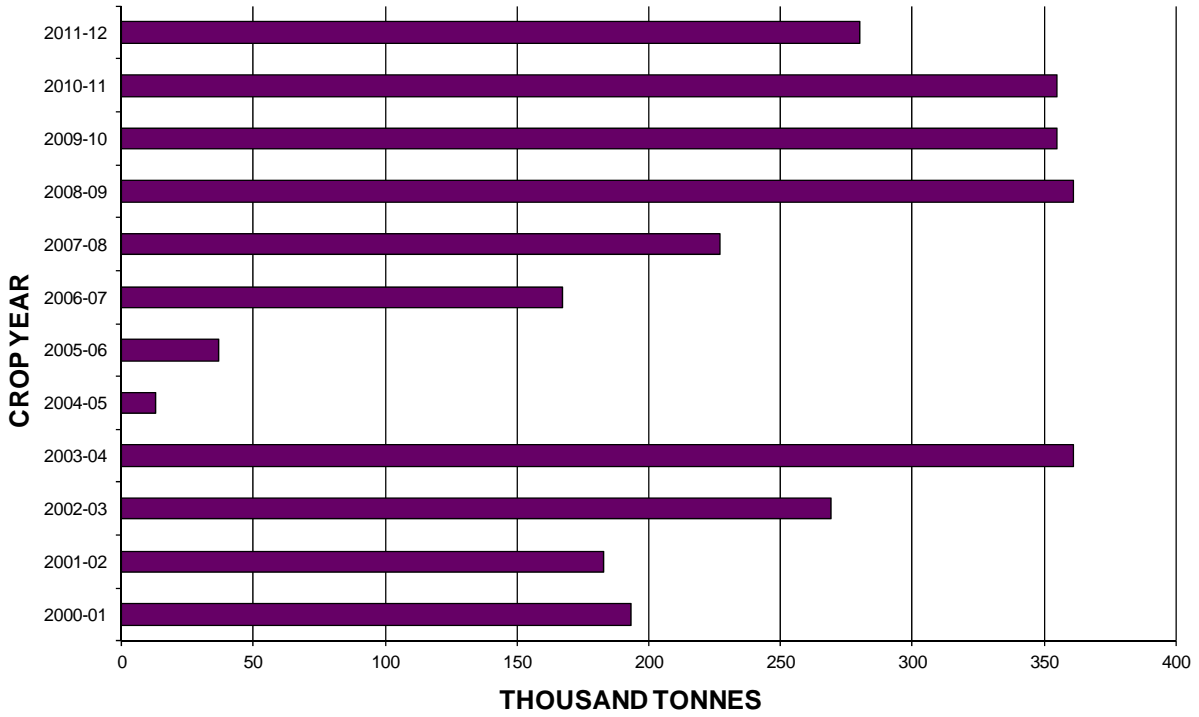
Farm Cash Receipts for Grain Corn in Manitoba 2000 – 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

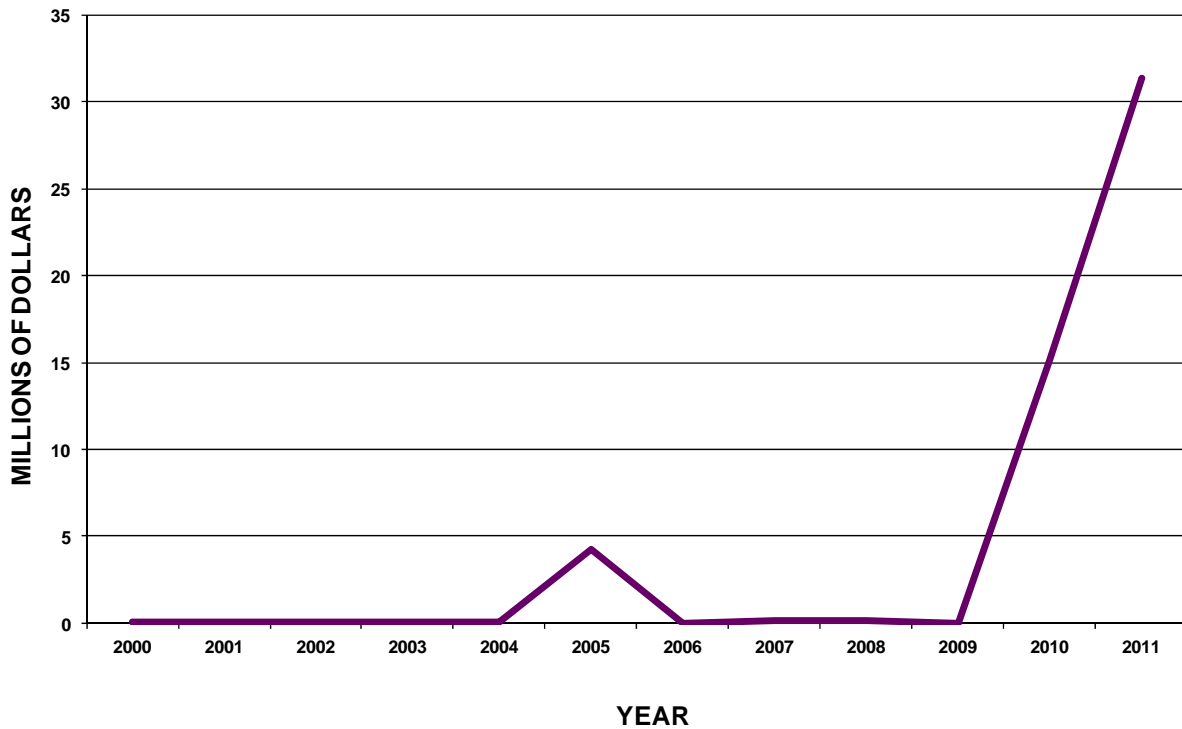
Marketings of Manitoba Grain Corn 2000 - 2011



Source: STC, AAFC, MAFRI

Industry Intelligence Section, MAFRI

Manitoba Grain Corn Exports 2000 - 2011



Source: Statistics Canada

Industry Intelligence Section, MAFRI

Farm Supply and Disposition of Manitoba Corn 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	5	120	200	75	145	40	30
Production	183	380	494	474	363	480	414
Total Supply	188	500	694	549	508	520	444
Marketings	37	167	227	361	355	355	280
Seed	0	0	0	0	0	0	0
Carry-over	151	333	467	188	153	165	164
Feed/Waste/Dockage	0	0	0	0	0	0	0
Total Disposition	188	500	694	549	508	520	444

<i>000 bushels</i>	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Opening Stocks Aug1	197	4,724	7,874	2,953	5,708	1,575	1,181
Production	7,204	14,960	19,448	18,660	14,291	18,897	16,298
Total Supply	7,401	19,684	27,321	21,613	19,999	20,471	17,479
Marketings	1,457	6,574	8,937	14,212	13,976	13,976	11,023
Seed	0	0	0	0	0	0	0
Carry-over	5,945	13,110	18,385	7,401	6,023	6,496	6,456
Feed/Waste/Dockage	0	0	0	0	0	0	0
Total Disposition	7,401	19,684	27,321	21,613	19,999	20,471	17,479

- **CORN - Common Conversions**

1 metric tonne corn = 39.368 bushels.

There are 56 pounds in 1 bushel of corn.

Production and Value of Manitoba Corn

Year	Seeded Area (hectares)	Harvested Area (hectares)	Average Yield (kg per ha)	Production (tonnes)	Price per Tonne (\$/tonne)	Total Value (\$000)
1990	34,400	34,400	4,800	165,100	110	18,161
1991	40,458	40,458	5,100	205,700	110	22,627
1992	48,600	12,100	2,900	35,600	92	3,275
1993	20,200	14,200	2,600	36,800	112	4,122
1994	26,300	22,300	5,200	116,800	149	17,403
1995	18,200	18,200	5,200	94,000	178	16,732
1996	28,300	28,300	5,000	142,200	143	20,335
1997	30,400	30,400	5,000	152,400	129	19,660
1998	38,400	36,400	5,900	215,900	114	24,613
1999	44,500	40,500	5,900	238,800	106	25,313
2000	58,700	52,600	5,000	264,200	110	29,168
2001	44,500	40,500	6,200	250,200	107	26,811
2002	62,700	62,700	5,900	368,300	144	53,216
2003	89,000	85,000	5,800	495,300	132	65,498
2004	68,800	4,000	4,500	17,800	132	2,342
2005	48,600	38,400	4,800	182,900	105	19,115
2006	60,900	58,700	6,500	379,700	129	49,004
2007	80,900	78,900	6,300	493,500	157	77,252
2008	78,900	70,800	6,700	473,700	199	94,176
2009	78,900	54,600	6,700	363,200	155	56,238
2010	74,900	72,800	6,600	480,100	159	76,528
2011	72,800	70,800	5,800	414,000	236	97,509

Year	Seeded Area (acres)	Harvested Area (acres)	Average Yield (bu per acre)	Production (000 bushels)	Price per Bushel (\$/bushel)	Total Value (\$000)
1990	85,000	85,000	76.5	6,500	2.79	18,161
1991	99,973	99,973	81.0	8,100	2.79	22,627
1992	120,000	30,000	46.7	1,400	2.34	3,275
1993	50,000	35,000	41.4	1,450	2.84	4,122
1994	65,000	55,000	83.6	4,600	3.78	17,403
1995	45,000	45,000	82.2	3,700	4.52	16,732
1996	70,000	70,000	80.0	5,600	3.63	20,335
1997	75,000	75,000	80.0	6,000	3.28	19,660
1998	95,000	90,000	94.4	8,500	2.90	24,613
1999	110,000	100,000	94.0	9,400	2.69	25,313
2000	145,000	130,000	80.0	10,400	2.80	29,168
2001	110,000	100,000	98.5	9,850	2.72	26,811
2002	155,000	155,000	93.5	14,500	3.67	53,216
2003	220,000	210,000	92.9	19,500	3.36	65,498
2004	170,000	10,000	70.0	700	3.35	2,342
2005	120,000	95,000	75.8	7,200	2.65	19,115
2006	150,420	145,000	103.1	14,950	3.28	49,004
2007	200,000	195,000	99.6	19,430	3.98	77,252
2008	195,000	175,000	106.6	18,650	5.05	94,176
2009	195,000	135,000	105.9	14,300	3.93	56,238
2010	185,000	180,000	105.0	18,900	4.05	76,528
2011	180,000	175,000	93.1	16,300	5.98	97,509

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

