



Agricultural Policy as an Economic Growth Factor in Saskatchewan

Research and Compilation

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Executive Summary:

This research project is intended to provide: a set of statistical facts that are a platform to facilitate discussion, exploration and exploitation to enhance the development of agricultural sector in Saskatchewan.

The selected agricultural industries are the known and interrelated industries in Saskatchewan, namely; Chicken, Turkey, Dairy, Egg, Cattle, Hog and Sheep.

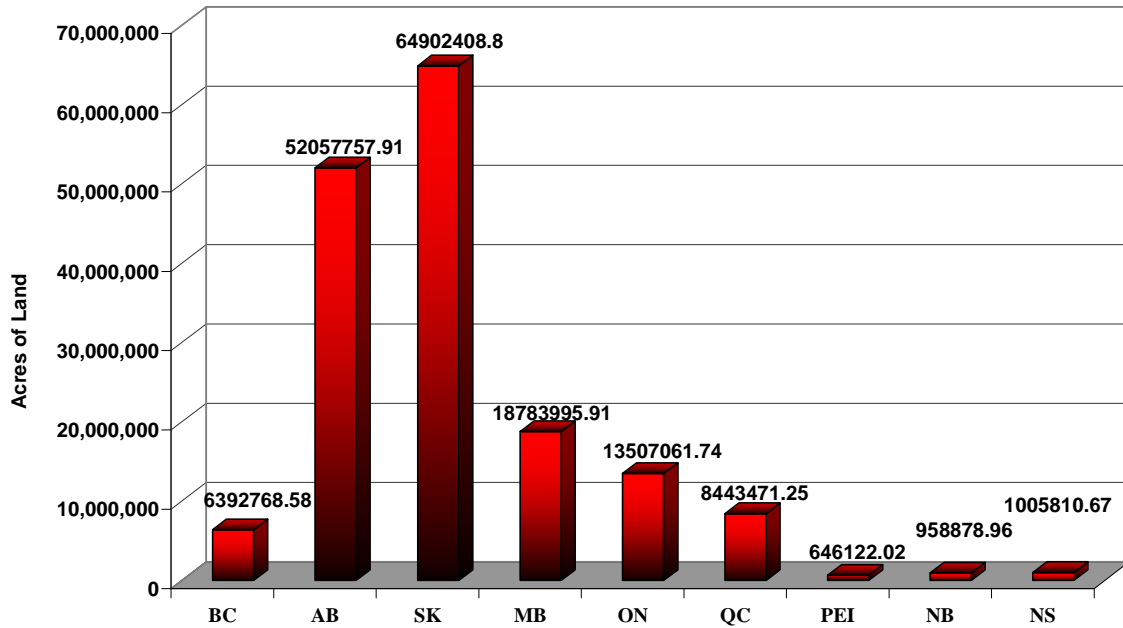
The Project includes:

- The highlighting fact that: the huge area of useable land in Saskatchewan puts us at a comparative advantage, relative to other Canadian provinces. With capital accumulation and efficient utilization, this advantage can become strengthening for economic development and prosperity in our province.
- Economic factor analyses of Canadian provinces. The analyses include; Land returns, GDP, Employment, Population, Hours worked and Labour productivity.
- Industrial Analysis; Provides the province-wise current production levels and dollar value of the produce, compared with the available/useable land in each province.

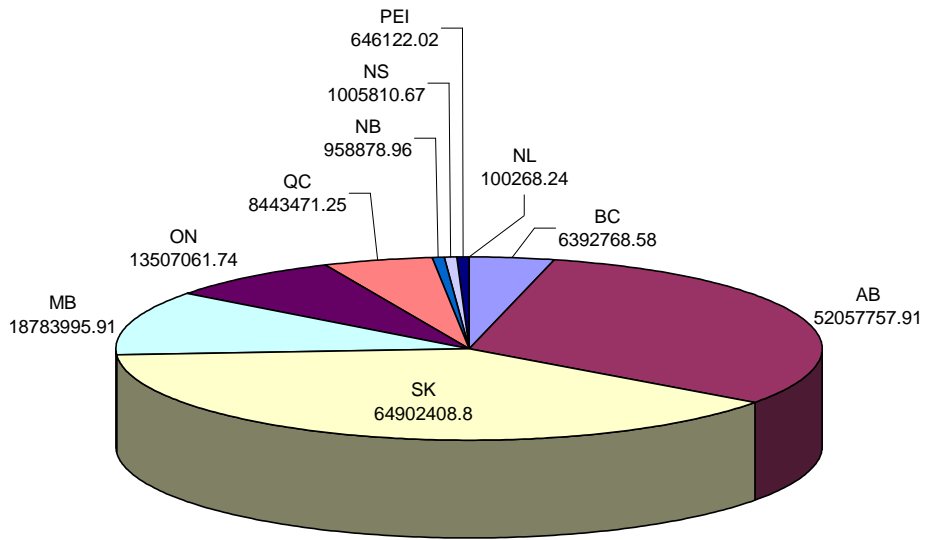
The research also includes two agricultural policy approaches that may likely be applicable in Saskatchewan. These approaches are basic sketches and give an estimate of the opportunity cost of underutilizing our land resource in Saskatchewan. At the same time, the approaches also provide estimates of dollar values that the selected agricultural industries (when further developed), may add to the Saskatchewan GDP.

The Land Resource of Canadian Provinces:

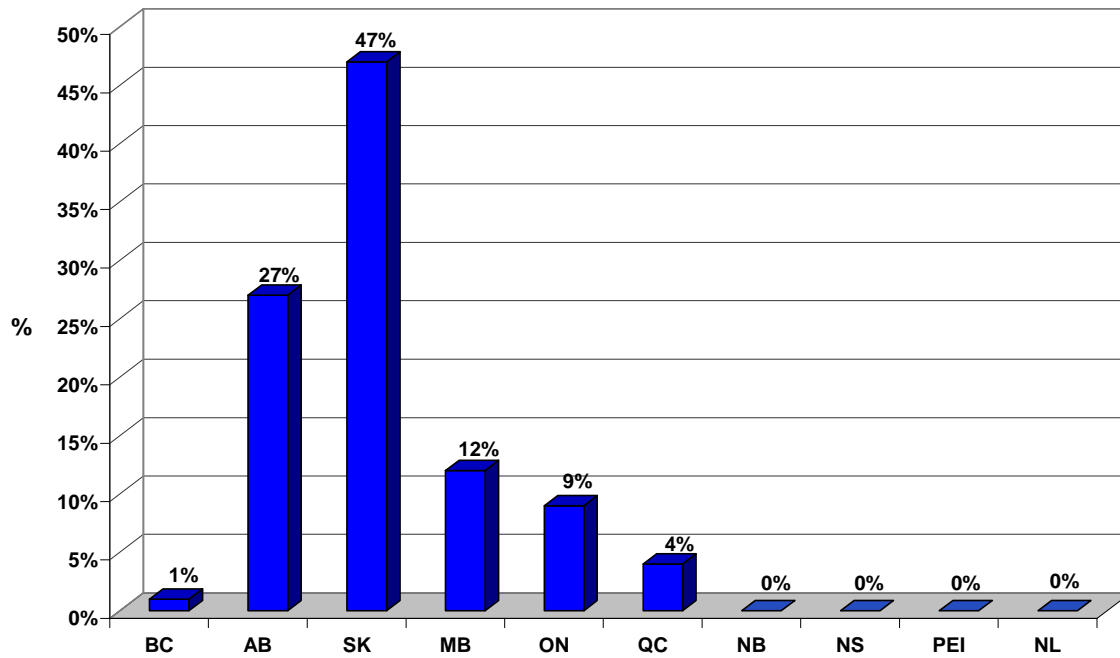
Province Wise ~ Available Acres of Agricultural Land



Province Wise - Available Acres of Agricultural Land

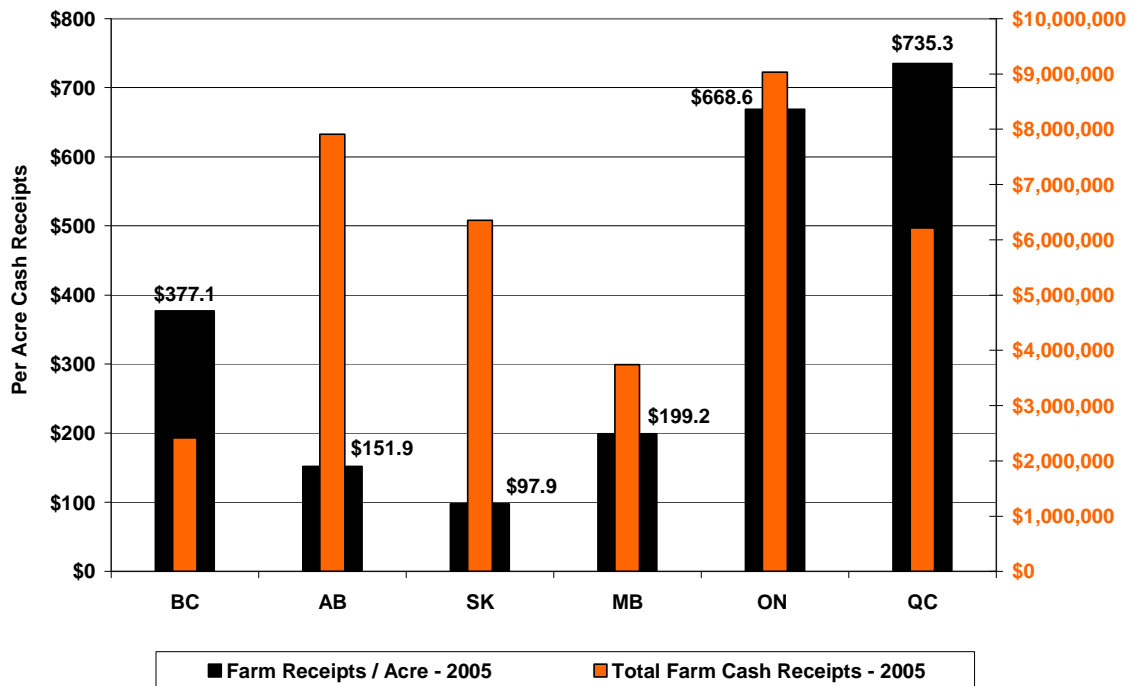


Provincial Shares of Canadian Land Base For Agriculture



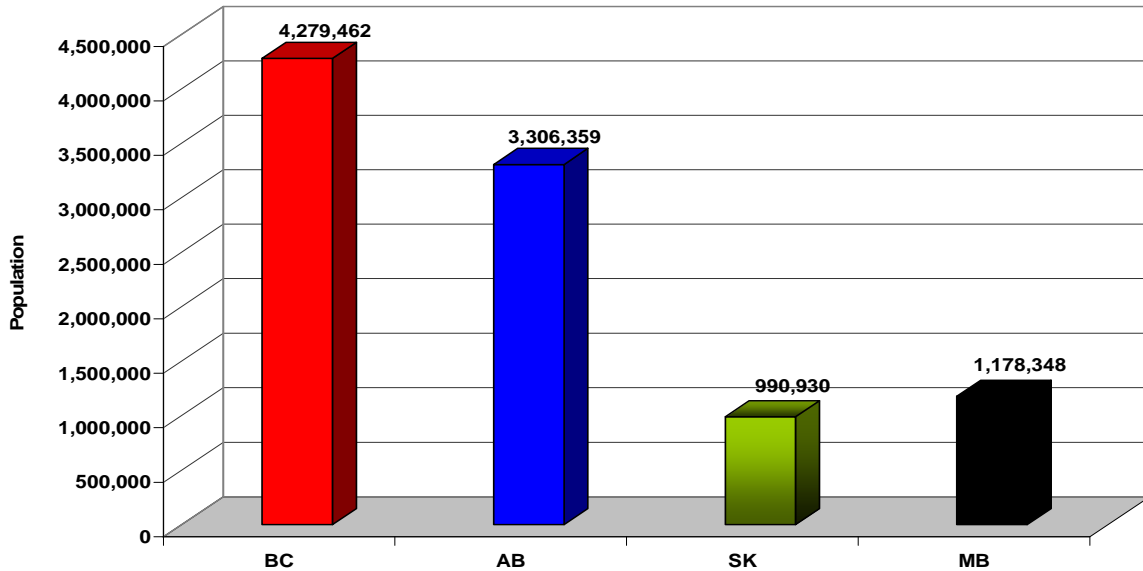
Land Returns:

Per Acre and Total Farm Cash Receipts - 2005

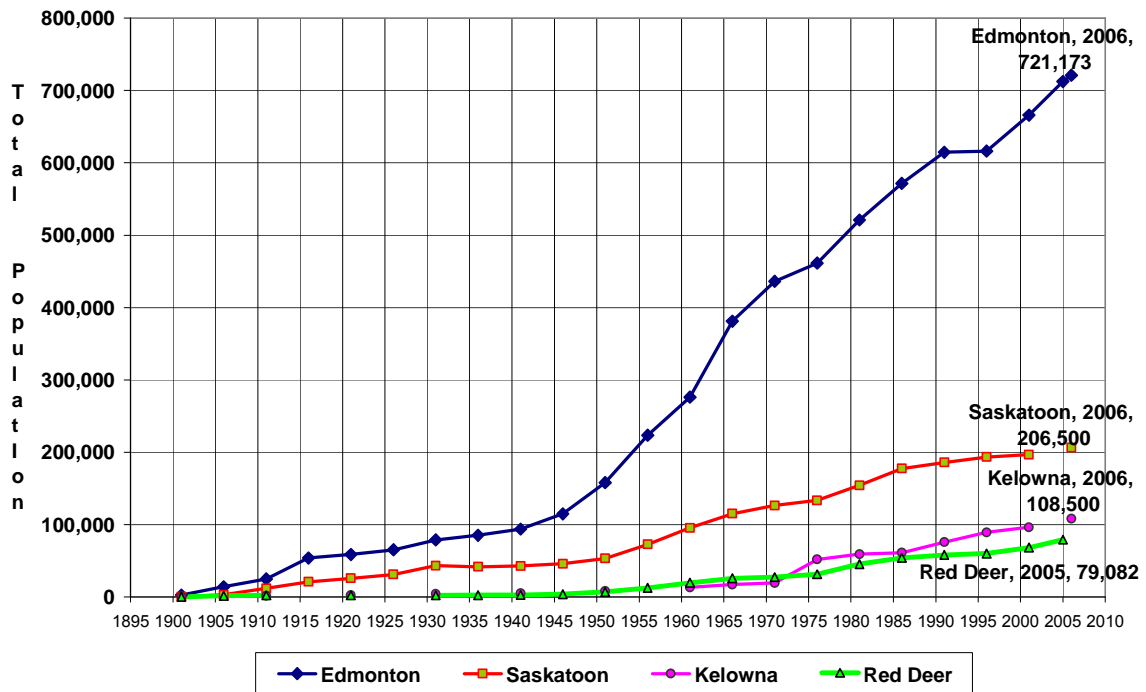


Population and Employment Trends:

Total - Population Figures (2005)

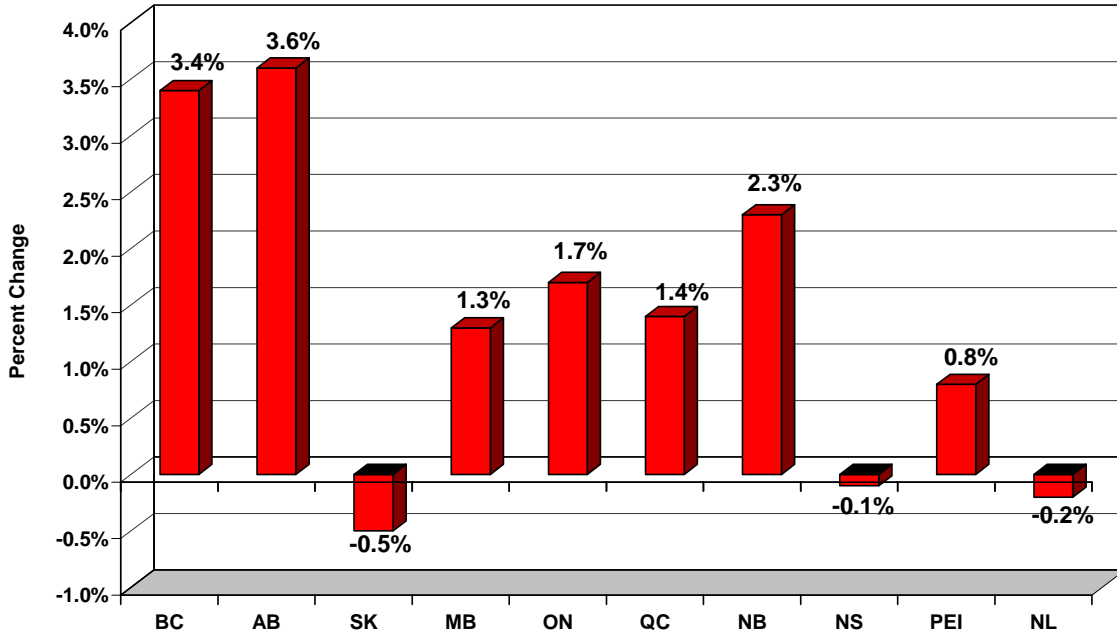


Long Term - Comparative Population Growth Trends

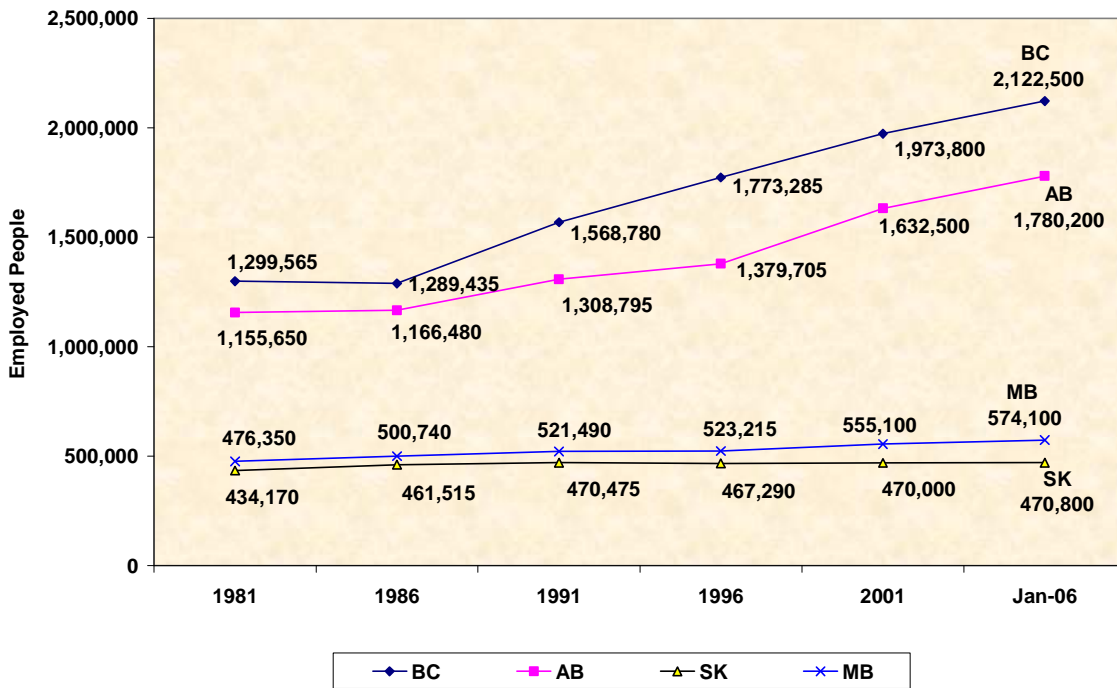


Short Term Employment Trend in Canada:

**Province Wise - Percent Change in Employment:
Jan 2006 - May 2006**



**Long Term Employment Trends: BC, AB, SK and MB
1981 - Jan 2006**



Hours Worked and Labour Productivity in Canada

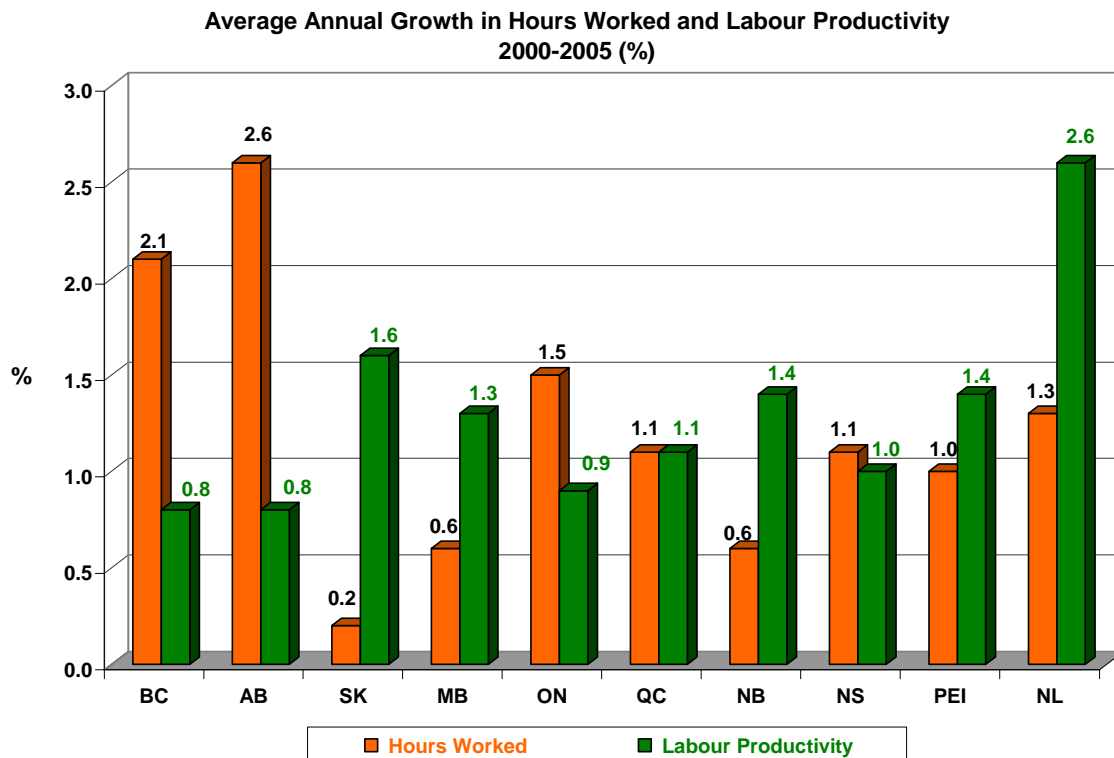
News and Statistical Update:

“Mining and oil and gas extraction industries saw a large 3.3% increase in hours worked at the national level.” ... “Extremely strong gains were posted in Newfoundland and Labrador (+ 30.6%), Saskatchewan (+ 10.2%) and British Columbia (+ 10.0%).”...

“Economic output rose at a much faster pace than hours worked in both Manitoba and Saskatchewan, resulting in strong gains in Labour productivity.”...

“By comparison, Saskatchewan experienced a large average annual increase in productivity from 2000 to 2005 (+ 1.6%).”

(The Daily: May 9, 2006)



Analysis of the following Agricultural Industries:

- **Dairy**
- **Chicken**
- **Turkey**
- **Eggs**
- **Cattle**
- **Hog**
- **Sheep**

Chicken & Turkey

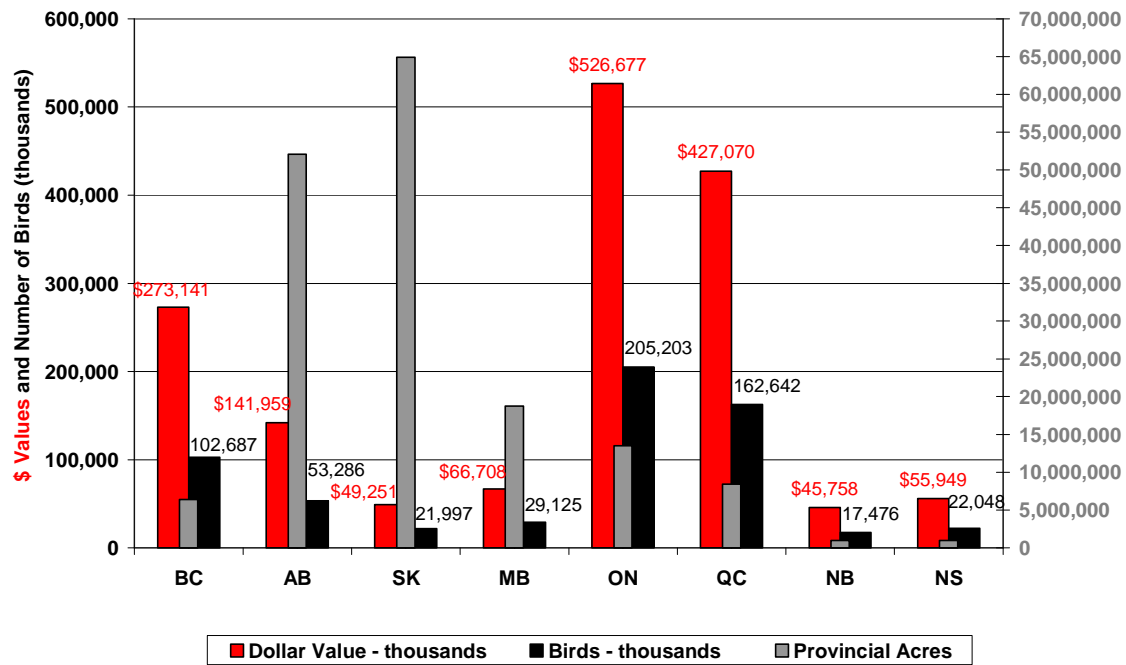
News and Statistical update for Poultry:

“Poultry consumption, which has been climbing over time, advanced modestly in 2005 to 13.7 kilograms per person. Canadians ate 66% more poultry in 2005 compared to 1976. Chicken is by far the poultry of choice with each Canadian eating 11.4 kilograms in 2005.”

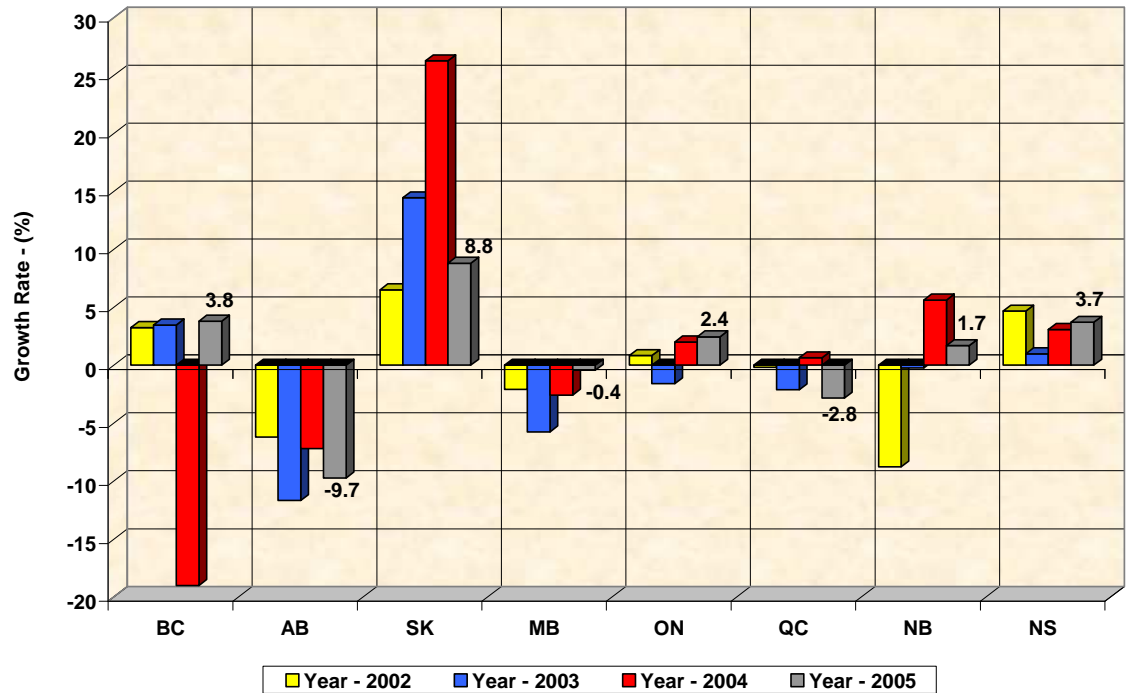
“The ongoing popularity of easy to prepare and ready to eat chicken products with time conscious consumers, along with the publicized health benefits of poultry has contributed to the increased use of chicken.”

(The Daily: June 1, 2006)

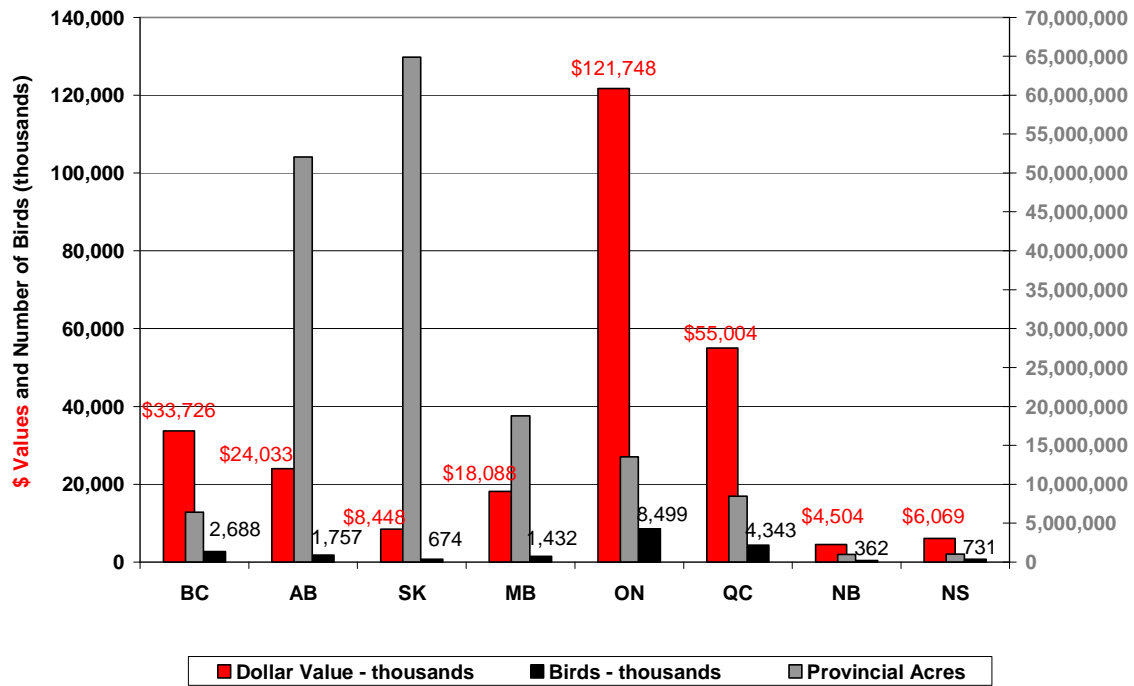
**Province Wise: -
Production of Chicken in 2005 and ~ Total Available Agricultural Land (Acres)**



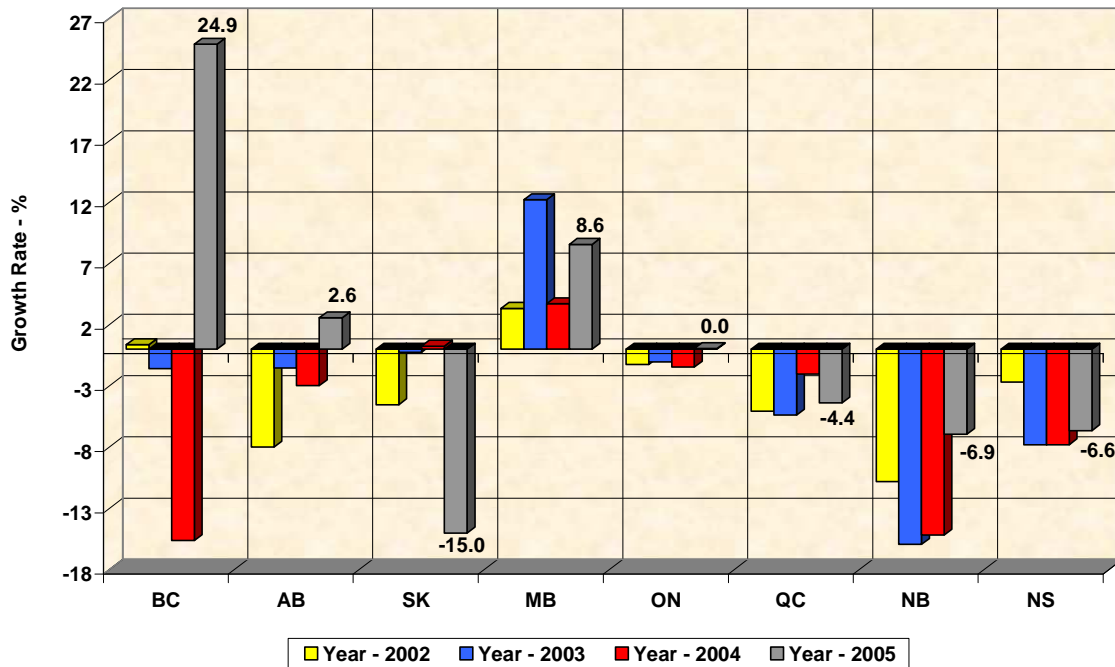
**Province Wise Percentage (%) Change (Growth / Reduction)
in Production of Chicken - Relative to (Base Year) 2001**



**Province Wise: -
Production of Turkey in 2005 and ~ Total Available Agricultural Land (Acres)**



**Province Wise Percentage (%) Change (Growth / Reduction)
in Production of Turkey - Relative to (Base Year) 2001**



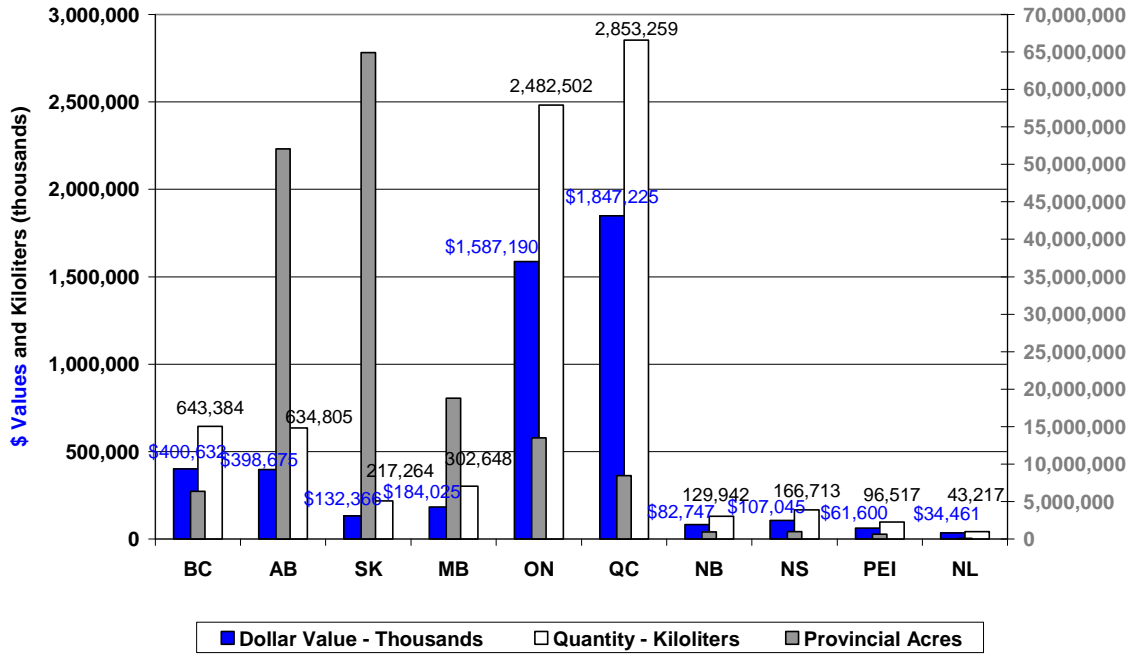
Milk & Cream

The dairy industry is the fourth largest sector of the Canadian agri-food economy after grains, red meats and horticulture. In 2003, dairy farming generated \$4.5 billion in total farm cash receipts. During the same period, sales from Canadian dairy processors amounted to \$10.4 billion in value, representing 14 per cent of sales in the Canadian food and beverage sector.

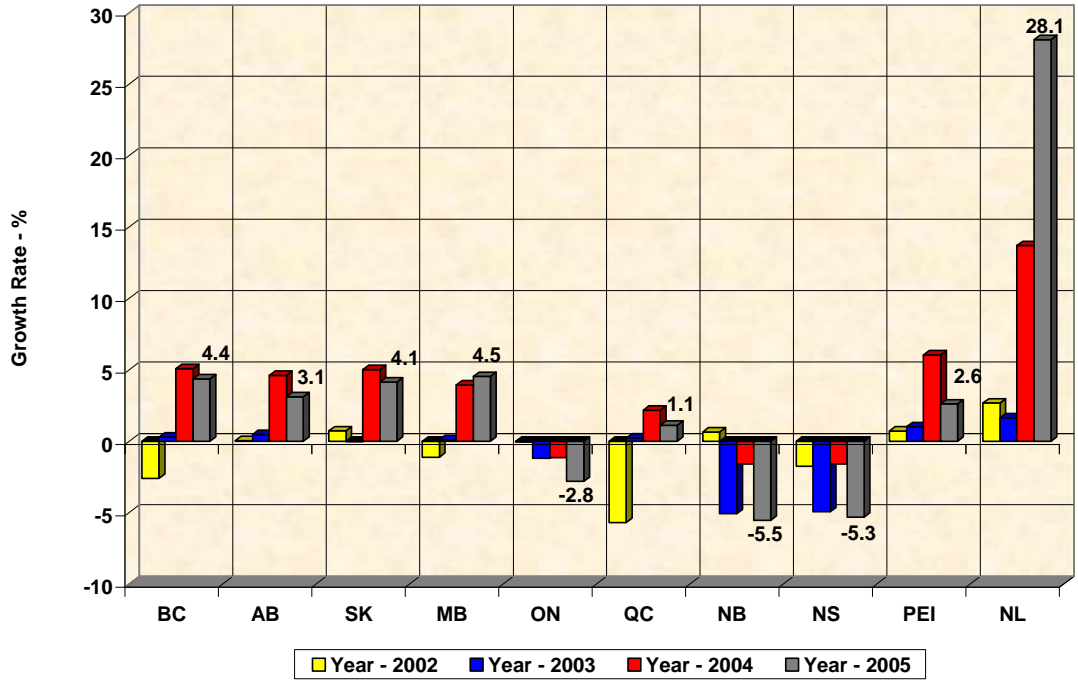
Key Findings:

- Driven by an increasing market demand by consumers seeking better-for-you (BFY) products such as yogurt, quality indulgent products such as high fat ice cream treats and specialty products such as ethnic cheeses, manufacturers see considerable opportunities to expand into niche markets and build consumer loyalty.
- Small to mid-sized operations have the opportunity and ability to pursue niche markets through specialization, product and package innovation, and unique value-added items as these products are more Labour intensive, less likely to be mass produced and require shorter plant runs. This allows small to mid-sized operations to differentiate themselves from large corporate dairy processors.

Production of Milk & Cream in 2005 ~ Total Available Agricultural Land (Acres)



Province Wise Percentage (%) Change (Growth / Reduction) in the Production of Milk and Cream - Relative to (Base Year) 2001



Eggs

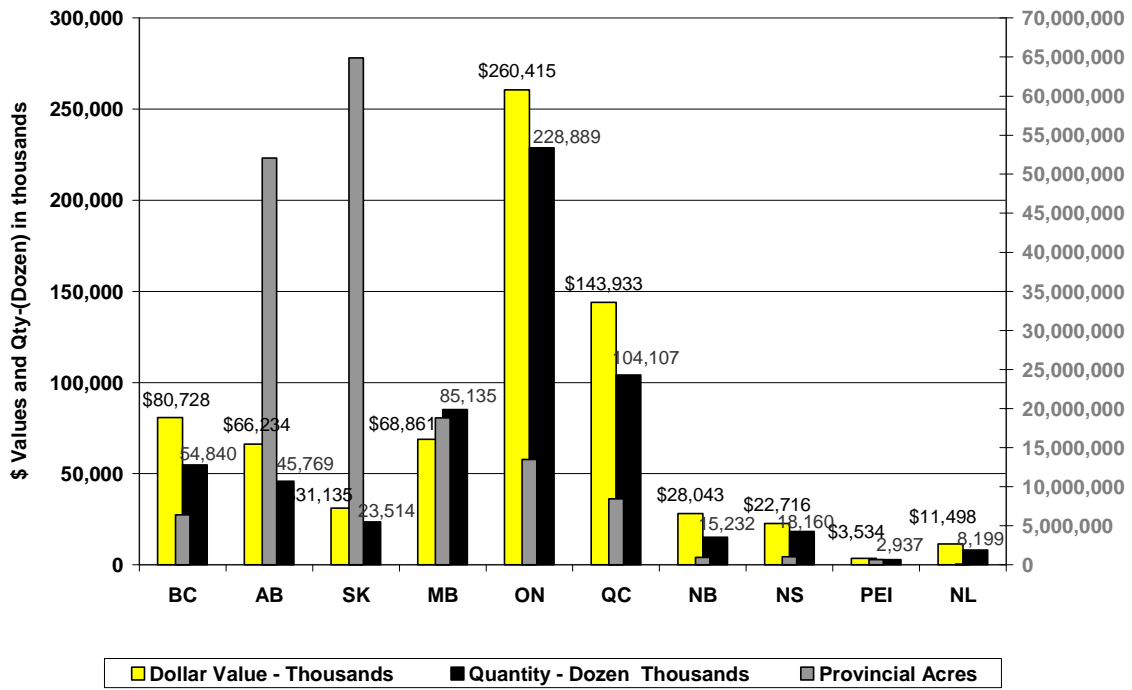
Canada's Egg Industry:

Each year in Canada, more than 25 million hens lay over 6.8 billion eggs. About 5.3 billion of these are sold as table eggs, while the rest are processed into liquid, frozen or dried form.

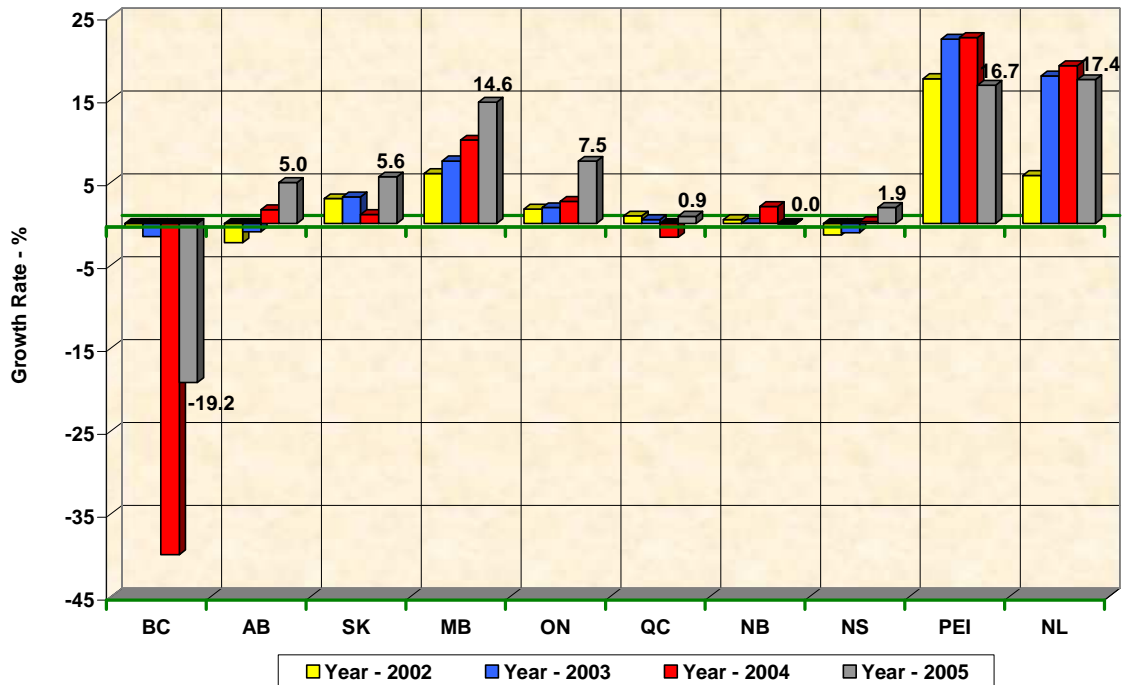
The average Canadian flock size is 17,000 hens, but five farms in Canada have flocks larger than 100,000 hens. The average laying hen produces about 285 eggs per year.

In 2001, there were 1,146 registered commercial egg producers in Canada. Ontario produced 39 per cent of all eggs in Canada, while Quebec produced 19.2 per cent. The western provinces have a combined egg production of 33.3 per cent and the eastern provinces have a combined production of 8.5 per cent. In 2001, total farm cash receipts of eggs was \$564 million.

Production of Eggs in 2005 and ~ Total Available Agricultural Land (Acres)



Province Wise Percentage (%) Change (Growth / Reduction) in the Production of Eggs - Relative to (Base Year) 2001

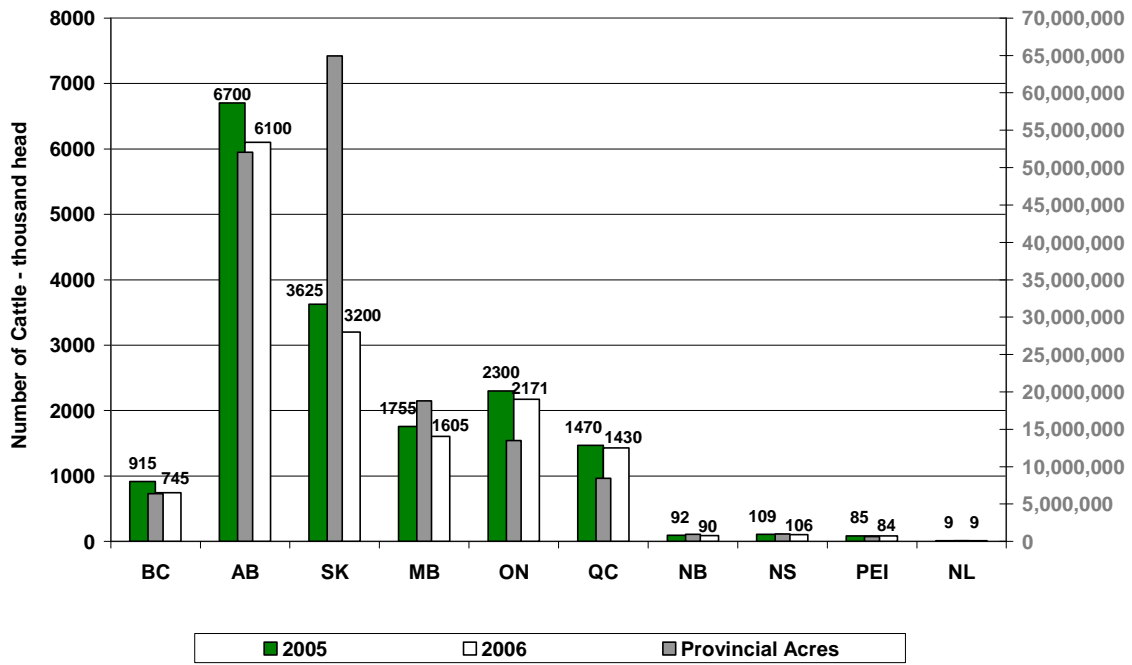


Cattle

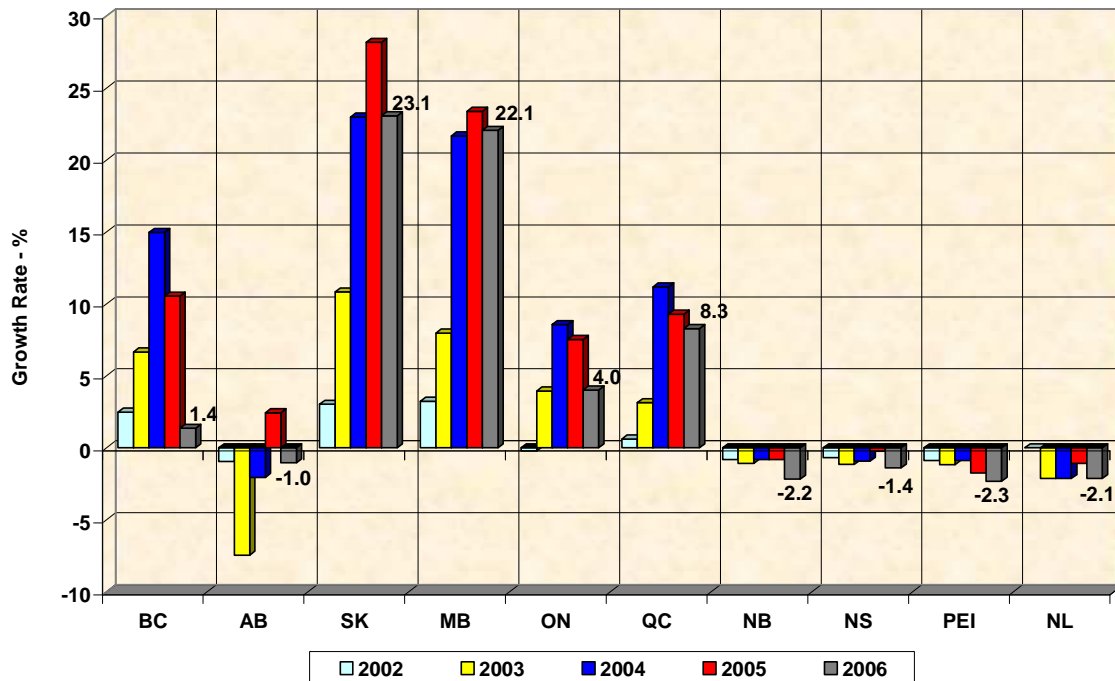
News and Statistical update:

- Canada's national cattle herd has plunged by 810,000 head – a near record decline for a single year. As of July 1, [2006] cattlemen reported 16.2 million head on their farms, down 4.7% from the record 17.1 million head on the same date last year. It was the first decline in the national herd in seven years.
- In the year up to July 1, 2006, total cattle exports amounted to 1,140,000 head, only 22% below the pre-BSE level. There were no exports during the two previous 12-month periods. In the year up to July 1, 2003, Canadian cattlemen exported 1,458,000 animals.
- Once the border was reopened to cattle, beef meat exports declined, partially offsetting the higher cattle exports. Part of the decline can be attributed to a three-week strike at Lakeside Packers in Alberta in late October and early November of 2005. Even so, the lower monthly exports have been sustained.
- Cattle numbers fell in all provinces, but the decline was more dramatic on the Prairies. The herd in **Manitoba, Saskatchewan and Alberta**, combined, plunged by 610,000 head, which accounted for three-quarters of the total decline up to July 1 this year. [However,] the Prairie Provinces accounted for the vast majority of the increase in cattle numbers during the three-year period leading up to the July 1, 2005 record.

**Cattle Inventories: 2005 & Aug 2006 and
~ Total Available Agricultural Land (Acres)**

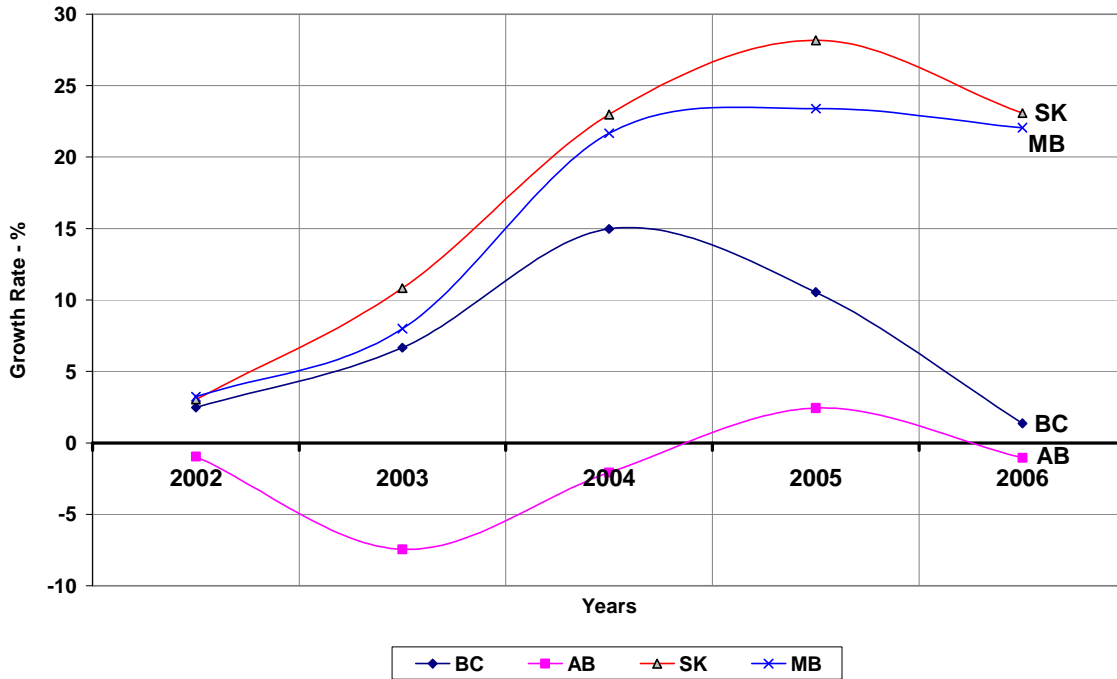


**Province Wise Percentage (%) Change (Growth / Reduction)
in the Production of Cattle - Relative to (Base Year) 2001**

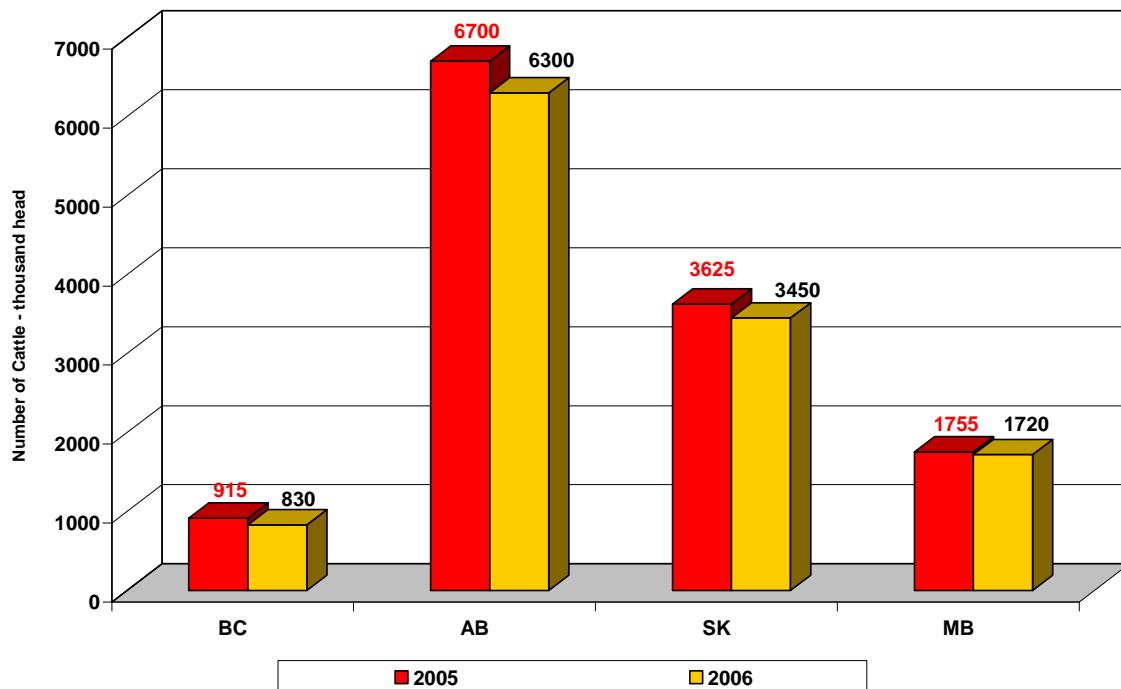


Cattle Industry Saskatchewan and Western Canada:

**Province Wise Percentage (%) Change in the Production of Cattle
2002 - Aug 2006: Relative to (Base Year) 2001**



Cattle Inventories - as of: July 2005 & Aug 2006



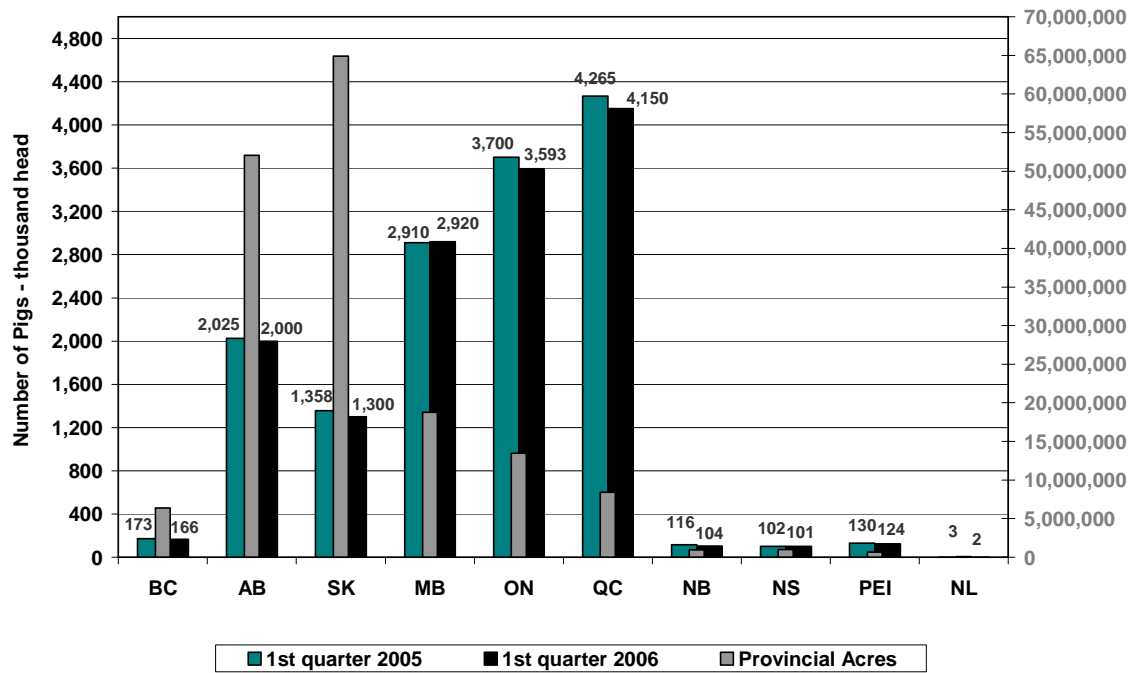
Hog Industry

News and Statistical update:

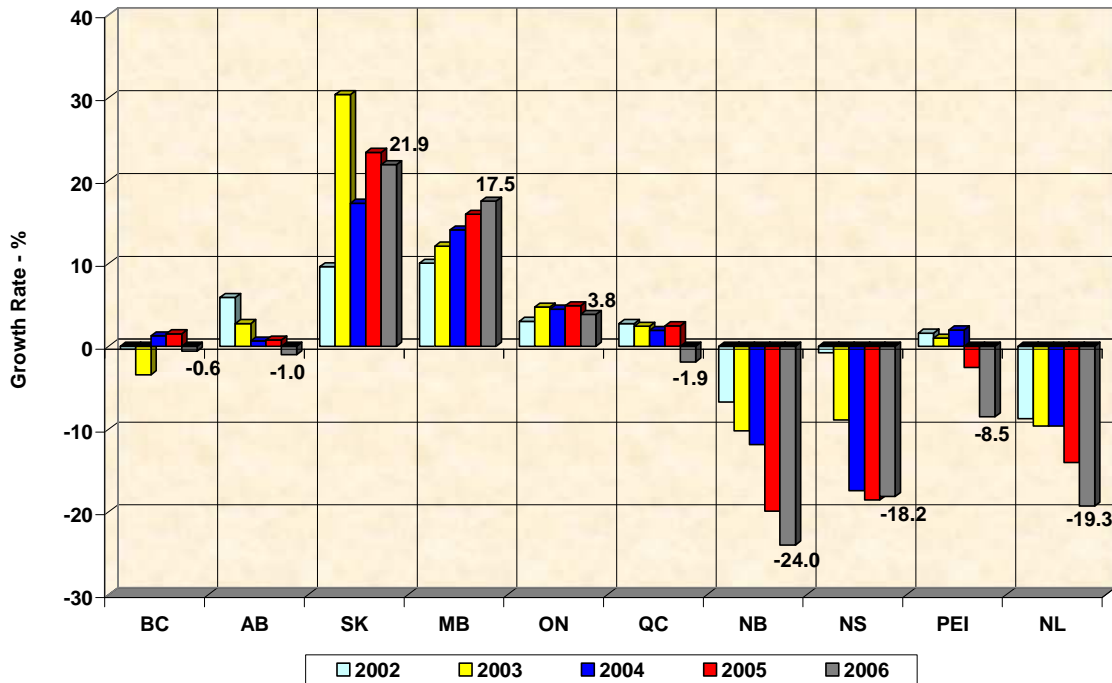
Hog inventories remained lower during the second quarter of 2006 consistent with soft prices. Farmers reported 14.5 million hogs as of July 1, 2006. This was 3.1% below the same date last year, and, on a quarterly basis, down marginally from the first quarter of 2006.

Exports of Canadian hogs, principally to the United States to be fed, were up 9.6% in the first half of 2006 from the same period the previous year. They were at historically strong levels. At the same time, domestic slaughter declined by 2.6%.

**Pig Inventories - For the 1st Quarters of:
2005 & 2006 and ~ Total Available Agricultural Land (Acres)**



**Province Wise Percentage (%) Change (Growth / Reduction)
in the Production of Hogs - Relative to (Base Year) 2001**

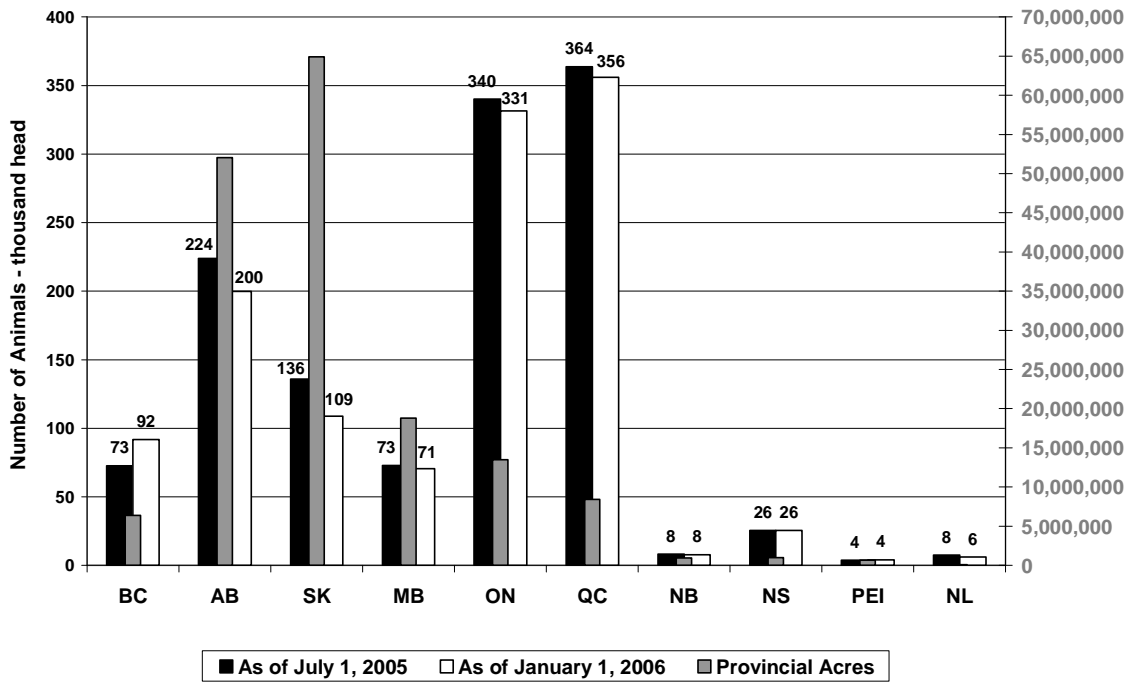


Sheep Industry

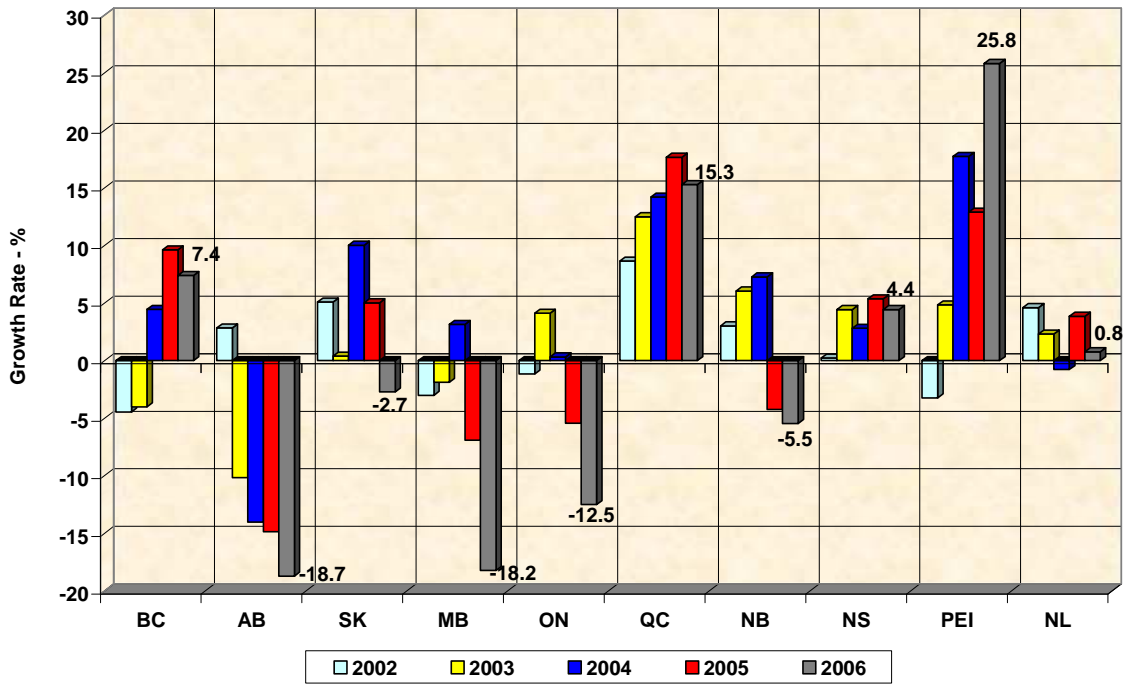
The sheep industry in Canada has matured considerably over the last number of years and has demonstrated its maturity in the recent months responding to the BSE. The rebounding of lamb prices and the subsequent opportunity for producers to come to making a reasonable return for their efforts bode well for [sheep] industry.

Lamb has traditionally been considered a commodity. Its quality fluctuated according to the season, genetics and management regime used to produce the lamb. As consumer expectations of lamb have increased, their satisfaction with commodity lamb has decreased, markedly. Commodity lamb, marketed on price more than quality, and which has often been intermixed with mutton at the point of purchase, is no longer the focus of many producers. Furthermore, with changes occurring in the textile and fashion industry, lamb is becoming the main reason for farming sheep. Wool has largely become a by-product; and producing commodity lamb does not provide producers with an opportunity to capture premiums from the marketplace.

**Sheep and Ewes (added) Inventories - As of:
July 2005 & January 2006 and ~ Total Available Agricultural Land (Acres)**



**Province Wise Percentage (%) Change (Growth / Reduction)
in Production of Sheep - Relative to 2001 (Base Year)**



Two Agricultural Policy Approaches involving the following industries:

- **Dairy**
- **Chicken**
- **Turkey**
- **Eggs**
- **Cattle**
- **Hog**
- **Sheep**

Approach - 1

Base Information:

- Canadian Land (Acres) → 166,789,545
- Saskatchewan Land (Acres) → 64,902,409
- Percentage Land in Saskatchewan → **38.91%**
- Multiplier Factor → 1.59

Method:

1. Find proportion of SK useable land to the National useable land
2. Proportion as a target level for SK industries share in National output
3. Percentage of current and additional production
4. Affect on Saskatchewan Per Capita GDP

Summary:

- Saskatchewan GDP in 2005 → 42,490,000,000
- Predicted GDP Increase → 8,612,378,725 or → 20.27%

Base Information						
Sask Land (Acres)	Canadian Land (Acres)	% Land in Sask	Sask ~ GDP 2005	Predicted GDP Increase	Multiplier Factor	
64,902,409	166,789,545	38.91%	42,490,000,000	8,612,378,725	1.59	

Industrial Sectors	Production Value (\$)		Potential Rise In Sask GDP ³	Relative Predicted Growth in SK GDP	Pure Growth in Saskatchewan GDP	
	Current ¹	Potential ²				
	National	Saskatchewan				
Eggs	717,094,000	31,135,000	279,041,354	247,906,354	394,171,103	0.93%
Dairy	4,841,679,000	132,366,000	1,884,032,866	1,751,666,866	2,785,150,317	6.55%
Chicken	1,615,216,000	49,251,000	628,525,772	579,274,772	921,046,887	2.17%
Turkey	271,691,000	8,448,000	105,722,575	97,274,575	154,666,575	0.36%
Cattle⁴	13,347,000,000	2,655,000,000	5,193,691,416	2,538,691,416	4,036,519,351	9.50%
Hogs⁵	578,400,000	52,000,000	225,071,635	173,071,635	275,183,900	0.65%
Sheep⁶	96,176,000	8,720,000	37,424,775	28,704,775	45,640,591	0.11%
Total	21,467,256,000	2,936,920,000	8,353,510,393	5,416,590,393	8,612,378,725	20.27%

¹ 'Statistics Canada' - 2005 Figures

² 38.91% of the Current National Production Level

³ Potential Saskatchewan Production Level Subtract the Current Saskatchewan Production Level

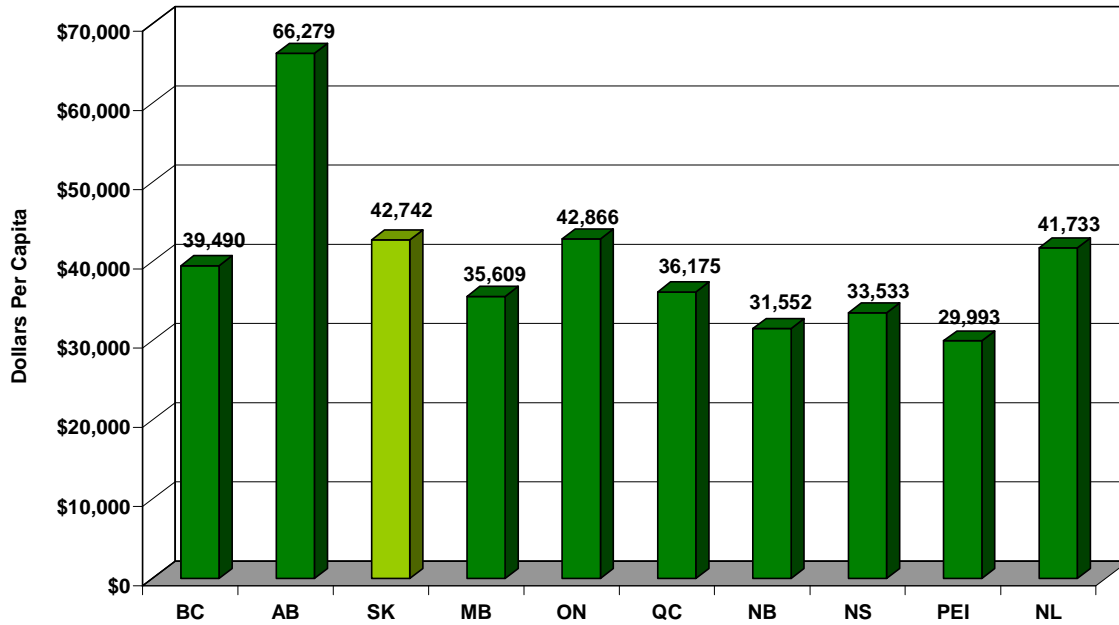
⁴ Estimated, Average Price Per Head = \$900

⁵ Estimated, Average Price Per Head = \$40

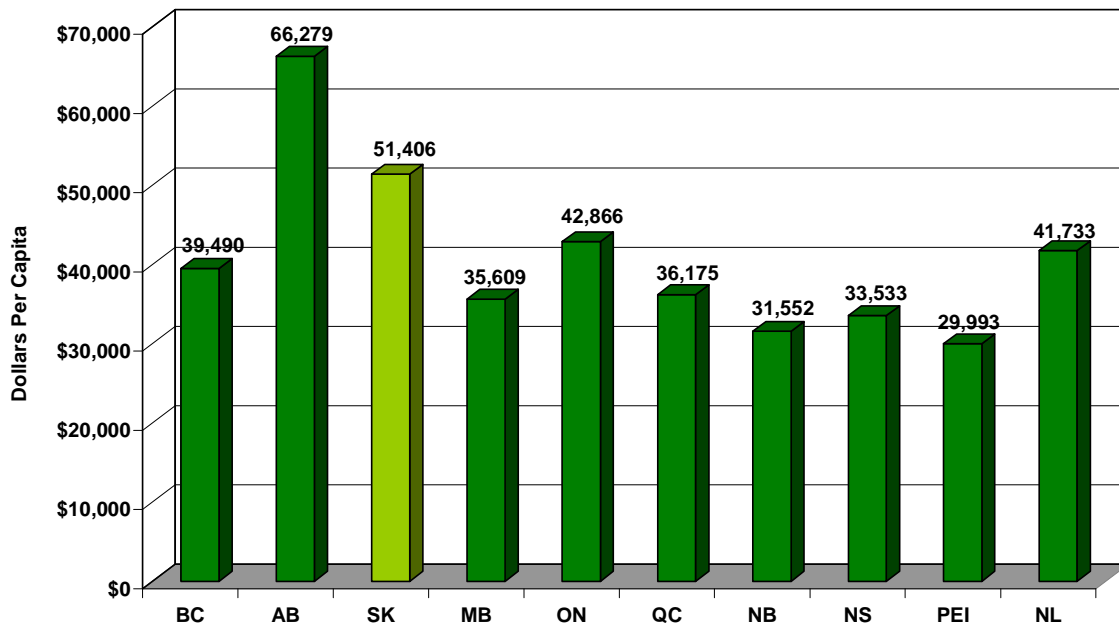
⁶ Estimated, Average Price Per Head = \$80

As a Result¹

Province Wise - GDP Per Capita (Expenditure Method), Year 2005



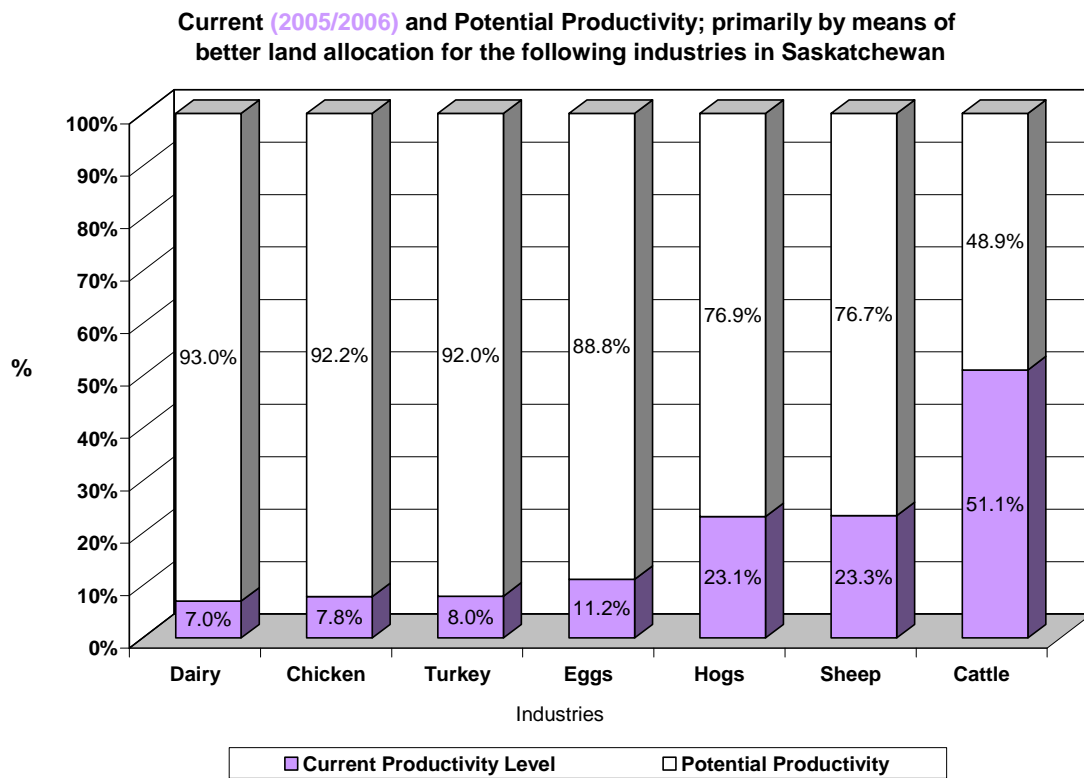
Per Capita GDP After Additional 20% GDP in Saskatchewan from the production of; Poultry, Eggs, Dairy, Cattle, Hogs and Sheep



¹ Holding else constant, the approach assumes no population growth. This theoretical change would result in population growth, thus further adding to provincial GDP but it would also alter GDP per capita.

How many percent are we producing?

How much more can we produce?



Approach - 2

Base Information:

- Canadian Land (Acres) → 166,789,545
- Saskatchewan Land (Acres) → 64,902,409
- Percentage Land in Saskatchewan → **38.91%**
- Multiplier Factor → 1.59

Method:

1. Shifting the National production of the following industries in Saskatchewan:
Dairy; Chicken; Turkey; Eggs; Cattle; Hog; Sheep
2. Percentage of current and additional production
3. Affect on Saskatchewan Per Capita GDP

Summary:

- Saskatchewan GDP in 2005 → 42,490,000,000
- Predicted GDP Increase → 34,132,941,810 or → **80.33%**

Industrial Sectors	Unit	National		Saskatchewan	
		Count	Production Value (\$)	Multiplier Effect ⁸	Relative % Change to Sask GDP
Dairy	Kilo Litre	7,578,807,000	4,841,679,000	7,698,269,610	18.12%
Chicken	Bird	626,253,000	1,615,216,000	2,568,193,440	6.04%
Turkey	Bird	20,492,000	271,691,000	431,988,690	1.02%
Eggs	Dozen	586,782,000	717,097,000	1,140,184,230	2.68%
Hogs ⁹	Head	14,460,000	578,400,000	919,656,000	2.16%
Sheep ¹⁰	Head	1,202,200	96,176,000	152,919,840	0.36%
Cattle ¹¹	Head	14,830,000	13,347,000,000	21,221,730,000	49.95%
Total			21,467,259,000	34,132,941,810	80.33%

⁸ Multiplier Factor = 1.59

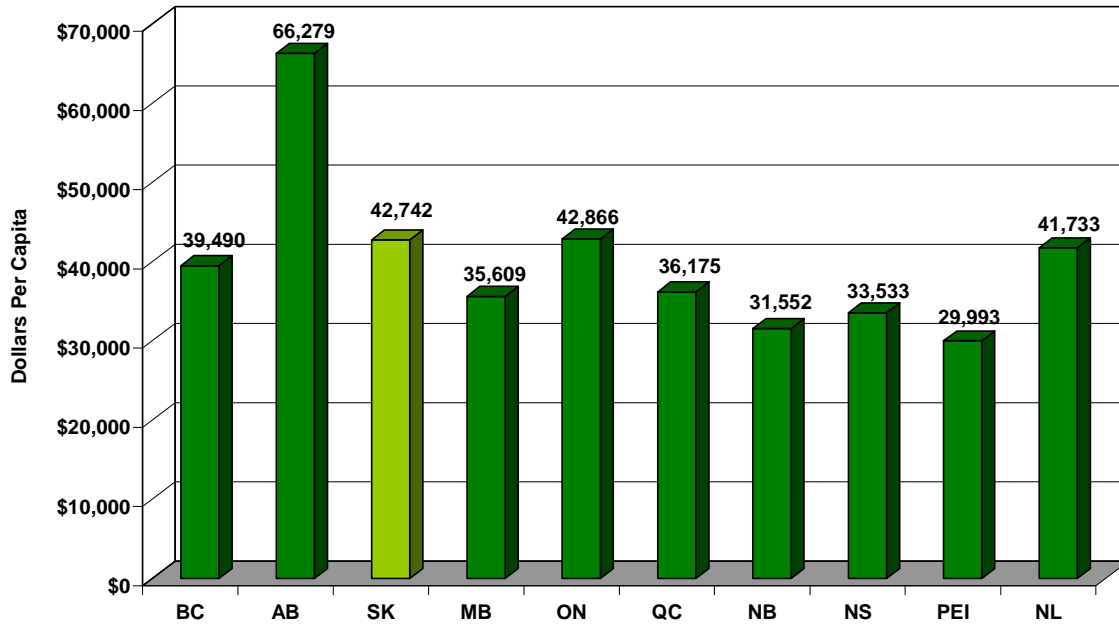
⁹ Estimated, Average Price Per Head = \$40

¹⁰ Estimated, Average Price Per Head = \$80

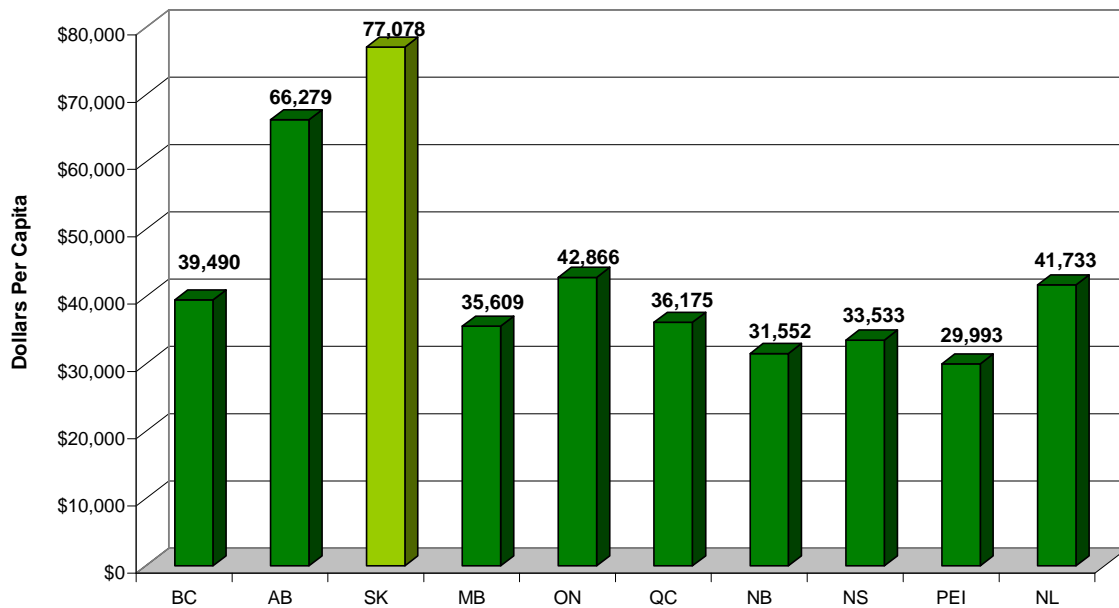
¹¹ Estimated, Average Price Per Head = \$900

As a Result¹

Province Wise - GDP Per Capita (Expenditure Method), Year 2005



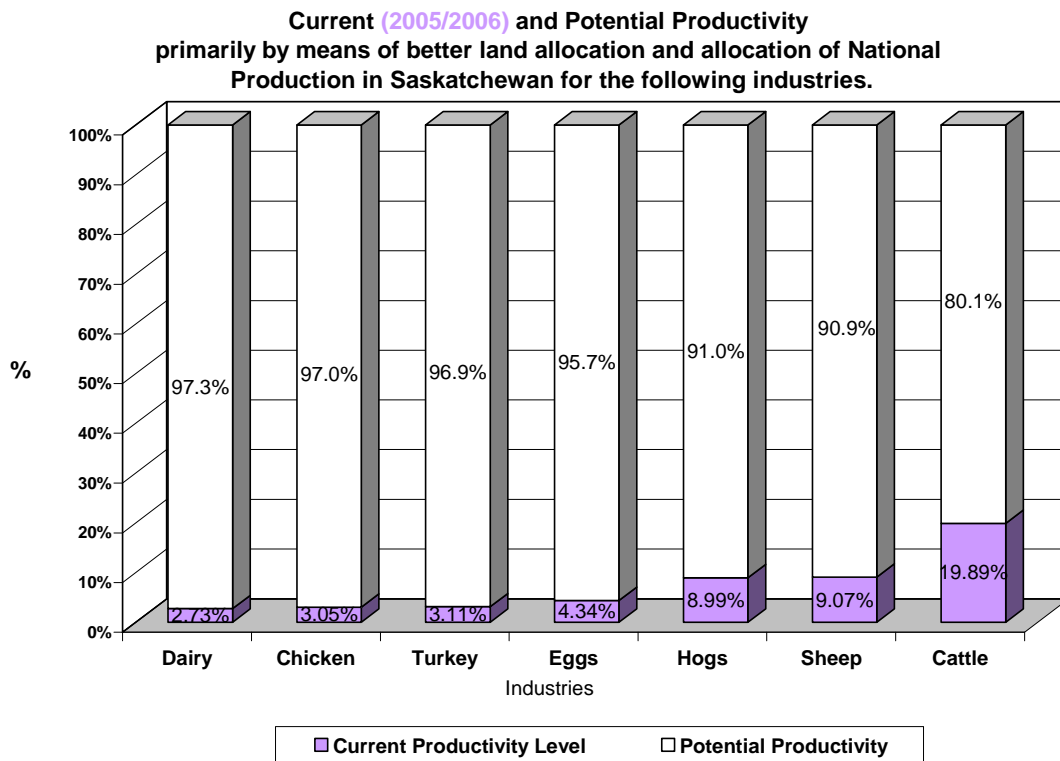
Per Capita GDP: After Better Land Allocation and Shifting National Production of the following industries in Saskatchewan; Poultry, Eggs, Dairy, Cattle, Hog and Sheep



¹ Holding else constant, the approach assumes no population growth. This theoretical change would result in population growth, thus further adding to provincial GDP but it would also alter GDP per capita.

How many percent are we producing?

How much more can we produce?



In Essence:

‘Saskatchewan can do so much better than its current economic standing’

Thank you!

The text "Thank you!" is rendered in a bold, italicized, sans-serif font. The color of the text transitions from a bright yellow on the left to a dark brown on the right. Below the main text, there is a shadow effect consisting of several parallel, slightly curved lines that create a sense of depth and movement, as if the text is floating or casting a shadow on a surface.

References/Resources Searched and Used In the Project

General Resources:

Statistics Canada

<http://www.statcan.ca/start.html>

Saskatchewan Bureau of Statistics

<http://www.stats.gov.sk.ca/>

**Available Acres of Agricultural Land
Land Area**

<http://www40.statcan.ca/l01/cst01/agrc25i.htm>

<http://www.agr.gov.sk.ca/apps/censusMaps/CensusMap.asp>

Employment Trends Alberta, Saskatchewan and Manitoba.

SASKATCHEWAN PROVINCIAL ECONOMIC ACCOUNTS ECONOMIC INDICATORS

Summary of Key Economic Indicators – 1995 ~ 2005

<http://www.stats.gov.sk.ca/pea/peaspring06.pdf>

Saskatchewan Provincial Economic Accounts - Tables

http://www.stats.gov.sk.ca/database/pea_search.php

Saskatchewan Fact Sheet 2005

<http://www.stats.gov.sk.ca/docs/factsheet05.pdf>

Current Minimum Wage Levels Across Canada

<http://www.labour.gov.sk.ca/standards/minwage.htm>

Saskatchewan Provincial Budget (2006 – 2007)

Performance Plan ~ Saskatchewan Labour

<http://www.labour.gov.sk.ca/annual%20reports/LabourPP2006-2007.pdf>

<http://www.gov.sk.ca/finance/budget/budget01/Charts%20and%20Graphs.pdf>

Alberta Finance:

Current Economic Indicators, By Province June 16, 2006

Statistics Canada:

<http://www40.statcan.ca/l01/cst01/labr67a.htm>

Provincial Hours Worked and Labour Productivity Percentage – 2005

The Daily: May 9, 2006

Saskatchewan Real-GDP and GDP from 2001 to 2005 Compared with other Provinces.

GDP Tables by subject: National income and expenditure accounts

http://www40.statcan.ca/l01/ind01/l3_3764_3769.htm?hili_gdps02

Real gross domestic product, expenditure-based, by province and territory

<http://www40.statcan.ca/l01/cst01/econ50.htm>

Gross domestic product, expenditure-based, by province and territory

<http://www40.statcan.ca/l01/cst01/econ15.htm>

Population Comparison; Saskatoon, Edmonton, Kelowna and Red Deer.

<http://www.city.red-deer.ab.ca/Connecting+with+Your+City/Statistics+and+Demographics/Population+Information/History.htm>

<http://www.edmonton.ca/infraplan/demographic/Edmonton%20Population%20Historical.pdf>

http://www.city.saskatoon.sk.ca/org/city_planning/resources/populace_newsletter/Populace_Spring_2006.pdf

<http://www.citypopulation.de/Canada.html>

<http://www.city.kelowna.bc.ca/CityPage/Docs/PDFs/Development%20Services/2001%20Census%20info.pdf>

<http://www.city.kelowna.bc.ca/CityPage/Docs/PDFs/Development%20Services/Kelowna%20Community%20Facts.pdf>

<http://www.city.kelowna.bc.ca/CityPage/Docs/PDFs/Development%20Services/Kelowna%20Community%20Facts.pdf>

Kelowna City (Population Stats)

<http://www.city.kelowna.bc.ca/CityPage/Docs/PDFs/Development%20Services/1996%20Census%20info.pdf>

The Alberta Library Online ('Ask a Question!')

<http://www.talonline.ca/askaquestion/publiclibraries/>

Email: Gary Stephen – Long Range Planner – City of Kelowna dated: June 20, 2006

Comparative Utilization of Available Land for Poultry, Eggs, Dairy, Hogs and Cattle Farming in Saskatchewan and other Provinces.

Poultry Production

<http://www40.statcan.ca/l01/cst01/prim55a.htm>

Milk and Cream Production

<http://www40.statcan.ca/l01/cst01/prim54a.htm>

Cattle

<http://www40.statcan.ca/l01/cst01/prim50a.htm>

Pigs

<http://www40.statcan.ca/l01/cst01/prim51a.htm>

Sheep

<http://www40.statcan.ca/l01/cst01/prim52a.htm>

The Agricultural Producers Association of Saskatchewan Inc. (APAS)

<http://www.apas.ca/index.php>

Prairie Agricultural Machinery Institute

<http://www.pami.ca/>

Multiplier factor:

<http://www.cbc.ca/canada/saskatchewan/story/2005/11/30/farmers-election051130.html>

<http://www.gov.sk.ca/finance/budget/budget01/Charts%20and%20Graphs.pdf>

<http://www.canola-ouncil.org/manual/GMO/gmo4.htm>

Saskatchewan Chamber

http://www.saskchamber.com/documents/19Action_Saskatchewan_Report_Version_2.doc?PHPSESSID=570612f22664371bbe7908a3c94e7faf

<http://www.sasktrends.ca/>

The Daily: June 1, 2006

Other Resources:

Community Futures Partners of Saskatchewan

<http://www.communityfutures.ca/provincial/sk/index.html>

Saskatchewan Government – Industries & Resources

<http://www.ir.gov.sk.ca/>

<http://www.stats.gov.sk.ca/pea/peaspring06.pdf>

<http://www.ir.gov.sk.ca/Default.aspx?DN=2972,2970,2936,Documents>

Designing

http://www.veganpeace.com/animal_cruelty/Pictures/Turkeys.jpg

<http://dnr.wi.gov/org/caer/ce/eeek/nature/state/images/cows.jpg>

<http://images.google.ca/images?q=canada+flag&hl=en>

<http://images.google.ca/images?svnum=10&hl=en&lr=&q=saskatchewan+flag>

<http://images.google.ca/images?svnum=10&hl=en&sa=X&oi=spell&resnum=0&ct=result&cd=1&q=saskatoon+chamber+of+commerce&spell=1>

Saskatchewan – Economic Development Links

- [Aboriginal Services and Programs in Saskatchewan \(Asksask\)](#)
- [Aginfonet.com](#)
- [Business Development Bank of Canada](#)
- [Canada-Saskatchewan Business Service Centre \(CSBSC\)](#)
- [Canadian Innovation Centre](#)
- [Canadian Information Productivity Awards](#)
- [Centre for Business Development - Regina](#)
- [Crown Investments Corporation of Saskatchewan \(CIC\)](#)
- [CUCORP Financial Services](#)
- [Government of Saskatchewan](#)
- [Institute for Computational Discovery](#)
- [Investment Saskatchewan](#)
- [National Research Council Canada](#)
- [Prairie Farm Rehabilitation Administration \(PFRA\)](#)
- [Prairie Implement Manufacturers Association \(PIMA\)](#)
- [Prince Albert Chamber of Commerce](#)
- [Regina Chamber of Commerce](#)
- [Saskatchewan Agriculture and Food](#)
- [Saskatchewan Association of Rural Municipalities \(SARM\)](#)
- [Saskatchewan Chamber of Commerce](#)
- [Saskatchewan Economic Developers Association \(SEDA\)](#)
- [Saskatchewan Finance](#)
- [Saskatchewan Government Relations](#)
- [Saskatchewan Health](#)
- [Saskatchewan Learning](#)
- [Saskatchewan Motion Picture Association](#)
- [Saskatchewan Northern Affairs](#)
- [Saskatchewan Research Council](#)
- [Saskatchewan Regional Economic and Co-operative Development](#)
- [Saskatchewan Trade and Export Partnership \(STEP\)](#)
- [Saskatchewan Urban Municipalities Association \(SUMA\)](#)
- [SaskCulture Inc.](#)
- [SaskEnergy Inc.](#)
- [SaskPower](#)
- [SaskTel](#)
- [Strategis](#)
- [Tourism Saskatchewan](#)
- [TransGas](#)
- [University of Regina](#)
- [University of Saskatchewan](#)
- [Virtual Saskatchewan](#)
- [Western Economic Diversification Canada](#)
- [Women Entrepreneurs of Saskatchewan](#)