



Agriculture and
Agri-Food Canada

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The Economics of the Canadian Fertilizer Industry

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Canada 

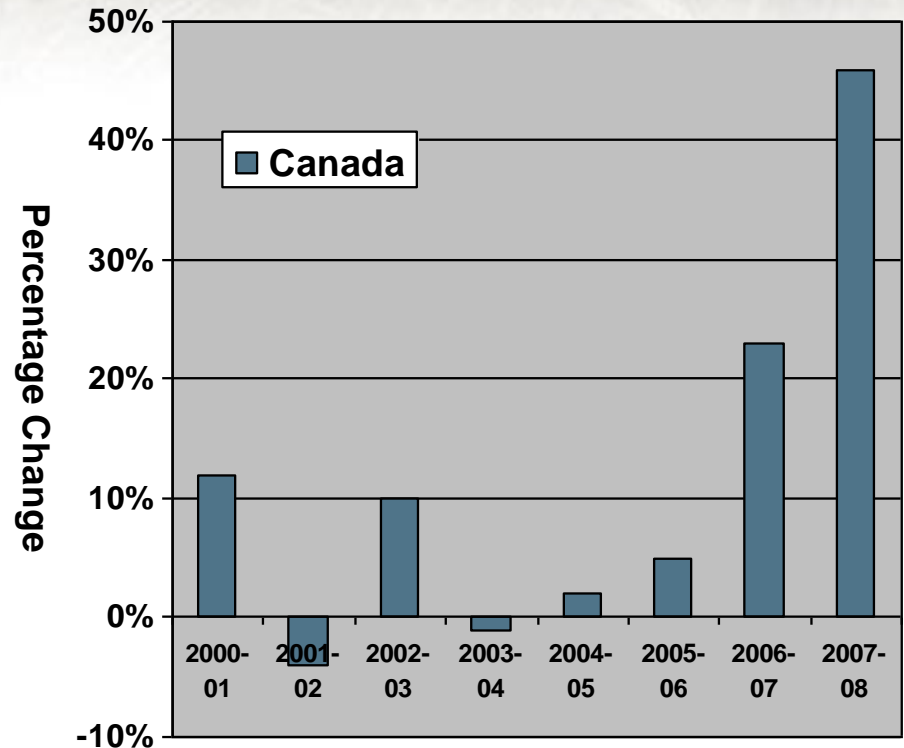
Introduction

- This presentation will provide an overview of :
 - ❖ Input data employed by AAFC for forecasting fertilizer expenses.
 - ❖ Examples of how input price survey data can be utilized to analyze the fertilizer industry.
 - ❖ Examples of input expense publications AAFC has available.

Motivation for examining the fertilizer industry

- Fertilizer expenses represent a significant input cost for Canadian producers.
- Fertilizer expenses are also very volatile on a year to year basis.

Year to Year Change in Fertilizer Expenses



Source: Statistics Canada

Data Sources

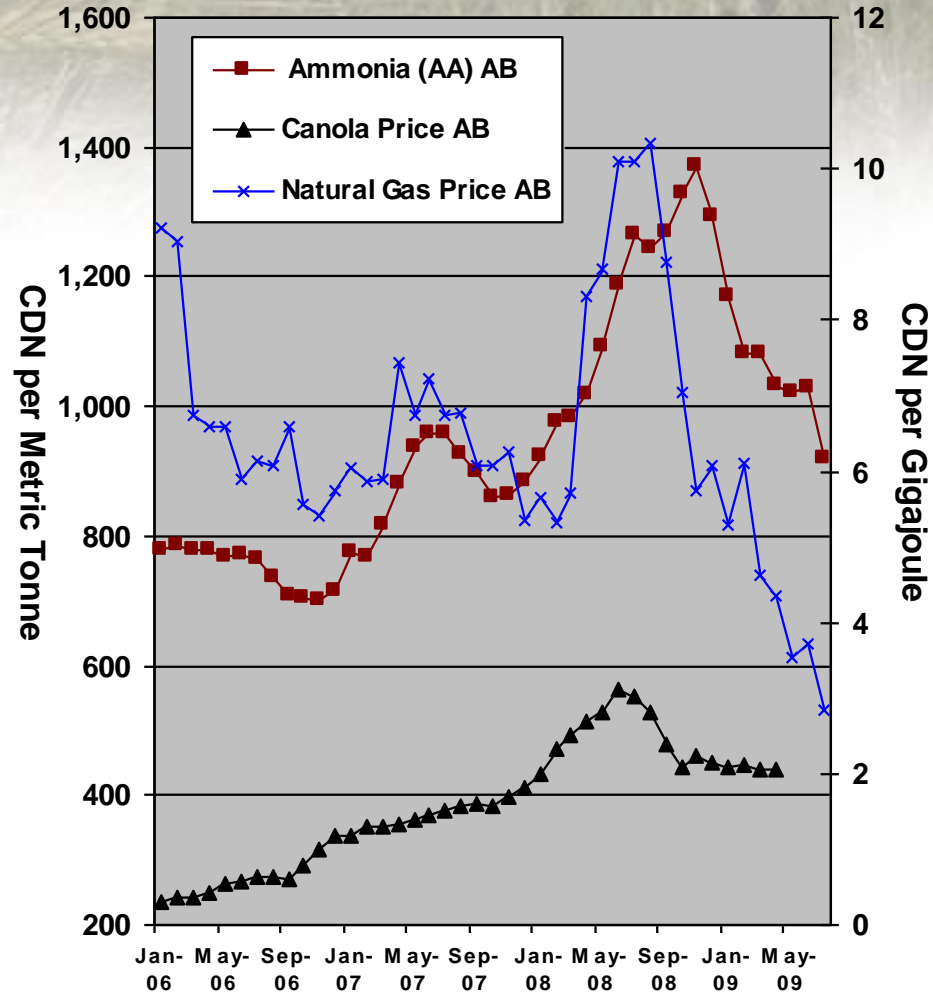
- The following surveys are utilized for forecasting fertilizer expenses:
 - ❖ Ridgetown College input price survey
 - ❖ Thomsen Corporation input price survey
 - ❖ Agricultural Input Monitoring System (AIMS)
 - ❖ Green Markets Surveys
 - ❖ Other

Factors Influencing Fertilizer Prices

- ❖ Input costs (energy prices, transport costs)
- ❖ Fertilizer-intensive crop prices
- ❖ Capacity constraints
- ❖ Seasonality
- ❖ Government policies
- ❖ Global economic conditions

Example: Factors Influencing Nitrogen (N) Prices in AB

- Given natural gas is a major cost component of N production, N prices should follow natural gas price trends.
- From 1991 to 2008, AAFC estimated the correlation between natural gas prices and ammonia prices to be 0.82.
- However, from January, 2006 to April, 2009, the correlation between natural gas price and AA retail price in AB was 0.32, while the correlation between Canola crop price and AA retail price in AB was 0.82.



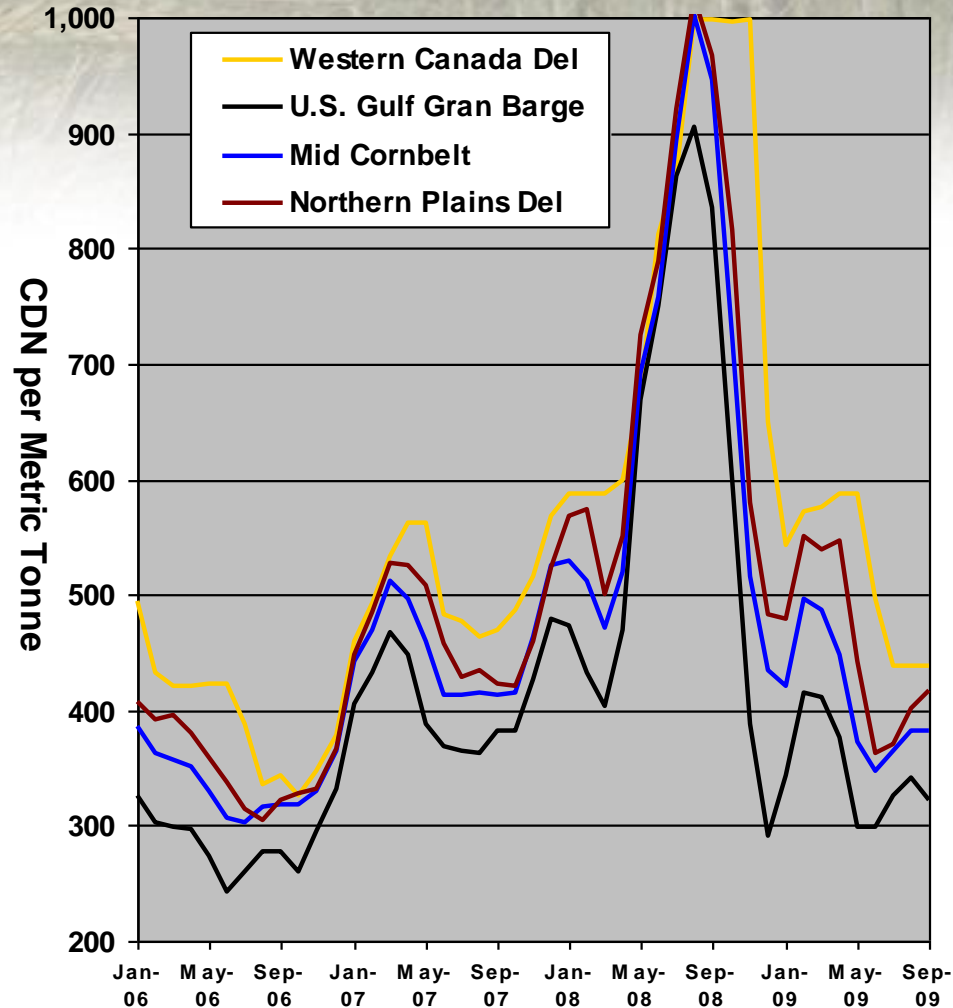
Source: AIMS, Statistics Canada

Theory of Regional Price Determination in North America

- The base pricing points for Nitrogen(N), Phosphate(P) and Potash(K) in North American are located in the major production regions:
 - New Orleans/Louisiana for N
 - Central Florida for P
 - Saskatchewan for K
- Once the base price is determined, wholesale prices should increase with distance from the base pricing point, reflecting transportation and all other costs associated with getting a product to regional markets.

Wholesale Granular Urea Prices – North America

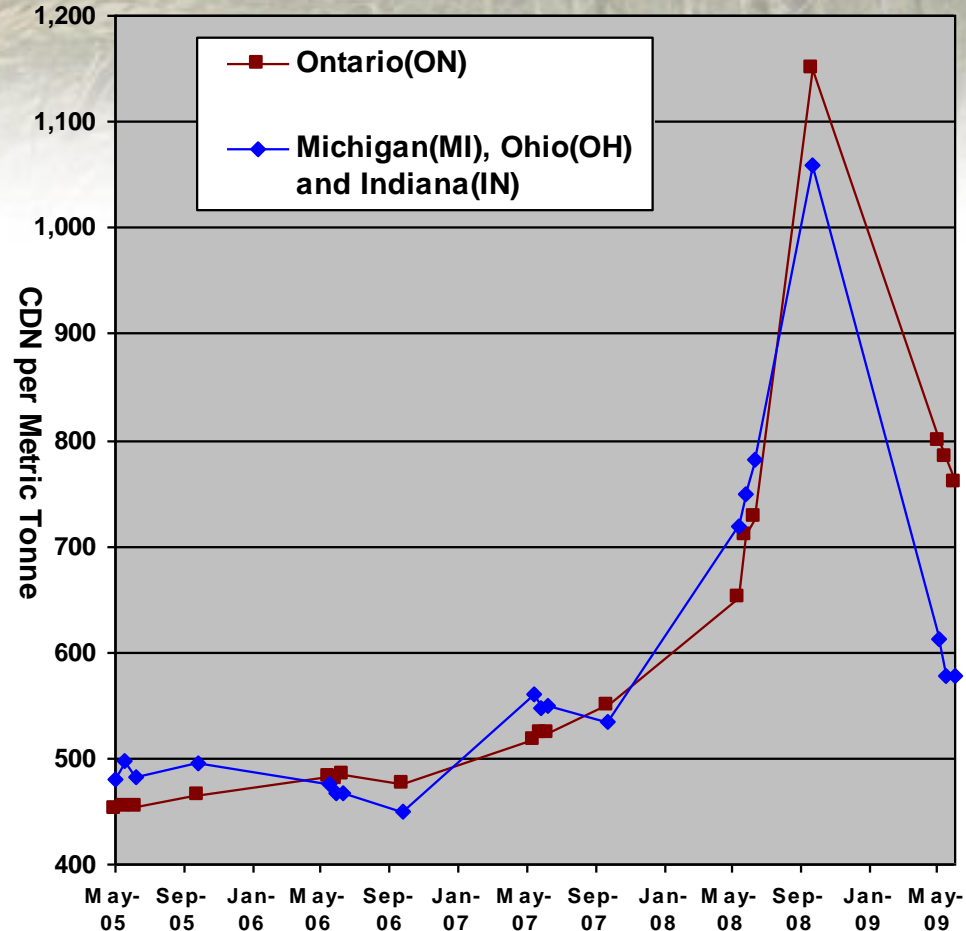
- Between January, 2006 and September, 2009, Western Canadian urea prices were on average 34%, 17% and 10% higher than the U.S. Gulf, Mid Cornbelt and Northern Plains regions of the U.S.
- Despite the Prairies being a net exporter of urea, Western Canada has on average the highest urea prices of any wholesaler in North America.



Source: Green Markets Survey

Urea Retail Prices – Eastern Canada

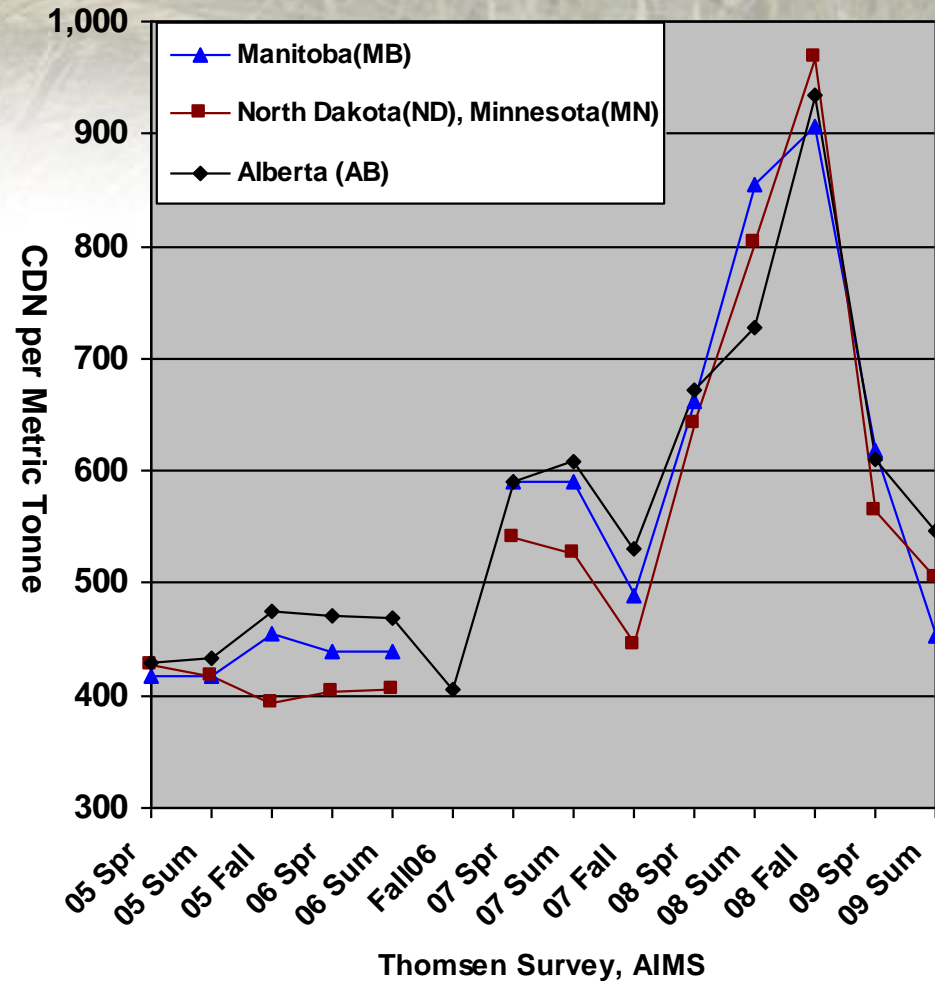
- From October, 2007 to October, 2008, prices increased 109% in ON.
- From May, 2005 to June, 2008, ON prices were 4% higher on average than MI/OH/IN.
- However, from October, 2008 to June, 2009, ON prices increased 24% relative to MI/OH/IN.
 - ❖ This price difference is too substantial to be explained simply by transport costs differences between the two markets.



Source: Ridgetown Survey

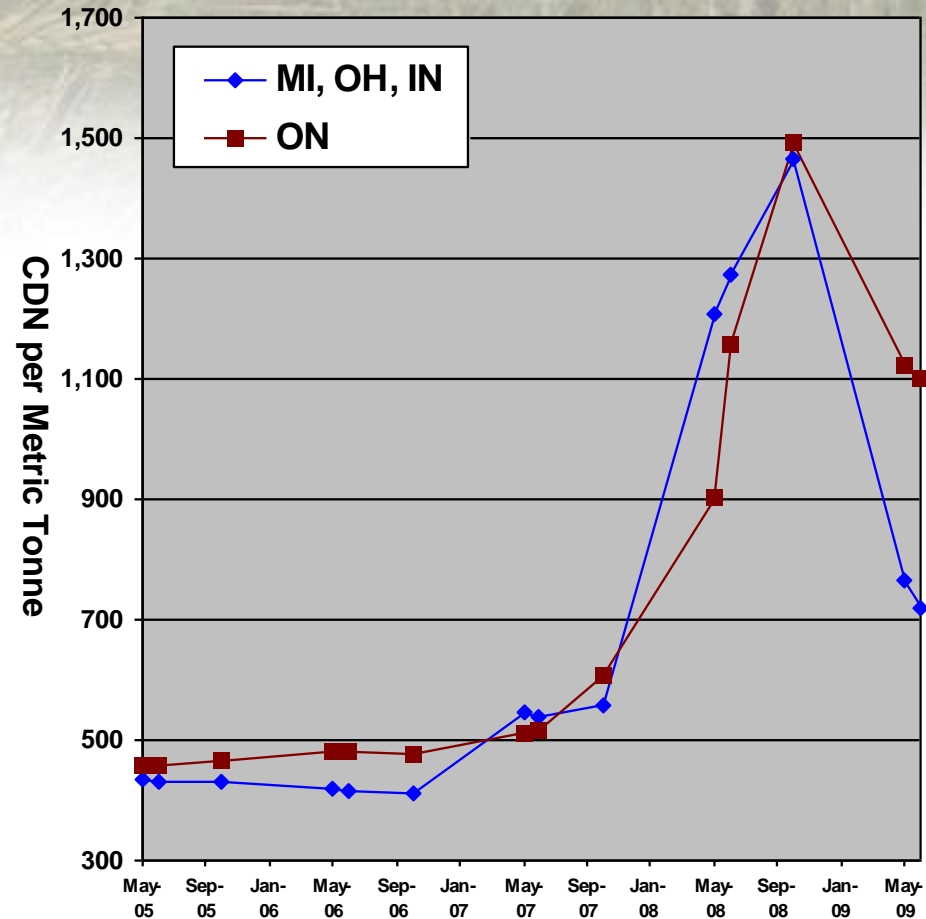
Urea Retail Prices – Western Canada (WC)

- From the Spring of 2005 to the Summer of 2008, WC prices were 9% higher than ND/MN.
- However, following the peak in prices in the Fall of 2008, WC prices were not statistically different than MN/ND.



MAP Retail Prices – Eastern Canada

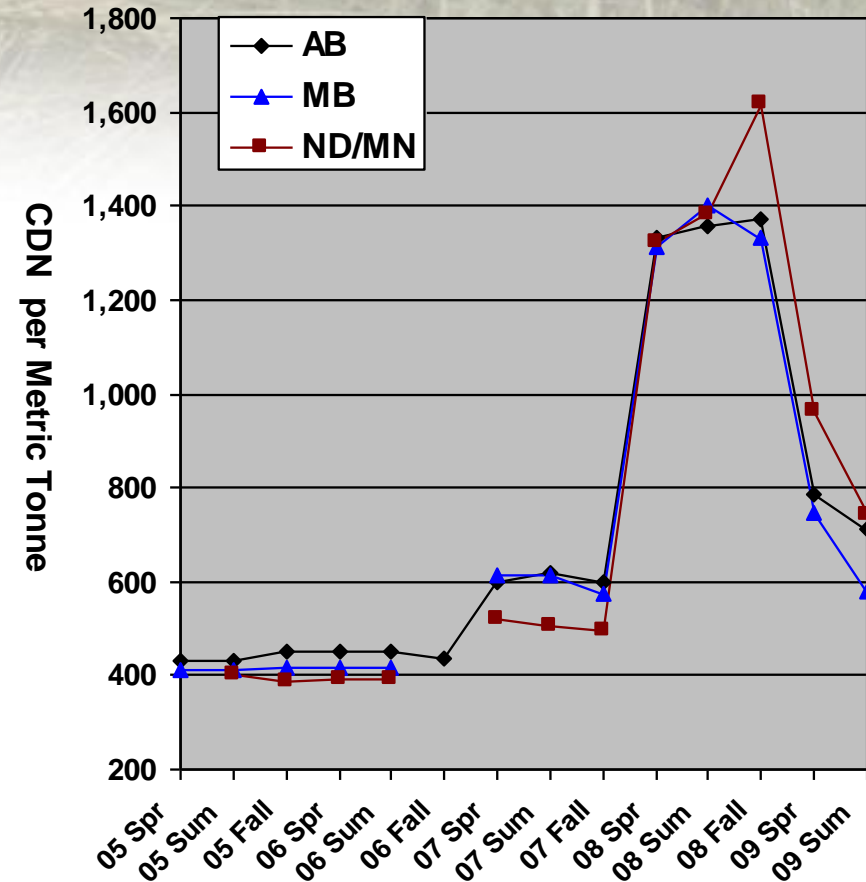
- Between the Fall of 2007 and the Spring of 2008, ON MAP prices increased 145%.
- Between May, 2005 and October, 2008, Ontario prices were on par with MI/OH/IN prices.
- Similar to urea prices in the Ridgetown Survey, following the peak in prices in the Fall of 2008, prices in Ontario were 50% higher than MAP prices in MI/OH/IN.



Source: Ridgetown Survey

MAP Retail Prices – Western Canada (WC)

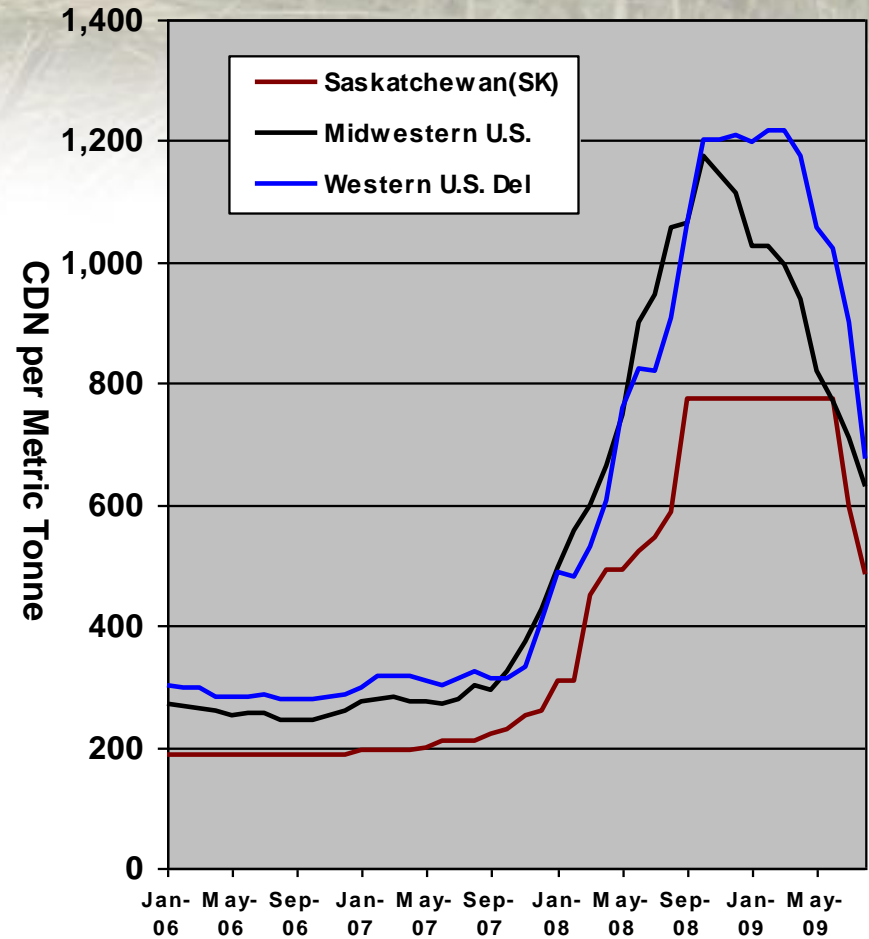
- From Spring 2005 to the Summer of 2008, MAP prices in WC were on average 5% lower than in ND/MN.
- In addition, MAP prices in WC were 17% lower than ND/MN following the price peak in the Fall of 2008.



Source: Thomsen Survey

Wholesale Muriate of Potash Prices – North America

- From, January, 2006 to August, 2009, K prices in Midwestern U.S. and Western U.S. were on average 40% and 48% higher than SK.
- While the wholesale urea price in the U.S. Gulf began to decline in September, 2008, the SK K price did not begin to decline until July, 2009.



Source: Green Markets Survey

AAFC Input Expenditure Publications

- AAFC publishes a Market Outlook Report examining farm fuel and fertilizer prices and expenses in Canada.
- The report outlines the factors influencing fertilizer price movements, and provides fertilizer price comparisons between Canadian and U.S. locations.
- Highlights from the 2008-09 report include:
 - ❖ Fertilizer prices in Canada rose 64% in 2008 relative to 2007.
 - ❖ Fertilizer prices in 2009 are forecasted to decline.

Conclusion

- Fertilizer expenditures very volatile on a year to year basis.
 - ❖ Despite the volatility in cost, fertilizers importance in maintaining soils nutrient content, necessary for consistent crop yields, implies it has a relatively inelastic, long-run demand.
- AAFC has Farm Income Forecast and Market Outlook Reports
 - ❖ Provides producers with another tool to make informed fertilizer purchasing decisions throughout the year.