



# Keystone Agricultural Producers

## ***“Comparison of Farm Fuel and Farm Fertilizer Prices in Manitoba and North Dakota”***

September 2007

*Disclaimer: The presentation of data expressed herein is conditional upon such completeness, accuracy, and fairness of the fuel and fertilizer pricing information received from dealers in Manitoba and North Dakota during the course of this review. We are of the view, however, that the information supplied and representations made to us provided a reasonable basis on which to conduct our analysis.*



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## **1.0 INTRODUCTION**

Keystone Agricultural Producers (“KAP”) is Manitoba’s largest general farm policy organization, with the mandate to promote the interests of the province’s farm families. KAP is funded by its farmer members and its positions are developed democratically at policy-setting meetings each year. KAP’s membership includes a diverse range of farmers, in crop and livestock, large and small, and from various geographic regions.

KAP’s Inputs Committee has been tasked with exploring issues related to the rise in farmers’ fuel and fertilizer prices in Manitoba, namely the perceived disparity in pricing between Manitoba and nearby U.S. border states. KAP engaged PricewaterhouseCoopers LLP (“PwC”) to develop a researched report comparing fuel and fertilizer prices between specific Manitoba communities and North Dakota communities, with the intent of determining whether measurable price disparities exist, and if so, then identifying the factors that may account for the disparities. The following report is the end product of this exercise.

## **2.0 BACKGROUND**

### *2.1 Fuel and Fertilizer Prices in Canada*

According to a report published by Agriculture and Agri-Food Canada in March 2007, “*Canada: Farm Fuel and Fertilizer Expenses*”, the Canadian agricultural sector experienced major increases in machinery fuel and fertilizer costs in 2006. Fuel prices in Canada reached record highs due to the slow growth of crude oil supplies relative to the strong growth in international demand and continued international political uncertainty caused by issues, such as instability in the Middle East. Fertilizer prices also increased due to tight supply relative to demand and higher energy prices. In 2007, fuel prices are forecast to be lower than in 2006, but fertilizer prices are expected to continue to increase due to the continuation of tight supply relative to demand.

In 2005, fuel and fertilizer costs accounted for 15% of total Canadian farm expenses, or \$4.5 billion. Please refer to Appendix A to view a breakdown of farm operating expenses in Canada in 2005. For every one cent per liter increase in fuel prices, Canadian farmers’ annual machinery fuel bill is estimated to increase by \$28 million. For fertilizer, every one cent per kilogram increase in the price adds \$61 million to Canadian farmers’ annual fertilizer bill.

Fuel for farm machinery consists mainly of diesel and gasoline but also includes lubricants. Many believe that the price of fuel is generally determined by the forces of supply and demand worldwide. Also, Canada is one of the world’s major fertilizer producers, particularly for nitrogen and potash. Canada exports about 95% of its potash production and about one-half of its nitrogen products, mainly to the United States. Canadian fertilizer production is primarily located in Alberta and Saskatchewan.

### *2.2 Long-Term Viewpoint on Price Disparities in Canada and the U.S.*

The fertilizer market is global in nature and the North American fertilizer market is fairly open and integrated. As a result, many believe Canadian fertilizer prices are linked to the U.S. market. According to a report published by Agriculture and Agri-Food Canada in March 2007, “*Canada: Farm Fuel and Fertilizer Expenses*”, statistical analysis confirmed that average

fertilizer prices in Canada and U.S. border areas “were not statistically different” for urea, mono-ammonium phosphate, and muriate of potash over the 1993 to 2006 period.

The Agriculture and Agri-Food Canada report does set out certain price comparisons between Canada and the U.S. Details of the price differences between jurisdictions is noted in the report; a copy of the report is attached for reference purposes.

### *2.3 Short-Term Viewpoint on Price Disparities in Canada and the U.S.*

The Thomsen Corporation, a market research company, conducts an annual farm input survey that compares fuel and fertilizer prices in Manitoba and North Dakota/Minnesota. Based on Thomsen’s survey results, the average percentage disparity between fuel prices in Manitoba compared to North Dakota/Minnesota was 12% in 2004, 19% in 2005, and 14% in 2006. The average percentage disparity between fertilizer prices in Manitoba compared to North Dakota/Minnesota grew from 1% in 2004 and 3% in 2005 to 10% in 2006. Thomsen’s results show that fuel and fertilizer prices have been higher in Manitoba compared to North Dakota/Minnesota over the last three years and the disparity or gap has been material. Please refer to Appendix B to view the results of Thomsen’s survey for 2004, 2005, and 2006.

## **3.0 PWC FUEL AND FERTILIZER REVIEW**

### *3.1 Methodology and Process*

To evaluate fuel and fertilizer prices in Manitoba and North Dakota, PwC developed a methodology, in collaboration with KAP, to gather and analyze data.

This methodology included:

- Developing a consistent format to capture fuel and fertilizer pricing data, primarily through phone interviews, from dealers in specific Manitoba and North Dakota communities;
- Contacting dealers in 12 Manitoba communities (Melita, Deloraine, Boissevain, Killarney, Pilot Mound, Morden, Winkler, Morris, Dominion City, Manitou, Altona, and Letellier) and 5 North Dakota communities (Bottineau, Towner, Cavalier, Pembina, and Rolette) to obtain the pricing data;
- Asking the dealers to provide pricing data for 2 fuels (farm purple gas, farm purple diesel) and 8 fertilizers (Nitrogen Dry 46-0-0, Nitrogen Liquid 28-0-0, Anhydrous Ammonia 82-0-0, Phosphate Dry 12-52-0 or 11-52-0, Phosphate Liquid 10-34-0, Potash Dry 0-0-60, Sulphur 21-0-0-24, and Sulphur 12-0-0-26);
- Obtaining time-specific pricing data (between April 15<sup>th</sup>, 2007 to May 15<sup>th</sup>, 2007);
- Converting pricing data into consistent measurement metrics (CAD dollars per litre for fuels, CAD dollars per metric tonne for fertilizers); and
- Obtaining information on the country sources of fuels and fertilizers, wherever possible.

### *3.2 Results of the Review*

PwC’s review revealed that, on average, fertilizer prices were 33% higher in Manitoba than in North Dakota in the specific aforementioned communities during the period of April 15<sup>th</sup>, 2007 to May 15<sup>th</sup>, 2007, although disparities reported in fuel prices were smaller (on average, 2% higher

**COMPARISON OF FUEL AND FERTILIZER PRICES IN MB AND ND**

prices in Manitoba). The products with the largest price differences included Anyhdrous Ammonia 82-0-0 (63% higher price in Manitoba), Phosphate Liquid 10-34-0 (41% higher price in Manitoba), Phosphate Dry 12-52-0 or 11-52-0 (35% higher price in Manitoba), and Nitrogen Dry 46-0-0 (30% higher price in Manitoba). The results of the review are described below in additional detail. Please refer to Appendix C to view the results by community in Manitoba and North Dakota.

**Results of PwC's Fuel and Fertilizer Price Review in Manitoba and North Dakota**

Products	Prices			
	Manitoba	North Dakota	Real Difference (MB-ND)	MB-ND Difference as a % of ND Price
<i>Fuels (CAD dollars per litre):</i>				
Farm Purple Gas (Purple Fuel)	0.87	0.81	0.06	7%
Farm Purple Diesel (Purple Diesel)	0.75	0.78	-0.03	-3%
<b>Average</b>				<b>2%</b>
<i>Fertilizers (CAD dollars per metric tonne):</i>				
Nitrogen Dry 46-0-0	584	448	137	30%
Nitrogen Liquid 28-0-0	363	286	77	27%
Anhydrous Ammonia 82-0-0	852	522	329	63%
Phosphate Dry 12-52-0 or 11-52-0	607	448	159	35%
Phosphate Liquid 10-34-0	490	349	141	41%
Potash Dry 0-0-60	301	274	27	10%
Sulphur 21-0-0-4	326	264	62	23%
Sulphur 12-0-0-26	337			
<b>Average</b>				<b>33%</b>

PwC's assessment also revealed that most North Dakota dealers purchase fuel and fertilizer from Canada and the U.S., whereas most Manitoba dealers purchase fuel and fertilizer from Canada.

**3.3 Limitations of the Review**

Although PwC administered its review of fuel and fertilizer prices in Manitoba and North Dakota in a consistent and independent manner, certain limitations should be taken into account when interpreting the results, including:

- PwC has relied upon the information provided by the dealer representatives and has not independently verified this information;
- The pricing data gathered was from April 15<sup>th</sup>, 2007 to May 15<sup>th</sup>, 2007, and thus, did not review for price variances throughout the year;
- Due to varying levels of cooperation from Manitoba dealers to provide data, we were able to obtain fertilizer prices from 6 of 12 communities and fuel prices from 6 of 12 communities;
- North Dakota dealers were unable to provide pricing data for Sulphur 12-0-0-26; and
- Pricing data was obtained from 1 or 2 dealers in most communities.

## **4.0 CONCLUSIONS**

### *4.1 Reported Price Disparities*

Based on PwC's review, material disparities were reported in fertilizer prices in specific Manitoba and North Dakota communities during the period of April 15<sup>th</sup>, 2007 and May 15<sup>th</sup>, 2007, although disparities reported in fuel prices were smaller.

Please refer to Appendix D to view the geographic location of the Manitoba and North Dakota communities, from which we were able to obtain fertilizer data from dealers for the review.

### *4.2 Possible Factors Contributing to Price Disparities*

During the review process, PwC noticed some reluctance on the part of dealers when discussing possible factors that may be contributing to price disparities in Manitoba and North Dakota, particularly as they related to fertilizer.

Factors contributing to price disparities in fuel were not explored by PwC due to the fact that our results showed small price disparities in fuel.

Based on discussions, including third parties, some general factors identified as possibly contributing to price disparities in fertilizer included:

- Size of the contract and quantities purchased;
- Pre-purchase of product before major price increases in spring 2007;
- Different levels of competition, as feedback received showed that most dealers in North Dakota bought fertilizers from U.S. and Canada, whereas most dealers in Manitoba bought fertilizers from Canada; and
- Pricing policy at the supplier level.

**5.0 APPENDIX**

*Appendix A: Breakdown of Farm Operating Expenses in Canada*

**CANADA: FARM OPERATING EXPENSES (2005)**

Source: Statistics Canada

*Total: \$30.3 billion*

Taxes	1.9%	\$0.6
Building Repairs	2.4%	\$0.7
Rent	4.6%	\$1.4
Utilities	5.0%	\$1.5
Other Livestock	6.8%	\$2.1
Machinery Repair	7.1%	\$2.2
Interest	7.7%	\$2.3
Misc. expenses	10.0%	\$3.0
Other Crop Inputs	12.5%	\$3.8
Farm Labour	12.9%	\$3.9
Feed	14.1%	\$4.3
Fuel and Fertilizer	15.0%	\$4.5

Appendix B: Thomsen Farm Input Survey Results

Thomsen Survey Results, 2004

Products	2004 Prices			
	Manitoba	North Dakota/Minnesota	Real Difference (MB-NDMN)	MB-NDMN Difference as a % of NDMN Price
<i>Fuels (CAD dollars per litre):</i>				
Regular Unleaded Gasoline	0.67	0.63	0.04	6%
Diesel	0.56	0.48	0.08	17%
<b>Average</b>				<b>12%</b>
<i>Fertilizers (CAD dollars per metric tonne):</i>				
Ammonium Sulphate 21-0-0-24				
Anhydrous Ammonia	592	550	42	8%
Monoammonium Phosphate 11-52-0	406	404	2	0%
Muriate of Potash 60%	210	227	-17	-7%
Nitrogen Solution (UAN) 28%	260	263	-3	-1%
Urea 46%	409	385	24	6%
<b>Average</b>				<b>1%</b>

Thomsen Survey Results, 2005

Products	2005 Prices			
	Manitoba	North Dakota/Minnesota	Real Difference (MB-NDMN)	MB-NDMN Difference as a % of NDMN Price
<i>Fuels (CAD dollars per litre):</i>				
Regular Unleaded Gasoline	0.77	0.67	0.10	15%
Diesel	0.75	0.61	0.14	23%
<b>Average</b>				<b>19%</b>
<i>Fertilizers (CAD dollars per metric tonne):</i>				
Ammonium Sulphate 21-0-0-24	326	321	5	2%
Anhydrous Ammonia	656	525	131	25%
Monoammonium Phosphate 11-52-0	415	404	11	3%
Muriate of Potash 60%	269	306	-37	-12%
Nitrogen Solution (UAN) 28%	281	288	-7	-2%
Urea 46%	430	423	7	2%
<b>Average</b>				<b>3%</b>

Thomsen Survey Results, 2006

Products	2006 Prices			
	Manitoba	North Dakota/Minnesota	Real Difference (MB-NDMN)	MB-NDMN Difference as a % of NDMN Price
<i>Fuels (CAD dollars per litre):</i>				
Regular Unleaded Gasoline	0.89	0.82	0.07	9%
Diesel	0.79	0.66	0.13	20%
<b>Average</b>				<b>14%</b>
<i>Fertilizers (CAD dollars per metric tonne):</i>				
Ammonium Sulphate 21-0-0-24	324	279	45	16%
Anhydrous Ammonia	657	594	63	11%
Monoammonium Phosphate 11-52-0	417	392	25	6%
Muriate of Potash 60%	291	233	58	25%
Nitrogen Solution (UAN) 28%	279	297	-18	-6%
Urea 46%	440	404	36	9%
<b>Average</b>				<b>10%</b>



**COMPARISON OF FUEL AND FERTILIZER PRICES IN MB AND ND**

*Appendix C: PwC Review Results by Community*

**PwC Review Results by Manitoba Community**

Products	Manitoba Prices												Total MB Average
	Melita, MB	Deloraine, MB	Boissegvain, MB	Killarney, MB	Pilot Mound, MB	Morden, MB	Winkler, MB	Morris, MB	Dominion City, MB	Manitou, MB	Altona, MB	Letellier, MB	
<i>Fuels (CAD dollars per litre):</i>													
Farm Purple Gas (Purple Fuel)	0.90			0.84	0.84	0.84	0.87		0.92				<b>0.87</b>
Farm Purple Diesel (Purple Diesel)	0.78			0.74	0.74	0.74	0.76		0.74				<b>0.75</b>
<i>Fertilizers (CAD dollars per metric tonne):</i>													
Nitrogen Dry 46-0-0	589	583	580	583	585					585			<b>584</b>
Nitrogen Liquid 28-0-0	365	361	369	361	360					360			<b>363</b>
Anhydrous Ammonia 82-0-0	845	837	840	837	875					875			<b>852</b>
Phosphate Dry 12-52-0 or 11-52-0	609	603	585	603	620					620			<b>607</b>
Phosphate Liquid 10-34-0	497	492	490	492	495					495			<b>490</b>
Potash Dry 0-0-60	302	299	295	299	305					305			<b>301</b>
Sulphur 21-0-0-24		347	365	347	285					285			<b>326</b>
Sulphur 12-0-0-26		308		308	365					365			<b>337</b>

**PwC Review Results by North Dakota Community**

Products	North Dakota Prices					Total ND Average
	Bottineau, ND	Towner, ND	Cavalier, ND	Pembina, ND	Rolette, ND	
<i>Fuels (CAD dollars per litre):</i>						
Farm Purple Gas (Purple Fuel)	0.88	0.76		0.72	0.86	<b>0.81</b>
Farm Purple Diesel (Purple Diesel)	0.81	0.76			0.76	<b>0.78</b>
<i>Fertilizers (CAD dollars per metric tonne):</i>						
Nitrogen Dry 46-0-0	463	453	453	429	442	<b>448</b>
Nitrogen Liquid 28-0-0		317		257	284	<b>286</b>
Anhydrous Ammonia 82-0-0	523	535	528	518	506	<b>522</b>
Phosphate Dry 12-52-0 or 11-52-0	402	503	453	428	453	<b>448</b>
Phosphate Liquid 10-34-0		297		367	362	<b>349</b>
Potash Dry 0-0-60	362	241	262	261	246	<b>274</b>
Sulphur 21-0-0-24		226	251	342	236	<b>264</b>
Sulphur 12-0-0-26						

*Appendix D: Geographic Location of Community Dealers Providing Fertilizer Data*

**Geographic Location of Manitoba and North Dakota Communities Providing Fertilizer Data**

