LIGHT AT THE END OF THE TUNNEL

NOVEMBER 19, 2008

CONFERENCE SPONSORS:

Manitoba Infrastructure and Transportation
Aikins, MacAulay & Thorvaldson LLP
Viterra
13th Annual Fields on Wheels Conference
“Light at the End of the Tunnel”

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Winnipeg, MB

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Edited by: Doug Duncan and Barry E. Prentice
Cover created by Kathy Chmelnytzki
Introduction

The current regulatory reform of the Canadian grain handling and transportation system began in 1982 when the fixed Statutory Freight Rates (Crow Rate) was replaced by subsidies under the Western Grain Transportation Act (WGTA). At the same time, public investments were made to rehabilitate grain-dependent rail branch lines and over 15,000 covered hopper cars were purchased by the Government of Canada and made available free of charge. By the mid-1990s, the benefits of these changes had run their course, and World Trade Organization (1995) agreement provided a convenient reason for the federal government to eliminate WGTA subsidies. The Estey Review was initiated in 1996 to design a more commercially-oriented grain logistics system.

The Estey Review and the Kroeger Process of implementation culminated in the Canadian Transportation Act (CTA) 2000. The CTA instituted a revenue cap on grain transportation for the railways, a mechanism for the transfer of branch lines to local communities, the Prairie Roads Program, a Grain Monitoring Program, the tendering of a portion of Canadian Wheat Board (CWB) grains and a final arbitration process. Not all measures were implemented as they had been envisioned in the Estey Review, but these changes set off a dramatic restructuring of the grain-dependent rail branchlines and a significant adjustment of country elevator size and number.

During the last 10 years, the railways, grain companies and farmers have become more efficient. From over 21,000 miles of track and 1,300 grain elevators in 1998, the rail system was pared to 18,923 miles of track and 378 large elevators (inland terminals). The gathering system changed from short train runs of 10 railcars going 50 miles to a few dozen rail yards, to unit trains in which 75 percent of the shipments move in blocks of 50 or more railcars. As a result, car cycle time has been reduced from 20 days to an average of 16 days. The length of the supply chain has been reduced from 70 days to 56 days. Commercially stored inventories have been reduced by 15 percent, while the number of inventory turns has increased by 25 percent.

Every solution creates new problems, and the current changes to grain transportation policy are not an exception. Grain handling logistics is complex and it is difficult to encourage commercial practices that balance the market power of the participants. A more commercially oriented system creates the need for contract-based accountability complete with legal recourse against any contract infringements or defaults. The asymmetry between the performance terms and penalties that the railways impose on the grain handlers, and the railways’ own performance is a contentious issue.

Access to railcars during the peak shipping season is a chronic issue for the grain industry. Pricing systems are more efficient than administered systems of allocation and fairer. The railways offer a bid system for their rail cars, but shippers are wary about allowing the railways more marketing power for the remaining government-owned railcars.

The regulatory changes requiring the CWB to tender part of its logistics and the final arbitration process are viewed as ineffective in meeting their policy goals. The revenue cap regulation on the railways has been effective, but there are critics on both shipper and
carrier sides. The calculation of the allowed revenues of the railways for hauling grain is not completed until five months after the crop-year ends. The railways find it difficult to administer their pricing and they face stiff penalties if they exceeded the limits of the revenue cap. In addition to refunding any overcharge, fines are assessed to the railways. The revenue cap regulation has held the railway freight rates for grain below other farm input prices, but some producers believe that more of the railway productivity gains should be shared. The railways note that grain shipments are their least profitable business segment and setting the revenue cap too low is affecting their interest in re-investment to move this commodity.

A question asked repeatedly is what is stopping Canada from being the leader in grain supply reliability and efficiency. Canada has world class bulk grain handling infrastructure and should be a model for other nations to follow. Some operational problems can be explained by the difficulty of the Canadian winter weather and seasonal fluctuations in volumes that stress capacity. Management of the supply chain however appears to be the greatest challenge. As each party in the grain supply chain attempts to maximize their commercial returns, the system becomes sub-optimized.

The grain handling system is being challenged to accommodate new products, access to new markets and increased information requirements for quality, health and safety concerns. Canada has terminated the KVD (kernel visual distinguishability) method of identification for milling wheat and more sophisticated methods must be employed to guarantee value, like CIPRS (Canadian Identity Preserved Recognition System) and HACCP (Hazard Analysis Critical Control Point Program).

Traceability and identity preservation are also gaining impetus because of GMO crops (Genetically Modified Organism, referring to the process) / PNT (Plant with Novel Traits, referring to the product itself) and PMF (Plants for Molecular Farming, referring to plants used for pharmaceuticals and industrial chemical production). Finally, the growth of more delicate special crops on the Prairies that are not suited to the rough handling of the bulk system is increasing the demand for containers.

Container shipping has clear advantages for identity preservation and traceability. Lot numbers provide details required to trace each container throughout the supply chain. Door-to-door service minimizes transit time and allows buyers to reduce inventory costs. Mechanical damage is eliminated for susceptible crops like pulses and lentils. Source loading of the containers allows exporters to check the quality of the container (leaks, odors, rust, etc.) and weight can be certified at a truck scale to meet the specifications of the buyer. The greatest problem for grain shippers is to obtain empty containers inland to load at a reasonable cost.

The future for containerization is very positive. All the components of the container shipping system have been gaining economies of size, particularly ships. The emerging dilemma for the container shipping lines is excess capacity because more ships are being commissioned at the very time that world trade is contracting. This presents an opportunity for Western grain shippers to attract their attention and to overcome some of the regulatory constraints that have made containers less available for source loading.

The consolidation of the elevator system has increased the hauling distance from grain farms to the elevators. The Prairie Roads Program did help upgrade some rural roads, but
in most areas the road system has not changed since the 1960s. Consequently, as larger trucks are used to haul longer distances, the quality of the roads and the bridges is becoming a problem. The road weight restrictions vary with location of the farms. Some routes are no longer possible to use, and some trucks have to travel under-loaded. This is even a problem for farm operations, particularly in the spring when greater weight restrictions are imposed.

The future of the western grain industry is being confronted by external macro influences, as well as it own internal challenges.

World Population Growth

The world population is projected to grow by 2 billion people, from about 6.5 billion today to about 8.5 billion in 2030. This is significant, but the location of the population is also important because of increasing urbanization. Urban populations will account for over 60 percent of world total by the end of this period. More mouths to feed is good news for agriculture, and urban incomes are generally higher which increases meat consumption and therefore grain demand, but urbanization also creates problems.

Urbanization and Lost Agricultural Lands

The increased urban populations have negative impacts on watersheds and some of the best farm land worldwide is being lost to urban development. Land that is converted to concrete will never return to agricultural production. In addition to urban areas, roads and highways are covering over significant areas of arable land. This might also be a benefit for Canadian grain exporters, but it is a worrying trend because it is happening worldwide.

Trade Geography

The centre of the world economy is shifting toward the growing Asian economy. Global value chains have affected the movement of goods around the world. Increased world trade all hinges around containers and the shipment of manufactured goods. Advances in container logistics and industrial supply chain organization have yet to be applied to food products, but it will soon start to make an impact.

Global Warming and Water Supplies

Global warming is going to have an impact on world food production. In the Prairies it will lead to warmer winters and more precipitation, but less reliable weather. Growing seasons are expected to be longer and weather variations more extreme. Evaporation will increase and leave less soil moisture. This may mean more irrigation and a shift toward more value added agriculture. Worldwide the changes in agricultural production are generally negative. This may leave more opportunities for Western Canada, if this region is in a position to respond.

The challenges for grain logistics and transportation policy will change as these macroeconomic influences grow stronger. The railways are likely to play a stronger role as the environmental regulations become stricter because they are inherently more efficient and less polluting than trucks. As more goods move by rail, the grain sector may have to work harder to maintain its access to available capacity. Clearly, the future holds more questions than answers. Can policy provide the flexibility to adapt to the new
market realities? Can policy lead to increased border efficiency and accommodate continental movement? Can policy manage the information, lead to infrastructure to reduce congestion through cities? Can the empty backhauls be utilized?

The pace of change is increasing as the grain handling industry becomes more commercially oriented. The Prairie grain handling and transportation system has made considerable strides in the past ten years. The next ten years could introduce very different market dynamics and changes for grain transportation. The challenge of the future is to resolve the issues of balance, efficiency and fairness as the system moves from away from its administered past toward a more commercial market. All this must be done in an economic environment of more demand growth and less production stability than the previously experienced.

Barry E. Prentice
Professor, Supply Chain Management
Asper School of Business
“Light at the End of the Tunnel”

Ten years ago, when the Estey Review was presented, there was a 65 cent dollar and $20 barrel of oil, a dysfunctional transportation and handling system, and subsidized competition that depressed grain prices. Much has changed; global demand and grain prices have set record highs and the transport and handling system is transformed. That light at the end of the tunnel may be the aura of a new golden era for Prairie grain exporters. It was this issue that the conference sought to address. The presentations and discussion addressed the broad issues of where the industry was, where it currently is today, and where it is expected to be in the future.

Session 1 – Keeping Up The Momentum

Mr. Mark Hemmes (President of Quorum Corporation) and Mr. Keith Bruch (Vice President of Operations for Paterson GlobalFoods Inc.) gave presentations which focused on looking forward. After delving into some industry background such as regulatory reform, as well as issues like elevator capacity and crop prices, both presenters focused on future challenges and what the industry needs to do going forward. Issues such as balanced accountability and levels of service were prominent industry focal points. These two presentations led into the third speaker of the session. Mr. Murray Hamilton (Director of Grain Operations for Canadian Pacific Railway) discussed steps his company has taken to ensure a more seamless and accountable grain transportation system. He outlined three specific objectives CP has focused on to achieve their goal, being: convert from a logistics supply push to demand pull, align our operating capabilities with our network capabilities, and improve the day to day management of our Cdn Grain Franchise. Mr. Hamilton proceeded to identify specific actions CP is currently taking to achieve their objectives and provide a more efficient and collaborative supply chain.

Session 2 – Policy

Mr. John Doran (Policy Advisor for Surface Transportation Canada) explained in great detail the formula behind the Revenue Cap and what the cap ultimately is meant to achieve. Mr. Doran explained the objectives of the cap are threefold in nature, 1) to provide a degree of regulation that was appropriate in a commercial environment, 2) to allow the railways more flexibility in setting freight rates and service packages, and 3) to provide some protection for shippers from excessive rates. Mr. Robert McLean (Vice President of Keystone Agricultural Producers) spoke from a farming perspective and analyzed grain transportation policy over the last decade. While concluding that there are encouraging signs, he recognized failure in two key areas (freight rates for farmers, and level of service). Mr. Wayne Atamanchuk (Assistant Vice President of Bulk Commodities for CN) was the last speaker of the session and provided a counter balance to Mr. McLean’s presentation. Mr. Atamanchuk discussed grain transportation policy however from the perspective of one of the major railroads. First, he established what good policy should set out to achieve in terms of simplicity, fairness, sustainability, and flexibility. Secondly, he discussed the outcomes and consequences of current policy regarding grain transportation.
Session 3 – Traceability, Security and Quality

The reliability of the handling system is a major factor in meeting today’s strict customer requirements and in accessing markets cost-effectively. GMOs and the removal of kernel visual distinguishability (KVD) standards have implications on security and the ability to trace where system breaches might occur. Segregating product to command higher prices and specialized handling, including containerization, are also current topics of discussion. Mr. Gordon Miles (Chief Operating Officer of the Canadian Grain Commission) centered his presentation around four topics: 1) the removal of KVD and the impact on the handling and quality management systems, 2) modified grains such as GMOs, plants with novel traits, and plants for molecular farming, 3) process verification programs, and 4) accredited and certified container sampling pilot programs. Mr. Greg Simpson (President of Simpson Seeds Inc.) gave us a producer’s perspective and spoke mainly about the benefits of shipping product by ocean container. Dr. Barry Prentice (Professor, I.H. Asper School of Business) wrapped up the session with a presentation designed to stimulate discussion in which he debated the merits of bulk grain shipping versus containerized grain handling. Ultimately, Dr. Prentice proposed that containerized grain handling systems could be the future of grain shipping.

Session 4 – Roads, Ports and Processing

The final session of the day entitled “Roads, Ports & Processing” focused on perspectives from both the grain handler and farmer on handling operations under dramatically changed supply chain logistics. Mr. Garvin Kabernick (local grain producer) spoke about his experiences in the farming environment and chronicled changes in farming practices from his introduction into farming in the 1950’s to the present day. Mr. Kabernick highlighted problems with bridges and provincial roads as an ongoing problem that should be addressed to create a more efficient grain transportation system. Mr. Richard Wansbutter (Vice President of Government and Commercial Relations for Viterra), the last presenter of the session, reiterated a central theme throughout the day that the management of the logistics pipeline is of critical importance to maintaining an efficient system for all parties involved. Mr. Wansbutter suggested we may not yet be at the level that was intended from the Estey review to create a competitive, efficient, and accountable system. He highlighted several areas that require improvement such as service contracts, commercial dispute resolution, lack of balanced accountability, and tendering.

The closing keynote speaker, Dr. Graham Parsons (President of the Organisation for Western Economic Cooperation) encapsulated the presentations of the day as he looked forward to challenges and opportunities facing the industry. Dr. Parsons highlighted five fundamental pressures that will dramatically affect agricultural transportation in the future. Those five pressures were: 1) world population growth, 2) urbanization and the loss of agricultural lands, 3) the changing geography of world production and trade, 4) trade liberalization, transportation and global value chains, and 5) global warming and water supplies. Dr. Parsons then outlined directions in prairie agriculture stressing development opportunities which arise in four main areas, being: 1) the replacement of
lost agricultural production, 2) the restructuring of continental and global markets for agricultural supply and demand, 3) new industrial and energy uses for agricultural crops, and 4) the formation of agricultural value chains.

As the prairie grain industry ventures forward, there are several challenges that lie ahead. The industry has come a long way, but issues such as accountability, partnerships, and efficiency must be addressed to benefit all parties in the supply chain. The annual Fields on Wheels conference aims to identify these critical issues and facilitate discussion to create a better transportation system for all.
13th Annual Fields on Wheels Conference

Agenda

8:00 – 8:25 am  Registration & Continental Breakfast

Morning Chair:  Dr. Barry E. Prentice
Professor, Department of Supply Chain Management, Asper School of Business

8:30 – 8:35 am  Welcoming Remarks

Hon. Reg Alcock
Associate Dean (External), Asper School of Business

Session 1  Keeping up the Momentum

8:35 – 10:00 am  Mr. Mark Hemmes
President, Quorum Corporation

Looking Forward:

Mr. Keith Bruch
Vice President, Operations, Paterson GlobalFoods Inc.

Mr. Murray Hamilton
Director, Grain, Canadian Pacific Railway

Roundtable Discussion

10:00 – 10:30 am  Networking Break - Sponsored

Session 2  Policy

10:30 – Noon  Mr. John Doran
Policy Advisor, Surface, Transport Canada

Mr. Robert McLean
Vice President, Keystone Agricultural Producers

Mr. Wayne Atamanchuk
Assistant Vice President, Bulk Commodities, CN

Roundtable discussion
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>Noon – 1:30 pm</td>
<td>Luncheon Keynote Speaker</td>
<td>Mr. Brian Hayward, President, Aldare Resources</td>
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<td>Afternoon Chair: Ms. Ruth Sol</td>
<td>President, WESTAC</td>
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<td></td>
<td>Session 3 Traceability, Security &amp; Quality</td>
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<tr>
<td>1:30 – 3:00 pm</td>
<td>Mr. Gordon Miles, Chief Operating Officer, Canadian Grain Commission</td>
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<td>Mr. Greg Simpson, President, Simpson Seeds Inc.</td>
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<tr>
<td></td>
<td>Dr. Barry Prentice, Professor, Department of Supply Chain Management, Asper School of Business</td>
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<td></td>
<td>Roundtable discussion</td>
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<tr>
<td>3:00 – 3:20 pm</td>
<td>Networking Break – sponsored by Viterra</td>
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<td>Session 4 Roads, Ports &amp; Processing</td>
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<tr>
<td>3:20 – 4:15 pm</td>
<td>Mr. Richard Wansbutter, Commercial Relations, Grain Group, Viterra</td>
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<td></td>
<td>Mr. Garvin Kabernick, Grain Producer</td>
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<td></td>
<td>Roundtable discussion</td>
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<tr>
<td>4:15 – 4:40 pm</td>
<td>Closing Keynote: Life Beyond the Tunnel – the Next Ten Years</td>
<td>Dr. Graham Parsons, President, Organisation for Western Economic Cooperation</td>
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<tr>
<td>4:40 pm</td>
<td>Closing Remarks</td>
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Monitoring the Canadian Grain Handling and Transportation System

Estey, Kroeger and Grain Transportation Legislation into the 21st Century: A Background

Fields on Wheels, Winnipeg
November 19, 2008
Agenda

• Memory lane …
  – WGTA
  – Estey
  – Kroeger
  – CTA 2000
• What happened then …
• What now?
Genesis of Regulatory Reform

• Started with the repeal of the Crow (1982-83)
• Prairie Branch line Rehabilitation Program (1980’s)
• Introduction of variable rates (1988)
• Elimination of Costing Review (last 1992)
Western Grain Transportation Act

- Replaced the Crow Rate with a Statutory Rail Freight Rate set by the NTA/CTA
- Created Grain Transportation Agency (GTA) in 1984
  - High level allocation of cars - Board and non-board “splits” (now done by railways)
  - Established volume projections used for setting of rates (was done by CTA)
  - Unload Targets and Performance Measures (GTA administered)
And then …

- CTA 1996
- 1992-93; 1995-96 Winter Rail Service Issues
- CWB LOS and litigation against railways
- Need to review …
  ....Estey …
1. The Ports and Waterways
2. Management Information System
3. Cleaning of Grain
4. Producer-Loaded Cars
5. Hopper Car Ownership
6. Car Allocation
7. The Rail Rate Cap
8. Competition between Railways
9. Final Offer Arbitration
10. Branch Line Abandonment
11. Trucks and Road Repair
12. The Harvest Quota
13. Contract Calls
14. Principal Role of the Board
15. Review of Efficiency Gains
Kroeger Recommendations

- The Revenue Cap
  - Adopt CP recommendation

- Railway Competition
  - Not ready to jump into full range (i.e. “running rights)
  - Examine a range of measures

- Final Offer Arbitration
  - Adopt a revised approach

- The Transportation Role of the CWB
  - Remain in Marketing & Admin, Out of operations
CTA 2000

- The Revenue Cap
- Transfer of lines to communities
  - $10K/ mile/ 3 years
- CWB Tendering
- Prairie Roads program
- Grain Monitoring Program
Railroading in the “Pre-1995”
Western GHTS

- Almost 21,000 miles of track (1985)
- Grain Dependent Branch line network of over 6,000 miles
- Over 1,300 elevators at 880 delivery points
- “Short” Train runs
GHTS Rail Lines: 1985

21,000 Miles +
GHTS Rail Lines: 2003

18,923 Miles
GHTS Rail Lines: 2008

18,495 Miles
Car Cycles

Vancouver Corridor

All 15.7: 15.0 to 16.4
Van 17.0: 16.3 to 17.5

All Corridors

Nov 2008
Distribution of Incentive Movement

* Q3

Nov 2008
Licensed Elevators – August 1999

1,004 elevators in 685 communities

Nov 2008
Licensed Elevators – January 2008

378 elevators in 276 communities

Nov 2008
The Supply Chain
Elevator Capacity Turns

![Graph showing elevator capacity turns from 1999/00 to 2007/08 for both Country and Terminal categories.]

Nov 2008
Revenue Cap Performance: Inflation Indicators

Sources: FIPi & CPI from Stats Canada; VRCPI from CTA; Quorum GMP Reports (2006-07AR and 2007-08 Q3)

All indices have been normalized to August 2000 for comparison purposes.
CWB Tendering

Tonnes Moved under tendering

% of total CWB tonnage

CWB Tendering Target
Looking Forward
System Challenges

• Winter operational problems will continue
• Demand peaks will happen
• System failures a reality (port, rail, country)

• What kind of contingency planning makes sense?
• What defines a reasonable “recovery” period?
  • Trade off with the cost of excess capacity
  • Country and terminal storage, rail capacity, enhanced JIT system
System Challenges

• Canada produces world class products
• We have the world class talent and resources
• Why shouldn’t we be the leader in reliability and efficiency? The model for others to follow!
• What kind of service is required to support such a system?
• In many ways we have a “commercial” system
  – Participants’ behavior is in their commercial interest
• Challenge is to avoid sub-optimization of the overall process!
Monitoring the Canadian Grain Handling and Transportation System

Thank You
13th Annual Fields on Wheels Conference
Looking Forward...
Fields On Wheels

- Changes in the Grain Industry
- Changes in Processing
- Changes in Income
- Changes Needed
Consolidation of the Grain Industry

1998

2001

2007

160

119

149

338

258

126

303

58

42

100

Consolidation
Licensed Elevators - 1999

1,004 elevators in 685 communities

Source: Quorum Corp.
Licensed Elevators – August 2007

367 elevators in 268 communities

Source: Quorum Corp.
Licensed Elevators 1998 - 2008

![Bar chart showing the number of licensed elevators from 1998 to 2008. The total number of elevators decreases from 1,058 in 1998 to 331 in 2008.]

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Elevators</th>
</tr>
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<tbody>
<tr>
<td>1998</td>
<td>1,058</td>
</tr>
<tr>
<td>1999</td>
<td>972</td>
</tr>
<tr>
<td>2000</td>
<td>848</td>
</tr>
<tr>
<td>2001</td>
<td>627</td>
</tr>
<tr>
<td>2002</td>
<td>425</td>
</tr>
<tr>
<td>2003</td>
<td>382</td>
</tr>
<tr>
<td>2004</td>
<td>361</td>
</tr>
<tr>
<td>2005</td>
<td>352</td>
</tr>
<tr>
<td>2006</td>
<td>337</td>
</tr>
<tr>
<td>2007</td>
<td>331</td>
</tr>
</tbody>
</table>

Source: Canadian Grain Commission
Elevator Count Major Grain Companies

Source: Canadian Grain Commission
Source: Canadian Grain Commission
Average Elevator Capacity Turnover Ratio

Source: Quorum Corp.
Country and Terminal Capacity Turns

Source: Quorum Corp.
Average Car Block Size

Source: Quorum Corp.
Wooden Elevator
1950-60

<table>
<thead>
<tr>
<th>Car Spot</th>
<th>3 - 5</th>
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<tbody>
<tr>
<td>Storage Capacity (tonnes)</td>
<td>2,500</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>--------------------------</td>
<td>------------</td>
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<tr>
<td><strong>Double Wood Crib</strong></td>
<td>1970-80</td>
</tr>
<tr>
<td><strong>Car Spot</strong></td>
<td>25</td>
</tr>
<tr>
<td><strong>Storage Capacity</strong></td>
<td>6,000</td>
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<tr>
<td>(tonnes)</td>
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<tr>
<td>Car Spot</td>
<td>112</td>
</tr>
<tr>
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<tr>
<td>Storage Capacity (tonnes)</td>
<td>46,000</td>
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High Thru-Put 1990’s +
Export Volumes at Ports

Source: Quorum Corp.
Seeded Acreage Western Canada 1998 - 2008

Source: Statistics Canada
<table>
<thead>
<tr>
<th>Year</th>
<th>Wheat Flour Production in Canada</th>
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<tbody>
<tr>
<td>2003</td>
<td>2,399 '000 tonnes</td>
</tr>
<tr>
<td>2004</td>
<td>2,429 '000 tonnes</td>
</tr>
<tr>
<td>2005</td>
<td>2,446 '000 tonnes</td>
</tr>
<tr>
<td>2006</td>
<td>2,444 '000 tonnes</td>
</tr>
<tr>
<td>2007</td>
<td>2,364 '000 tonnes</td>
</tr>
</tbody>
</table>

**Source:** Stats Canada
Canola and Soybean Crushing 1980 - 2008

Source: Canadian Oilseed Processors Association
CRUSH CAPACITY UTILIZATION

The utilization of crush capacity in Canada improved for canola and declined for soybeans in 2007/08 compared to the previous year. Utilization of crush capacity was 96.2% for canola and 63.3% for soybeans.

<table>
<thead>
<tr>
<th>Year</th>
<th>Canola</th>
<th>Soybeans</th>
</tr>
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<tbody>
<tr>
<td>2002/03 Aug/July</td>
<td>56.1%</td>
<td>86.8%</td>
</tr>
<tr>
<td>2003/04 Aug/July</td>
<td>85.5%</td>
<td>77.1%</td>
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<tr>
<td>2004/05 Aug/July</td>
<td>82.9%</td>
<td>74.3%</td>
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<tr>
<td>2005/06 Aug/July</td>
<td>89.5%</td>
<td>68.8%</td>
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<tr>
<td>2006/07 Aug/July</td>
<td>93.6%</td>
<td>70.1%</td>
</tr>
<tr>
<td>2007/08 Aug/July</td>
<td>96.2%</td>
<td>63.3%</td>
</tr>
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Source: Canadian Oilseed Processors Association
Canola Crushing Plants Manitoba, Saskatchewan, Alberta

Total Crushing Capacity: 4.3 million tonnes
Canola Crushing Plants and Feedstock Consumption

The feedstock pull area represents roughly half of Canada’s total canola crop.
Prairie Ethanol Plants: Operational

Total Capacity: 487 million litres
Ethanol Plants and Feedstock Consumption

Total Capacity: 487 million litres  Feedstock Requirements: 1.3 million tonnes of wheat
Ethanol Plants: Planned, Under Construction, and Operational
Percentage of Canadian Wheat Used for Feed and Ethanol Production

'000 metric tons

Source: USDA
Biodiesel Plants: Planned, Under Construction, and Operational
Ethanol Plant Locations: U.S.

Source: Renewable Fuels Association
Projected Profit Margins for U.S. Ethanol

Profit margin in $ per bushel

Source: RBC
VeraSun Energy stock price 2006 - 2008

Source: MSN Money
Viterra’s 2007 results are for 15 months.

Source: Annual Reports, 1998 – 2006 AU and SWP, 2007 Viterra
Net Farm Income: MB, SK, AB

Source: Stats Canada
After Tax Net Income: CN and CP

Source: Annual Reports 1998 – 2007 CN and CP
What Has Happened in Last 10 Years

- Railways are more efficient
- Grain Companies are more efficient
- Producers are more efficient
- Life must be good.
Issues For Grain Shippers

- Car Supply
- Lack of Balanced Accountability on Car Supply and Conditions of Service
- Unilateral Establishment of the Terms and Conditions of Service
Car Supply

- Getting what we need
  - # of Cars
- When we need it
Lack of Balanced Accountability

- Producers are held to account (contractually) for the delivery of their grain
- Grain Companies are held to account to Customers for the delivery of the product
- Grain companies are held to account through tariffs for achieving railway efficiencies
  - Example: loading and unloading times
  - Car ordering commitments
- Railways are not held to account for performance
  - Total Car Supply
  - Spotting Times
  - Transit Times
Unilateral Establishment of the Terms and Conditions of Service

- Ancillary charges
  - Order changes
  - Switching
- Demurrage (Asset Use)
- Bills of Lading
Level of Service

- In a recent case the CTA set a benchmark for RR service for 4 companies as
- 80% of required shipping
- 90% of which to be provided within 3 weeks of its requested date
- On a moving 12 week average
- Unless there are circumstances beyond the railway’s control
What Grain Shippers Need

- Balanced Accountability with RR’s (enshrined in legislation) for:
  - Car Supply
  - Services

- Recourse
  - Initiated by Either Party
  - Fast (and hence less expensive)
  - Arbitration
NutraSun Foods located near Regina in a major wheat growing area of Western Canada

- Organic and Conventional Flour Mill
- Identity Preserved milling programs for specific customers
A large modern feed manufacturer (largest facility in Western Canada)
Located in Manitoba
Full Line of feed and ingredients for hogs, cattle and poultry
 Produces Organic Feed for Poultry and Cattle
Manufactures Full Fat Flaxmeal for Petfood market
- Grain Handling
- Crop Inputs – Fertilizer, Pesticides
- Accredited Exporter of Canadian Wheat Board
- IP Programs
- Research and Development
Global Grain Australia Pty Ltd
Established in 1999, located in Melbourne
Supply programs for products into Japan, China, S.E. Asia, Indian sub continent, Europe
Canola, Malting Barley, Linseed, Safflower, Spelt, Wheat, Pulses
“While the Railway is responsible for the transportation of Grain, it is ultimately the shipper who starts the process through a commercial sales agreement.

This sets in motion a logistics chain of events of which rail transportation is only one component.

The demand for rail service is derived from the demand for grain at destination and not the opposite”
Thank you Barry, thank you to Westac, and the Transportation Institute for the invitation to speak with you today.

Does anyone happen to remember a movie called Gumball Rally? Released in 1976. Quirky movie about a group of eccentric individuals in a high speed cross country race from I think New York to California. There is a scene at the start of the race where the driver of the team in the convertible Ferrari reaches up, rips the review mirror off the windshield and throws it out the back of the car and says to his co-pilot, “what is behind me…is not important”.

I don’t think that team actually won the race, but the line stuck with me as I was thinking about my remarks on today’s topic. Not to take a shot at the value of history, since history hopefully helps us learn not to make the same mistake twice. But what is relevant today is what we are doing now to shape the future to ensure that we have a globally competitive supply chain that keeps our customers competitive in the markets they serve.

We think Canadian Pacific is on the road to deliver on that goal for our Canadian Grain customers.

Today, I would like to share with you a solution set of actions we have developed and are developing in concert with our customers to improve efficiency in the Grain Handling and Transportation System for now and in to the future.

A little background first. In the fall of 2007 our product design team, those responsible for the design of our train operations, engaged the services of an external consulting firm. They were charged …actually we were charged…to perform a deep analysis on how we can move more grain to Vancouver given the heavy demands on capacity we face across all of CP’s lines of business. They demonstrated thru their analysis that opportunities were present to better utilize our supply chain capacity by changing some key fundamental principles in how grain is moved to
market. And when I reference supply chain capacity I am referring to our customers, supply chain partners and ourselves.

After a very detailed review of the consultant’s recommendations we moved forward with an implementation plan to drive further efficiency in to our Canadian grain supply chain. In the spring of 2008 we received executive sign-off from both the operating and marketing and sales sides of our company to embark on program we are calling GET Lean (Grain Export Team – Lean).

The program has 3 key objectives:

- Convert from a logistics supply push to demand pull
- Align our operating capabilities with our network capabilities
- Improve the day to day management of our Cdn Grain Franchise

In order to deliver on our objectives we have employed Lean process management techniques that we have adopted from the Toyota production system. Our thinking has centered on the principles of Just in Time, Quality and Operational Stability. We also employed a set of tools to better understand ours and our customer’s activities in the supply chain. The most notably was the Value Stream Mapping tool. The VSM tool allowed us to identify opportunities to reduce waste in our collective supply chain and develop the plans to act on it. We engaged a group of our customers, from an origin elevator, Head Office, and Port terminal perspective, in very concentrated 1 and 2 day sessions to map the physical movement of grain in our supply chains along with the order fulfillment process that is married to the physical movement.

So what did we learn from our customers and ourselves… and more importantly where are we headed?
Here is a sample set of what we have learned to this point

- There is a lack of balance in the movement of empties and loads that creates queuing at port terminals and unwanted dwell with the assets
- There is an opportunity to test a current paradigm on locomotive allocation to our solid trains models, which are our current 56 and 112 car train models, targeted at reducing cycle time performance
- While we are doing a good job at measuring cycle time performance, we believe we need to change the start event for the cycle
- The current practice of continuing to accept demand into the supply chain when there is an outage, railway or other, can hinder the chain’s recovery capability. Stopping the conveyor belt and then restarting in a continuous flow will deliver better results.
- Spotting of bad order cars, cars that are rejected by our customers for loading, and in particular issues with open gates continue to be an area of frustration for our customers and CP
- The current planning process, both internally and externally, involves significant amounts of rework for all parties.

And before I forget, because I know that there are a few of you in the room, I would like to again thank those customers that participated with us in our value stream mapping exercises. We certain learned a lot and have put many of your recommendations in to action already.

That said; here is where we are headed:

- We are developing a demand pull operating model for Canadian Grain and will build a schedule to facilitate it. – sounds simple, but as we move inside this opportunity the challenge in scheduling grain with its inherent seasonality and volatility as a commodity makes this very complex. To start we have implemented a pilot project with our solid train model to incorporate customer provided target delivery dates at the port of Vcr. We want to see if we can improve our
collective performance in the supply chain by incorporating the target delivery date in to how we manage our solid train business. We also recognize that we cannot focus uniquely on the solid train model and are developing a program for small lot orders to be managed and scheduled from the country to port within our current integrated operating plan.

- We have implemented a power on model for Cdn Grain. For our solid train loading facilities we are piloting a program where the locomotive power that brought in the empty cars remains at the elevator, or in close proximity to the elevator, to ensure very timely departure with the loads back to port. Right now approximately 40% of our HTP volume is being served by a power on model and we are seeing very favorable results in cycle time reduction and consistency of movement.

- We are changing the start event of the grain cycle. For a number of years we have been measuring our grain cycle with the start point being the movement of the load from the elevator. We are flipping that paradigm on its head and are now measuring the start of the cycle with the empty movement from port. This change in perspective of the start event will have our operating teams focused as intently on the empty movement of the cycle as they are on the loaded movement today. Without an empty in back in the country there is no load to move.

- Demand acceptance during an outage. If you consider the analogy of the rail movement being very similar to that of a long conveyor belt, we believe stopping the conveyor belt and reducing the demand entering in to the system will allow us to restart in a manner of continuous flow that will deliver better results.

- Execute the schedule – again, simplistic in the comment but necessitates that we have a very collaborative supply chain management process with our customers, which will allow us to manage variability across all components of the movement from farm gate to vessel.

- And our customers will love this one – spot only good order cars. I.e. Stop spotting bad order cars! Our hopper car refurbishment program aimed at changing out old technology gates with the new toggle lock gates will go a long ways to improving our capability to spot good order cars. But we have more to do. Our car management team has developed an enhanced
inspection process in both Thunder Bay and Vancouver to get at more of the gate issues before they are spotted in to our customers sidings.

- Lock in the plan – simple in concept once again, but difficult to put in to practice. We need to work with our customers to reduce the variability caused by changes in the ordering process. Changes driven by both CP and the customer base. I can tell you that we are looking at acquiring a new order management tool to assist us with managing the current variability, but we need solid order entry processes up front if we are to collectively reduce variability.

I would call the above our top urgent priorities, but we also have a list of other important solutions, such as development of Standard Operating Plans for all key roles and positions and integration of technology to process, but in the interests of time, I will stop here. As you can tell, there is a tremendous amount of positive energy and activity inside our company right now on Canadian grain.

So what do we need from our supply chain stakeholders…

Simply stated, we cannot do this alone. As a supply chain, all players must look at their partners needs as an opportunity and not a hindrance to their operations. We must recognize the constraints of others and work within these boundaries in the most efficient ways possible. A more efficient and cooperative supply chain, by nature, should lead to reduced costs, increased reliability and a happier end customer.

In our minds supply chain management is a function of all players in the movement from farm gate to end customer. These include:

- Farm delivery to meet origin plant needs often challenged by weather and road infrastructure.
- Spotting of suitable empty cars in a timely fashion as scheduled by the railway
• Loading, releasing and accurate billing of loaded cars to meet pick up schedule
• Timely movement of product by railway to destination
• Timely arrival of vessels to prevent terminal congestion
• Prompt unloading of equipment to allow return for reloading. This encompasses destination storage to ensure that shippers are not faced with unwanted demurrage on either rail or vessel.

A chain is just that, and a break in any one of the links results in a cost and delay to the remaining players. For example a delay at terminal position for a vessel not only results in railway demurrage to the terminal, but also effects outbound flow of empty equipment and the subsequent ability of the railway to meet empty placement for the next planned loading.

I hope I have given you a view to where CP is headed, not only right now, but certainly in to the future. We must continue to recognize that our success is clearly tied in to the success of our customers and that only through collaborative efforts in the supply chain can we truly deliver a world class grain handling and transportation system.

Thank you.
The Revenue Cap, An Explanation.

Fields on Wheels Conference
Winnipeg, November 19, 2008
Before The Revenue Cap

• 1897 – 1983  The Crow Rate
   Regulated Tariff

• 1984 – 1995  Western Grain Transportation Act
   Subsidized Freight Rates

• 1996 – 2000  Canada Transportation Act
   Rate Cap (Maximum Freight Rates)

• 2000 – Present  Canada Transportation Act
   Revenue Cap

MOVING TO A MORE COMMERCIAL SYSTEM
Why a Revenue Cap?

• Context: A sector looking for efficiencies….
  – Elevator consolidation etc.
  – Changes in crop choices etc.
  – Adequate pricing signals.

• Objective: Flexibility and Appropriate Protection …
  – To provide a degree of regulation that was appropriate in a commercial environment
  – To allow the railways more flexibility in setting freight rates and service packages.
  – Provide some protection for shippers from excessive rates.
Who, What, Where, When

- **Who** – Prescribed Railway – CN and CP
  (Note: Short lines are not prescribed railways)

- **What** – Grain, crop, or product described in Schedule II of CTA grown or processed in western division

- **Where** – Movements from any point of origin west of Thunder Bay to a port in British Columbia for export (except to U.S.) or Thunder Bay/Armstrong or Churchill (?).

- **When** – Two determinations each year by the Canadian Transportation Agency:
  - In December, the Revenue Cap for the previous crop year.
  - In April, the inflationary factor for the coming crop year.
The Revenue Cap Formula

Revenue Cap = \[\left(\frac{A}{B} + (C-D) \times 0.022\right) \times E \times F\]

*Canadian Transportation Act, section 151(1)*
The Revenue Cap Formula

A is the railway company’s revenues for movements of grain in the base year.

Revenue Cap = \[(A/B) + ((C-D) \times \$0.022)] \times E \times F
The Revenue Cap Formula

Revenue Cap = \[\left(\frac{A}{B} + ((C-D) \times \$0.022)\right) \times E \times F\]

B is the tonnage moved by the carrier in the base year.
The Revenue Cap Formula

C is the carrier’s average length of haul for the movement of grain in the crop year, as determined by Agency.

Revenue Cap = \([(A/B) + ((C-D) \times \$0.022)] \times E \times F\)
The Revenue Cap Formula

Revenue Cap = \[\left(\frac{A}{B}\right) + \left((C-D) \times $0.022\right)\] \times E \times F

D is the carrier’s average length of haul for the movement of grain in the base year.
The Revenue Cap Formula

Revenue Cap = \[
\left(\frac{A}{B} + (C-D \times \$0.022)\right) \times E \times F
\]

E is the tonnage moved by the carrier in the crop year as determined by the Agency.
The Revenue Cap Formula

Revenue Cap = \[\frac{A}{B} + ((C-D) \times 0.022)\] \times E \times F

F is the volume-related composite price index (VRCPI) determined by the Agency.
The Revenue Cap Formula

Revenue Cap = \[(A/B) + ((C-D) \times $0.022)\] \times E \times F

$0.022$ is the incremental multiplier to account for increased costs as the length of haul increases.
The Revenue Cap Formula

Revenue Cap = \[\left(\frac{A}{B} + ((C-D) \times \$0.022)\right) \times E \times F\]

- **A** is the railway company’s revenues for movements of grain in the base year.
- **B** is the tonnage moved by the carrier in the base year.
- **C** is the carrier’s average length of haul for the movement of grain in the crop year, as determined by the Agency.
- **D** is the carrier’s average length of haul for the movement of grain in the base year.
- **E** is the tonnage moved by the carrier in the crop year as determined by the Agency.
- **F** is the volume-related composite price index (VRCPI) determined by the Agency.

**$0.022** is the incremental multiplier to account for increased costs as the length of haul increases.
An Example
Canadian Pacific – Crop Year 2005-06

From the Canada Transportation Act:,
• A = $362,900,000
• B = 13,894,000 tonnes
• D = 897 miles

From the Agency determination of December 2006,
• C = 879 miles
• E = 14,552,664 tonnes

From the Agency determination of April 2005
• F = 1.0553

CP’s Revenue Cap for the Crop Year 2005-2006 = $395,041,967
Some Facts about the Revenue Cap

• The Revenue Cap is a revenue based mechanism, not a cost based mechanism.
• Because the Revenue Cap adjusts each year for volume and length of haul, there is no static limit from one year to the next year (E and C variables).
• The level of the Revenue Cap for each railway is determined by December 31, that is, only after the crop year is completed.
• If the railways exceed the Revenue Cap, they pay the excess and a penalty.
Railway Productivity Gains?

• Under WGTA a costing review every four years and adjustments to freight rates was mandated. The last costing review was 1992.

• Purpose was to share productivity gains made by the railways with shippers.

• When the Revenue Cap was introduced there was a reduction in the base year of 18% or $5.92 per tonne.

• The transitional provision of C-11 concerning maintenance applied a downward adjustment to the revenue cap to align maintenance costs in the revenue cap with actual maintenance costs incurred by the railways.
The Revenue Cap

A

BALANCE

between

generation of accurate pricing signals of a market-driven transport system

and

regulation appropriate to ensure the needs of shippers are met.
THANK YOU
ASSESSING GRAIN TRANSPORTATION POLICY OVER THE LAST DECADE

Keystone Agricultural Producers
Recommendation 7: *It is recommended that the rate cap be repealed and that the agreement proposed by CP be adopted by appropriate legislation. It is further recommended that the economies affected thereby be passed on to the farmer who, for the purpose of this plan, is deemed to be the shipper and entitled to the direct benefit of the freight reductions thereby achieved.*

Recommendation 15: *It is recommended that there be a review by appropriate authority, after the end of the crop year 2000/2001, of the productivity gains actually achieved in the grain handling and transportation system during the period commencing with the crop year 1997/98, and more particularly, the flow-through of such gains to the farmer and, where appropriate, to the other stakeholders proportionate to their contribution.*
Ministers’ May 10, 2000
Announcement

- Stronger system, commercially competitive and accountable and a

- Modern, reliable grain handling and transportation system with safeguards
Prairie Grain Roads Program
Roads and Shortlines

Report Card Grade

Excellent
Predicted Policy Outcomes

1. Direct freight rate reductions to farmers will occur by introducing a Revenue Cap

2. Productivity gains will flow through to the farmer and other stakeholders in proportion to their contribution

3. A Grain Transportation System will develop that will be:
   - Commercially competitive
   - Accountable
   - Modern
   - Reliable

4. Adequate Safeguards will protect against abuse
Freight Rate Reductions to Farmers

Anticipated Result of Reforms

Actual Result of Reforms
Benchmarks (Revenue/Cost Ratio)

- Snavely/Gilson 120%
- CTA (2007) 160%
Rate Changes for Various Commodities

Index


GDP Price Index
Grain
Motor Vehicles
Coal
Misc.

United States Government Accountability Office
Washington, DC 20548

JC Graphic and Technical Services
Percentage of Tonnage Travelling to Portland at Rates Over 300 Percent Revenue/Variable Costs

- Billings to Portland
- Minot to Portland
Freight Rate Reductions to Farmers

Excess Freight Rates = $250 million per year!
Freight Rate Reductions to Farmers

Report Card Grade

Unacceptable
Productivity Gains Flowing Through to Farmers and Others

- Grain Companies Receive Incentives From Railways
- Grain Companies Provide Trucking Incentives
- Producers pay for Railway Incentives
Productivity Gains Flowing Through to Farmers and Others

Report Card Grade

“Poor”
Commerciably Competitive

- Confidential Contracts  X
- Final Offer Arbitration  X
- Open Access  X
- CWB Tendering  ✓
Accountability

- Finger Pointing Continues
- 14 Level of Service Complaints
- CTA Involved in Ruling on Disputes More Often than Prior to Reforms
Modern System

- Investment in Road System
- High Throughput Facilities
- Multi-Car Spots
- Railways – Infrastructure and Rolling Stock
- Saskatchewan Grain Car Corporation – Car Upgrade
- CWB, Government of Alberta, Government of Canada – Cars Obsolete
Reliable System

- 14 Level of Service Complaints
- CTA rules in favor of Shipper in Majority of Cases
- CTA Benchmarks
  - 72% delivered within 2 weeks of agreement
  - 8% delivered eventually
  - Remaining 20% - ?????
Reliable System

Report Card Grade

Unacceptable
Composite Report Card Grade

Poor
Adequate Safeguards

- CTA – Competent Professionals
- Formal Complaint Process too Costly
- Recent Amendments to the Canadian Transportation Act - Positive
- Level of Service Review – Step in the Right Direction
Adequate Safeguards

Report Card Grade

Good
Conclusion

- Encouraging Signs

- Failure in Two Key Areas:
  - Freight Rates for Farmers
  - Level of Service
The Way Forward

- Farmer involvement in Level of Service Review
- Must Address Lack of Competition in the Rail Industry
- Costing Review a Necessary First Step
The Best Way to Predict our Future is to Create it.
CN’s experience with the Revenue Cap
“Insights for Development of Good Policy”
OUTLINE

Introduction

Policy Considerations

Unintended / Unexpected Outcomes of the Revenue Cap

Conclusion
Setting the context for the discussion

- Not an expert in policy or design of policy - but have experience working within several different environments
  - Regulated Environment
    - WGTA
    - Revenue Cap
  - Commercial Environment
    - US Grain system
    - Non-grain commodities (fertilizers, coal, sulphur, Intermodal)
- Views are those of the presenter
Policy considerations
**Core principle before any policy is established – is it really required?**

<table>
<thead>
<tr>
<th>OBJECTIVES OF ESTEY:</th>
<th>WESTERN CANADA GRAIN EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Remove government involvement in western Canada grain handling system – encourage commercially-oriented relationships to develop</td>
<td>• 84% of CN grain originations are within 50 miles of a CP high throughput</td>
</tr>
<tr>
<td>• Repeal legacy “rate cap” regulatory regime built on mileage-related maximum rate structure</td>
<td>• Consolidation of grain companies creating competitive clout with railways</td>
</tr>
<tr>
<td></td>
<td>• “Belt &amp; suspenders” safeguards</td>
</tr>
<tr>
<td></td>
<td>– “Rate cap” kept on branch lines: main line + 3%</td>
</tr>
<tr>
<td></td>
<td>– CTA Interswitching, FOA, summary FOA, …</td>
</tr>
</tbody>
</table>
Good policy should be simple to be effective

<table>
<thead>
<tr>
<th>SIMPLICITY IMPLIES:</th>
<th>EXPERIENCE WITH REVENUE CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to understand by the affected parties</td>
<td>Forecasting railway’s performance relative to revenue entitlement is complex and challenging</td>
</tr>
<tr>
<td>Easy to implement and apply</td>
<td>• Limited visibility on export demands limits forecast accuracy on volumes</td>
</tr>
<tr>
<td>Easy to administer</td>
<td>• Corridor shifts affect Length of Haul</td>
</tr>
<tr>
<td>Easy to comply with</td>
<td>• Often dramatic changes in outlooks and forecasts of performance relative to revenue entitlement</td>
</tr>
<tr>
<td></td>
<td>• While concept of revenue cap is simple, in practice this is not the case</td>
</tr>
</tbody>
</table>

Implication: Increases frequency of rate changes and volatility in rates
Once overall objectives of policy are set, policy environment should be fair and stable

**FAIRNESS IMPLIES:**

- Balanced approach to application of policy
- Stability in rules and regulations
- Resist temptation for political tinkering once policy is established

**EXPERIENCE WITH REVENUE CAP**

- Frequent challenge of revenue items submitted by railways
  - Demurrage, penalties, intermodal, MCB rates
  - Switching revenues with no revenue entitlement
  - Revenues from foreign grain in transit
- Hopper car maintenance claw-back
- Unfortunate result has been frequent challenges to Federal Court of Appeal – railways successful most of the time

Implication: Creeping re-regulation is reducing the return on transporting export grain in Western Canada
Good policy should ensure sustainability of industry being regulated

<table>
<thead>
<tr>
<th>SUSTAINABILITY IMPLIES:</th>
<th>EXPERIENCE WITH REVENUE CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Opportunity to earn an acceptable return on assets must be available</td>
<td>• Recent changes in rules seriously challenges sustainability of western Canada grain system</td>
</tr>
<tr>
<td>• Environment supports reinvestment in assets being regulated</td>
<td>• Western Canada export grain becoming least profitable commodity portfolio within CN</td>
</tr>
<tr>
<td>• Regulated environment can stand on its own – no need for cross-subsidization</td>
<td>• CN will not cross-subsidize export grain with returns from other commodities</td>
</tr>
<tr>
<td></td>
<td>• Export grain specific investments on hold</td>
</tr>
</tbody>
</table>

Implication: Risk that Western Canada grain again reverts to need of government investment/subsidization
Good policy should establish the goals – let participants determine means to achieving

<table>
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<tr>
<th>FLEXIBILITY OF REVENUE CAP:</th>
<th>EXPERIENCE WITH REVENUE CAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Kroeger: “Leave railways with room to offer innovative service packages to shippers”</td>
<td>• Limited rate setting rules provides freedom to differentiate pricing to encourage efficient behavior</td>
</tr>
<tr>
<td>• Establishes overall revenue entitlement for each of the railways – railways left to determine how to achieve</td>
<td>-  Per car pricing</td>
</tr>
<tr>
<td>• Limited rate restrictions</td>
<td>-  Differential corridor pricing</td>
</tr>
<tr>
<td>- 3% branchline condition</td>
<td>-  Prince Rupert Advantage</td>
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<tr>
<td></td>
<td>-  Multiple Car Block rates</td>
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<td></td>
<td>-  Differentiation by car type and size</td>
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<tr>
<td></td>
<td>-  Peak-season pricing</td>
</tr>
<tr>
<td></td>
<td>• Positive aspect of Revenue cap</td>
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</table>

Implication: Pricing flexibility has increased transparency of encouraging pursuit of more efficient transportation system
Unintended Consequences / Outcomes
Current rules discourage accountability between railway and customer

Revenue cap rules do not permit railways to exclude service premiums from revenue entitlement

- US Grain experience – Premium Service Trains
  - Customers bid premium to have train for specific period or number of trips – guarantees capacity and service for customer
  - CN commits to specific cycle targets – pays penalty if it fails

- Canadian experience under Revenue cap
  - Bid premiums would be included in our revenues
  - Penalty payments not excluded from our revenues

- No win situation for Canadian railway to provide service guarantees
  - Are we surprised there are none?
Current policy discourages alternate grain supply chains

Inclusion of intermodal revenues under revenue cap regime discourages development of intermodal options

• Containerization of grains provides a value added service for some customers
  – supports identity preservation of grains
  – avoids elevator distribution network
  – enables niche marketing
  – supports more efficient use of assets

• Annual reconciliation of revenues attempts to expand scope of “eligible revenues”
  – drayage revenues versus costs of providing service
  – should be completely out of revenue entitlement

• Outcome is a system that reduces the value and incentive for offering alternate services

What was / is the policy rationale for intermodal revenue regulation?
Good Policy should be:
- Simple, Stable, Fair and promote Sustainability

Recent decisions associated with Revenue Cap reflect creeping re-regulation of export grain

Re-regulation and private investments / innovation don’t dovetail – private investments disappear

First principle of good policy – is rate regulation on export grain still required?
Mr. Brian Hayward’s presentation is available by listening to the mp3 audio file at www.umti.ca or on the enclosed cd.
Traceability, Security and Quality

Gordon Miles, Chief Operating Officer  
Canadian Grain Commission

Presentation to 13th Annual Fields on Wheels Conference  
November 19, 2008

© Canadian Grain Commission, 2008
Grain quality, security, and traceability

1. Removal of KVD and the impact on the handling and quality management systems
2. Modified grains such as GMOs, plants with novel traits, plants for molecular farming
3. Process verification programs
4. Accredited and Certified Container Sampling pilot programs
What the CGC is not…

- *Not* the “other” CGC
- *Not* the CWB
- *And Not* AAFC
What the CGC is....

- Administrator of the *Canada Grain Act*
- In existence since 1912
- A service provider with regulatory responsibilities and quasi-judicial powers
- Headquartered in Winnipeg – seventeen (17) offices across the country
Grain quality and security

- **Canada Grain Act**
  - “Dependable commodity”
  - Certificate Final – inspection and weighing
  - Contaminated and infested grain

- **Assurances**
  - Letters of Assurance
  - Letters of Analysis
1. New Declaration System

- Response to removal of KVD
- KVD was a tool, BUT
- KVD restricted development of new varieties
- Emerging needs of producers and end-users
- Declaration is about integrity of system
DECLARATION OF ELIGIBILITY FOR THE CLASS

IN ACCORDANCE with the provisions contained in the Canadian Wheat Board Act, Canada Grain Act and Seeds Act and the Regulations and Orders made pursuant thereto;

I, __________________________ (print name)
of __________________________ (print address)
in the Province of __________________________

DO SOLEMNLY DECLARE THAT:

1. I am the producer and have entered into a delivery contract with the Canadian Wheat Board under Canadian Wheat Board Producer ID number __________________________, to deliver wheat (hereafter the "Producer").

2. Any and all deliveries of wheat made by or on behalf of the Producer to the Grain Handling Company are eligible varieties for delivery for the class of wheat for which payment is being requested in accordance with the Canadian Wheat Board Act, Canada Grain Act, Seeds Act and all Regulations and Orders made pursuant to those Acts (collectively, the "Acts").

3. If an ineligible variety of wheat is delivered by or on behalf of the Producer to the Grain Handling Company and it is represented to be eligible for the class of wheat for which payment is being requested in accordance with the Acts, I acknowledge and agree that the Grain Handling Company and/or the Canadian Wheat Board may consider the representation I made in paragraph 1 and 2 above, to have been made fraudulently and/or negligently. I acknowledge the Producer will be held accountable in accordance with authority granted within the Acts. I further acknowledge and agree that the Canadian Wheat Board may consider the Producer to be in default of its delivery contracts and, in addition to any other remedies available to it, it may cancel any contracts of the Producer. In addition, the Grain Handling Company may jointly with the Canadian Wheat Board and/or severally, claim against the Producer for all claims, damages, losses and costs (including legal fees) that may result.

4. I acknowledge and agree that the Grain Handling Company may exchange with the Canadian Grain Commission and the Canadian Wheat Board relevant materials including producer name, address, delivery, sample information and a portion of the physical sample relating to requested deliveries of eligible varieties of wheat by or on behalf of the Producer to the Grain Handling Company. I understand that this information will be used as the basis for establishing responsibility, which may result in the imposition of penalties and/or interest on default, as part of evidence given in an arbitration process and/or court proceedings.

5. I acknowledge that the information is made and intended to apply to all deliveries of wheat made by or on behalf of the Producer to the Grain Handling Company from and including the date indicated above and the end of the current crop year or until the Government is released or withdrawn by the Producer by written notice acknowledged by both the Canadian Wheat Board and the Grain Handling Company.

DATED this ___________ day of ___________ ------------------

Witness __________________________ (print name) __________________________ (print address)

Signatory __________________________ (print name) __________________________ (print address)
Variety delivery

- Any variety can be delivered
- However, only varieties on CGC Variety Designation Lists eligible for 8 milling classes or General Purpose class
- Ineligible variety = Canada Western Feed or lowest grade of amber durum
- Undeclared varieties – Canada Western Feed only
Variety delivery - declared

GENERAL PURPOSE CLASS

GP Varieties

CWRS
CWRW
CWES
CPSR
CPSW
CWHWS
CWSWS
CWAD
Undeclared deliveries

- CW FEED CLASS
  - Non Registered varieties or Non declared deliveries
  - GENERAL PURPOSE CLASS
    - GP Varieties
- CWRS
- CWRW
- CWES
- CPSR
- CPSW
- CWHWS
- CWSWS
- CWAD
2. Security and “modified” grains

- Provide letters of assurance
- Evaluate end-uses
- Develop methods for identification, testing
- Provide monitoring programs, certification
- Provide similar services for GM grains as non-GM grains
Definitions: GMOs, PNTs, and PMFs

Genetically modified organisms (GMOs)
- Original properties of a plant altered by modifying its genes (DNA) through modern biotechnology

Plants with novel traits (PNTs)
- In Canada new plants regulated on a product (novel trait expressed) not process basis
- Process used to modify the plant (modern biotechnology, mutagenesis, conventional breeding, etc.) not a regulatory issue

Plants for molecular farming (PMFs)
- Plants (PNTs) designed to produce drugs or industrial products. May become commercialized shortly.
- May be unsuitable for traditional uses such as food or feed, and are often GMOs.
Grain handling and marketing issues

- **Not visibly different**
  - Industry must segregate GMO/PNTs/PMF from conventional grain
  - May leak into handling system at low levels (AP/LLP)
  - Some grain customers have a zero threshold or low tolerance for some of these products

- **Could affect**
  - Commercial grain trade
    - Shipments may not be accepted by some importers
    - Marketability and market access
CGC considerations

- Role of the CGC and other stakeholders regarding AP/LLP needs clarification
  - Will CGC certification of grain shipment and statements of assurance be required in relation to these products?
    - If so, need new methods for identification, testing
    - If so, need increased or re-allocated resources to provide monitoring programs, certification
  - Will industry desire/require further support for segregation programs, e.g. CIPRS?
Grain handling system

- System handles grain primarily in bulk
  - Long distances
- Various modes of transportation
3. Canadian Identity Preserved Recognition System

- CIPRS developed by CGC in partnership with industry participants
- Voluntary system of process verification and certification
Develop a QMS manual that complies with CIPRS standard
- Third-party audit
- CGC certification
CGC HACCP-based Programs

- Voluntary programs
  - CIPRS
  - CIPRS + HACCP
  - CGC HACCP
4. Pilot Projects - container sampling programs

- Currently in development

- Accredited Container Sampling Program
  - 3rd party company accredited to take official samples
  - Samplers trained and monitored by the CGC

- Certified Container Sampling Program
  - Grain companies take their own samples following CGC certified sampling system procedures
  - Results in submitted sample certificate with an enhanced level of assurance
4. Pilot Projects - container sampling programs

- Accredited Container Sampling Program
  - 3rd party company accredited to take official samples
  - Samplers trained and monitored by the CGC
  - CGC issues official certificate
4. Pilot Projects - container sampling programs

- **Certified Container Sampling Program**
  - Grain companies take their own samples following CGC certified sampling system procedures
  - Results in submitted sample certificate with an enhanced level of assurance
Conclusion

- Evolving industry
- New opportunities
- CGC adapting to meet producer and industry needs
Questions....
Traceability, Security and Quality

Presented by:
Greg Simpson
President
Simpson Seeds Inc.
Simpson Seeds Inc. was incorporated in 1979.

We are authorized under the Canada Seeds Act to processes and sell Certified Seeds.

We operate a pedigree seed farm on 8500 acres.

A synergy has been created by offering new varieties to growers with direct benefits to our importing customer.
SSI now has 4 Processing Plants
Quality Pulse Products
Source Loaded Tote Bags
Soft Handling for Bulk Loaded
SSI Blue Bags in Algiers, Algeria
Milled Pulses in Delhi, India
Bagged SSI Brand in Mumbai, India
Bulk Lentils in Leon, Spain
I. P. (IDENTITY PRESERVE) – there are many specific varieties that possess the exact size, shape, and color.

LOT NUMBERS – provide the details required to trace the growers in each lot/container and which shift was involved in the processing.

DOOR TO DOOR SERVICE – allows for the least amount of time for the goods to be shipped. This allows buyers to reduce inventory costs.

ISO9000/HACCAP – more processing plants will be seeking certification as a prerequisite to doing business.
SHIPPING BY CONTAINER PROVIDES FOR QUALITY CONTROL

- **DAMAGE CONTROL** – pulse crops, especially lentils are very susceptible to mechanical damage. Bulk loading at source is superior to trans-loading at ports.

- **SOURCE LOADING** – allow the exporter to check the quality of the container for leaks, free from odors.

- **WEIGHT CERTIFICATION** - by the using a truck scale we can certify the loaded weight certifies the goods are going to meet the specifications of the buyer.

- **VALUE ADD** – the long term trend is to continue to add value to pulses. Red Split Lentils, and other milling processes are just the beginning. New forms of packaging will begin to emerge to further enhance quality.
SHIPPING BY CONTAINER PROVIDES SECURITY

- Customers are more secure knowing who and where the goods are shipped from.
- Eliminates bio-terrorism.
- All containers are scanned at port prior to vessel loading.
- Reduces risk of contamination or other risks since the container is sealed at our plant.
Shipping Quality From Canada to the Nations.

Special Crop Processors
Containerized Grain Supply Chains: Economics and Inland Ports

Dr. Barry E. Prentice
Professor,
I. H. Asper School of Business
Transport Institute
University of Manitoba
The Modern Bulk Grain Handling and Transportation System
Advantages and Disadvantages of Bulk Grain Shipping

**Advantages**
- Economies of size
- No packaging costs
- Blending benefits
- Low information costs (fungible commodity)

**Disadvantages**
- Few backhaul opportunities
- Generic quality
- High fixed costs
- Large pipeline inventories
- Handling damage
Factors leading to the Containerization of Grain

• Falling information costs:
  – internet, bar codes, laser readers, computer tracking, etc.

• Falling costs of containerization:
  – double-stacked trains, post-panamax ships, etc.

• Increasing product diversity:
  – GMO crops, organic products, non-KVD milling wheat, etc.

• Growing quality concerns:
  – food security and traceability
The Proposed Containerized Grain Handling and Transportation System

- Container Loading
- Truck to Inland Terminal
- Ag. Container Yard
- Scheduled Intermodal Train
- Rail to Vessel
- Scheduled Sailing
## Advantages and Disadvantages of Containerized Grain Handling

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Every container is a bin</td>
<td>• Sunk costs of incumbent bulk handling system</td>
</tr>
<tr>
<td>• Identity preserved grain &amp; traceability</td>
<td>• Few loading facilities / lack of containers at inland points</td>
</tr>
<tr>
<td>• Backhaul transport opportunities</td>
<td>• Regulatory barriers</td>
</tr>
<tr>
<td>• JIT logistics</td>
<td>• Disinterest of container shipping lines</td>
</tr>
</tbody>
</table>
The *Golden Arrow*, the first transpacific container ship to arrive at Vancouver. Photographed at the Centennial Terminal in 1970.
Regina Maersk – 1996
6,000 TEUs 17 containers wide
Containership Size versus Cost per TEU-Day

<table>
<thead>
<tr>
<th>Vessel Size (TEU's)</th>
<th>Slot Cost (USD$-TEU-Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,300</td>
<td>~ 2004</td>
</tr>
<tr>
<td>4,743</td>
<td>Post Panamax ~1995</td>
</tr>
<tr>
<td>6,600</td>
<td>Panamax Pre-1995</td>
</tr>
<tr>
<td>8,400</td>
<td>Post Panamax ~1995</td>
</tr>
<tr>
<td>10,100</td>
<td>Super Post Panamax ~2004</td>
</tr>
<tr>
<td>11,989</td>
<td>Suez Max</td>
</tr>
<tr>
<td>14,000</td>
<td></td>
</tr>
<tr>
<td>18,000</td>
<td>Malacca Max</td>
</tr>
</tbody>
</table>
Length - 1,302 ft
Width - 207 ft (22 containers)
Net cargo - 123,200 tons
Cruise Speed – 21 to 24 knots
Cargo capacity - 14,500 TEU
Average Container Ship Size and Number Built per Year, 1968 - 2008, with order book to 2013

Source: Jan Svendsen and Jan Tiedemann
Worldwide Container capacity:

Fleet as of July 2007: 10.26 million TEU slots
Expected fleet by 2013: 18.92 million TEU slots

Expected deliveries:

2009 - 29 ships of over 10,000 teu = 338,272 teu
2010 - 53 ships of over 10,000 teu = 666,714 teu
2011 - 71 ships of over 10,000 teu = 886,240 teu
2012 - 47 ships of over 10,000 teu = 602,909 teu
2013 - 4 ships of over 10,000 teu = 52,612 teu

Source: Jan Svendsen and Jan Tiedemann. “The Big Boats are Coming” http://containerinfo.co.ohost.de/
Accumulated Container Capacity, 1968-2008, with Order Book to 2013

Source: Jan Svendsen and Jan Tiedemann
Containerized Cargo Flows along Major Trade Routes, 2005

Europe
- Imports (Million TEUs): 11.7
- Exports (Million TEUs): 8.9
- Million TEUs Growth (2000-2005):
  - USA: 17.2 (-18%)
  - Asia: 9.9 (+120%)
  - Europe: 5.6 (+55%)
  - USA: 3.3 (+14%)
  - Asia: 9.9

USA
- Imports: 13.9 (+148%)
- Exports: 4.3 (+30%)
- Million TEUs: 6.1

Asia
- Imports: 23.8
- Exports: Million TEUs
- Million TEUs Growth (2000-2005):
  - USA: 17.2 (-18%)
  - Asia: 9.9 (+120%)
  - Europe: 5.6 (+55%)
  - USA: 3.3 (+14%)
  - Asia: 9.9

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Maritime Freight Rates
(Real 1994 USD per TEU), 1993-2007

What determines the spread between fronthaul and backhaul rates?
Front haul – Back haul Demand Model for the Trans-Pacific Container Market

Price

$P_{Asia}$

$P_{US}$

Quantity

$Q_{US}$

$Q_{Asia}$

Back haul demand

US-Asia

Front haul demand

Asia-US

Empty Returns
Front haul – Back haul Freight Rates Model

- $Q_{US}$
- $P_{US}$
- $P_{Asia}$
- $D_f$
- $D_{f+b}$ (Total demand)
- $MC_{f+be}$
- $MC_{f+bl}$
- $MC_{bl}$

Empty Returns
Contracting World Economy and Expanding Container Slot Supply

Price

$D_{f+b}$ (Total demand)

Supply

$P_F$

$P'_B$

Empty Returns

Idle Capacity

$Q'_B$

$Q_f$

$D_f$

$MC_{f+be}$

$MC_{f+bl}$

$MC_{bl}$

$MC'_{bl}$
Solutions to Idle Capacity

- Reduce sailing speed
- Accelerate maintenance
- Decommission and lay up vessels
- Scrap older ships
- Search for more back haul cargo
Shipping Line Strategy to Increase Capacity Utilization by Stimulating Back haul Demand

- \( D_{f+b} \) (Total demand)
- \( D_f \)
- \( D_b \)
- \( Q_B = Q_F \)
- \( MC_{f+bl} \)
- \( MC_{f+be} \)
- \( MC_{bl} \)
- \( MC'_{bl} \)
- \( P_F \)
- \( P''_F \)
- \( P_B \)
- \( P''_B \)
- \( MC'_{bl} \)
- \( MC_{bl} \)
- \( MC_{f+be} \)
- \( MC_{f+bl} \)
- Idle Capacity
Impetus for the Containerization of Grain

- **Pull:**
  - Concerns about GMOs, food safety and the resultant demand for tracking and tracing.

### Supply Chain Improvements Desired by Foreign Millers

- Preservation of kernal quality: 34%
- Improved supply frequency: 34%
- Reduced risk of contamination: 51%
- Tighter grain specifications: 47%
- Higher level of grain purity: 53%

*Source: Prentice, Vido & Kosior (2003)*
Impetus for the Containerization of Grain

• Push:
  – Changing economics of Pacific container trade
  – Need for backhaul revenue

Willingness of Foreign Millers to Pay for Improvement

- Preservation of kernal quality: 39%
- Improved supply frequency: 28%
- Reduced risk of contamination: 63%
- Tighter grain specifications: 44%
- Higher level of grain purity: 46%

% of Respondents Among Those Perceiving a Need for Improvement

Beneficiaries of Containerized Grain

- Farmers – higher margins
  - quality premiums (more direct marketing)
  - leaner logistics (handling/storage/finance savings)
- Railways – track capacity gains
- Grain Companies – profits
  - high input sales
  - container stuffing service
  - reduction of terminal expenses
- Government – retirement of hopper cars
- Inland Ports – attract container volume
  - spread the fixed costs
  - earn storage rents
Steps toward the containerization of grain

• Edmonton grain handling container terminal, 2006
• Prince Rupert container terminal, 2007
• Railway overseas freight forwarders
  – CN WorldWide
  – Canadian Pacific Logistics Solutions
• Inland Port Announcements
  – Regina, Winnipeg
Regulatory Barriers to Containerized Grain

- Cabotage restrictions on foreign containers
  - Need to harmonize Canadian and US container cabotage regulations
- Revenue Cap on grain transportation
  - Need to remove containerized grain from the revenue cap calculation
- Export permits, grades and inspection
  - Need to exempt containerized grain from unnecessary examinations
The Future
13th Annual Fields on Wheels Conference

“Light at the End of the Tunnel”

November 19, 2008 - Fort Garry Hotel, Winnipeg

Richard Wansbutter
Vice President Government & Commercial Relations
Forward-Looking Statements

This presentation contains forward looking statements that involve certain risks and uncertainties which could cause actual results to differ materially from future results expressed or implied by such statements. Important factors that could affect these statements include, without limitation, weather conditions; producer's decisions regarding total planted acreage, crop selection, and utilization levels of farm inputs such as fertilizers and pesticides; Canadian grain export levels; changes in government policy and transportation deregulation; world agricultural commodity prices and markets; changes in competitive forces including pricing pressures; and global political and economic conditions, including grain subsidy actions of the United States and European Union. Additional risks and uncertainties can be found in our 2006 annual report to shareholders. Forward-looking statements are given only as at the date of this presentation and the Company disclaims any obligation to update or revise the forward-looking statements, whether as a result of new information, future events or otherwise.

The following non-GAAP measures should not be considered in isolation from or as a substitute for GAAP measures such as (i) net earnings (loss), as an indicator of Viterra’s profitability and operating performance or (ii) cash flow from or used in continuing operations, as a measure of Viterra’s ability to generate cash. EBITDA is used by management to assess the cash generated by continuing operations as it excludes amortization, which is a non-cash item. EBIT is a measure of earnings from continuing operations prior to debt service costs and taxes. Viterra uses cash flow prior to working capital changes as a financial measure for the evaluation of liquidity. Management believes that excluding the seasonal swings of non-cash working capital and the extraordinary nature of discontinued operations assists management’s evaluation of long-term liquidity.
Viterra’s Reach

**Company Profile**

**Vancouver**
- 2 Port Locations
- 2 Grain Elevators
- 2 Retails
- 1 Feed Mill

**Manitoba**
- 16 Grain Elevators
- 1 Special Crop Plant
- 48 Retails
- 2 Feed Mills
- 1 Oat Mill

**Thunder Bay**
- 52% of total port capacity
- 593,000 tonne capacity
- 3 port facilities

**B.C.**
- 2 Port Locations
- 2 Grain Elevators
- 2 Retails
- 1 Feed Mill

**Alta.**
- 21 Grain Elevators
- 6 Special Crop Plants
- 73 Retails
- 34% ownership in a Fertilizer Manufacturer
- 1 Fertilizer Warehousing and Distribution
- 3 Feed Mills
- 1 Oat Mill

**Saskatchewan**
- 58 Grain Elevators
- 50% Ownership in
- 2 Grain Elevators
- 3 Special Crop Plants
- 128 Retails
- 1 R&D Unit
- 1 Oat Mill
- 42% ownership in a Malt Plant
- Supplier to 2 Ethanol Plants

**Prince Rupert**
- 84% ownership
- 210,000 tonne capacity

**United States**
- 52% of total port capacity
- 593,000 tonne capacity
- 3 port facilities

**Japan**
- XCAN far east
- 100% ownership

- 2 port facilities
- 51% of total port capacity
- 482,000 tonne capacity
Terminal Infrastructure

- 16 Terminals in 4 Port Locations
- No major physical alterations
- 2.6 million tonnes of capacity
- Significant changes – ownership
Grain Handling and Transportation Review, December 21, 1998 (Estey Report)

- Ensure Canada has the world’s most efficient, viable and competitive grain handling and transportation system
- Maximize system efficiency, competitiveness and capacity utilization
- Create a responsive and customer-orientated logistics system

> “On May 12, 1999, the Minister of Transport announced that the government had accepted Mr. Justice Estey's recommendation that a more commercially orientated, contract based system be established ... to increase the efficiency and competitiveness of the industry and thereby reduce the costs borne by producers”
Car Cycles
> Car Cycles 1996/2000 19.6 days -- Vancouver
> Car Cycles 2006/2007 18.6 days
> Car Cycles 1996/2000 15.7 days -- Thunder Bay
> Car Cycles 2006/2007 15.6 days

Block size
> 75% of all grain traffic moved in block sizes of 25 cars or less
> Today 75% of all movement in blocks 50 cars or more

HOWEVER – Inconsistent service
A Failure to Deliver on a More Commercially Orientated Contract Based system

- Advance freight products
- Bid cars
- Ability to trade/sell
- Lack of balanced Accountability
- Commercial Dispute Resolution
- Tendering
Moving Forward

> Service Contracts

> Commercial Dispute Resolution

> Tendering
Extending Our Reach
Mr. Garvin Kabernick’s presentation is available by listening to the mp3 audio file at www.umti.ca or on the enclosed cd.
Déjà Vu

One Hundred Days, *Houston Post*, 1933
The Never Ending 20th Century Public Policy Framework for Grain Handling & Transportation

- 1889 the Senkler Commission
- 1890 with Railway Service Commission
- 1906 Grain Trade Review Commission
- 1910 an Elevator Commission
- 1916 the Drayton Acworth Commission
- 1923 Royal Grain Inquiry Commission
- 1921 Duff Commission
- 1936 Stamp Commission
- 1936 Turgeon Commission (1) 1948 & 1951 2nd Commission
- 1959 & 1961 The MacPherson Commission
- 1975-77 the Snively Costing Review and the Hall Commission
- 1988 Economic Council of Canada
- 1995 Western Grain Marketing Panel
- 1997/98 Estey Grain Review
- 1999 Kroeger Review
FUNDAMENTAL PRESSURES

1. World Population Growth
2. Urbanisation and Lost Ag. Lands
3. Trade Geography
4. Trade Liberalisation & Global Value Chains
5. Global Warming and Water Supplies
FUNDAMENTAL PRESSURES

WORLD POPULATION GROWTH

WORLD URBAN & RURAL POPULATION 1950 - 2030


AN URBAN PLANET

About 2B
### Global Urbanisation

#### World Urbanisation 1950-2030

<table>
<thead>
<tr>
<th>Year</th>
<th>% urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>29.1</td>
</tr>
<tr>
<td>1955</td>
<td>30.9</td>
</tr>
<tr>
<td>1960</td>
<td>32.9</td>
</tr>
<tr>
<td>1965</td>
<td>34.7</td>
</tr>
<tr>
<td>1970</td>
<td>36.0</td>
</tr>
<tr>
<td>1975</td>
<td>37.3</td>
</tr>
<tr>
<td>1980</td>
<td>39.2</td>
</tr>
<tr>
<td>1985</td>
<td>41.1</td>
</tr>
<tr>
<td>1990</td>
<td>43.2</td>
</tr>
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<td>1995</td>
<td>45.1</td>
</tr>
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<td>2000</td>
<td>47.1</td>
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<td>2005</td>
<td>49.2</td>
</tr>
<tr>
<td>2010</td>
<td>51.3</td>
</tr>
<tr>
<td>2015</td>
<td>53.6</td>
</tr>
<tr>
<td>2020</td>
<td>55.9</td>
</tr>
<tr>
<td>2025</td>
<td>58.3</td>
</tr>
<tr>
<td>2030</td>
<td>60.8</td>
</tr>
</tbody>
</table>

\[\text{2005} - 30 = 24\%\]

#### North America Urbanisation 1950-2030

<table>
<thead>
<tr>
<th>Year</th>
<th>% urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>63.9</td>
</tr>
<tr>
<td>1955</td>
<td>67.0</td>
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<tr>
<td>1960</td>
<td>69.9</td>
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<tr>
<td>1965</td>
<td>72.0</td>
</tr>
<tr>
<td>1970</td>
<td>73.8</td>
</tr>
<tr>
<td>1975</td>
<td>73.8</td>
</tr>
<tr>
<td>1980</td>
<td>73.9</td>
</tr>
<tr>
<td>1985</td>
<td>74.7</td>
</tr>
<tr>
<td>1990</td>
<td>75.4</td>
</tr>
<tr>
<td>1995</td>
<td>77.3</td>
</tr>
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<td>2000</td>
<td>79.1</td>
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<td>2005</td>
<td>80.8</td>
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<td>2010</td>
<td>82.3</td>
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<td>2015</td>
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<td>2020</td>
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<tr>
<td>2025</td>
<td>85.9</td>
</tr>
<tr>
<td>2030</td>
<td>86.9</td>
</tr>
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\[\text{2005} - 30 = 8\%\]
Historic and Future Simulated Growth of Calgary
(based on an annual area growth rate of 4.5%)

<table>
<thead>
<tr>
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<tr>
<td>Projected</td>
<td>2010</td>
<td>2020</td>
<td>2030</td>
<td>2040</td>
<td>2050</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Credit: Brad Stelfox
Urban Development Removes Some of Canada’s Best Farm Lands

1. Loss of Farmland, Farmers and thus Farm Production
2. Effects on Watersheds, Aquifers
3. Micro Climates
4. Changed Food Demands

Land Capability and Limitation for Agriculture (CLI)
- Dependable Agriculture Lands (CLI Class 1, 2 and 3)
- Marginal Agriculture Lands (CLI Class 4 and 5)
- Urban Areas
LIGHTS SHOWING CONCRETE PLATFORMS AND GLOBAL WARMING
MAPPING URBANISATION FROM SPACE FROM NIGHT TIME CITY LIGHTS & HIGHWAYS

Percent Occurrence

≥ 89%

Interstate/State Primary Highways
FUNDAMENTAL PRESSURES

THE NEW GEOGRAPHY

AN ASIA (CHINA-INDIA) CENTRIC GLOBE
# Role of China & Other Emerging Markets to the Consumption of Selected Agricultural Commodities

(consumption expressed as real annual % change and % contributions to growth)

<table>
<thead>
<tr>
<th>Agricultural commodity</th>
<th>World consumption growth</th>
<th>1993–2001 Contribution to growth</th>
<th>2001–05(^1) Contribution to growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>China of Other major emerging markets(^2)</td>
<td>China of Other major emerging markets(^2)</td>
</tr>
<tr>
<td>Bananas</td>
<td>2.6</td>
<td>26</td>
<td>45</td>
</tr>
<tr>
<td>Beef</td>
<td>0.9</td>
<td>102</td>
<td>17</td>
</tr>
<tr>
<td>Corn</td>
<td>2.6</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>Cotton</td>
<td>1.1</td>
<td>52</td>
<td>54</td>
</tr>
<tr>
<td>Sugar</td>
<td>1.6</td>
<td>5</td>
<td>45</td>
</tr>
</tbody>
</table>

\(^1\) Data for 2001–2005 is provided for comparison.

\(^2\) Other major emerging markets include Brazil, India, and Vietnam.
FUNDAMENTAL PRESSURES

Value Chains & Elements of Logistics
Move From Local to National to Global

STAGE
- PARTS & RAW MATERIALS
- MANUFACTURING & ASSEMBLY
- LOCAL DISTRIBUTION

NETWORK

FLOWS
- BULK SHIPPING
- UNIT SHIPPING
- LTT SHIPPING

TRANSPORT AND LOGISTICS CHAINS

CONTAINERS
- CONTAINERS
- CONTAINERS
- CONTAINERS
FUNDAMENTAL PRESSURES
GLOBAL WARMING
<table>
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<th>FUNDAMENTAL PRESSURES - GLOBAL WARMING</th>
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<td>Prairie Climate Outlook</td>
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<td>Glaciers Melting</td>
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<tr>
<td>EXTREME WEATHER</td>
<td>MORE &amp; WORSE</td>
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The Prairies are Dry

1858 Palliser Declares the Prairie as a Dry Land

It was and is.

Periodic Drought Getting Warmer
Longer Droughts

Wildcat Hills Tree-Ring Chronology, 1411-2004

Departures from mean residual ring width
Global Warming
The Prairie Adaptation Response

Probably **Irrigation** that implies increased feed & changing transport demands
Moves from Bulk to Value Added
Changed Modal Requirements
Global warming will make drought an increasingly serious threat, Beijing warns

• China will have exploited all available water supplies to the limit by 2030, the government has warned, ordering officials to prepare for worse to come as global warming and economic expansion drain lakes and rivers.

• As well, a state newspaper warned on Friday that drought next year could hit crops and stoke already heady inflation.
Global Warming
The Policy Response

- Cap and Trade
- Carbon Pricing
- Agricultural Sinks
- Carbon Capture
- Conservation
- Low Carbon Transport
DIRECTIONS IN PRAIRIE AGRICULTURE

1. The replacement of lost agricultural production
2. The restructuring of continental and global markets for agricultural supply and demand
3. New industrial and energy uses for agricultural crops
4. The formation of agricultural value chains
New Platforms for Prairie Transportation

- Companies
  - Continental Railways
  - Competitive Private Grain Companies
  - Canadian Wheat Board

- Infrastructure – Road, Rail, Inland Ports

- Asia Pacific Gateway & Corridor Initiatives
  - $2006/7 - $2.4B
Prairie Continental & Global Movement Corridors

Increasingly Integrated into Global Value Chains in:

- Energy
- Manufacturing
- Food?
The Prairies are Well Set to Accommodate

• Increased Movements
  - Internal Value Added Products in Prairies
  - Bulk to Export Markets

• Continental Movements

But Can the Policy Frameworks Accommodate the new Movements?
The Challenge for Prairie Transportation Policy

• Transportation will Change!
  – Products
  – Markets
  – Energy Requirements - Carbon Consumption
  – Technologies – Bulk/Container
  – Information Requirements – Quality, Health, Safety
The Challenge for Prairie Transportation Policy

• Can Policy
  - Provide the Flexibility to Adapt to the New Market Realities?
  - Increase Border Efficiency?
  - Accommodate Continental Movement?
  - Manage the Information?
  - Invest to Reduce congestion through cities?
  - Utilise Empty Backhauls?
Yangshan – Shanghai’s Container Port
Speaker Bios  
13th Annual Fields on Wheels Conference

Dr. Barry E. Prentice  
Professor, Dept. of Supply Chain Management  
I.H. Asper School of Business  
University of Manitoba

**Barry E. Prentice** was the Director of the Transport Institute from 1996 to 2005 and is currently a Professor in the Department of Supply Chain Management in the I.H. Asper School of Business. His major research and teaching interests are logistics, transportation economics, urban transportation, economic development and trade policy.

Dr. Prentice has authored or co-authored more than 150 research reports, journal articles and contributions to books. His scholarly work has been recognized for excellence in national paper competitions and awards. In 1999, National Transportation Week named him Manitoba Transportation Person of the Year.

Hon. Reg Alcock  
Associate Dean  
I.H. Asper School of Business  
University of Manitoba

**Reg Alcock** has been a manager since his late teens. A businessman who entered politics later in life to pursue a passion for reforming public management, Alcock is a Professor and Associate Dean (External) of the I. H. Asper School of Business, University of Manitoba. He is also a Research Affiliate of the Leadership in a Networked World program located at the John F. Kennedy School of Government, Harvard University.

It was this passion for reforming the management of large systems that led former Prime Minister Paul Martin to appoint Reg Alcock to the position of President of the Treasury Board of Canada, in December of 2003.

His responsibilities were expanded in March of 2004, when he was asked to restructure the governance of Canada’s Crown Corporations and the Responsibilities and Accountabilities of Ministers. In September of 2004 responsibility for the Human Resources Management Agency and the Canada School for the Public Service were added to his portfolio and he was also asked to lead a government wide regulatory reform process.
First elected to the House of Commons of Canada in 1993, Reg Alcock quickly became known for his interest in understanding the way that the new information and communication technologies enabled organizational change. In his rookie term he was elected Chair of the Standing Committee on Transport where he managed the legislation Privatizing Canada’s Ports and the St. Lawrence Seaway. He also undertook a major study of the renewal of the National Highway System, with a focus on public-private partnerships.

As a Member of Parliament Alcock became active in supporting Canadian firms who were doing business in China. Following a visit by then Chinese President Jiang Zemin, Alcock was asked by Prime Minister Chretien to work with the Chair of the Standing Committee of the People’s Congress of China, to establish the first Parliamentary relationship between China and Canada. He served as the founding chair of this association and continues to be actively involved in Canada-China issues. In 2005, he was presented with the Golden Dragon award by the Chinese community in Canada in recognition of his longstanding support.

Alcock also served as Chair of the Standing Committee on Human Resources where he managed changes in Labour legislation as well as a renewal of Student Financial Aid. During this term he was also appointed as Parliamentary Secretary to the Minister of Inter-governmental Affairs and served as Parliamentary lead on Bill C-20 the Clarity Act. He also organized a series of studies on the need to modernize the management of the government of Canada. This work led to the holding of the first “Crossing Boundaries” national conference which he Co-Chaired.

In his third term, to provide a legislative focus for the modernization of public management Alcock led the establishment of a new standing committee in the House of Commons, the Standing Committee on Government Operations. He served as the chair of this committee until his appointment as President of the Treasury Board.

Prior to his time in government. Alcock was President and CEO of a small computer consulting agency and owner/operator of a hotel in Winnipeg.

Mr. Alcock has a Masters Degree in Public Administration from Harvard University and an undergraduate degree from Simon Fraser University. He is married and has three children.
**Mr. Mark Hemmes**  
**President**  
**Quorum Corporation**

Mark Hemmes is one of the founding partners of the Quorum Group of Companies and is President of Quorum Corporation. A career transportation professional, he manages the activities related to the Federal Governments Grain Monitoring Program. In addition to his extensive knowledge of the Canadian grain handling and transportation system, Mark has developed a broad knowledge and experience relative to the market and operational issues in the rail and intermodal system in Canada.

Prior to establishing the Quorum Group of Companies Mark spent 23 years with CN Rail where he held a variety of senior positions in the fields of marketing, intermodal, and operations including the General Manager of Marketing for Western Canada and Assistant Superintendent of Operations. Mark attended school in Edmonton at the University of Alberta and has also completed course work at the University of Western Ontario in the area of Marketing. He has also held various board and executive positions with industry associations and currently sits on the Board of Directors of the Northern Alberta Transportation Club and the Canadian Transportation Research Forum.

**Mr. Keith Bruch**  
**Vice President, Operations**  
**Paterson GlobalFoods Inc.**

Keith Bruch has been Vice President of Operations at Paterson GlobalFoods Inc. ("Paterson") since 2003. He completed his Bachelor of Business Administration from the University of Regina and his Masters of Business Administration in 1983 from the University of Saskatchewan.

From 1984 to 1995 Mr. Bruch was employed by Saskatchewan Wheat Pool in a variety of roles including Manager of Transport and Director of Marketing and Transportation. He was responsible for all marketing activities of the company and transportation of 10 million tonnes of grain annually.

Mr. Bruch joined Paterson in 1995 as Director of Marketing where he was responsible for international and domestic trading of all grains as well as transportation. In his current position, he is responsible for grain operations and domestic and international marketing including operations of 45 facilities through PG, as well as transportation activities. He is responsible for NutraSun Foods, (Paterson flour milling operation), GIOSI (Paterson's organic trading company), and FeedMax, (major manufacturer of livestock...
Mr. Murray Hamilton
Director, Grain
Canadian Pacific Railway Co.

Murray Hamilton is currently Director of Canadian Grain in Canadian Pacific’s Bulk line of business. He is located in Winnipeg. Murray has been in his current capacity for three years and is responsible for Canadian Pacific’s marketing and sales efforts for Canadian grain originations.

He has 22 years of experience with the railway. His career with CP started in 1986 when he joined the Intermodal Marketing and Sales team in Edmonton. He has held leadership roles in all three of CP lines of business; Intermodal, Merchandise and Bulk as well as in the CP’s Intermodal Customer Service team.

Murray is currently a member of the Manitoba International Gateway Council and a graduate of the University of Alberta.

Mr. John Doran
Policy Advisor, Surface
Transport Canada

John Doran is a policy advisor in the Surface Policy Branch at Transport Canada in Ottawa. He has charge of the grain transportation files in Rail Policy. These files encompass the revenue cap, the Grain Monitor Program, the government fleet of hopper cars, the discontinuance of rail lines, particularly in western Canada. He is also a member of the team working on the Review of Freight Rail Service. John was born in Sydney, Australia. He was educated at the University of New England in Armidale, New South Wales, and the University of Ottawa.
Mr. Robert McLean  
Vice President  
Keystone Agricultural Producers  

Robert McLean, his wife Marina, and their son Don farm near Manitou, with a diversified mix of crops and livestock. In addition to a cow-calf and hog finishing operation, the McLeans also manage 1,800 acres in grains and oilseeds. He was re-elected to his third one-year term as Vice President at its 2008 annual meeting.

Robert has previously served as co-chair of KAP's livestock committee. He currently chairs the finance committee and the transportation committee. Robert has also represented his community as a municipal councilor and reeve, and has an ongoing interest in infrastructure issues. He also works through KAP to promote foods grown and made in Manitoba.

Robert and Marina have two children, Don and Lisa.

Mr. Wayne Atamanchuk  
Assistant Vice President, Marketing, Bulk Commodities  
CN  

Wayne Atamanchuk was appointed Assistant Vice-President Marketing, for Bulk Commodities in July 2004. In this role he is responsible for developing CN’s marketing initiatives and commercial strategy for grain, fertilizers and coal in the North American market.

Wayne has been with CN for 27 years and has worked in its Engineering, Strategic Planning and Marketing departments.

During his career at CN, he has spent 18 years within Marketing: in Intermodal, Grain & Fertilizers and Bulk Commodities.

Wayne has a Bachelor of Science degree in Engineering from the University of Manitoba and a Masters of Business Administration from McGill University.
Mr. Brian Hayward  
President  
Aldare Resources

Brian Hayward is President of Aldare Resources, a business consultancy, which he formed in 2007, that provides strategic advisory and governance services. From 1991 until 2007, he was CEO of Agricore United - the largest agribusiness in Western Canada with over $4 billion in domestic and international sales.

Mr. Hayward is actively involved on several public, private company and crown corporation boards and has provided leadership to many not-for-profit organizations such as the Royal Winnipeg Ballet, the Conference Board of Canada, and The Arthritis Society. Mr. Hayward holds a Master of Science degree in Agriculture Economics from McGill University, and is a graduate of The Director's College of McMaster University's Degroote School of Business.

Ms. Ruth Sol  
President  
WESTAC

Ruth Sol is President of the Western Transportation Advisory Council (WESTAC). She joined the Council in 1983 as Research Economist and held increasingly senior positions. Previously she held positions in market research and statistical analysis at HA Simons International, a consulting engineering firm in the pulp and paper industry, and MacMillan Bloedel Limited, an integrated forest products firm.

Ruth earned a BA (economics) and an Executive MBA from Simon Fraser University. She is a member of the Association of Professional Economists of B.C.

WESTAC is a member-based organization of senior decision makers in all facets of transportation – business, labour and government, across modes. Under Ruth’s leadership, this powerful forum brings together industry leaders to debate, discuss and better understand issues affecting some aspect of transportation. The Council contributes to the excellence of the western Canadian transportation system by ensuring that the industry's voice is heard and that the importance of transportation to our economic and social well-being is widely understood and appreciated.
Mr. Gordon Miles  
Chief Operating Officer  
Canadian Grain Commission

Gordon Miles brings to the CGC thirty years of grain experience gained through both the public and private sectors.

From 1978 to 1982 Mr. Miles worked with Cargill Limited in various capacities. He then joined the Grain Transportation Agency and progressed through various positions before becoming Deputy Administrator in 1988. In 1993 he moved to Manitoba Pool Elevators as the General Manager, Services and Development, and served in that capacity until becoming Director, Merger Integration for Agricore in November 1998.

In April 1999 Mr. Miles became the Executive Vice-President, Corporate Affairs at the Canadian Wheat Board, where he was responsible for corporate communications, corporate policy and information technology. In January, 2001 Gordon Miles became Chief Operating Officer of the Canadian Grain Commission. In this capacity, he oversees CGC operations and heads the Executive Management Committee which consists of the Human Resources Director, the Chief Financial Officer, and the Directors of Corporate Services, Grain Research Laboratory, and Industry Services.

Gordon Miles sits on the Board of Directors of the Canadian International Grains Institute (CIGI) and is a former chair of the Canadian Foods Grains Bank. He also served for nine years as a director with the Riverview Health Center Foundation Board including four years as chair for the “Cycle on Life” fund-raising event. Mr. Miles is a graduate of Dartmouth College in Hanover, New Hampshire and holds a CMA designation. He has lived in Winnipeg for many years and is married with two children.

Mr. Greg Simpson  
President  
Simpson Seeds

Greg Simpson was born and raised on a nine-quarter mixed farm in the Moose Jaw area. He studied Agriculture at the University of Saskatchewan. While attending university, Greg grew the first pea crop ever produced in the Moose Jaw area in 1975.

Greg worked as an inspector for Agriculture and Agri-Food Canada which introduced him to what benefits might arise by being involved in the pedigreed seed industry; this in turn led to the beginning of Simpson Seeds Inc.
Simpson Seeds Inc. was established in 1979, along with his father and two brothers.

Greg’s vision was to be a leader in the Pulse industry, concentrating on pedigreed seed and the processing of special crops. The first eight to ten years Simpson Seeds Inc. remained a toll processor, cleaning and processing for grain companies or farmers. In the late 1980’s the three brothers decided to get into the wholesale/retail business, buying, processing and then exporting for themselves.

Today Simpson Seeds Inc. has two processing facilities in Moose Jaw, Sk. exporting to over 60 countries across the world, with Lentils being the most viable and sought after pulse crop.

Mr. Richard Wansbutter
Commercial Relations, Grain Group
Viterra

Richard Wansbutter is responsible to the Chief Operating Officer for representing and advancing Viterra’s commercial interests within the business community as well as being responsible for government relations.

Mr. Wansbutter has extensive experience in the grain marketing and transportation industry. In 1973, he became a Policy Analyst with the Province of Manitoba. He later joined the Grain Transportation Agency of the federal government, holding several positions before becoming Executive Director of Operations.

In 1992, he joined CN Rail as System Market Manager Grain, where he was involved in strategic planning related to the method of payment changes.

He joined Saskatchewan Wheat Pool and its affiliates in 1992 as Vice-President Marketing, AgPro Grain Ltd. In 1994, he was appointed to the position of Vice-President of Marketing and Transportation - Saskatchewan Wheat Pool. Mr. Wansbutter assumed the role of Vice President Commercial Relations in October of 2001. His role was expanded in October, 2002 to include responsibility for government relations. On June 21, 2007 Mr. Wansbutter was appointed to his current position with Viterra.

Mr. Wansbutter has an Economics degree from the University of Manitoba and is also a graduate of the Canadian Institute of Traffic and Transportation.
Mr. Garvin Kabernick
Grain Producer

Mr. Garvin Kabernick was raised on a family farm at Sanford, Manitoba and has been a grain producer from 1964 to the present on that farm.

Garvin completed a BSA in 1965 at the U of M and in addition to farming worked as a sessional lecturer at the University of Manitoba from 1965 to 1976. He completed his MSA at the University of Alberta in 1976.

Currently the farming operation consists of 3000 acres producing canola, flax, wheat, and oats. Garvin is presently phasing out of grain production with son Kelly and daughter-in-law Christine taking over.

Mr. Graham Parsons
President
Organisation for Western Economic Cooperation

Graham Parsons is a Ph.D. economist trained in England at University College London and the London School of Economics of the University of London, U.K. Graham came to Canada in 1967 and has taught various aspects of development economics at the Universities of Manitoba, Saskatchewan and Regina. He has worked for the Governments of Canada, Ontario and Saskatchewan and for the Canada West Foundation and the first Chief Economist for Western Canada. He is currently President of the Organisation for Western Economic Cooperation.

Graham has been involved in many aspects of transport, agricultural and regional economic development in Prairie Canada and over the years completed work on inland grain terminals, branch line abandonment, reform of the grain handling and transportation system, national agricultural and water policies and transport infrastructure renewal. Most recently he completed major assignments on Asia Pacific Gateway and Corridor initiatives for the Government of Canada, the benefits of irrigation development for Saskatchewan farmers and climate change options for the Government of Saskatchewan. Graham is widely published on matters of western economic cooperation, the economic future of Western Canada and Saskatchewan and the environmental aspects of mining development. His most recent book on the future of Saskatchewan called “Saskatchewan Rising” is available at Robinson McNally bookstores.

Graham lives in Regina, is married to Penny and has three children and a grandson. He can be contacted by phone at 01-306-359-6932 or by email at: owecgfp@accesscomm.ca
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13th Annual
Fields on Wheels
Conference

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**Viterra welcomes all delegates to the 13th Annual Fields on Wheels conference.**