

The Role of the Canadian Wheat Board in the Supply Chain

The CWB Logistics Group is accountable for planning and coordinating the shipment of over 190,000 railcars annually (the equivalent of around 17 million tonnes of grain), as well as the loading of dozens of domestic milling wheat and durum vessels for shipment to eastern mills, 140 lakers, and hundreds of export vessels.

The CWB has three main supply chain strategic objectives, namely:

- 1) shipping a safe, consistent, high quality product to customers
- 2) creating value for farmers by reducing supply chain costs and encouraging competition in the supply chain
- 3) delivering high quality service to farmers

In order to better appreciate the level of planning and coordination required to execute the CWB's grain export program, it is important to consider the unique attributes of the Canadian grain handling and transportation system.

Supply chain constraints

Grain from western Canada travels an average of 1,300 km from origin to export position. Compare that to Australia or Argentina, where grain travels less than 300 km on average to export position, and you can see that the time required to move grain to export position is considerably greater in the Western Canadian supply chain, requiring more planning rigour. Moreover, grain grown in Western Canada is captive to rail for efficient movement to major domestic mills and for export.

The storage capacity of our grain handling system is also limited relative to our competitors. Grain exports from Canada's west coast ports average 20 million tonnes annually, yet the working capacity of the six grain terminals on the West Coast is less than one million tonnes, requiring a just in time approach to planning and execution of grain shipments.



The CWB's role in the supply chain

The CWB has a key role in providing fair access to the grain handling system through delivery calls, which call grain forward basis sales commitments one to two months out, as well as elevator space, railway service, and terminal inventory levels. For non-CWB grain, delivery access is rationed through price, ie, fluctuating basis, reflecting the elevator's need for the product that the farmers want to deliver, as well as other supply/demand factors.

The CWB's **Supply Optimization** group assesses the quantity and quality of grain available for marketing, and combines this information with supply chain capacity and sales information to develop the export sales program. Before a sale is made, the CWB's **Marketing** group coordinates with Supply Optimization to ensure product and capacity availability.

Once a sale is made, our **Marine Logistics** assess when to order grain for the sale and communicates its demand plan to CWB **Rail Logistics**. The key objective of Rail Logistics is to get the right grain into place at the right time to meet the requirements of the CWB's sales program. A key component of this role is allocation of railcars through *producer car* allocation, *general* allocation, and *tendering*. The CWB's role in allocation is to allocate railcars to wherever a farmer wants to deliver grain, whether a primary elevator or producer car loading site.

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Once car supply is secured from the railways, railcar orders are distributed to grain companies based on the industry-agreed Car Awards Policy. Car allocation is done on a zone basis, with the share of each grain company's allocation within a zone driven by the past eighteen weeks of cash tickets plus the projected balance of inventory to come, which is determined by a producer's delivery point. Where possible, the CWB and grain companies work to achieve efficiencies by combining CWB and non-CWB grain shipments into unit trains.

The CWB's export shipments often need to meet quality specifications outside the Canadian Grain Commission's grade specifications, such as grain mycotoxin levels (e.g. deoxynivalenol {DON} and ochratoxin) and falling number levels. For these shipments, the CWB's **Quality Control and Inventory** group utilizes third party inspectors at the point of railcar loading to grade the train and collect samples for quality testing. Binning advice is communicated to grain terminals in advance of the arrival of railcars so that terminals can segregate product accordingly. Almost all of the CWB's testing is done by the CWB's Saskatoon lab, which was recently opened to meet the demands of the CWB's grain quality monitoring program.

The CWB and Producer Cars

The use of producer cars fell to as little as 3,000 cars by the late 1990s as a result of the abandonment of rail lines and consolidation of the primary elevator system. Since then, the volume of producer car loadings has recovered, spurred by producers' desire for cost-savings (\$800 to \$1,200 per car) and a growing number of short line railways. Much of the growth in producer car use is also due to cooperation between the CWB and producer car networks.

Producer cars create more grain handling competition, which can result in increased trucking incentives and lower grain handling charges. The CWB helps administer producer cars by securing car supply and gaining terminal authorization at port. Very few non-CWB grain producer cars are loaded, as producer car loading represents lost primary elevator grain handling revenue.

The CWB and Churchill

The CWB is by far the major user of the Port of Churchill, with CWB grain shipments representing 100 per cent of export movement from Churchill in three of the past four years. The cost of shipping grain to St. Lawrence River ports far exceeds the higher cost of ocean freight when shipping grain from Churchill. This gap was historically narrower when the Canadian dollar was weak versus the U.S. dollar (considering almost all CWB export sales are valued in U.S. dollars), but as the Canadian dollar has strengthened, the relative cost to the pool of shipping grain via the Great Lakes versus shipping grain through Churchill has increased.

The CWB maximizes shipping through Churchill because it earns farmers considerably more money versus shipping grain through the St. Lawrence River ports. When grain is directed by the CWB to Churchill, grain companies earn four to eight dollars per tonne less in railway multi-car incentives versus shipping grain to Thunder Bay, Vancouver or direct to the St. Lawrence River ports. Grain companies also do not earn terminal handling revenue (at least ten dollars per tonne) when grain is shipped through Churchill compared to shipping grain through their own assets, including the cost of unloading/loading grain, cleaning, and other terminal costs.

CWB strategic asset ownership

The CWB owns approximately 3,400 covered hopper cars, of which a portion of the fleet was purchased in the late 1970's and early 1980's at a time when railways were not investing in rail infrastructure. Besides the lease revenue that the hopper cars generate, additional rolling stock results in greater access to rail capacity.

The CWB also recently purchased two lakers for shipping grain from Thunder Bay to St. Lawrence River ports. Rather than spending tens of millions of dollars annually to ship grain to the St. Lawrence without a return on investment, farmers will be paying themselves to ship grain, as well as earning backhaul revenue through the shipment of iron ore from the St. Lawrence River to steel plants in the Great Lakes. At the time of purchase, the value added by these lakers to the pools was projected at \$10 million dollars annually.

Other aspects of the CWB's role in the supply chain

Through its ability to work with the entire crop, the CWB is able to create value and minimize transportation costs. A good example of this is the ability to address regional quality issues through blending. For example, the CWB can maximize blending opportunities through the entire crop year for fusarium-damaged product in order to increase its value, compared to the U.S. system where quality-damaged product is heavily discounted and grain companies earn most of the blending revenue. In a more fragmented supply chain, the ability to maximize the overall value of the crop is reduced as there are more players with individual pieces of the overall crop puzzle.

The CWB also reduces farmers' supply chain costs by negotiating and securing terminal handling agreements. The CWB directs grain shipped from country elevators to the terminals of its own choosing, with the value proposition offered by the individual terminal elevator (quality of service and value for farmers' money) driving the decision to direct grain to certain facilities rather than directing individual grain companies' grain to their own terminal assets.

In negotiating transportation costs such as lake freight from Thunder Bay to the St. Lawrence, or direct rail shipping from the Prairies to the St. Lawrence River, the CWB leverages the large quantity of grain that it ships to achieve lower freight rates. The CWB's use of the Burlington Northern Santa Fe railroad to ship grain from points in the eastern Prairies to continental destinations has also encouraged competition amongst railways.

The CWB's preference is to negotiate commercial arrangements with service providers. However, in the absence of true rail competition, the CWB is a strong advocate for balanced rail regulation to deliver competitive rates and services, as well as a new costing review that reflects railways' current costs in the base rate for the revenue cap. While these costs are passed along to the farmer from the grain company, the CWB works to return as much money back to the farmer through maximizing sales revenue and lowering handling and movement costs. This means achieving the lowest average freight cost to move the crop by leveraging knowledge of the sales plan for the entire crop.

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