



STRATHMORE TO SHANDONG, NEW DAYTON TO NEW DELHI: A COVID-19 SUPPLY CHAIN STORY



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The arrival of the promising 2020 after such an abysmal 2019 coincided with the spread and the now global COVID-19 pandemic. Many governments around the world imposed national lockdowns, declaring certain agriculture, food and transportation sectors as essential services. Many questions remain regarding food security, resilience of supply chains and ability of essential workers to continue the smooth and orderly movement of food products around the world. This is the story of two of Alberta's most important pulse supply chains, yellow pea and red lentil.

Alberta pulse farmers grew over 1.6 million acres of peas in 2019, with the vast majority being yellow peas. Alberta also had around 168,000 acres of lentils down from a high of 465,000 in 2016. The vast majority

of red lentils grown in Alberta have historically been exported to India. More recently, China has displaced India as the largest buyer of yellow peas. Market access disruptions, including fumigation and phytosanitary requirements as well as tariffs have limited the volumes of pulses exported to India since late 2017. Almost 90% of all pulses grown in Alberta are ultimately destined for an export market. What are the vulnerabilities along the supply chain? What hiccups along the way could disrupt the price you receive for a yellow pea at Strathmore, or a red lentil grown near New Dayton?

Farm Gate to Port: What Could Go Wrong?

The weak links in the domestic supply chain are tested every year. Railways have a long history of not meeting carload demand, seasonal weather disruptions and intermittent derailments, not to mention recent vigilante protests and labour disputes with the unions. Railways but also, longshoremen, CFIA or CGC inspectors, transloading facilities and every other touchpoint are operating in a new physical distancing reality. There is more to pulse and grain supply chain resiliency than air brakes on trains and tarps to load in the rain. What about beyond the Port of Vancouver?

The International Grain Trade, Documentation Flow and Vessel Discharge?

While the consumption patterns of panicked consumers shift, the staple calories of the world and the bulk

shipping of goods including coal, ore, wheat, rice, soybeans, oilseeds, feed grains and pulses continue. The EU and North America have both recently had individual countries deem certain goods essential and limit exports. Although operating continuity plans for the shipping companies, the banks and the port authorities continue, should one country, party or bank transfer be interrupted, the result can be issues with vessel discharge. For certain markets, Canadian regulatory agencies like the CFIA have been required to accelerate the adaptation of electronic transfer of certificates necessary to the export of food while the minutia of banking in the international grain trade adjusts to a no-FedEx world and moves online to ensure transactions continue. Not the most insurmountable issues to overcome, none-the-less, in a bulk shipping world with greatly reduced demand, they still represent challenges in this world of international commerce often passed off with yawns, and a reference to Inco-terms and the Baltic Dry Index.

Strathmore to Shandong – Vermicelli and Pea Protein

Once discharged at a Chinese port, in 2019, two million tonnes of Canadian yellow peas made their way to processing, the majority to the Shandong province of China. While mung bean is the traditional starch source for producing vermicelli noodles, yellow pea has emerged as a cost-effective and functional alternative. There exist only a few large-scale pea processors that are fractionating yellow pea starch for noodle



production and re-exporting an estimated 90% of the pea protein to North America and the EU for plant-based products such as meat or dairy analogues. While pea protein use is a relatively new concept in China, companies like Omnipork and Zhenmeat look to use pulse-based proteins to create and market simulated meat products to the Chinese population. The 2020 Chinese demand for yellow peas remains to be seen. With some Asian countries now seeing second waves of COVID-19, it is questionable how many weak links within China's port to noodle bowl supply chain may still remain, not to mention Beyond Meat burgers on our local grocery store shelves.

New Dayton to New Delhi – Red Lentil – Ship & Split to Dish

While the surprise Modi lockdown in India initiated the largest mass migration in history, the recall of domestic workers after the first wave of COVID-19 has yet to manifest itself completely. Port officials reportedly not coming to work, quarantines for sailing times, longer timer periods to offload vessels are a current reality. In many cases, Panamax

vessels are offloaded with grabs into trucks that move product to large warehouses, manually loaded from the warehouse floor to bag, to mill again to bag. Afterwards, bagged pulses still face a myriad of obstacles to move to areas of India where pulses are in deficit. All of these steps require new COVID-19 realities and require people to show up to work, healthy. It is yet to be seen how Government of India reserves of 2 million tonnes of pulses can sufficiently fulfill the 1kg of pulses per eligible family per month that has been promised under India's recent stimulus

package. How efficient government procurement of pulse crops like chickpeas and lentils will be during the rabi (winter crop) season are yet to be seen. While a red lentil grown in New Dayton, Alberta moving to a market in New Delhi India was somewhat complicated in the past, the story of this supply chain in the new COVID-19 world order remains to be seen.

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CHINA

- Canada's total pea exports in 2019 were 2,052,360 MT.
- About 70% of peas destined for China food sector are used for vermicelli processing and protein extraction.
- Vermicelli is made in Shandong Province.
- 90% protein isolates re-exported to North America and European Union.

INDIA

- Canada's total red lentil exports in 2019 were 623,689 MT (all lentil classes).
- Market tariffs in place for chickpea 66%, lentil 33%, yellow pea 50%.
- Continued phytosanitary and other ongoing issues.