

Agriculture and Food in, and Beyond, COVID-19: Shoring-up and Strengthening a Canadian Essential Service



Paper prepared for CAPI

by

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March 2020



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Canada 

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COVID-19 as a “black swan” disruptor

Few, if any, saw it coming. Fewer yet could have foreseen the world-wide impact of the international emergency presented by the spread of COVID-19. At the time of writing (March 25, 2020) more than a half a million humans have been diagnosed with the disease and over 20,000 have died from it. Around the globe, events large and small have been postponed, community meetings of all sizes cancelled, and millions have started to work from home in some form. Politicians of all stripes in all countries are scrambling to develop and implement action plans for containing the virus and the economic fallout stemming from it.

“Black swan” events are those, according to author Nassim Taleb, that are “large scale, unpredictable, and random events that have significant consequences and usually transformational impacts.”¹ Most would attest that the outbreak of COVID-19 certainly fits this description. A few students of history and deep thinkers would argue that an event like COVID-19 was foreseeable although the economic consequences of it might be vaster than even these people could have predicted. A number of animal and health experts, as well as the WHO, the OIE and the CDC have warned about a major zoonotic pandemic, particularly after the scares of SARS and the H1N1 pandemics. National governments in the US and Canada developed some aspects of pandemic response protocols during these past couple of decades. So, the “black swan” of COVID-19 as per Nassim Taleb’s description, might not be totally apt to describe the present event. As such, there is a real place for think-tanks such as CAPI and others to make these “black swans” more visible and a bigger priority for discussion of how we should be developing globally sustainable and resilient agriculture. What world-citizens are coping with now are the significant consequences of COVID-19. We have yet to figure out is what transformational impacts our efforts to combat the disease will have and what the world will look like after its march has been halted.

One of the stunningly significant impacts of the COVID-19 illness moving across the globe has been an acute awareness of our food security on a local, national and international basis. In Canada and the US, fear of shortages and lockdowns have triggered some panic buying in grocery stores. In most areas, sit-down restaurants and foodservice facilities have been ordered shuttered, unless they are able to do food take-out and home delivery. Access to food has been largely focused on in store purchases for preparation at home, resulting in some stockouts and empty shelves. At the same time, government and industry messaging has focused on the reliability and robustness of the food supply chain.²

There is surely a need to reassure the public of our food security. Nothing fundamental has changed with regard to productive capacity in the agri-food system- no livestock or plant disease, or natural disasters (flood, drought, pests, destruction of property) have occurred that reduce food

¹ Nassim Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007).

² See for example Jennifer Shike, “No need to stockpile food in the US,” *Ag Web* March 19, 2020. Accessed at: https://www.agweb.com/article/no-need-stockpile-food-us?mkt_tok=eyJpIjoiTVRaaFIURTROell6TnpJeCIsInQiOiJMelBVXC95VzlcL1Y2RGpLY0FhVFhUVU1seFdTTlBCc08wSTFyNDdHWHA0YXJsQWxXcmcwUUJkNitBSkFsemMyOTFyTlVXQ3BldGkzSm50MFwvSnNzSnF3eG1sT3pRejc2OTlNbFloZEJuMmIydzJjdXZHRlo4TGUrRGYwbkxiZGpvTyJ9.

output. Movement of agri-food product from farms through to consumers has been resilient to any number of past extremes.

Rather, as a human pandemic crisis, COVID-19 presents a different situation to the agri-food system with its own risks and vulnerabilities, many previously unencountered. Agri-food operates with some relatively long supply chains with numerous intermediaries, in some cases containing significant lags in time and with few redundancies. This structure has been shaped by competitiveness and efficiency criteria but can create points of vulnerability in a crisis such as COVID-19. Past experience of the robustness and the integrity of our system should not blind us from the real risks we now face.

Agriculture and food systems during the COVID-19 pandemic

The COVID-19 crisis poses a specific set of risks for Canada. Identifying these risks is step one, but step two is developing an improved focus and a debate on needs in policy and emergency planning. We at the Canadian Agri-Food Policy Institute (CAPI) want to set out, in a preliminary fashion, some of these risks and suggest possible policy and emergency planning that needs to be implemented in the agriculture and food supply chain. We hope this will engender a sincere dialogue amongst industry, government and the not-for-profit associations that develop public policy options.

A human disease crisis like COVID-19 impacts the health, movement and behavior of people. Contracting the disease as well as preventing the contraction of the disease changes the way we are all conducting our personal and professional lives.

Implications of infection and prevention of infection of COVID-19 – workers and inspectors

Risks posed by workplace absenteeism at critical points of the supply chain are potentially profound. For example, inspectors play a pivotal role in food processing plants. If food inspectors did not report to work, due to falling ill with COVID-19, or due to regional public health orders to stay in place at home, or out of fear that they will become sick from exposure at work, then plants in which they carry out inspections might very well have to close up. More generally, employee absenteeism related to COVID-19 undermines capacity and presents the prospect of shuttering plants. This could occur quite suddenly. This was recently illustrated at an auto assembly plant in Cambridge, Ontario; a single worker found to have tested positive for COVID-19 was sufficient to shutter the plant for several days.³

Absenteeism in the transport links, whether from farm to plant truck transport, plant to retailer truck transport to distribution centres (DC), DC to store truck transport, are another source of risk. Qualified truck drivers have already been in short supply for some time; risk of absenteeism due to COVID-19 exacerbates the situation. Absenteeism of staff at truck wash

³ “Cambridge’s Toyota plant has a confirmed case of COVID-19,” *Guelph Today* March 19, 2020, https://www.guelphtoday.com/coronavirus-covid-19-local-news/cambridges-toyota-plant-confirms-one-case-of-covid-19-2179790?utm_source=Email&utm_medium=Email&utm_campaign=Email.

bays after live animals have been delivered are an additional risk, carrying the prospect of increased spread of livestock diseases.

The grocery retailers' own DC's tend not to be setup to stockpile product, so grocers move product through on a just-in-time basis, so in-bound or out-bound traffic disruptions affecting DC's feed back upstream quickly. Absenteeism in the DC's themselves is also a major source of risk, as the ripple effects could go far back the supply chain. Interruptions at processing plants further up the supply chain could have a similar effect. Shuttering of a rendering facility would have immediate backup effects on livestock supply chains with impacts on prices and bottom lines.

Logistics relating to farm deliveries are also a critical source of risk. Late winter and early spring are periods when seed, fertilizer, fuel, and other inputs are typically delivered to farms, when spring tillage and planting proceeds, and a bit later when custom fertilizer and pesticide applications occur. Trained drivers/operators are already in short supply in these segments and so, disease-related absenteeism in these positions will delay or impair seeding and crop tending operations. Disruptions in supply logistics due to absenteeism are also critical risks for raising and caring for livestock. The provision of feed and veterinary services are equally critical matters of animal health/welfare, livestock disease prevention/treatment, and economic value.

Impacts of actions to protect against infections from COVID-19 – movements of domestic and immigrant workers

The agri-food workforce is comprised of both domestic and foreign workers. In either case, the current crisis will require notification by employees of any contact with known or suspected infection, return from foreign travel, symptoms of the virus or results of coronavirus testing. Food plants already meet high standards of cleanliness. Nevertheless, management will be endeavoring to increase sanitation and improve, where possible, social distancing, tracking, and communication of potential exposure to workplace personnel. This is costly for employers to administer while also disruptive to workplaces, with the risk that poorly handled workplace communications could scare workers away and exacerbate absenteeism. However, they have been developing contingency plans and enhanced cross-training of workers to backfill if needed as well as bringing back retirees and hiring temporary workers to increase potential replacements. Many plants have also increased the number of production shifts to work round the clock (e.g. Kraft Heinz) and there are examples where companies are planning to bring forward the opening of newly built plants (e.g. Grain Mills Ltd) to respond to the increased consumer demand for basic staples such as bread and pasta.

Major retail players are also taking measure to protect their workers, such as the installation of plexiglass dividers around cashiers in retail stores, shorter hours of operation to allow for cleaning and re-stocking shelves, refusing to take cash, and limiting the number of customers allowed in stores with security guards enforcing them. In fact, in recent days, we have seen major retailers hiring more workers and boosting wages to retain their employees and provide temporary and extra backup. In this way, redundancy is being built into the food supply chains to mitigate the risk of disruptions.

The situation for foreign workers in agri-food is more complex. There are foreign workers currently in Canada whose work visas are set to expire. The difficulty under the current situation with countries closing their borders is that it stands to be very difficult to facilitate the return of foreign workers if they depart, or to replace departing foreign workers with new arrivals. Moreover, there is an extended process in which employers must demonstrate having sought Canadians for employment positions prior to approval for foreign worker positions- a requirement that could appear distinctly odd if significant portions of the Canadian population are sick, or perceive risks of illness from working. Horticultural industries that depend upon extensive farm labour, either with local help or seasonal and temporary foreign workers, are especially at risk from absenteeism. This is even more so the case for foreign workers where things have become complicated by tying immigration and public health rules together in the current crisis. Access to labour in some horticultural segments is such an overwhelming consideration that the prospect of interruption in accessing workers puts farms, and even whole industries, at risk.

Solutions on foreign workers appear to be underway, both for entry and renewal of work permits for those already within Canada- specifically for agriculture and food. In fact, the Minister of Agriculture and Agri-food and the Prime Minister announced that exemptions will be provided for foreign farm workers being brought in by Canadian farm establishments, with charter flights being offered to bring these workers directly to the farm where they will be housed in isolation for two weeks and screened for illness prior to being allowed to travel.

Impacts arising from consumer behavior and anxiety related to COVID-19

Domestically, the immediate reaction to COVID-19 and the requirement of social distancing in Canada generated a run on grocery stores, and a surge in demand for specific staple products which continue at the time of writing. This behavior has generated stockouts of products in some stores. However, both government officials and food industry executives have gone a long way in reassuring consumers of the temporary nature of empty shelves alongside an appeal to Canadians to think of others and only take enough for their reasonable needs.

Considerable anxiety is created among some consumers by the appearance of empty grocery store shelves; however, once the panic buying ceases and the meaning of social distancing sinks in, together with measures being taken by food retailers, there will be fewer grocery store visits and more manageable purchasing behaviour. Nevertheless, with the limitations imposed on restaurants across the country, demand in grocery stores will continue to be higher since this will be the main source of food for Canadians. Any excess inventories from the foodservice sector can be redirected (with some difficulty) and could temporarily add to retail food supplies.⁴

The export demand situation under coronavirus threat appears complex. We need to assume that, as a practical matter, export market access for Canadian product has effectively tightened due to

⁴ The continuing issue is that with about 30% of all meals in Canada attributed to Food Service, a significant percent of these have suddenly had to move to retail which is straining the ability of retail to restock some key items. "By the Numbers - Food consumption in Canada," *UFCW Canada* July 28, 2013, http://www.ufcw.ca/index.php?option=com_content&view=article&id=3582:by-the-numbers-food-consumption-in-canada&Itemid=6&lang=en.

absenteeism throughout international logistics systems. One indicator is the tight availability of ocean containers accessible for export shipments, with many awaiting return from China.⁵ Another aspect is COVID-19 related absenteeism of dock workers and others in the international trade logistics system- both in Canada and abroad. This has also been compounded in Canada by the port and rail backlog created by the blockades earlier in the year. It may be further compounded by the growing trend for some countries to restrict exports of commodities as they attempt to stockpile (e.g. Kazakhstan).

Consumers staying home from grocery shopping in export destination countries out of fear of contracting the virus also dampens export demand. Elsewhere, east Asia is desperately short of meat and other products; this could be a buffering or offsetting factor- if the logistics channels for agri-food products can hold up under the COVID-19 strain.

Canada is also a significant importer of agri-food products, and access to a wide range of imports- coffee, orange juice, or certain feed ingredients, is taken for granted. No changes in trade policy have been made by Canada or its trading partners in this regard. However, we need to be aware of the tendency, in times of crisis, to satisfy one's own needs first. If the crisis deepens, it can be expected that some products Canada imports will be less available as a result.⁶

Short-term implications of risks

For several supply chains that operate consistently throughout the year, notably dairy, pork, beef, poultry, and eggs, the immediate concern is the prospect of employee absenteeism reducing the workforce available in various segments of the supply chain, and suddenly creating new bottlenecks. The most obvious worry is the prospect of processing plant employee absenteeism shuttering a plant. Plant closures have already begun to occur in Brazil in some meat plants due to COVID-19; the fear of this occurring in the US appears to have roiled livestock futures markets. The effects of a plant closure could back up very quickly to the farm level in terms of surplus animals, leading to much lower pricing, lower farm incomes and animal welfare considerations.

Disruptions in agri-food supply chains fragment themselves on a plant by plant basis, with the prospect that lost capacity in a given plant could result in redirection of farm product to a different plant. However, this requires extensive coordination and flexibility. Processing plants mostly operate at a large scale compared to the farm product supply, and operate routinely near capacity, so the shuttering of a single facility could be highly disruptive and require immediate action- with unclear prospects of finding a home for the displaced farm product. Contingency

⁵ See for example Jen Skerritt, "There Aren't Enough Containers to Keep World Trade Flowing," *Bloomberg* March 18, 2020, https://www.bloomberg.com/news/articles/2020-03-18/there-aren-t-enough-containers-to-keep-world-trade-flowing?utm_medium=social&utm_content=economics&utm_campaign=socialflow-organic&utm_source=twitter&cmpid==socialflow-twitter-economics.

⁶ This issue is also tied to that of the farm workforce elsewhere. The U.S. makes extensive use of Mexican temporary agricultural workers, and Mexico is far behind in implementing measures to curb COVID-19. Managing the health/immigration status of Mexican workers in the US could prove difficult. The implication is that we may not be able to rely on abundant produce from either Mexico or the US later this year- placing further pressure on Canadian supplies.

planning for these situations is an urgent matter and clearly greater collaboration and communication among players in the chain will be needed.

Exports as a home for displaced product could become increasingly difficult due to border measures enacted to restrict the flow of people, even if market access rules for product have not changed. Although, both the U.S. and Canada have recognized the importance of keeping borders open for trade purposes.

The situation for crops is driven by the urgency of the season. Planting supplies are being distributed, but with the mounting risk of absenteeism among truck drivers and workers in the crop services segment. The risk of absenteeism also extends to the workforce involved in putting the crop in, that is for example, on farms, custom application services, etc. In particular, horticulture needs seasonal labour. Spring is coming, the crops will need to be planted, and the capacity to support this must be secured.

Access to farm inputs and workforce is largely taken for granted and in the current context it is an important source of risk. The situation unfolding in China is instructive, where production of fertilizer, distribution of inputs to farmers, and access to farm workers was impeded by the coronavirus lockdowns. On March 17th, 2020, one industry analyst warned “China’s agricultural industry has collapsed without the free flow of labour and raw materials”.⁷ The coronavirus movement restrictions on feed and marketing in some regions of China have similarly impacted the Chinese poultry industry.⁸

Policy proposals in the short-term

There are potential shifts in the Canadian agri-food system that can mitigate these risks, through policy adjustments by government, practices by industry and coordination by all involved in Canada’s agri-food supply chains.

By Governments

From a whole-of-government perspective, governments need to designate the “agri-food system” as a critical industry whose functioning must be supported in all aspects of regulatory oversight. This designation has been established in the US by Homeland Security.⁹ This has also been acknowledged in Canada with the recent announcements of the agri-food supply chain as “essential services” by both federal and provincial governments. Without this, there would be a

⁷ “China’s farmers fear food shortages after coronavirus restrictions,” *Financial Times* March 17, 2020, <https://www.ft.com/content/cafb828e-6423-11ea-b3f3-fe4680ea68b5>.

⁸ Mark Clements, “How COVID-19 has hurt China’s poultry industry,” *Watt Ag Net* March 20, 2020, <https://www.wattagnet.com/blogs/23-poultry-around-the-world/post/39865-how-covid-19-has-hurt-chinas-poultry-industry>.

⁹ Spencer Chase, “Homeland Security deems agriculture as ‘critical infrastructure’ amid COVID-19 pandemic,” *Agri-Pulse* March 20, 2020, <https://www.agri-pulse.com/articles/13330-homeland-security-deems-agriculture-as-critical-infrastructure-amid-covid-19-pandemic>.

risk that provincial or local authorities may unintentionally take regulatory actions that fail to recognize the need to keep the food system functioning.

Specifically, within pertinent federal government departments, it would be prudent for the Canadian Food Inspection Agency (CFIA) and provincial inspection agencies to recruit and train auxiliary staff to work under inspectors to build redundancy immediately. In fact, hundreds of retired CFIA inspectors have been called back to help out. Moreover, with respect to CFIA inspection services, there is a need to prioritize inspection services for the meat, poultry, dairy, and egg industries, for both domestic and export production. Prioritization of production for the domestic market in pork and beef cannot work, given the huge proportion that is exported, which supports the domestic production. At a minimum, poultry and livestock slaughter, egg grading/processing, and dairy plant operations must be fully supported to avoid a catastrophic animal welfare situation and farm-level impact.

As necessary, inspection services should be prepared to drop non-essential compliance verification and enforcement activities that do not have immediate impact on food safety. This would include temporarily reducing or stopping visits to very low risk factories to ensure back-up staffing; these resources can be redeployed for meat/fish/dairy/poultry inspection. Companies with Global Food Safety Initiative (GFSI) certification or other audit procedures in place could safely operate temporarily without “continuous presence” of CFIA inspection, at least with respect to production for the domestic market. Increased flexibility is needed while still ensuring food safety protocols are being implemented and enforced.

Recently introduced regulations on maximum periods for livestock transportation and withdrawal from feed and water could severely limit options to redirect animals from slaughter facilities that must suddenly shutter. These should be suspended, temporarily.

Critical infrastructure supporting agriculture and food production must also be recognized as essential by governments and our borders must be kept open for receiving essential inputs and for exporting our products. Given the time of the year, the other priority is making sure crop inputs are cleared quickly through border inspection, and the massive backlog in exports keeps moving. Otherwise Canada risks producing a reduced crop and no room to store more food products.

By Industry

In order to protect the safety of employees and security of the food supply chain, all participants must be proactive in following public health guidelines and plan with their supply chain partners for interruptions in the supply chain.

As the food supply chain can anticipate staffing challenges it would be prudent to offer incentives to employers to create a trained pool of temporary plant workers, warehouse workers and transport drivers who will both assist with the surge in retail requirements and be able to fill in as infections appear in a plant requiring a number of employees to stay home and self-isolate. This could be further extended to establish a broader pool of accredited individuals available to

fill positions temporarily in the event of absenteeism, across firms. Major players in the food industry have started offering incentives through higher wages in some food retail stores.

Food companies and inspection services should be working to utilize all available plant capacity to restock the supply chain, while they can, as a hedge against the potential risk of plant closures in the future from COVID-19.

Food processing plants, DC's, and other establishments that handle food should consider immediately the processes they have in place and how they operate with reduced staffing levels under the pressure of COVID-19 related absenteeism. This could entail cross-training of staff on a variety of jobs, and other redundancies put into plant operations.

We need to talk to solve problems now but also plan for the future

The above policies, and more, should be developed into a supply chain resilience plan incorporating the best recommendations from supply chain members and inspection services. With food so intrinsic to our daily lives, and a farm production system with over 250,000 farm operators and 300,000 food processing employees as well as a multitude of participants up the supply chain from there, it would be genuinely surprising if there were not sobering challenges we now need to face. Rather, it is a testament to the integrity of the existing system that requirements for changes can be identified and brought forward within our existing systems to target specific issues and mitigate risks.

In this regard, there is a need for continuous and forward-looking dialogue among governments, industry leaders in all aspects of the agri-food chain, with policy research capacity attached to it. The dialogue must lead to the setting of priorities, immediate, short term, intermediate term, and long term and recovery. Governments will require continuous interaction with a wide range of people from involved industries, with their breadth of knowledge, to make this effective.

The immediate task for industry and government is to acknowledge that there are significant potential risks, and to be prepared to act on them. The message of reassurance for the public should be that our system's resilience lies in our ability to recognize the risks posed by an emergency, and to work together and expedite the changes needed to secure it.