Introduction to the Special Issue on COVID-19 and the Canadian Agriculture and Food Sectors: Thoughts from the Pandemic Onset[1]

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The COVID-19 pandemic is unprecedented and, at the time of writing this (April 14, 2020), continues to cause significant economic hardship and death throughout the world. While governments have many concerns, an affordable and secure food supply is certainly a top priority. Based on years of a consumer driven food system, Canadians have come to expect any food in the form, time, and location desired, always available at a reasonable price. COVID-19 has caused immediate and pronounced changes in consumer food demand. Nonetheless, Canadians are still consuming a vast array of foods at reasonable prices despite a few short-lived stockouts. To date, we see this as an affirmation, not an indictment, of the global food supply system.

[1] Financial support to cover both page charges and technical editing was provided by the following: (i) Canadian Agricultural Economics Society; (ii) Food and Resource Economics Group, The University of British Columbia; (iii) Masters of Food and Resource Economics (MFRE) Program, The University of British Columbia; (iv) Department of Agricultural and Resource Economics, University of Saskatchewan; (v) Sol Sinclair Institute of Farm Management, University of Manitoba; (vi) Department of Agribusiness and Agricultural Economics, University of Manitoba; (vii) Department of Food, Agricultural and Resource Economics, University of Guelph; (viii) McCain Family Chair in Food Security, University of Guelph; (ix) Institute for the Advanced Study of Food and Agricultural Policy, University of Guelph; (x) OAC Research Chair in Agricultural Risk and Policy, University of Guelph; and, (xi) D´epartement d'´economie agroalimentaire et sciences de la consommation, Universit´e Laval.

There has been and will continue to be a significant amount of press regarding the Canadian agricultural and food sectors during this COVID-19 pandemic. Many public academics — defined as those continually communicating to the public on current affairs — may not have the expertise to be doing so, and, therefore, either recast what is already in the public or, worse, add more noise (Posner, 2001). Academia is eminently specialized, with individuals delving into a particular area or problem for years and even decades. That specialization leads to insights that would not have been discovered otherwise. These insights and discoveries are the contribution of academic research to society. A consequence is that academics, whose credentials are based on those very specialized discoveries, are likely to be wrong, and sometimes very wrong, outside their specific area of expertise (Posner, 2001). The public is not equipped to sufficiently discern academic credentials nor do they keep score as to the accuracy of the claims being made.[2] Both enable public academics to continually engage outside their area of specialization.[3]

In contrast, this special issue of the *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie* is an attempt to add content, not noise, to the discussions of many of the issues regarding COVID-19 and the Canadian agricultural and food sectors. To that end, we have invited articles from highly accomplished academics. These articles have been deliberately restricted to their respective area of specialization from which their credentials have been built.[4] That restriction has led to 18 short articles dealing with very different aspects of the Canadian agriculture and food system. These articles were

[2] Posner (2001) notes this situation is of little consequence as government policy or industry behavior is rarely influenced by the opinions of public academics.

[3] Generally, public academics are public not because of their academic or public track record, but instead, because they choose to minimize the transaction costs of news outlets wishing to engage experts. Very little discernment is made to the specificity of the experts' credentials.

[4] Eight are fellows of the Canadian Agricultural Economics Society, eight have been President of the Canadian Agricultural Economics Society, and nine have been editors of top agricultural economics journals.

invited, and, as such, there is editorial selection bias. All manuscripts were reviewed by two or more referees; multiple manuscripts were rejected.

It is important to weigh in on these issues at the onset of the pandemic. COVID-19 is an unparalleled event in our time. As such, these articles are very unique in that they offer *speculative* expert thoughts. There will be plenty of opportunity for in-depth data-driven analyses in the months and years ahead.

The first article by Deaton and Deaton (2020) identifies the food insecurity generated by COVID-19's effect on income and health. They point out that food remains available in the near term and that food availability in the longer run will depend on the effect of COVID-19 on health, trade, transportation, and farm financial stability. The second article by Cranfield (2020) frames consumer response to COVID-19 around preferences, household budgets, prices, individual and household characteristics, and where and how people shop. The framing of preferences through the lens of inter-temporal choice with uncertainty helps frame stockpiling behaviours. At the same time, his discussion of household budgets points to the importance of understanding income effects and the opportunity cost of time when regular routines are interrupted by working from home, school closures, and shuttering of non-essential services. The main points of his paper are that income effects arising from the COVID-19 economic downturn will be an important driver shaping consumer food demand during and after the pandemic and that there will be critical distributional issues to consider when evaluating the impact of COVID-19. Goddard (2020) notes that the food retail and food service sectors have faced some of the biggest impacts from COVID-19 to date. Effects have been felt in employment, in costs of transactions, and in changes in consumer behaviour. Although it is early to say, changes in supply chains may result from the realities of temporary shortages at food retail and from increases in online food purchasing, both from stores and restaurants. Hailu (2020) explores the potential effects of the COVID-19 pandemic on Canadian food processors. The impacts of the pandemic on food processing economic activities and its GDP depends on the magnitude and persistence of the consequences of supply chain disruptions and on the initiatives and investments processors (and supply chain managers) undertake to manage disruptions. Effective public policy response must focus on supporting workers — sparing workers the trauma of being temporarily laid off — and businesses, especially small businesses, to survive the impact of COVID-19. Hobbs (2020) assesses the implications of the COVID-19 pandemic for food supply chains and for supply chain resilience. The effect of demand-side shocks (panic buying behaviours and a shift in consumption patterns) are discussed, along with potential supply-side disruptions to food supply chains, including labour shortages and disruptions to transportation networks and cross-border supply chains. As the pandemic unfolds, much can be learned about how food supply chains respond to the crisis and which strategies could be used to enhance supply chain resilience and retain consumer confidence.

Turning to specific commodities, Vercammen (2020) examines daily prices for wheat futures and options contracts to assess how traders' beliefs about market fundamentals evolved throughout the early days of COVID-19. The flattening of the forward curve and the inversion of the basis reveal strong short-run demand due to consumer hoarding of food staples and weak long-run demand due to an inevitable global recession. Steadily increasing implied volatility reveals growing uncertainty about COVID-19 impacts. Brewin (2020) reviewed Canada's grains and oilseeds supply chain as of the spring of 2020 and considered the potential impact of the spread of COVID-19 on that sector. He argues that there will be marginal impacts at the farm level and that our endowment of productive capacity for grains and oilseeds places us in a very secure position for basic staples. He discusses the need for supply chain coordination to process and bring the existing surplus production to consumers in Canada and around the world. Richards and Rickard (2020) note that the COVID-19 pandemic has had a significant impact on Canadian fruit and vegetable markets, both in the short run, and likely in the long run. In the short run, the near-complete loss of the food service distribution channel has meant a reallocation of supply from restaurants, bars, and schools to food retailers. In the longer run, the fact that most fruits and vegetables in Canada are imported from the US, and elsewhere, means that the future viability of the fresh food supply chain depends on foreign producers' access to labor and other key production inputs. The dumping of milk, the offering of hospitality-size goods in grocery stores, and the closure of processing facilities are examples of the disruptions caused by the pandemic to the dairy, poultry, and egg sectors. Weersink et al. (2020) notes that producers in supply managed sectors are more resilient as they are generally more financially stable and losses are pooled. Conversely, Canadian pork is heavily dependent on foreign export markets, with 68% of pork production shipped out of the country. McEwan et al. (2020) suggests that the impact of COVID-19 on the Canadian pork industry ultimately depends on its ability to maintain markets. The shutting down of processing plants, because of absenteeism caused by COVID-19, and trade interruptions with the US and the rest of the world are key concerns. Finally, Rude (2020) discusses implications for the Canadian beef sector. He finds that time is central to the impacts. In the short run, there is little connection between what is happening in the live cattle markets versus retail meat markets. In the long run, he finds that cattle prices could decline as much as 40% due to reduced incomes, higher packer wages, and disrupted slaughter capacity.

The next set of three articles focuses on trade. Canada's agricultural and food sector exports more than half of what is produced domestically. Our largest trading partner is the United States. To this end, Orden (2020) assesses the resilience of the North American food system with a focus on the United States. The immediate consequence is disruption of agricultural markets and falling prices, with existing farm programs and emergency legislation supporting farmers. Medium term, supply is likely to be strong, while pandemic-related disruptions in the developing world remain uncertain. Barichello (2020) notes that Canada's agricultural and food exports can be expected to take a substantial hit in 2020, despite being insulated by relatively low income elasticities of demand for our cereal products. This will be due to the worldwide scope of the worst recession in 100 years and the unfortunate likelihood of trade and logistical policy restrictions that have come with the world's pandemic response. Kerr (2020) notes that the degree of disequilibrium in the global economy as a result of the COVID-19 pandemic is of such a scale that a return to the previous equilibrium cannot be assumed. In the short run, food supply chains have, while stressed, remained relatively intact. Both Orden (2020) and Kerr (2020) stress that the experience with the pandemic will set two forces at work that will shape future international relations: i) pro-trade liberalization aimed at keeping borders open so food supply chains are not disrupted in future; and ii) anti-globalization seeking to reduce dependence on foreign sources of supply. Which of these two will hold more sway is not yet clear.

Finally, the last four articles deal with labour issues, transportation issues, land values, and risk management programs (i.e., government policies that target farm-level risk). Larue (2020) discusses how the measures put in place by governments in Canada and abroad are affecting the demand and supply of labour along Canada's agri-food supply chain. Over 800,000 restaurant workers lost their jobs and many restaurants will not reopen. Changes in the demand for food brought about by the closing of schools and restaurants and consumers having more time to cook but fewer dollars to spare have made some foods less popular and forced some processing plants to lay off workers. It is also more costly for Canadian farms, nurseries, and greenhouses to recruit temporary foreign workers, but labour costs and shortages are likely to have a greater impact in the United States and the European Union than in Canada. Gray (2020) notes that agricultural access to bulk ocean freight, rail movement, and trucking has generally improved during the pandemic (other sectors are using less as economies slow down). Lawley (2020) indicates the impact of COVID-19 on farmland values will largely depend on changes to farming returns and two important macroeconomic variables, interest rates and exchange rates. A lengthy recession will likely push the value of farmland which is close to major cities down due to reduced demand for residential and commercial development. Finally, Ker (2020) notes that while the structure of current risk management programs for farmers are decades old and designed without a global pandemic in mind, they will cover some of the income stability issues that farmers may face as a result of COVID-19. He also notes that two of the three new measures that the federal government announced aimed specifically to assist farms in managing risk are likely to be of little consequence.

The COVID-19 pandemic is providing a stress test throughout every aspect of the economy, not just agriculture and food. The effects will ultimately depend on how soon markets can return to some sense of normalcy and on the severity and length of the global recession that lays ahead. We have no precedents on which we can base macroeconomic predictions, but a deep understanding of agricultural and food markets allows the authors featured in this special issue to identify possible effects, highlight specific concerns about vulnerabilities, and shape public debate about policy responses to the pandemic. Summarizing the articles, the biggest concerns at the onset of the pandemic for the Canadian agricultural and food sector appear, in no particular order, to be: (i) availability of labour; (ii) thickening of the border; (iii) declines in consumer income; and (iv) worsening of food insecurity in some populations. The only silver lining in this pandemic will be the identification of unforeseen weaknesses and unappreciated strengths in the Canadian food system. No doubt, the pandemic has already and will continue to be used by rent-seeking interests for specific policy reforms. The performance of the current food system under this unprecedented upheaval will determine not only the success of these rent-seeking activities but also the institutions that will shape the economic behaviour of the agricultural and food sector over the coming years.

Finally, the COVID-19 pandemic is a Black Swan event. Governments have the option to deal with Black Swan events in real-time as they arise. This is almost always more efficient, as Black Swan events cannot be predicted as to their specific form, their timing, or the most appropriate policy response. Other than short-run emergency policies, such as the $107 billion federal emergency aid and economic stimulus package, governments should tread carefully in making structural policy changes at this time.

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