



# Analysis of Emerging Trends in the Business and Management of Canadian Food Industry During COVID-19 Pandemic

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**Abstract.** The COVID-19 outbreak has become a global issue that has had a significant impact on people from all areas of life. In order to demonstrate to the public how food factories operate during the pandemic and to provide some guidance for food industries in other countries, this paper examines how Canada's food industry has survived and developed during COVID-19. It also analyses the protective measures taken by Canadian food plants during the pandemic as well as the import and export business analysis of food products. The 2019 COVID-19 pandemic, which is causing havoc on people all over the world, has spread to 220 countries and regions. The second phase of COVID-19 has just begun in numerous European countries. The COVID-19 outbreak must be brought under control. Despite the virus was quickly contained in China, where eight isolated outbreaks have since occurred. SARS-CoV-2 was detected in environmental swab samples associated with imported cold chain food in both the Beijing region and the Dalian COVID-19 outbreaks. In this instance, in Qingdao, surface swab samples taken from the cod outer package allowed us to successfully isolate SARS-CoV-2. The viability of the imported frozen food industry was proven when SARS-CoV-2 was isolated for the first time ever from the exterior of an imported frozen cod container.

**Keywords:** COVID-19 · Food industry · Canadian pork industry · food safety · food policy

## 1 Introduction

The Covid-19 outbreak has become a worldwide problem, everyone and every country has surely suffered greatly as a result of the epidemic's spread. All societal sectors, as well as the social and economic sectors, are covered by prevention and control methods. Negative effects can occur in any industry, but are most prevalent in the service, manufacturing, and food sectors. The food sector is vital to preserving social stability and peoples' means of subsistence. In order to provide examples for food industries in other nations, this paper lists some of the most significant COVID-19 outbreaks that have occurred in Canadian food processing facilities. It also describes the Canadian

government's response to the outbreak as it relates to the food and beverage processing industry.

There are significant commercial ties between Canada and the United States, which also make up the integrated North American pork business. In Canada's export-focused pork industry, the United States is an important market for both live pigs and pork. Input suppliers, pig farmers, transportation companies, slaughterhouses, wholesalers, and retailers are some of the stakeholders in the pork value chain. There are three key areas of worry for the Canadian swine sector in regards to the implications of the present outbreak (COVID-19). The first is the capacity to continue shipping live Canadian pigs and pork to the United States. The second is labour and how potential absence will affect every link in the value chain for pork. The third is international trade, as the sale of pork in other markets is crucial to the Canadian pork sector.

## **2 Analysis on the Canadian Food Industry**

### **2.1 The Relationship Between Food and Humans**

In the early phases of the COVID-19 pandemic, one of the more dramatic visuals was the grocery shelves being stripped of essential food and non-food products, such as pasta, rice, canned goods, flour, frozen foods, bottled water, hand sanitizers, hand soap, and toilet paper [1]. First and foremost, food is a necessity for all living things. As humans evolved into the largest population on Earth and the top of the food chain, we needed food to survive. Through organism metabolism, we were able to expand our cognitive awareness to include the entire world, including plants, animals, microbes, trace elements, and minerals. Humans must therefore focus on preserving and restoring the ecological world's balance. Poorly producing areas are unsuitable for human survival. Places that are suitable are not only abundant in plant species but also serve as numerous wild creatures' habitats and lovely homes. The propagation, avertance, and management of the pandemic involve all sectors of society, including social and economic ones. And the food business is crucial to preserving peoples' livelihoods and social order. On the one hand, the food business is crucial to the strategic reserve and emergency support function of the future. The public's concern over food safety and catering environmental cleanliness has, on the other hand, increased to previously unheard-of levels. As a result, all industry segments must now give serious consideration to how the food business may continue to innovate and expand in the post-epidemic age.

### **2.2 How to Ensure Food Safety**

Recently, it has been suggested that many human cases in China may have been caused by cold-chain food poisoning. Since the virus may spread to humans through a fresh product or packaging that has been touched or sneezed on by infected people, the risk of a food-related COVID-19 infection is still up for debate. This study presents the key findings addressing the transmission of SARS-CoV-2 through food or a food chain, as well as the persistence of the virus at various environmental conditions and surfaces. It also covers the most current data on the zoonotic origin of the pandemic. Additionally,

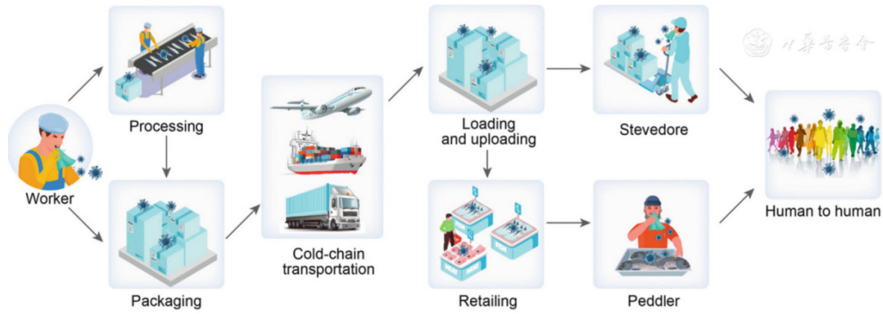
emphasis is placed on mitigating the danger of COVID-19 contamination in food and proposed strategies for lowering that risk. The Canadian government has paid particular attention to the food industry during the pandemic, first there is physical partition, engineering controls involve isolating employees from work-related hazards [2], for example installing a physical barrier (such as strip curtains or plexiglass), increasing ventilation and air exchange, adding more hand washing stations and hand sanitizers, separating employees 1–2m (depending on the reference) [3], through physical partition to effectively control the spread of the virus. Another approach is to minimize the spread of the virus by allowing workers to take shifts to work. Employees who have symptoms or have been infected with the virus should rest at home. Other healthy employees should take shifts to work and wear masks, gloves and clean uniforms. Food industry-related PPEs can include face masks, face shields, gloves, clean uniforms (worn on-site and laundered daily), hair nets and closed non-slip work shoes. It is now more pressing than ever to have enough lockers or sealed bins/bags for employees to store personal belongings in order to avoid contact [4].

Fortunately, the Canadian government's response to the COVID-19 pandemic outbreak has been very positive and responsible. In terms of food, the government issued an emergency recall because there may be a virus issue with the food or packaging products, making it safer for people to purchase food during the epidemic and giving them a great sense of security.

During the epidemic, the food industry, especially the convenience food and special food industries, played an important role in ensuring supply, in this period, the sales of frozen food continued to increase. Compared with fresh food ingredients, During the epidemic, people prefer to keep frozen food for a long time, which will bring people psychological comfort and a sense of security. But research shows that frozen meals aren't 100% safe during a pandemic. Laboratory studies have shown that SARS-CoV-2 remains highly stable at 4 °C and even at –10 to –80 °C. Researchers at the U.S. Army Medical Research Institute of Infectious Diseases found that SARS-CoV-2 remained largely stable on pig skin during a 14-day experiment at 4 °C [5]. The virus can survive at low temperatures for a long time, people should also be on high alert, people may come into contact with contaminated food when they buy groceries, and the risk of spread between countries and regions through food cold chain logistics cannot be completely ruled out. Therefore, there may be a need for step up surveillance, conduct regular nucleic acid tests, and quickly identify COVID-19 infections among food industry workers (Fig. 1).

### 2.3 Canadian Pork Industry

“The value chain for producing pork in Canada is intricate and interwoven. Input providers, hog farmers, transportation firms, slaughterhouses, distributors, and retailers are among the key stakeholders [7]. Speaking of the Canadian food industry during the epidemic, this research has to mention Canadian pork. “Global markets, including those affecting food security, the economy, and human health, are currently rife with uncertainty due to COVID-19. Although the effects on human health are serious, the illness has the potential to seriously harm Canada's supply of pork” [6]. Due to the epidemic, many countries are reluctant to accept imported products from other countries. People



**Fig. 1.** Probable route of transmission for SARS-CoV-2 through cold-chain transportation in the frozen food industry [6]. Source McEwan, K., Marchand, L., Shang, M., & Bucknell, D. Potential implications of COVID-19 on the Canadian pork industry. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie*, 2020: 68(2), 201–206, permitted by the author

pay special attention to their own health and the health of pork. However, Canada is a country that relies heavily on pork exports. During the epidemic, Canada's pork exports dropped significantly. Enough to reflect the impact of pork exports on Canada. "Based on at least two factors—(a) illness in the current workforce lowering labour and (b) travel limitations and concerns over travel for foreign labor—the pandemic has the potential to exacerbate the labour shortage in the pork sector [8]. The labor force is the most indispensable part and the most important part during the epidemic. Imagine how the economy of this country will develop if no employees want to go to work and there is no one in the factory during the outbreak. How will it be carried out, so even during the outbreak, the first and first guarantee of each country is the labor force. However, the epidemic has to reduce the number of workers in the factory, not only to ensure that the factory will continue to operate, but also to ensure the safety of workers and food. Although there is no research to prove that COVID-19 can be transmitted through food, it has to be keep people on high alert as no one knows all the ways COVID-19 spreads. But fortunately, there is no research to prove that Covid-19 can be transmitted among pigs, COVID-19 can only spread among humans. "There is no evidence to date that pigs are susceptible to COVID-19; therefore, only human-to-human contact transmits the virus" [1].

Until new anti-Coronavirus drugs or vaccines are discovered, autoimmune immunity is the most effective form of defence. All the vitamins and nutrients that the body needs are found in food, which is a need for human survival and has the effect of "raising immunity". As a result of the disease-treating process, the demand for and use of specialized medical food is also increasing, becoming a vital source of nutrition for patients. Additionally, throughout the outbreak, this considerably increased the food sector's expansion...

### 3 Conclusion

In order to prevent people from panicking and stockpiling products during the outbreak, the food business should maintain routine operations and instil a sense of security among

the populace. The COVID-19 outbreak's effects on the Canadian pork industry are changing. Short-term increases in hog prices were caused by panic purchasing and a weak Canadian currency. The ability of the industry to meet fluctuating demand was hampered by changes in customer shopping behaviour related to social alienation [6]. In order to preserve people's lives even during an epidemic, the national government should also provide relevant policies. People will valiantly endure the Covid-19 epidemic's detrimental effects on the planet while being protected by the policy and lose their fear of it.

Opportunities coexist with challenges. As people learned that the outbreak had created various challenges for the food business, they started to think about its future growth. During the epidemic, people became conscious of the importance of the food industry. As a result, in order to combat the epidemic, the global food industry will need to take into account and collaborate on three key areas: learning from it, developing new economic opportunities, and identifying unique development points.

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