

Plant-based protein, the pandemic and the agrifood supply chain

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Atlantic Canada is a significant crop producing region, but that activity is not occurring at the same scale as we see in other parts of Canada. Credit: Betty Subrizi/Unsplash

Each time Dr. Gumataw Abebe visits his local grocery store, he is pleasantly surprised to discover more plant-based protein items on the shelves. Not just for the added choice it offers consumers like him but

also because he can see the financial and sustainability opportunities the sector offers for Atlantic Canadian farmers.

"Plant-based and alternative proteins are one of the largest food growth sectors in the world, with global market demand projected to reach approximately US\$143 billion by 2035 and comprise 10% of all protein servings," explains Dr. Abebe, an assistant professor at the Department of Business and Social Sciences at Dalhousie.

"We will see more growth here based on [consumer demand](#), so I am interested in the potential for our region's farmers to benefit from this trend."

Dr. Abebe is assessing those opportunities as part of Plant Protein Atlantic: Exploring the Value of Plant Proteins in the Atlantic Region. He is conducting a plant protein value chain analysis that will engage three key stakeholders: [consumers](#); processors and manufacturers; and regional farmers.

Through surveys, he hopes to gain insights on consumer demand and expectations, the requirements that must be met to attract processors and manufacturers, and the interest, market access, and regulatory challenges that will influence interest in plant proteins among regional growers and cattle farms looking for alternative feed.

"Atlantic Canada is a significant crop producing region, but that activity is not occurring at the same scale as we see in other parts of Canada," Dr. Abebe says. "As a result, the major plant-based [protein](#) food and feed manufacturers are all based in Western or Central Canada. But if we can establish that there is a big consumer market for these products here, we can present growers with options to participate in this sector, and then make the case for processors and manufacturers to expand here."

Pain points

This undertaking is one of many that Dr. Abebe is engaged in to explore the efficiency and effectiveness of agrifood supply chains in responding to [food safety](#), [food quality](#), and food security challenges. These chains—which consist of many stakeholders such as producers, manufacturers, and retailers—require considerable coordination to achieve value for consumers. But the ability to coordinate activity is often hampered by a range of pressures, including stakeholders maximizing their profitability at the expense of other parties and, most recently, the COVID-19 pandemic, which has resulted in supply disruptions and increased costs.

"The pandemic brought additional complexity to a chain that is already very complex," Dr. Abebe says. "It also raised questions about relationships along the chain that appeared to be very vibrant and robust. Given that added complexity, I am engaged in several projects to analyze the impact of the pandemic, including its implications for the food services industry."

Specifically, Dr. Abebe is studying how the pandemic changed consumer dining behaviors and what that change will mean for casual and fine dining restaurants. A nationwide survey he co-conducted of more than 1,000 consumers revealed that Canadians embraced the off-premise dining options offered by restaurants during the pandemic—a trend he believes will continue. Dr. Abebe is now assessing data from a survey of restaurants to see how their perspectives match those of consumers but, overall, he thinks it is unlikely we will see a return to the dine-in only model.

"Many restaurants probably never thought anything like COVID-19 could happen," he says. "But it did, and it has been a big lesson for them to adopt a multi-channel approach and be more flexible in terms of how

they operate so they can navigate other crises that may arise."

The pandemic has also informed another study by Dr. Abebe. He is looking at the movement toward short food supply chains, which are highly localized and characterized by closer relationships between producers and consumers, as a response to COVID-19-related disruptions in the global food chain.

"Without these chains, the impact of the pandemic would have been much worse, so we want to explore the opportunities for them to complement our food system," Dr. Abebe says. "One of my [undergraduate students](#) was able to prepare an excellent thesis on this topic and it has been submitted for publication."

There are many other aspects of our agrifood supply chains that Dr. Abebe plans to investigate, such as the pork value chain and how growers can enhance sustainability without compromising their profitability. Although his work is somewhat diverse, it all has the same aim. "It's all about making the relationships along these chains more efficient and effective so that they better respond to societal needs and concerns," he says. "It is exciting and I hope it contributes to making the food we consume safer and more sustainable."

Provided by Dalhousie University

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