

Risk and Reward: Food Safety and NAFTA 2.0

by Rory McAlpine and Mike Robach



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Foreword

The Canadian Agri-Food Policy Institute (CAPI) and the Canada Institute of the Wilson Center are pleased to co-publish the following short piece to stimulate critical conversations of interest in both countries concerning changes to be considered during the upcoming NAFTA renegotiation talks. As think tanks and think networks, CAPI and the Wilson Center know the importance of good debate and a robust marketplace for ideas. The following piece encourages just such debate.

The contents of the piece represent an opportunity for our two organizations to present to our respective stakeholders on the frontlines of Canada-US economic policy some new thinking on important food safety issues. Food safety is not just about consumer protection, it's about enhancing the competitiveness of the Canada-US agri-food supply chain around the world. A well-functioning food safety regime helps to increase global demand for safe and wholesome North American food products.

During a period of trade upheaval and fractured supply chains, it is particularly important to bring practical suggestions to the table that will build trade, increase competitiveness and safeguard the protection of consumers. For this reason, we are delighted to publish this report reflecting the experience and perspective of two of the largest agri-food companies in North America.

This joint publication is authored by participants in the private food and agriculture sectors and, of course, represents their views and not necessarily those of CAPI and the Wilson Center. Enjoy the read. We welcome your comments, which can be emailed to us at buckinghamd@capi-icpa.ca and Laura.Dawson@wilsoncenter.org.

A handwritten signature in black ink, appearing to read 'Don Buckingham'.

Don Buckingham, President & CEO
Canadian Agri-Food Policy Institute (CAPI)

A handwritten signature in black ink, appearing to read 'Laura Dawson'.

Laura Dawson, PhD
Director, Canada Institute

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Summary

Canada and the U.S. acting together created the International Joint Commission in 1912 to protect our shared waterways. Is this the moment in our collective history to jointly move to protect our shared food supply?

North Americans share a highly integrated food supply, one that is perhaps the safest in the world. Underpinning that safety are robust systems of standards-setting, inspection and business practices that are highly uniform and well-grounded in science. And yet while concepts like HACCP (Hazard Analysis and Critical Control Point) – with its origins in the U.S. space program – have become universal concepts in food safety risk management for both regulators and food businesses, there is still too much fragmentation in our approach to food safety risk assessment. Taking advantage of NAFTA renegotiation, there is an opportunity to re-examine cross-border structures to ensure the science of food safety risk assessment is done jointly, not just collaboratively, such that independent regulatory decisions achieve the best possible outcome for consumers and for business. Whether Canadians are enjoying leafy greens from Yuma, Arizona, Americans are enjoying maple-flavoured bacon from Quebec or we are both enjoying jumbo shrimp from Thailand, a Canada-U.S. “food safety risk assessment organization,” as an outcome of NAFTA renegotiation, could strengthen food safety and business competitiveness while being an example to the world.

An opportune time for action

The health, safety and economic wellbeing of Canadians and Americans is greatly determined by the integrity of the continental ecosystems, the natural resources and the infrastructure that we share: climate, air sheds, fresh water, natural landscapes, fisheries, agri-food systems, and transportation, telecommunications and energy networks. In each area, threats to health, safety and the economy are best assessed and managed jointly, ideally at their source (where, for example, an infectious agent and host come together) and not necessarily at a border crossing. Canada and the U.S. understood this in 1912 when they created the International Joint Commission to manage the shared waters of the Great Lakes.

The need to act jointly is heightened by the “One Health” paradigm,¹ which recognizes that the health of people is increasingly connected to the health of animals and the environment. This is especially true for food and beverage harvesting, production and distribution, given extensive cross-border integration of food supply chains, transmissibility of hazards (pathogens, contaminants, animal diseases, etc.) and common foodborne threats from offshore. According to Dr. Paolo D’Odorico of the University of Virginia, between 1986 and 2009 the amount of food that is traded has more than doubled and the global food network has become 50 percent more interconnected. International food trade now accounts for 23 percent of global food production.

With the U.S. *Food Safety Modernization Act* and the *Safe Food for Canadians Act*, the U.S. and Canada have undertaken legislative and regulatory modernization of their largely independent systems of food safety oversight, striving to make them more risk-based, data-driven, preventative and outcome-oriented. But NAFTA renegotiation presents an opportunity to provide a stronger, joined-up, science-based underpinning to these efforts, specifically in the areas of food safety hazard identification and surveillance, risk assessment and technology approvals. The benefits to public health protection, cross-border business competitiveness and efficiency of regulatory program delivery could be significant. The Canada-U.S. Regulatory Cooperation Council (RCC) work programs on food safety, meat inspection and animal/plant health are a good start, but tangible benefits to citizens and business have been few. More significant progress could be achieved by bringing together the “back office” risk assessment functions of Canadian and U.S. food safety regulatory organizations into a formal institutional partnership. A Canada-U.S. “food safety risk assessment organization” could deliver the best possible science at the earliest stage of decision-making, reduce unnecessary bureaucracy and duplicative effort between agencies and accelerate time-to-market for food safety innovations and best practices.

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1. The One Health concept is a worldwide strategy for expanding interdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment. The importance of One Health is promoted by scientists in many countries and supported by prominent organizations including the World Health Organization, Food and Agriculture Organization and World Organisation for Animal Health. For further information: www.onehealthinitiative.com.

A next step together

Just as NAFTA 1.0 led the world in forging the modern disciplines for Sanitary and Phytosanitary (SPS) measures in trade agreements, NAFTA 2.0 can take the next step. This is not about any country compromising its right to establish its own “level of protection” in relation to food safety, quality or nutrition, either for food produced domestically or imported. It is not about changing the mandate of food safety regulatory agencies and their alignment to jurisdictional boundaries, commodity responsibilities and legal mandates. Rather it is about joint scientific data collection and risk assessment to inform choices on food (and feed) safety standards and their enforcement. It is about excellence, transparency, speed, continuous improvement and least cost. It is about providing the Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), Health Canada and the Canadian Food Inspection Agency (CFIA) with a world-class foundation to continuously improve their performance and process standards, policies, and resource allocations for the benefit of consumers, business and taxpayers. And it is consistent with the RCC commitment to “partnership arrangements” and “institutionalized commitments” in the Joint Forward Plan of August 2014.

Around the world, major food producers, distributors and their customers are voluntarily aligning food safety best practices and audit procedures to internationally benchmarked private standards. As noted by Professor Jill Hobbs at the University of Saskatchewan, “the processes of harmonization and mutual recognition (equivalence) among private standards may be occurring more quickly than is possible for national public regulations, particularly those that require multilateral negotiations. Indeed, the GFSI [Global Food Safety Initiative] is an example of a coordinated attempt to formalize mutual recognition of equivalence between various private food safety standards.” Similarly, independent global bodies such as the International Organization for Standardization (ISO) and AOAC International are working together to bring their validation requirements for analytical test methods closer toward harmonization. At the inter-governmental level, regulators strive for the same outcome through organizations like the WHO/FAO *Codex Alimentarius* in Rome. But what can take years to accomplish in Rome should not impede progress in North America, least of all between Canadian and American food safety regulatory professionals who fundamentally “speak the same language” and generally draw from the same academic expertise.

There are numerous examples of sub-optimal outcomes from disjointed scientific effort that our businesses feel every day. For example, Canada considers mustard to be a priority allergen while the U.S. does not. Additionally, while Canada has brought its policy on controlling *Listeria monocytogenes* in ready-to-eat foods into greater alignment with the U.S., the definitions of food-contact and non-food contact surfaces in the manufacturing environment are not quite the same. The U.S. and Canada have pursued parallel but different processes to determine the risk of bisphenol A (BPA) in food packaging materials. Whereas FDA might consider an innovative antimicrobial to be Generally Recognized as

Safe (GRAS), Health Canada may require full pre-market approval. U.S. food manufacturers can use analytical test methods for microbiological hazards as long as they are validated by recognized independent organizations like AOAC, whereas Health Canada maintains a unique compendium of approved methods. At the present time both the U.S. and Canada are putting considerable efforts into the application of Whole Genome Sequencing for food safety investigations but without the benefits of combined bioinformatics infrastructure.

In terms of economic impacts, such differences can prevent or disrupt trade in agricultural commodities and finished foods, and \$47 billion (USD) in annual agri-food trade between the U.S. and Canada is no small sum. But the more insidious problem is one of competitive distortion when newer, safer and more cost-efficient technologies or production protocols are not equally available on a cross-border basis. Companies can innovate in one country but can't sell in the other. For example, the 3M Company has significant investments in the U.S. and Canada and is a global leader in discovery science and innovation, including in the field of food safety. It has a series of "molecular detection assays" that can significantly improve the performance and speed of testing for *E. coli* 0157, *Listeria* and *Salmonella* and yet the latest versions of these analytical test methods are not approved for mandated tests in Canada. Farmers and food manufacturers may watch their competitors across the border move forward with a process innovation they are denied, even as they serve the same retail and foodservice customers. Food safety inspectors prescribe subtly different rules for everything from pre-op sanitation to validation of cook and cool cycles even though "systems equivalence" has been agreed between the countries.

Lessons from abroad

So what could a solution look like? Certainly NAFTA 2.0 should have a stronger SPS chapter, likely modeled on the SPS chapter that was agreed to in the Trans-Pacific Partnership (TPP) negotiations which expands on World Trade Organization (WTO) SPS rules.² The emphasis should be on ensuring fair, transparent and science-based standards, conformity-assessment procedures, and SPS regulations while eliminating measures that are discriminatory. But looking beyond typical SPS and Technical Barriers to Trade (TBT) disciplines and "technical working groups" (largely dormant under NAFTA 1.0), we can be more ambitious when it comes to scientific risk assessments for food and feed safety and possibly animal health. Lessons can be learned from the European Union, which more than 10 years ago created the European Food Safety Authority (EFSA). EFSA has become an

2. The SPS chapter of the TBT agreement contains new disciplines that limit importing Parties' ability to use protectionist measures to restrict agricultural trade. The TPP goes beyond WTO rules by including more elaborate transparency and regionalization provisions as well as new SPS disciplines on trade-restricting import checks, certification and audits. A key feature of the TPP SPS chapter is to enable exporters to participate in various risk-related import processes.

integral part of the EU's food safety system, providing world-class, up-to-date and fit-for-purpose scientific advice to member countries. It has helped to build the EU's scientific assessment capacity and knowledge community and informed the making of science-based regulations and standards in all of the EU countries.

An opportunity to strengthen North American food safety

NAFTA renegotiation presents an opportunity to strengthen food (and feed) safety outcomes by establishing a new joint "food safety risk assessment organization" to (i) undertake science-based food safety risk assessments using common data (hazard identification, hazard characterization, exposure assessment and risk characterization), (ii) recommend best practices in food safety risk management along the farm-to-fork continuum; and (iii) collect, analyze and communicate food safety knowledge for the benefit of consumers, government agencies, food producers, exporters and importers. More specifically, the joint organization would ensure a common scientific foundation for:

- assessing and preventing emerging foodborne threats (microbiological, chemical and physical including, where relevant, those linked to animal and plant health through the "One Health" concept);
- recommending food safety risk thresholds for pathogens, chemical residues, allergens, etc.;
- conducting risk-assessment modeling for various pathogen-food combinations and potential interventions;
- approving food safety interventions, technologies and analytical test methods;
- validating food safety best practices at all levels of food production, processing, distribution and preparation;
- sharing and interpreting food safety testing and surveillance data gathered across North America and globally;
- examining emerging risks, establishing relationships between prevalence and levels of contamination and updating risk assessment models accordingly;
- recommending innovative, outcome-based food safety inspection practices and compliance promotion strategies;
- helping the International Food Protection Training Institute and Safe Food Canada to build a North American competence-based learning framework for standardized, certified food safety education and training;
- building harmonized systems for traceability of meat, poultry and other food products throughout the supply chain, from origin to the consumer.

In the longer term, a strong institutional foundation for food safety risk assessment and knowledge sharing could lead to stronger partnerships on actual risk management, standards setting, enforcement programs and operational delivery. This is not to deny that when U.S. and Canadian regulators are engaged in a country-specific food safety investigation and product recall decision, risk assessment and risk management have to move together in real time, often with imperfect information. But the scientific risk assessment work to determine safe levels for mycotoxins in grain or acceptable condensation control measures in a meat plant is in a different realm. That is where institutionalized scientific collaboration can make all the difference. Stronger U.S.-Canada collaboration on food safety science will also position our countries to enhance the confidence of global consumers in the integrity of North American food production and allow for better management of the food safety risks associated with food imports from less developed countries. This collaboration can become a blueprint for other regions to follow and continue the effort around global food safety harmonization.

From water to food safety: A history of collective solutions

NAFTA is now 23 years old. In that time, food safety risks, continental and global integration of food systems and the pressure on U.S. and Canadian food safety regulatory agencies have grown in equal measure. While some Americans might look enviously at Canada's single food inspection agency (the CFIA), Canadians can admire the food safety knowledge of U.S. institutions like the Centers for Disease Control and Prevention. The point is that we both have strengths and we do things better when we do them together. In the worlds of plant and animal health, the U.S. Environmental Protection Agency and the Canadian Pest Management Regulatory Agency achieved the first joint approval of a NAFTA harmonized label for a pesticide product in 2007 and two years ago Health Canada and the FDA did the first joint review and approval of a veterinary drug for a food producing animal. But if we wind the clock back to 1912 we created the International Joint Commission to protect our shared waterways. In 1955 we went a step further with the Great Lakes Commission because it was recognized that successful management of such a precious, shared source of freshwater demanded it. Our shared food supply is not much different. Whether it is protecting Lake Ontario from zebra mussels or doing a joint risk assessment of norovirus in mussels (which the FDA and Health Canada actually did in 2014), by doing the science together we are better off.

What the U.S. and Canada did more than 60 years ago for the Great Lakes we can now do for our food supply. NAFTA 2.0 gives us the opportunity.

**Rory McAlpine, Senior Vice President
Government and Industry Relations
Maple Leaf Foods Inc.
Toronto, Ontario**

**Mike Robach, Vice President
Corporate Food Safety and Regulatory Affairs
Cargill Inc.
Minneapolis, Minnesota**