

January 2003

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John McNamara

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Recommended Citation

John McNamara, *The Smart Border: Food Safety and Bioterrorism - Canadian Speaker*, 29 Can.-U.S. L.J. 205 (2003)
Available at: <https://scholarlycommons.law.case.edu/cuslj/vol29/iss1/32>

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THE SMART BORDER: FOOD SAFETY AND BIOTERRORISM

John McNamara[†]
Canadian Speaker

I am very pleased to be here this morning. Yesterday we heard excellent presentations on the new realities of the relationship between our two countries since September 2001. The reality still takes into account the fact that we have the largest border of any two countries in the western hemisphere and on a day-to-day basis we trade more with each other than any other trading partners. The presentations detailed issues related to security and sovereignty, our existing trade agreements, and the movement of people and goods across borders. They presented a theorem of which what our two governments have been doing and this has impacted people and businesses involved in the cross border trade. It is my intention to focus on what is being done primarily in Canada, but to some degree in the U.S. and to deal with the fundamental question, how do we protect our common food supply from the very real threat that terrorism poses?

COMMON FOOD SUPPLY

This point about our food supply being a common food supply needs to be stressed at the outset. It is arguable that no two other countries in the world have such an intertwined system of supplying food to their consumers. In 2002, our total bilateral trade in agri-food products was 30.6 billion Canadian dollars. About two out of every three dollars of Canada's agri-food imports and exports was accounted for by the U.S. market. Our trade since the Canada/U.S. Free Trade Agreement has, except for a few products, no or

[†] John D. McNamara is president and founder of McNamara and Associates, a consulting firm that practices in the areas of finance, market development, strategic planning and communications. He served as president of the Archer Daniels Midland Company (ADM), the world's largest agriculture company, from 1999 to 2002. Prior to being elected President of ADM, he spent sixteen years with ADM providing leadership to its Canadian operations as President of ADM Agri-Industries, followed by his promotion to Group Vice President of ADM and President, North American Oilseed Processing Division. Mr. McNamara has served as Director of the National Oilseed Processors Association, Chairman of the Canadian Oilseed Processors Association, and Director of the Canola Council of Canada and the Canadian Institute of Edible Oils. Mr. McNamara completed his formal education in Chemical Engineering at Ryerson University in Toronto, Ontario.

very low tariffs.¹ As a consequence, food businesses have become focused on making decisions about where to source and where to process food products based on competitive advantage, seasonality, and fundamental business economics. It is truly a continental marketplace.

In coming to the subject of food safety and bioterrorism, we start with a situation where there is significant integration and a very large daily trade. Our common food supply is, indeed, a matter of our common economic interest. Bioterrorism is certainly a real threat to our food supply. Earlier this year, the World Health Organization released a report that begins with the following statement: “The malicious contamination of food for a terrorist’s purposes is a real and current threat. And the deliberate contamination of food at one location could have global public health implications.”²

The emergence of malicious contamination as a threat to our food supply has come as a shock to North America. We are blessed with a plentiful supply of an amazing range of food products being readily available in our grocery stores and our restaurants. Our dinner tables benefit from the proverbial horn of plenty, because they are now supplied from northern, southern, eastern, and western hemispheres 12 months of the year. This is a great accomplishment on the part of farmers and the food industry, both here in North America and elsewhere. However, our good fortune also puts us at risk. We depend on a global supply of food, not just our local one. Our food comes from over great distances and travels along a complex food chain. It is handled, transformed, packaged, shipped, reshipped and redelivered and handled many times before you or I consume it. Each step in the process increases its vulnerability.

It is equally true that domestic products travel great distances. This too creates vulnerability as a shortfall in production or a malicious act can impact the whole country from a single source of supply. Deliberate contamination of our food supply with chemical, biological, or radionuclear agents can occur at any vulnerable point along the food chain from input manufacturer, primarily producer, processor, and final marketing at retail or at food service. It has happened, not frequently to be sure, but it has happened. The following are a few examples cited in the reading resource materials that I have reviewed in preparation for this presentation.

¹ Canada/U.S. Free Trade Agreement, Jan. 2, 1988, 27 I.L.M. 281 (1988).

² *Terrorist Threats to Food: Guidance for Establishing and Strengthening Prevention and Response Systems*, Executive Summary, UNITED NATIONS WORLD HEALTH ORGANIZATION, Jan. 2003, available at www.who.int/foodsafety/publications/general/en/terrorist.pdf

CASES OF BIOTERRORISM

In 1978, a radical group in the Middle East used mercury to poison Israeli oranges.³ Exports were reduced by 40 percent, and at least a dozen people were injured from eating the product. In 1984, here in the United States a group of cult members in Oregon contaminated salad bars with Salmonella causing 700 cases of Salmonellosis and appeared to be a trial run for a more extensive attack, one that would possibly have introduced typhoid fever.⁴

These are other cases that have occurred in Canada and China by militant groups or disgruntled employees. These are examples that demonstrate how easily a determined group or an individual could maliciously contaminate our common food supply. The impact of a malicious attack can be gauged by assessing the impact that unintentional food safety incidents have had on both consumers and industry. As Ron just pointed out, the BSE,⁵ or mad cow disease, that most of us have heard about in Britain in the 1980's dramatically reduced the demand for beef.⁶ Exports were terminated and the state producers were burdened with the cost of eradication and storage programs; costs that continue today.

I suspect few of you noticed that in the fall of 2001, the identification of two cases in the Japanese cattle market caused a consumption of beef to fall 55 percent within a matter of weeks. Well over a year later, it has only recovered 75 percent to pre-crisis levels. The impact of this event was felt around the world as producers in North America and Australia saw exports fall. In citing this example, I am not suggesting BSE is a likely bioterrorist agent. That is unlikely.⁷ My point is to demonstrate that such an attack need not be focused directly on the consumer. In my opinion, it is just as likely to be targeted at the food industry itself. Consumer confidence in the safety of food supply can be undermined and real economic hurt can be generated without actually killing people.

³ *Overview of Agricultural Biosecurity*, CENTER FOR INFECTIOUS DISEASE RESEARCH & POLICY, Jan. 27, 2003, available at www.cidrap.umn.edu/cidrap/content/biosecurity/ag-biosec/biofacts/agbiooview.html

⁴ Joe Cummins, *Biopesticide and Bioweapons*, INSTITUTE OF SCIENCE IN SOCIETY, Oct. 23, 2001, available at www.i-sis.org.uk/biopesticide&bioweapons.php; Leonard A. Cole, *The Specter of Biological Weapons*, SCIENTIFIC AMERICAN, Dec. 1996, at 61.

⁵ *Bovine Spongiform Encephalopathy (BSE)*, Fact Sheet, UNITED NATIONS WORLD HEALTH ORGANIZATION, available at www.who.int/csr/disease/bse/en/

⁶ Charles Hanrahan, *The European Union's Ban on Hormone-Treated Meat*, CONGRESSIONAL RESEARCH SERVICE, Report for Congress, RS20142, Dec. 2000, available at www.ncseonline.org/NLE/CRSreports/Agriculture/ag-63.cfm

⁷ *All Egg and Egg-Containing Products From Belgium, France, and the Netherlands and Animal Feed From European Countries to be Detained at Ports of Entry*, FDA Talk Paper, UNITED STATES FOOD AND DRUG ADMINISTRATION, (June 11, 1999), available at www.fda.gov/bbs/topics/ANSWERS/ANS00959.html

In Belgium in 1999, the purchase of a dioxin laden animal feed ingredient, led to a serious crisis. Livestock and poultry farms across the continent were quarantined and products were recalled. In the end, it also led to the defeat of a government. Let us bring it closer to home. In 1994, a Salmonellosis incident estimated to have impacted 48 states, and perhaps 225,000 Americans, was caused by the failure of the sanitation procedures by a trucking firm supplying inputs to a major ice cream manufacturer.⁸ In 1997 and in 2002, there were incidents related to E-coli at Hudson Farms and Con Agra that resulted in the recall of millions of pounds of ground beef.⁹ The economic impact of a malicious attack on the agri-food industry could be catastrophic. Having watched the British farm sector sustain a second disastrous blow with the 2001 foot and mouth disease, the Canadian industry undertook an assessment.

According to the Canadian Animal Health Coalition, the impact on Canada would be significant.¹⁰ A major outbreak could lead to a reduction in Canada's GDP of approximately 2.6 percent compared to the total annual farm contribution in 2001. A trade loss of \$19.6 billion compared to five percent of Canada's total exports from all sectors in 2001. It projected the loss of 137,000 jobs, eradication costs of \$1.2 billion, the loss of 10.3 million animals, and finally, the dissemination of the cattle and beef industries for a four to seven year period. In the event that Foot-and-Mouth Disease was used by terrorists in Canada, the U.S., or Mexico it is highly likely that the continental industry would be impacted prior to its discovery.

The specific bioterrorist examples I cited earlier also identify the range of terrorists who have made bioterrorism their weapon of choice. The Center for Infectious Disease Research and Policy at the University of Minnesota categorizes them into the following: Terrorist groups that are sponsored by Arabic states, such as the collapsing Iraqi regime; independent terrorist organizations, Al Quaida; ideologically motivated groups, radical animal rights groups; or groups that have posed genetic engineering; offenders motivated by economic factors, those that might benefit from sabotage.¹¹ To these we must not forget to add individuals with intensely

⁸ *Foodborne Diseases – Possibly 350 Times More Frequent than Reported*, Press Release, UNITED NATIONS WORLD HEALTH ORGANIZATION, Press Release, WHO/58, Aug. 13, 1997, available at www.who.int/archives/inf-pr-1997/en/pr97-58.html

⁹ *Meat Recall Raises Questions About New USDA Rules*, L.A. TIMES, Aug. 26, 1997, at B6; Calvin Woodward, *Meat Recall Now Massive and Hudson Plant Shutting*, ASSOCIATED PRESS, Aug. 21, 1997, available at 1997 WL 4880532.

¹⁰ *Economic Impacts of a Potential Outbreak of Foot and Mouth Disease in Canada*, Executive Summary, CANADIAN ANIMAL HEALTH COALITION, Nov. 8, 2002, available at www.animalhealth.ca/FOOT&MOUTHEXESUMMARY.pdf

¹¹ *Overview of Agricultural Biosecurity, Potential Perpetrators*, CENTER FOR INFECTIOUS DISEASE RESEARCH & POLICY, Jan. 27, 2003, available at

personal reasons such as disgruntlement with their employer, job loss, jealousy or mental health problems. As Canadians and Americans, we are not prepared to retreat to a utopian ideal of family self-sufficiency in food production. Frankly, it is not possible to do so. Nor is it likely that we are prepared to give up the tremendous range of products available to us year-round in our grocery stores and restaurants.

PREVENTING BIOTERRORISM

So what are we to do? In reviewing the World Organization's paper, I was struck by one conclusion in particular. Prevention is the first line of defense.¹² That the key to prevention for food terrorism is establishment and enhancement of existing food safety management programs and implementation of reasonable security measures. In a speech to the International Food Service Manufacturing Association in February 2003 Dr. Murano, U.S.D.A. Under Secretary for Food Safety, talked about redefining the farm to table continuum and in doing so used the image of the current U.S. Inspection System as a partially opened umbrella that certainly is not providing as much public protection as possible.¹³ If prevention is the first line of defense and our initiatives along the farm to table continuum are to be the basis of defense of the umbrella or shield that protects us from both the unintentional and the malicious contamination of our food supply, then today we should carefully explore what we are doing. Just how open is the umbrella? What are governments and industry doing to open it wider?

In the time I have left, I am going to outline some of the Canadian initiatives to open the umbrella and to increase its effectiveness. The Canadian farm to table continuum has recognized its fundamental responsibility for preventing food safety problems including those related to bioterrorism. I feel comfortable telling you this morning that Canada has a clear commitment to this from the full supply chain. The commitment is intense in its determination and dedication. It is the commitment that has the support of governments at both the federal and provincial levels. It is supported by businesses from every sector of the food chain and by their provincial and national organizations. It is strengthened by initiatives that link sectors along the supply chain to the point where the major organizations

www.cidrap.umn.edu/cidrap/content/biosecurity/ag-biosec/biofacts/agbiooview.html

¹² *Terrorist Threats to Food: Guidance for Establishing and Strengthening Prevention and Response Systems*, at 11, *supra* note 2.

¹³ Elsa Murano's speech before the International Foodservice Manufacturers Association's Chain Operators Exchange, *Breaking the Cycle of Foodborne Illnesses*, Feb. 24, 2003, available at www.fsis.usda.gov/oa/speeches/2003/em_coex.htm

have formed a new organization, the Canadian Supply Chain Food Safety Coalition, to represent their interests and to foster initiatives.

I would like to illustrate this commitment by describing some of the supply chain initiatives. We normally think of food chain as being on the farm. With the exception of important inputs like commercially manufactured feed and chemicals, this is the case. As Under Secretary Murano stated in the speech I mentioned earlier, consumers have a romantic notion of heroic farmers and ranchers rising at dawn and working long hours to bring a rich bounty to the dinner tables of the average American home.¹⁴ That image in many respects is correct. But the tools that Canadian farmers and ranchers are using to make the delivery to your table and mine are increasingly guided by a rigorous scientific based approach to food safety.

On-Farm Safety Programs

Since the mid-1990's, Canadian Farm Organizations have developed HACCP-based On-Farm Safety Programs.¹⁵ There are 19 national programs either under development or being implemented. Almost all meat and poultry sectors utilize HACCP programs. In the horticultural sector, the Canadian farm groups have developed a program for mushrooms and one for fresh fruits and vegetables.

An On-Farm Safety Program was piloted last summer for the grains, oil seeds, special crops and pulses and its revised revision will be in the field again this summer. The development of national commodity specific Hazard Analysis Critical Control Point (HACCP) based auditable On-Farm Food Safety Programs are the result of major collaborative efforts between farm organizations and the Federal government. The funding partnership established in 1997 through the Canadian On-Farm Food Safety Program to date has invested over \$15 million in government and producer funds. Further funding has been promised under the new agricultural policy framework for the next five years.

Before I leave the farm sector, I would like to make two points. As you may know, Canada has a single safety agency for animal, plant, and marine products. The Canadian Food Inspection Agency was officially launched in 1997. I will not venture into the American debate about whether a single agency is a better way to go. Suffice it to say, it is the way that Canada has gone, and gone successfully. The point I want to make is that as a result of the formal agreement between the Federal Provincial Ministers of

¹⁴ *Id.*

¹⁵ Hazard Analysis Critical Control Point (HACCP); See, *Canadian On-Farm Food Safety (COFFS) Program*, CANADIAN FEDERATION ON AGRICULTURE, available at www.cfa-fca.ca/english/programs_and_projects/coffsnews/coffs-pe.pdf

Agriculture, an agreement subsequently endorsed by the Federal Provincial Ministers Health, the Canadian Food Inspection Agency is engaged in the unique exercise of providing official recognition to these national HACCP-based On-Farm Safety Programs.¹⁶ Of the 19 programs under development, seven have already submitted their rigorous technical view, which is the first step in obtaining recognition. This may be an indication of things to come as the Canadian authorities expand their scope of their official recognition program to cover the post farm gate segment of the food chain.

To my final point on the On-Farm initiatives, the national commodity groups identified at an earlier stage that the challenge they face in providing auditable programs to 200,000-plus farmers was well beyond the scope of anything tackled to date. As a result, they have established and launched new occupational On-Farm Safety Auditor and developed a five-day national training course based on CFIA's HACCP curriculum guidelines and ISO guidelines for auditor training.¹⁷

So far, I have focused on the farm sector, what it is doing, its strength, its capacity to prevent international malicious contamination of our food supply. As I indicated earlier, the commitment in Canada is from the whole chain. The Canadian processing sector shares many characteristics with its American counterparts. Some plants are federally inspected and move products across Provincial and International borders. Others are provincially or municipally inspected and their products remain within the provincial boundaries. HACCP is not mandatory in registered plants in Canada, except in the fish processing plants, but it is in place. Any plant that is shipping processed fish, meat, or poultry products south of the border is compliant with the mandatory requirements of the relevant American legislation. Beyond the processing sector, the food industry is rapidly moving to develop and implement a set of national HACCP-based programs. Quite frankly, it is following the highly successful lead of the farm sector.

In 2000, the Federal Agricultural Ministry was developing the Canadian Food Safety Adoption Program.¹⁸ As of the 31st of March, this program has funded 37 initiatives and partnerships with a wide variety of post farm gate associations. As an initial step, each of the participants, which are national industry associations, has undertaken the strategic review of their sector and its current food safety activities. Through this process, the gaps have been identified and action plans developed. As a result, major projects are being

¹⁶ *Canadian On-Farm Food Safety Program (COFFSP)*, AGRICULTURE AND AGRI-FOOD CANADA, Oct. 2003, available at www.agr.gc.ca/card-fcadr/national_initiatives/coffsp.phtml

¹⁷ *Canada: a world leader in on-farm food safety*, SGS CANADA, Jan. 2003, available at www.sgs.ca/serviceSolutions/haccp/onFarmAuditor.html

¹⁸ *Canadian Food Safety Adaptation Program (CFSAP)*, AGRICULTURE AND AGRI-FOOD CANADA, Oct. 2003, available at www.agr.gc.ca/policy/adapt/national_initiatives/cfsap.phtml

co-sponsored by industry and government. Many of these are themselves collaborative projects with more than one industry association contributing expertise and financial results.

Product Traceability

Traceability is a major element in response to unintentional or malicious food safety incidents. In Canada, there are several important initiatives underway. On-farm and through to the processing plant, cattle traceability is an established fact through the producer funded Canada Cattle Identification Agency.¹⁹ At industry's request, its volunteer I.D. Program was made mandatory in July of 2002. The program has already proved its value for both animal health and food safety traceback. Other national commodity groups are also moving in this direction. These are projects underway for discussion in the hog, sheep, and bison sectors.

Beyond the farm gate, Canada's retail food service and food products manufacturers have established a system of electronic traceability through the Electronic Commerce Council of Canada, ECCnet.²⁰ This initiative, now fully operational, is a web-based platform for suppliers, independent of the size and scale of their operations, to make products available to Canadian and foreign retailers. In itself, ECCnet is not unique. Its American equivalent, UCCnet, and its counterparts around the world, are all functioning according to developing a set of international standards and utilizing the expanding capacity of information technology.²¹

From the perspective of our subject today, what is important is that since January 1st of this year the major Canadian retailers are not accepting new product listings unless the product data is available through ECCnet. They are pushing out the responsibility for product identification and creating new capacity to identify, track, and trace products in the event of an incident. These developments, whether they are the creation and implementation of an on-farm or post-farm gate food safety program, or the new initiatives in traceability of primary and processed foods are important in one more respect. I anticipate that we will see a convergence as the whole supply chain recognizes the advantages of integrating the information technology systems with the food safety programs. In Canada, we are on the verge of having a new capacity to share information about food safety that well may

¹⁹ *About: Rational*, CANADIAN CATTLE IDENTIFICATION AGENCY (CCIA), available at www.canadaid.com/about/rationale.shtml

²⁰ *ECCnet Canada's National Product Registry*, ELECTRONIC COMMERCE COUNCIL OF CANADA, 2003, available at www.eccc.org/ProductRegistry/index.asp?langid=e&pageid=main

²¹ *Executive Summary*, UNIFORM CODE COUNCIL, available at http://knowledgebase.uccnet.org/c_execSummary.asp?n=1-1

position us as a world leader. These initiatives by definition and practice are filling the gaps in the food safety program.

The Canadian Agri-Industry has taken to heart the concept of food safety being everyone's responsibility. It has engaged in an unprecedented collaborative initiative within industry from input supplier to final marketer, between industry at all levels and government to strengthen its capacity to prevent both accidental and malicious food safety contamination. In my opinion, Dr. Murano's umbrella is, in the Canadian context, being quickly and systematically extended to cover the whole food chain.

Going back to the conclusion of the World Health Organization's report that I quoted at the start of my presentation; it gives us a good overview of what is happening in Canada. So far, I have dealt with taking preventative steps with a strong food safety program. The second recommendation was to implement reasonable security measures. With respect to bioterrorism in our food, common food supply, this has meant several types of initiatives. In the immediate aftermath of 9-11 and the subsequent Anthrax incidents, governments in Canada and the United States asked businesses all along the food chain to proactively review their security measures. Guidelines were drafted and widely distributed by government agencies and industry associations. The World Health Organization's new guidelines are another example. In addition, governments responded by enhancing oversight at the border. Canada, for example, substantially strengthens the Canadian Food Industry Agency's point by increasing the agency budget. Strengthening security measures to push back the borders is a sound and supportable concept, however it must be implemented reasonably and with considerable sensitivity. It is not to disrupt the tremendous accomplishments that have been made creating a truly continental food market.

The Bioterrorism Act of 2002 may result in requirements that are more restrictive than necessary to meet the Act's objectives, which I believe Canada's food exporters and our governments fully support.²² It may result in more restrictive than necessary requirements because the comment period on the draft regulations closed last week. The proposed regulations appear to include what could be characterized as one size fits all; minimum time to prior notice. This approach may be problematic for the efficient and productive movement of goods across the Canadian and United States borders. Government and industry are urging the Food and Drug Administration to utilize the statutory discretion to establish minimum times that trucks related to modes of conveyance, ships, trucks, rail or aircraft, and the nature of the commercial transaction involved. Furthermore, the Canadian industry would like to see a consistency between the requirements

²² Public Health Security and Bioterrorism Preparedness and Response Act of 2002, PUB. L. No. 107-188, 116 Stat. 594 (2002).

of the Food and Drug Administration and the U.S. Customs Service as to avoid constant disruptions and unnecessary disruptions in legitimate and secure trade. Overall, the Canadian position is one that strongly recommends that new measures relating to countering bioterrorism should be embedded in the concepts endorsed by the Smart Border Initiatives. Thank you very much.