Governing Food: Policies, Laws, and Regulations for Food in Canada
Preface

This report is a foundational study that assesses Canada’s current approach to food policies, laws, and regulations (PLRs) and identifies areas for in-depth examination in subsequent studies that are being undertaken as part of the Centre for Food in Canada’s (CFIC) research agenda. It examines the characteristics of an “optimal” regulatory system and considers how PLRs have been developed in Canada. Governing Food then explores how Canadian food PLRs stack up against this optimal system. The report looks at six specific incidences of food PLRs that provide concrete examples of the strengths and weaknesses of the Canadian approach. The report’s final chapter draws some conclusions and discusses the implications for the CFIC’s forthcoming Canadian Food Strategy.

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The findings and conclusions of this report are entirely those of The Conference Board of Canada, not of the Centre investors. Any errors and omissions in fact or interpretation remain the sole responsibility of The Conference Board of Canada.

ABOUT THE CENTRE FOR FOOD IN CANADA

The Centre for Food in Canada (CFIC) is a three-year initiative of research and dialogue to help address one of the mega-issues facing our country today—food. Food impacts Canadians in an extraordinary range of ways. It affects our lives, our health, our jobs, and our economy.

The twin purposes of the Centre for Food in Canada are:
- to raise public awareness of the nature and importance of the food sector to Canada’s economy and society; and
- to create a shared vision for the future of food in Canada—articulated in the Canadian Food Strategy—that will meet our country’s need for a coordinated, long-term strategy for change.

The Centre is taking a holistic approach to food. It focuses on food in Canada through three interrelated but distinct lenses: safe and healthy food, food security, and food sustainability. These lenses ensure that the Centre focuses on the full range of important issues facing the food sector.
The work involves a combination of research and effective communications. The goal is to stimulate public understanding of the significance of the food sector and spur the demand for collaborative action. The Centre is working closely with leaders and partners from Canada’s food sector, governments, educational institutions, and other organizations to achieve its goals.

Launched in July 2010, CFIC actively engages private and public sector leaders from the food sector in developing a framework for a Canadian food strategy. Some 25 companies and organizations have invested in the project, providing invaluable financial, leadership, and expert support.

For more information about CFIC, please visit our website at www.conferenceboard.ca/cfic.

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WHY DO WE HAVE FOOD POLICY, LAWS, AND REGULATIONS?

Food affects us every day because we need it to survive—and, increasingly, it worries us. We worry about whether we will have enough of it, whether it will be good for us, and whether we are harming our environment when we make it.

Our preoccupations, concerns, and desires about food have driven us to create the elaborate and constraining web of policies, laws, and regulations (PLRs) that govern us today. Many of these PLRs are working well and have proven highly effective: Canadians are benefiting from them. But, recognizing that PLRs are necessary for our health, safety, and well-being—and that we have made them honestly and with the best of intentions—does not mean that the sum of our efforts is an optimally effective and efficient PLR system.

Today, the food sector is one of the most highly controlled sectors of the economy. Government intervention has led to a steady growth in the number of PLRs governing food. A further complicating factor is that the structure and organization of food policies and regulations in Canada have often resulted in competing priorities and policy inconsistencies among branches of government at the federal, provincial, and municipal levels.

AN “OPTIMAL” FOOD PLR SYSTEM

Optimal PLR systems have five key attributes. They are:

1. **Proportionate**—Proportionate systems align the regulatory burden with the severity of risk.
2. **Responsive**—Responsive systems adapt easily to new circumstances, such as food industry innovation.
3. **Efficient**—Efficient systems achieve regulatory outcomes with low cost.

4. **Effective**—Effective systems are those that achieve their regulatory objectives.

5. **Transparent**—Transparent systems are those whose logic and processes are easy for all stakeholders to understand.

These attributes are interrelated. For instance, efficient and effective PLRs have a tendency to be proportionate to the risk. A particular problem of PLR systems is the tendency for PLRs to accumulate over time. Governments are inclined to incrementally add to the number of PLRs without rationalizing the “stock.”

Regulatory systems typically achieve their objectives through a combination of “soft” and “hard” approaches. “Hard” approaches seek to coerce behaviour through the threat of legal remedies that include fines, orders, and even imprisonment. “Soft” approaches tend to be more flexible and generally cost less because they do not rely as much on an enforcement apparatus.

PLRs are designed as a risk management system. They combine hard and soft approaches to minimize risk. Risk management is essentially about the gathering and use of information to make sound decisions. The risks cover a range of food safety, population health, economic viability, and the environment.

There are a number of key drivers for changing Canada’s approach to food PLRs. These include globalization, new production processes, technology, consumer awareness and engagement, and the growing complexity of the sector.

**SIZING UP THE CURRENT SYSTEM**

The Canadian Food Inspection Agency and Health Canada spearhead Canada’s approach to food regulation. PLRs differ significantly from province to province. There is relatively little consistency among or between provinces, or with the federal government. The provincial ministries with agriculture- and food-related PLRs vary from province to province and the number of PLRs in a province can be very large. There have been attempts to reform Canada’s food regulatory system for decades, and the federal government has conducted numerous reviews, roundtables, and studies.

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**Canada requires practical models of reform to move the system forward.**

Other jurisdictions, including provincial governments within Canada, and other countries, have been successful at reforming their overall regulatory systems and, in particular, their food regulation. These initiatives tend to either streamline regulations by removing unnecessary regulations or change the regulatory model to make it less prescriptive and more outcomes-based.

**ISSUES**

We require practical models of reform to move the system forward. To this end, we examine six food issues to review the Canadian approach and to understand how practical reform actually occurs in Canada. The six issues are food additives, genetically modified foods, health benefit claims, country-of-origin labelling, inspection, and international trade.

**SUBSTANCES ADDED TO FOOD**

We look at two sub-issues with respect to substances added to food: adding essential nutrients to improve population health, and subtracting ingredients that have been demonstrated to have negative implications for health. In terms of adding, we look at Canada’s approach to folate supplementation. In terms of subtracting, we consider efforts to lower the sodium content of food.

The fortification of food with folic acid was targeted at preventing birth defects that ultimately affect only a very small percentage of the population. Also, trade considerations played a key role in Canada’s folic acid fortification policy decisions.
Reducing salt intake would result in significant benefits both in lives saved and in health-care costs—estimated to be around $11.65 billion in indirect costs and $6.82 billion in direct costs. Given the myriad functions of salt, it is a complex process to reduce its use in food. Therefore, it is necessary to change certain manufacturing practices to compensate for some of the properties of salt (e.g., its preserving effects).

**GENETICALLY MODIFIED FOODS**

Health Canada defines genetically modified (GM) foods as those that “change the heritable traits of a plant, animal, or microorganism by means of intentional manipulation.” The concern about genetically modified foods encompasses food safety, the environment, intellectual property, and ethics.

In Canada, in 1993, the Canadian Federal Regulatory Framework for regulating biotechnology products was announced. One of the key principles of the framework was that it would use existing laws to avoid duplicating existing regulations.

There are no mandatory requirements in Canada for labelling to specify that a food is genetically modified. However, manufacturers can choose to say how the food was produced, provided the labelling is truthful and not misleading.

The Canadian system of regulation, based on a product rather than on a process, is simpler and more transparent than one that is process-based. Using an existing regulatory framework—rather than creating a new one to fit each new technology—is more efficient and flexible, and reduces delays and impediments to product innovation that is based on new technologies.

**HEALTH CLAIMS**

Health claims are meant to give the consumer information about the benefits of a product—in terms of preventing a disease or increasing wellness—or they help with a health-related issue. The regulatory framework differentiates between a nutrition claim, a food claim, and a health claim.

There is no comprehensive legislative framework—to deal with foods with health benefits and also with natural health products—that is clear and straightforward. Essentially, foods with health claims fall under one act, but under one of two regulatory frameworks and policies, depending on how they are represented: one for natural health products and one for foods with health claims. Overall, the lack of a harmonized regulatory framework and the presence of a multi-layered system of regulation present significant barriers to innovation and economic growth in this sector.

**COUNTRY-OF-ORIGIN LABELLING**

Current international agreements on country-of-origin labelling (COOL) are sufficiently general to allow national governments to set their own standards, as long as these can be shown to be non-discriminatory toward particular countries or explicitly geared to limit trade.

Given the importance of the United States to Canada’s agricultural trade, U.S. COOL standards are now a major trade irritant between the two countries. Canada has joined with Mexico to lodge a complaint with the World Trade Organization over U.S. COOL regulations, arguing that they are effectively non-tariff barriers to trade.

Canadian COOL is a voluntary labelling system in the sense that processors are not required by law to add a COOL label. However, if they choose to add a label, they must comply with the regulations that are in place to ensure accurate claims of country of origin. Categories include “Product of Canada,” “Made in Canada” with a qualifying statement, and “Other Specific Processing Claims.”

**INSPECTION**

By one measure, the incidence of food illness is very high, as there are about 13 million cases of food illness per year in Canada, according to the Canadian Food Inspection Agency. Although the vast majority are fairly minor cases of gastroenteritis that rarely result in serious
illness, this high incidence rate has stimulated public expectations that government will play an active role in food safety, through inspection and other means.

Food safety depends on taking action on data. Most of the quality data resides at the establishment level where constant testing is conducted to ensure food safety. The food industry and regulators have to develop trustworthy and cooperative relationships based on their mutual interest in safe food. This might result in a movement toward encouraging the adoption of quality management practices throughout the industry and a better system for encouraging the reporting of system failures as they occur.

INTERNATIONAL TRADE

Canada’s domestic food policy needs to be reflected in its international trade policies, and vice-versa. Trade policy also has implications for the traceability of food products and other food safety and health issues.

Canada maintains tariff rates in excess of 500 per cent in some agricultural products. However, the trend has been to lower tariff protection in agriculture—50 per cent of agricultural commodities enter Canada duty free. Proposals made during the current Doha Development Agenda would see a tiered approach to further tariff reductions that, for instance, would result in a 70 per cent reduction in the highest protected good categories.

WE CONCLUDE

- The Growing Forward initiative and the federal Cabinet Directive on Streamlining Regulation are steps in the right direction that should, if properly implemented, go some way toward limiting regulatory overkill.

Why then does Canada need to further improve its food PLR system? The main reason is that the system has grown overly elaborate over time and has become increasingly unwieldy, notwithstanding the positive actions noted previously. Arguably, the problem is not so much the current approach to creating new PLRs in food, but rather the cumulative weight of all the old PLRs and the motivations that lie behind them. Other reasons for improvement are:

- Not only are parts of the current PLR system out-of-date, it is also too expansive, involving multiple levels of government that sometimes act at cross-purposes to one another. The system can be described as suffering from “scope creep.”
- Although no one knows exactly how much the entire system costs, there are indications that it is expensive. For example, one study of 12 industries estimated forgone economic activity of $440 million and forgone employment of 1,869.
- There are no quick fixes for Canada’s food PLR system. This report points out specific areas where the PLR system could be made more effective in meeting the needs of the agriculture and agri-food sector, government, and consumers. A good starting point would be to revise and modernize the Food and Drugs Act.

A closer relationship between all parts of the food industry and government will be crucial to achieving our goal of developing a more efficient and effective food PLR system. Ultimately, this relationship is the key to ensuring safe and healthy food for Canadian consumers, while improving food security, safeguarding the continued health of all parts of our food economy, and building our national competitiveness in rapidly growing global food markets.
Introduction

At a Glance

- Food affects us every day because we need it to survive—and, increasingly, it worries us.
- Food matters tremendously to us economically—as individuals whose living comes from working in the food sector, as food sector firms, as provinces, and as a nation whose competitiveness and prosperity is significantly impacted by the food sector.
- The food sector is one of the most highly controlled sectors of the economy. Government intervention has led to a steady growth in the number of PLRs governing food.
- The structure and organization of food policies and regulations in Canada have often resulted in competing priorities and policy inconsistencies among branches of government at the federal, provincial, and municipal levels.
- This report seeks to understand the forces that shaped past PLRs so that the Canadian Food Strategy can propose workable solutions.

The Conference Board of Canada has undertaken a multi-year initiative through the Centre for Food in Canada (CFIC), launched in 2010. With a view to creating a vision and framework for its forthcoming Canadian Food Strategy, the Conference Board is collaborating with the broad spectrum of stakeholders engaged in the sector. A number of research papers are being prepared to inform the discussion on the Canadian Food Strategy, with the overall objective of creating the food system we require for future health, security, and prosperity.

As ingested products, food is highly regulated so that consumers can trust that the food they eat is safe. Yet the food supply chain is dominated by private, profit-seeking enterprises. The sustainability and security of Canada’s food supply is directly related to the viability of these enterprises. So, throughout CFIC’s work plan, we explore the inter-relationships between the business of food and the regulation of the food business. That explains why we begin our research program with two foundational studies: Valuing Food, which looks at the economics of Canada’s food industry and this report, Governing Food, which looks at the regulatory system.

This report is one in a series looking at food safety, security, and sustainability. It focuses on the governance of food in Canada, and assesses current policies, laws, and regulations affecting agriculture and the agri-food industry. Potential key areas for strategic changes in governance are identified, with the aim of making the PLR system more effective in meeting the needs of the agriculture and agri-food sector, government, and consumers.

Few subjects matter to Canadians as much as food. Yet, in Canada, strategy has taken a back seat to tactics when it comes to creating the body of policies, laws, and
regulations governing food. Food development, production, and distribution—and related trade, health, and environmental issues—are often treated in isolation from one another. For the most part, new food PLRs have been reactive, coming in response to perceived concerns, problems, and threats. As a result, the steady accretion of PLRs has never been subject to the rigors of a holistic review, and no concerted effort has been made to connect the PLRs within the framework of a food strategy for Canada.

It is not because of a lack of concern about food that we do not yet have the national strategy or the coordination of policies, laws, and regulations that we need. Food affects us every day because we need it to survive—and, increasingly, it worries us. We worry about whether we will have enough of it, whether it will be good for us, and whether we are harming our environment when we make it. Too many of us worry about whether we can afford to provide our families with healthy food.

Our preoccupations, concerns, and desires about food have driven us to create the elaborate and constraining web of policies, laws, and rules that govern us today.

Two things are unique about food, compared with other important goods and commodities such as cars, computers, clothing, and household furniture—it is ingested, and it is critical for day-to-day human survival. These two factors make psychological concerns about safety, security, and health more powerful for food than for other consumer goods. And our concerns are rising, not abating. The process of becoming more concerned about food has been gradual, yet inexorable.

At the same time, as consumers, we feel conflicted about food. As we age, we place more of our hopes on food as a source of health and longevity. People want to be healthy—yet organic foods are expensive, often less appealing physically, and less convenient to obtain or use. In addition, it is not certain that the health claims being made for such foods are true—empirical evidence is often lacking.

Food matters tremendously to us economically, as individuals whose living comes from working in the food sector, as food sector firms, as provinces, and as a nation whose competitiveness and prosperity is significantly impacted by the food sector. We worry about how to protect our position in a global trading world when trading means so much to our economy without becoming too dependent on other nations for our food supply. Are we protectionists at heart or are we a trading nation looking to seize opportunities as the global food economy burgeons? These issues, and other questions and concerns, cloud our thinking about food.

How did we get this way? Over time, our attention has peaked at moments of fear—disease, pestilence, famine, hoarding—but the underlying trend line of public concern and governmental intervention has risen steadily, even when there was no obvious crisis to resolve. In fact, food has become so important to Canadians that, since Confederation, our governments have felt the need to create thousands of policies, laws, and regulations to address our concerns about food safety, security, sustainability, and our desire for improvement. As our society has become richer, new expectations about food have been added to the initial list. For instance, consumers now expect that agricultural practices should not harm the environment; that livestock should be humanely treated; and that genetic modifications should be made explicit, and clearly explained.

Our preoccupations, concerns, and desires about food have driven us to create the elaborate and constraining web of policies, laws, and regulations that govern us today. But, recognizing that PLRs are necessary for our health, safety, and well-being—and that we have made them honestly and with the best of intentions—does not mean that the sum of our efforts is an effective and efficient PLR system. Today, as we are on the cusp of an unprecedented era of globalization of the food economy, and as food and health are more closely linked than ever before, we have an opportunity and a need to change our PLRs. We will gain the greatest benefits if, this time, we can be strategic about the process of change, instead of being reactive as in the past.
BACKGROUND

PLRs have evolved as our food system has evolved. Until the 20th century, the Canadian food system was primarily concerned with providing for the nutritional needs of the local populace. Most people worked in agriculture, in some capacity, and were close to the source of their nourishment. With urbanization and specialization came the need to trade for food and the separation of food producers from consumers. That, in turn, created a demand for consumer information to address questions about sources (“Where did this food come from?”). As producers responded to other consumer demands—for convenient, low-priced, healthy food—food became increasingly processed, with more additives. Advanced food processing created a need for even more information (“What is in this?”). These information needs became further complicated as food production became globalized, raising questions about quality and safety, such as, “Who made this and what are their standards?” Answering these types of questions has become more and more complicated in step with the trend for food products to involve multiple countries in their production processes.

On its own, each new PLR has typically been beneficial—addressing, and sometimes solving, worrisome safety, security, and health problems.

These considerations give rise to political concerns that are ultimately manifested in the policies, laws, and regulations of the food economy. Arguably, everyone involved in the food supply chain has a vested interest in addressing the need for safe, secure, healthy food. Yet, the importance of food has led governments to take on the role of arbiters of a wide variety of consumer interests. Over time, the role of governments has expanded (through price controls, marketing boards, subsidies, and tariff and non-tariff barriers, etc.) beyond safety and access into broad areas of the functioning of the agricultural economy. At the same time, governments, responding to public concern or crisis, have continually added to the number and reach of PLRs relating to food and the environment, health, and research and development. On its own, each new PLR has typically been beneficial—addressing, and sometimes solving, worrisome safety, security, and health problems.

Today, the food sector is one of the most highly controlled sectors of the economy. Government intervention has led to a steady growth in the number of PLRs governing food. There is, perhaps, a systemic tendency toward greater intervention brought on by concerns due to the pace of change. The food system constantly innovates to provide cheaper, better, and more varied kinds of food to satisfy consumer demands. That innovation inevitably calls forth new PLRs to respond to the public demands for safe and nutritious food. Genetically modified food is a recent example of how innovation prompts new PLRs.

A further complicating factor is that the structure and organization of food policies and regulations in Canada have often resulted, unintentionally, in competing priorities and policy inconsistencies among branches of government at the federal, provincial, and municipal levels. In some instances, PLRs inadvertently make it more difficult for Canadian manufacturers to produce and market food in Canada. In other cases, PLRs act as obstacles to the creation or marketing of new food products. Regulations sometimes inhibit competition in the global marketplace, which results in higher food prices and less choice for consumers. An excessive regulatory burden also acts as a permanent drag on the competitiveness of Canada’s food industry.

The evidence of the powerful, sometimes negative, impact of PLRs, and their growing complexity and reach, argues for further probing.

A conceptual framework and detailed analysis of issues—based on lessons we can learn from past attempts at reform and modernization—are required to provide us with a clear view of the current state of food PLRs, how they came into being, what could be changed to our advantage, and how the change process can be expedited with the involvement of the key stakeholder groups.
APPROACH

This report provides an initial conceptual framework and analysis of Canada’s policy, legal, and regulatory environment for food and food-related issues. It examines the rationale behind PLRs and the role that they play in mitigating risk and enabling innovation, trade, and production in the agri-food industry. As one of our goals is to construct the Canadian Food Strategy so that it will actually be implemented, we have turned to the past to understand the forces that shaped our system of PLRs. This report examines a number of PLRs, noting those with beneficial outcomes as well as those where desired results were not achieved or were achieved at great cost. Specifically, we seek to understand why some efforts gave birth to new PLRs while others were stillborn. What are the lessons that we can learn from past successes and failures as we create our framework for the Canadian Food Strategy?

To construct the Canadian Food Strategy so that it will actually be implemented, we have turned to the past to understand the forces that shaped our PLR system.

Chapter 2 of this report provides the foundation—laying out the key drivers for change in our food system; discussing the risks attached to health, safety, and the environment; and concluding by setting out five key characteristics of an optimal PLR system.

In Chapter 3, the structure of the current PLR system is described and assessed in accordance with the five key characteristics of the “optimal system.” Chapter 3 considers existing federal, provincial, and municipal regulatory bodies that support the PLR system for agriculture and foods in Canada. Recent efforts at legislative reform are examined, with a brief discussion on whether these initiatives are moving Canada closer or further away from the optimal system we seek.

By focusing on six specially selected issues, Chapter 4 provides a closer look at how PLRs affect the production and consumption of food. By studying these critical issues, we not only obtain insights into the PLR regimes affecting six major aspects of food, we also gain a better understanding of how regulations evolve over time, and the factors that make them amenable or resistant to reform. This is crucial to the work of the Centre for Food in Canada, in order to develop recommendations with the greatest chances of success.

The six critical issues are:
1. Food additives
2. Genetically modified (GM) foods
3. Health benefits
4. Country-of-origin labelling (COOL)
5. Inspection
6. International trade

The focus is on identifying areas for reform that could improve the efficiency, effectiveness, and overall competitiveness of the food sector, and achieve health, trade, and environmental goals that are in the best interests of Canadians. The analysis of each critical issue concludes with a series of “lessons learned” to assist in the future development of the Canadian Food Strategy.

Finally, the concluding chapter points the way forward with a summary of key areas for potential improvement of Canada’s PLR system that might be part of the Canadian Food Strategy.

The Report and the Mandate of the CFIC

The Centre for Food in Canada is a three-year initiative whose goals are to:
- raise public awareness of the importance of the food sector to Canada’s economy and society; and
- create a shared vision for the future of food in Canada—articulated in a framework for the Canadian Food Strategy that will meet the country’s need for a coordinated, long-term strategy.

This report is foundational to these goals in that it contributes to the strategic framework by highlighting the policies, laws, and regulatory areas where improvements could potentially be made.

Source: The Conference Board of Canada.
CHAPTER 2

Overview of the Policy, Laws, and Regulation System

At a Glance

- Optimal PLR systems have five key attributes: Proportionate, Responsive, Efficient, Effective, and Transparent.

- A particular problem of PLR systems is the tendency for PLRs to accumulate over time. Governments are inclined to incrementally add to the number of PLRs without rationalizing the “stock.”

- Regulatory systems achieve their objectives through a combination of “soft” and “hard” approaches.

- PLRs are designed primarily as a risk management system. The system seeks to manage risks relating to food safety, nutrition, and security of supply. There is growing concern about food production's environmental impact.

- Key drivers for changing Canada’s approach to food PLRs include globalization, new production processes, technology, consumer awareness and engagement, and the growing complexity of the sector.

CONCEPTUAL OVERVIEW: WHY FOOD POLICY, LAWS, AND REGULATIONS?

Food PLRs and their associated administrative and enforcement mechanisms are designed to address perceived market failures relating to food safety, security, and sustainability. These market failures typically relate to informational problems (information asymmetries), market structure failings, or negative spillover effects (i.e., environmental or innovative practices that transfer costs from business or individuals to the community). Food PLRs are targeted at producing better societal outcomes than would be produced through pure market mechanisms, especially in areas where market failures occur.

Policies, laws, and regulations are primarily designed to manage risk. At the time of the original Food and Drugs Act (1920), the main risk concerned safe, unadulterated food. Since then, PLRs have expanded to encompass a wide range of risks associated with the environment, the nutritional content of food, food labelling, and the economic viability of the agricultural sector (food security). These domestic provisions were reflected in Canada’s approach to international trade.

However—although reliable as the legal foundation for managing risk—laws and regulations tend to be inflexible, cumbersome, and difficult to change. The flexibility of the system relies on the application of policy, laws, and regulations through government administration and enforcement. Even if a country has a rational approach to food...
PLRs, grounded in genuine market failures, the administration and enforcement mechanisms often ultimately determine the effectiveness of PLRs in practice. If these mechanisms prove ineffective, either in design or due to inadequate resourcing for enforcement, the result may simply be to replace a market failure with a regulatory failure. This has the added disadvantage that, whereas market failures sometimes self-correct as consumers become better educated and producers more sophisticated in their management systems, regulatory failures are inherently more intractable.

The changing dynamics of markets allow for adjustments in the regulatory approach. (See Exhibit 1.) Although all regulatory systems combine prescriptive, industry-based self-regulation and outcome-based approaches, a prescriptive approach generally sacrifices innovation to standards and conformity. While it manages risk through standards, it largely ignores the way that risk can be managed through producer innovation.

In food governance, it is critical to have a system that protects the population from unacceptable risk across all elements of the food governance system.

In the agriculture and agri-food sector, substantial changes have been made to the way farming is conducted and how food products are produced. Globalization and changing consumer demands for the kind of food they eat are driving much of this. Yet, as noted, much of the core legislation and regulation governing agriculture and food stems from the 1920s.

**MANAGING AND ASSESSING RISK**

Risk management involves two elements: assessment and management. Risk assessment is the determination of the extent and severity of risk. (See Exhibit 3.) For instance, there is a very high risk of Canadians experiencing gastroenteritis from food-borne pathogens. Most of these incidences amount to fairly benign cases related to poor storage and preparation, either in restaurants or homes. Yet when food contamination leads to death, as it did in the 2008 listeriosis outbreak, then the severity of the risk leads to calls for a high degree of additional

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1 Health Canada, “Regulatory Modernization.”
regulatory oversight. Similarly, the SARS outbreak has made Canadians aware of zoonotic diseases and the BSE scare has highlighted dangerous farm practices. Modern media have helped raise awareness of these risks in the general population.

Assessment leads to the second element, risk management, which involves a calculation of “acceptable risk.” In food governance, it is critical to have a system that protects the population from unacceptable risk across all elements of the food governance system, both the regulatory and non-regulatory quality control systems.

The premise behind PLRs across the food system is that there are managerial failures, both private and public, either because there is a lack of information for decision-making or because the system of interpreting and making decisions leads to poor societal outcomes. Furthermore, PLRs are often based on the notion that free markets are flawed and cannot be counted on to produce optimal societal outcomes. Yet, even when that is the case, PLR interventions may not necessarily be the best solution.

Risk management of the food system can affect everything from the management of establishments across the food supply chain to individuals’ personal management (e.g., dietary choices), to the impact of individual decisions on society (the environment and the public healthcare system). A good example, which we explore in some depth later, is the case of food inspection, which is based on the idea that food establishments’ managerial systems require public audits to ensure food safety. That is probably true for some establishments, but it is also true that a food inspection system cannot ensure 100 per cent safe food. This is because an inspection system is
detached from the day-to-day operations of food establishments and, therefore, will never have all the information or the managerial capability to make sound decisions about safe food in all cases. In fact, the modern Canadian inspection system can manage only a relatively small portion of the risk through periodic inspection due to its constrained resources.

There is some tension between governmental PLRs and industry. On the one hand, industry may rightly state that many PLRs are redundant (and therefore inefficient) because private sector establishments are already providing safe, nutritious food; are well motivated to continue doing so; and have the management systems and day-to-day operational presence required to make good decisions most of the time. On the other hand, government can reasonably point to instances of food-borne pathogen outbreaks to make the case that far-from-perfect private sector systems need to be monitored and carefully regulated. Government can also point to environmentally unsustainable practices that transfer costs from private producers to the broader community.

Yet, some private operators concede that governmental standards, when sensibly applied, can actually improve the functioning of markets. Government standards play to some people’s suspicions that private operators may trade off consumer interests for profit. Confidence that there is a degree of government oversight encourages some consumers to make buying decisions without worrying about basic issues such as food safety. Moreover, if unscrupulous operators can be held to a high standard, then the poor standards of one producer are less likely to tarnish the reputations of all producers.

### EVOLVING PLRs

Over the years, the nature of food production has changed dramatically. At each stage in the past, the PLR system was orientated to address specific risks associated with the concerns of the day. The accumulation of these approaches is reflected in our current food PLR system.

In the late 19th century, a sample of 192 food items was found to contain 52 items—more than one-quarter—that were adulterated in some way. Not surprisingly, at the turn of the 20th century, the focus of food policy, laws, and regulations was to limit adulteration—essentially a form of fraud—that had inevitable implications for food safety. That suggests that the Food and Drugs Act, originally enacted in 1920, was promulgated in an environment where some of the economic participants in the food system lacked basic integrity. As such, measures to ensure food safety and consumer protection were critical. There was a clear need to establish regulatory standards in a world where market standards were very weak. This established a food safety practice that has been followed ever since. Thus, today, it is the norm to address changes or problems by setting new government regulations and developing associated standards and procedures.

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2 Harrison, “Forging Links.”
The next wave of PLRs emerged around the Great Depression and the war years. This wave saw a focus on food security during a period of major economic and political upheaval. Governments became more directly involved in the economic systems of food production and distribution, just as they were becoming more involved in the financial system and other parts of the economy. Again, many of these food security policies remain in place today, in the form of various supports for the agricultural sector and, most notably, supply management and marketing. As we discuss later, these economic approaches, by necessity, are reflected in Canada’s international trade policy as it pertains to food.

The accumulation of PLRs over the last 100 years has seen them touch on virtually every aspect of Canada’s food system.

A new wave of PLRs came into effect in the post-war period. Modern agriculture and agri-food systems increasingly relied on technology in the form of advanced fertilizers and pesticides (to increase yields), the use of machinery and, ultimately, biotechnology. New risks emerged regarding the impact of modern agriculture on the environment and the safety of new ways of producing food. Educated consumers began to ask for more information to protect themselves. More recently, highly engineered foods have become both part of the risk (in terms of safety) and also part of the risk mitigation (functional foods and nutriceuticals may improve population health).

The accumulation of PLRs over the last 100 years has, therefore, seen them touch on virtually every aspect of Canada’s food system. Canadians expect the regulatory system to ensure safe and nutritious food. Producers have organized their businesses around PLRs and, in many cases, government support is critical to what is produced and how it is produced. Rapid technological development offers the hope for new and better foods, but also makes it exceedingly difficult to ensure food safety. Therefore, the system includes the overarching policy objectives of safety, security, and sustainability, which it attempts to achieve through a wide range of PLRs ultimately focused either on the health and safety of the consumer or the viability of the producers. (See Exhibit 4.)

Over the last 100 years, not only has the nature of the risks changed but so too has the system of risk mitigation. The system has evolved from a government-centric risk management approach in a market with widespread

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**Exhibit 4**

Objectives, Mechanisms, and Outcomes

<table>
<thead>
<tr>
<th>POLICY OBJECTIVES</th>
<th>Safety</th>
<th>Security</th>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLICY MECHANISMS</td>
<td>Approvals, Standards, Audits</td>
<td>Marketing, Trade Policy, Funding</td>
<td>Environmental Regulations</td>
</tr>
<tr>
<td>OUTCOMES</td>
<td>Consumer Access to Safe Food</td>
<td>Producer Viability</td>
<td></td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
quality problems, to a jointly managed system where government PLR systems need to work with business systems to produce safe, healthy food.

CHALLENGES TO RISK MANAGEMENT

There are a number of challenges to risk management in the emerging world of agriculture and agri-food. Three noteworthy challenges are globalization, technology, and consumer awareness.

Globalization challenges Canada’s PLR system because food ingredients increasingly originate outside of the regulatory reach of domestic regulators.

Globalization challenges Canada’s PLR system because food ingredients increasingly originate outside of the regulatory reach of domestic regulators. That puts stress on the point of entry parts of the system to ensure consumer protection. Globalization has prompted a push toward common global standards. But the adoption of such standards has proved challenging because domestic producers have organized their own systems around the domestic regulatory system. The industry and regulators see many of the Canadian standards as being superior to global standards. In these cases, they are reluctant to adopt global standards that may undermine Canadian firms’ competitive positioning—both domestically and internationally. Effectively, globalization is a challenge to uniquely domestic approaches to risk management. The suspicion that foreign standards are weaker than Canadian standards, and the reality of globalized supply chains, are at the heart of food traceability technology—a topic we explore in depth later in our research program.

Technology is a major challenge to PLR systems. To begin, technology evolves through risk taking and innovation, which are often at odds with PLR systems that are about safety, predictability, and control. The pace of technological change often challenges risk assessment. The minimization of a harm approach may end up deterring innovations that have the potential to create significant benefits. The techniques and administration of risk assessment may be biased more toward minimizing risk than maximizing benefit.

As we argue in our companion study, Valuing Food, educated consumers are increasingly aware of what they eat. Much of the system’s risk around safe and nutritious foods rests with consumers in their food choice and the way they store and prepare food. Mass media coverage of food challenges due to crisis—ranging from pathogen outbreaks or droughts—also contributes to consumers being more aware and occasionally frightened. This suggests that a major part of risk management rests with consumer communication strategies, through such means as public health warnings, dietary recommendations, labelling, and health claims.

CHARACTERISTICS OF AN OPTIMAL PLR SYSTEM

Acknowledging that policies, laws, and regulations are necessary to our well-being and will always be with us, can we design a PLR system that better meets the needs of the 21st century food producers and consumers? Optimal PLR systems have five key attributes:

1. Proportionate—A proportionate system is one where the chosen regulatory instrument is commensurate with the risk involved and therefore justifies compliance costs;
2. Responsive—A responsive system creates the right PLRs as and when the need arises, based on industry consultation and scientific or evidence-based risk assessments;
3. Efficient—Efficiency refers to the cost of implementing PLRs, especially in relationship to the benefit. Efficient systems produce a given outcome at the lowest cost;
4. Effective—Effective PLRs achieve their desired outcomes, while minimizing unintended negative consequences;
5. Transparent—Transparent PLRs are easily understood, easily implemented, and easily enforced. All stakeholders are able to understand the legal and regulatory context for their actions to ensure easy compliance with the regulations.
These five key attributes are interrelated in an optimal PLR system. Efficient and effective PLRs have a tendency to be proportionate to the risk. Transparent PLRs lower compliance costs and thereby improve efficiency. Conversely, inefficient PLRs have a way of undermining the other elements of the system because resources are diverted toward costly interventions that may not be proportionate or effective.

As we have noted, PLR systems tend to suffer from a particular problem of accumulation; that is, governments tend to add to the number of PLRs incrementally without rationalizing the “stock.” Overhauls of enabling legislation, such as the Food and Drugs Act, have occasionally led to streamlined regulations. However, compared with the United States, we are not very systematic about our processes and administrative mechanisms for streamlining. For example, the Canadian legislative system does not incorporate “sunset” provisions to trigger periodic reviews of legislation. Without sunset provisions, Canada’s food regulatory environment is increasingly faced with enforcing contradictory or outdated regulations along with the modern, relevant, up-to-date ones.

Having reviewed some of the rationale for PLRs, key attributes of good PLR systems, and forces for change, we now turn to an analysis of the current Canadian agriculture and agri-food PLR system.
CHAPTER 3

Sizing Up the Current System

At a Glance

- At the federal level, many departments are responsible for, or involved in, PLRs that affect agriculture and food.
- PLRs differ significantly from province to province. There is limited consistency among and between provinces, and with the federal government.
- Coordination of this complex system presents a formidable challenge.
- Numerous efforts have been made to diagnose the weaknesses of the Canadian system, but little progress has been made in bringing it closer to an “optimal” regulatory system.
- Some provinces and international jurisdictions have successfully reformed their regulatory systems to make them more streamlined without compromising public interest.

STRUCTURE OF THE CANADIAN SYSTEM FOR AGRICULTURE AND FOOD

Inevitably, Canada’s agriculture and agri-food system is complex because it is under the control of many governments and jurisdictions that serve the public interest from their particular vantage points—which are sometimes at odds with one another. The system operates in a multi-jurisdictional framework that involves an elaborate web of federal, provincial, territorial, and municipal policies, laws and regulations, and associated structures. Under the Constitution Act, 1867, agriculture falls under both provincial and federal jurisdiction, with federal legislation prevailing if there is any conflict.1 The federal government’s authority over criminal law and interprovincial trade is the legal basis for its regulatory actions.

The federal government usually has the lead PLR role on matters related to international commerce, farm assistance programs, research and development, food standards, packaging, labelling, and nutritional health. The provinces and territories have responsibility for PLRs within their borders for commerce, food, plant and animal safety, land use, and agricultural land protection, and some aspects of environmental protection.2 Municipalities use a mix of direct and indirect tools to influence agriculture and food. Land-use policies, zoning,

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1 The Constitution Act, 1867, S95: “In each Province the Legislature may make Laws in relation to Agriculture in the Province, and to Immigration into the Province; and it is hereby declared that the Parliament of Canada may from Time to Time Make Laws in relation to Agriculture in all or any of the Provinces, and to Immigration into all or any of the Provinces; and any Law of the Legislature of a Province relative to Agriculture or to Immigration shall have effect in and for the Province as long and as far as it is not repugnant to any Act of the Parliament of Canada.”

2 MacRae, “Notes From Food Policy.”
and taxation affect the supply of farmland, while regulations and bylaws deal with food safety and govern restaurant inspections (carried out by boards of health or regional health authorities).

Multiple agencies are responsible for the numerous functions being carried out.

The complexity of food governance is illustrated by the issue of food safety. PLRs and bureaucratic structures exist at all levels of government, with multiple agencies responsible for the numerous functions being carried out. (See box “Food Safety and Consumer Protection Regulation by Level of Government.”)

### Food Safety and Consumer Protection Regulation by Level of Government

**FEDERAL GOVERNMENT**

**Canadian Food Inspection Agency**
- Enforces all federal laws and regulations dealing with food.
- Ensures industry compliance with food safety regulations through inspection/compliance verification.
- Investigates (with other agencies) food responsible for food-borne illness outbreaks.
- Initiates food recalls (with industry).

**Health Canada**
- Sets food safety standards/policies.
- Makes health risk assessments for foods on the market.

**Public Health Agency of Canada**
- Acts as first point of contact for the federal government for human health impact of food-borne outbreak.
- Conducts public health surveillance.
- Leads epidemiological investigations for interprovincial investigations.

**PROVINCIAL AND TERRITORIAL GOVERNMENTS**
- Regulate food processing within their jurisdiction.
- Implement food safety programs.
- Lead outbreak investigations within their jurisdiction.
- Communicate food safety issues to their populations.

**LOCAL PUBLIC HEALTH/REGIONAL HEALTH AUTHORITIES**
- Inspect food establishments.
- Investigate and report cases of food-borne illnesses to provincial authorities.

Source: Agriculture and Agri-Food Canada.

In addition to governments, agencies, and boards, key players on matters of food safety include farmers, the food processing industry, retailers, and consumers.

### FEDERAL LEVEL

At the federal level, the primary departments/agencies involved in food PLRs dealing with food safety and consumer protection are the Canadian Food Inspection Agency (CFIA), Health Canada, and the Public Health Agency of Canada. The PLR regulatory system is based on a horizontal risk management approach that allows intervention across the supply chain (inputs, primary producers, and processors). It combines standard setting, administrative approvals, and licensing with associated enforcement mechanisms.

In addition to these mainline food-related departments, a number of other departments are responsible for, or involved in, PLRs that affect agriculture and food. These include the Departments of Agriculture and Agri-Food, whose role is to support the industry; Environment; Finance; Fisheries and Oceans; Foreign Affairs and International Trade; Health; Industry; Public Safety; and Transportation.³

Each ministry has legislation that enables it to regulate—often with impacts on producers, processors, manufacturers, retailers, and consumers. As so many departments within the federal government set rules, it can be a confusing maze for businesses to navigate. (See Appendix A for a list of federal legislation impacting agriculture and food.) Adding to the complexity are numerous federal agencies, boards, and commissions, each with their own programs and authority to administer PLRs that have an impact on agriculture and foods.⁴ (See Appendix B for list of agencies, boards, and commissions with the responsibilities and legislation that they administer related to agriculture and agri-food.)

### PROVINCIAL LEVEL

The governance system for food and agriculture differs significantly from province to province, with limited consistency among and between provinces, and with

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⁴ Ibid.
the federal government. The provincial ministries with agriculture- and food-related PLRs vary from province to province. For example, in Ontario today, at least 11 ministries are involved: Agriculture, Food and Rural Affairs; Consumer Services; Economic Development and Trade; Energy; Environment; Finance; Health and Long-Term Care; Intergovernmental Affairs; Natural Resources; Research and Innovation; and Transportation.5 By comparison, in Newfoundland and Labrador, responsibility lies with the ministries of Health and Community Services, Natural Resources, and Fisheries and Aquaculture.6

The shared federal-provincial jurisdiction in agriculture makes it possible for the provinces to create their own programs and regulations. This organization of PLRs involves some overlaps, duplication, and inefficiencies—a problem exacerbated in some provinces by the sheer number of PLRs. For example, in Saskatchewan, the Ministry of Agriculture administers at least 146 acts and regulations,7 while Prince Edward Island has over 43 statutes and regulations directly related to agriculture, fisheries, and aquaculture.8

COORDINATING STRUCTURES

Some structures are in place in Agriculture and Agri-Food Canada and in Health Canada to coordinate efforts between federal departments (horizontal initiatives) as well as between provincial and territorial governments. However, in the absence of an overarching and integrative government strategy for agriculture and agri-food, priorities and programs across federal departments are not always strongly linked. Further complicating coordination efforts are the diverse agriculture and agri-food PLRs across the provinces and territories, sometimes leading to competing priorities and policy inconsistencies within the federal government and among levels of government.

Given the limitations of existing coordinating structures, Canada’s complex food governance system is largely impenetrable by many stakeholders who are impacted by PLRs on a daily basis. It is not easy for consumers, producers, manufacturers, and retailers to understand the mechanisms or to navigate among the various departments involved.

PRESSURE FOR REGULATORY REFORM

Canada has attempted to reform the food regulatory system for decades through “a plethora of reviews, roundtables, and studies devoted to the issues.”9 Yet, there remain serious problems and the speed of change and innovation is much slower than the pace in global food markets. In a 2008 study, the George Morris Centre found that “Canada’s rules and regulations governing food innovation actually hinder innovation. They are outdated, poorly functioning and, in the Government of Canada’s own view, increasingly limited and inflexible and falling behind international best practices.”10 A Canadian Federation of Independent Business study found that almost 70 per cent of respondents from the small business agricultural sector found that regulation “significantly reduced the productivity of their businesses.”11

Despite a number of recent attempts at regulatory reform, it appears that Canada is not moving the regulatory system forward in a way that allows the agriculture and food sectors to be sufficiently innovative or competitive in the global marketplace. Table 1 highlights recent reform initiatives affecting agriculture and food sector PLRs, including:

- Cabinet Directive on Streamlining Regulation, 2007
- Bill C-51 (an amendment to the Food and Drugs Act), 2008
- Growing Forward, an initiative of the federal, provincial, and territorial ministers, 2009

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7 Government of Saskatchewan, “Acts and Regulations Administered.”
8 Prince Edward Island, Department of Agriculture, “Acts and Regulations.”
9 Alberta Beef Producers, Grass Routes.
10 Stiefelmeyer, Martin, and Klimas, Canada’s Performance, 14.
11 Canadian Federation of Independent Business, Prosperity Restricted, 9.
Among these, the Growing Forward initiative may hold the most promise for enhanced governance, given its genesis as a collaboration of the federal, provincial, and territorial ministers of agriculture. However, it is too soon for the programs and regulatory framework for Growing Forward to be fully evaluated.

It is disappointing to see the continuation of some inefficient processes. For example, the responsibility for one initiative (associated with Health Claims and Novel Food Products) is vested in three different branches in two different departments (Agriculture and Agri-Food Canada and Health).

When reforms result in divided responsibilities and accountability, it tends to be hard to achieve greater coherence. The challenge is compounded by the fact that each province and territory has several programs funded under the Growing Forward initiative. Without a more integrated and cohesive implementation strategy, it is hard to see how the initiative could reduce the regulatory burden.

### Table 1
Recent Reform Attempts: Policies, Laws, and Regulations Affecting Food and Agriculture

<table>
<thead>
<tr>
<th>Reform attempt</th>
<th>Year</th>
<th>Policies, laws, and regulations</th>
<th>Main reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streamlining regulation</td>
<td>2007</td>
<td>Cabinet Directive</td>
<td>• Introduces performance-based regulatory schemes&lt;br&gt;• Requires cost-benefit analysis of regulatory and non-regulatory measures, and cost-benefit of doing nothing&lt;br&gt;• Emphasis on consultation&lt;br&gt;• Every regulation must demonstrate net benefit to society&lt;br&gt;• Emphasis on need to harmonize regulations nationally and internationally</td>
</tr>
<tr>
<td>Food and Consumer Safety Action Plan</td>
<td>2007</td>
<td>Health Canada&lt;br&gt;Public Health Agency of Canada&lt;br&gt;Canadian Food Inspection Agency</td>
<td>• Response to product recalls and concerns about food safety&lt;br&gt;• Three main pillars of active prevention, targeted oversight, and rapid response</td>
</tr>
<tr>
<td>The Food and Drugs Act of 1920</td>
<td>2008</td>
<td>Bill C-51&lt;br&gt;Died on order paper on September 7, 2008 (Prorogation of Parliament)</td>
<td>• Major overhaul&lt;br&gt;• Introduced new offences and new definition of therapeutic products&lt;br&gt;• Require licences for import and interprovincial trade in food&lt;br&gt;• New provisions for regulatory-making powers&lt;br&gt;• Concerns raised about natural products and powers of inspectors</td>
</tr>
<tr>
<td>Growing Forward</td>
<td>2009</td>
<td>Federal/provincial/territorial policy framework</td>
<td>• Five-year cost-shared funding commitment of $1.3 billion (60:40)&lt;br&gt;• Focus on three strategic outcomes for ensuring competitiveness and innovation potential; contributing to health-conscious and environmentally aware public; and managing risks proactively&lt;br&gt;• Framework for meeting local needs, enabling greater adaptation and quicker responses to changing markets&lt;br&gt;• Commitment to reducing governments’ regulatory burden with priorities for:&lt;br&gt;1. Minor Use Pesticides Program&lt;br&gt;2. Veterinary Drugs Initiative&lt;br&gt;3. Health Claims and Novel Foods Products</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
HOW DOES CANADA’S REGULATORY SYSTEM MEASURE UP?

It is possible to offer some preliminary observations of Canada’s current approach to food regulation. These themes will be subject to rigorous analysis, in order to determine their impact and significance, as we carry out CFIC’s research program over the next two years.

As in other areas, Canada has a regulatory approach to food, and the complexity of the approach is disproportionate to the relatively small size of its underlying market. This is not surprising, as Canada is a country with a relatively small population of 34 million spread out over a vast territory, operating under a federalist governance model that is prone to overlapping regulations. These factors add costs to the system that are difficult to justify, given our market size compared with major competitors.

Canada’s PLR system does not have the checks and balances that are present throughout the fiscal system or the pension system.

The complexity of the Canadian system might be addressed through stronger coordinating mechanisms. Yet the nature of federalism prompts different levels of government to seek to differentiate their approaches based on their own unique assessments of the public interest. Factor in the ambiguities in science, risk assessment, and management methodologies, and the result is a plethora of different approaches. This, in turn, creates added costs for producers who operate in multiple jurisdictions, making it more difficult for them to achieve economies of scale in the Canadian marketplace and beyond.

Another criticism of the Canadian system is that its administrative procedures for approving new products are slow and therefore add costs to the innovation system. A study conducted by the George Morris Centre found that Canadian approvals for new products and for health claim labelling took longer than those of Canada’s major competitors. “In many instances Canada is decades behind in terms of building enabling regulatory frameworks to allow industry to innovate and communicate the benefits of food innovation to consumers”12 Even though the system is set up to minimize risk to consumers, it may very well add risk if it inhibits innovation in areas that reduce risk.

Current legislation has been described as a “patchwork of product categories and regulatory frameworks (e.g., drugs, natural health products, cosmetics, food) [that] create inefficiencies”13 and result in inconsistent approaches that are not always proportionate to the risk involved with the product. Technology and research have produced new food products that do not neatly fit into the present categories of food, drug, or cosmetic. For instance, specialty teas with medicinal properties could fit into two of the present categories—food and drugs.

In addition, although food regulation is quite different from drug regulation, food and drugs both use a common regulatory framework. All drugs must undergo pre-market reviews, while only a small number of potentially high-risk food products require a pre-market review (e.g., infant formula, food additives, and novel foods).

One of the challenges is that the PLR system is not subject to a rigorous, holistic accountability for performance. Nor does it measure performance of specific PLRs in achieving desired outcomes. The problem becomes ever more acute as the PLR system expands, which it tends to do through “regulatory creep.” Ideally, the growth of the system should be governed by its effectiveness, which should be measured in a fair and transparent fashion. There is no equivalent of the checks and balances that are present throughout the fiscal system, with its heavy oversight through Parliament’s budgetary process and periodic auditing by the Auditor General. Similarly, Canada’s pension system has strong and coherent regulatory oversight with the Office of the Chief Actuary and counterpart pension supervisors in provincial jurisdictions. There is no similar oversight role to ensure that the regulatory system in general—and, in particular, Canada’s heavily regulated food system—are accountable for producing outcomes.

12 Stiefelmeyer, Martin, and Klimas, Canada’s Performance, 1.
13 Health Canada, Blueprint for Renewal II, 17.
The costs of the regulatory system, in terms of the explicit administration and enforcement costs, are only a small portion of the total costs of the system, most of which are assumed by industry in the form of compliance costs. These costs may very well be reasonable, but under the current system, there is no accountability for regulatory outcomes and it is virtually impossible to gauge whether the costs of the entire system are proportionate to the risk that is being managed.

As regulatory reform in British Columbia has shown, it is possible to remove literally thousands of regulations without undermining the public interest. Since making a commitment to regulatory streamlining for all sectors in 2001 (in an initiative called Straightforward BC), the province has eliminated 163,000 or 43 per cent of its 2001 regulations. Nova Scotia recently announced that its own regulation reduction initiative has saved business owners 91,000 hours annually (a reduction of roughly 15 per cent), which it equates to $2 million a year.

So, there are good reasons to believe that the Canadian food regulatory system may be improved upon to bring it closer to the aforementioned ideal. We are exploring these issues in further detail in a forthcoming study, *Assessing the Impact of Food Regulations on Industry Performance* (scheduled for publication in 2012).

14 Lattimore and others, *Design Principles*. The paper estimates that the compliance costs on small businesses are upward of 20 times those of public administrative costs.

CHAPTER 4

Critical Issues

At a Glance

- We consider six issues that currently affect Canada’s food system: food additives, genetically modified foods, health benefits, country-of-origin labelling, inspection, and international trade.
- For each issue, we review the background to the issue, discuss Canada's approach, and assess the efficacy of the Canadian approach.
- Analysis of these issues sheds light on Canada’s approach to policy, laws, and regulations on food.

This chapter takes an in-depth look at six issues that have important effects on the food system and that also shed light on the development and functioning of Canada’s regulatory regime for the agriculture and food sector. Based on input from business, including the farming community, government, and consumer groups, the following issues were selected for study:

1. Food additives
2. Genetically modified food
3. Health benefits
4. Country-of-origin labelling
5. Inspection
6. International trade

The intentions and shortcomings of our PLR system, as seen through the prism of these six issues, come more sharply into focus, enabling a clearer understanding of where the system fails or succeeds, and why significant changes have not yet occurred.

FOOD ADDITIVES: FOOD MATH—TO ADD OR SUBTRACT?

BACKGROUND

Food additives have been used for millennia in order to preserve food, enhance its appearance, and improve its nutritional value. Ancient Egyptians and Romans made use of different colours, flavourings, and spices to help enhance the taste and appearance of their food. Salting and smoking have also been used extensively throughout history in order to preserve food. Today, food additives make it possible for the agri-food industry to preserve flavour, enhance appearance, and prolong the shelf life throughout the processing, packaging, and storage of food.

Food additives are federally regulated in Canada, defined by regulation in the Food and Drugs Act. In non-legal language, a food additive is “any chemical substance that is added to food during preparation or storage and either becomes part of the food or affects its characteristics” (e.g., by enhancing the appearance, texture, or preservation qualities). A substance that serves as an essential aid in food processing is also considered to be a food additive under certain conditions. (See “Policy for Differentiating Food Additives and Processing
Food ingredients such as salt, sugar, spices, and starch are explicitly identified as “not included” in the definition of food additives. Since food additives are considered to be ingredients in a final pre-packaged product, they must be included in the list of ingredients and accompanied by the Nutrition Facts table.

Regulations on food additives in Canada entail a cumbersome process, often involving a detailed submission to Health Canada. For example, if a food additive is not listed in the regulations for a particular use, then a proponent must submit a request to Health Canada to amend the regulations before the additive can be used in foods sold or advertised in Canada. A submission is required if the additive is new, is used in a different food, is used above the maximum level of use, or if it comes from a new source of enzyme or organism. “The submission must contain detailed information about the additive, its proposed use, the results of safety tests, and information on the effectiveness of the food additive for its intended use.”

The scientists from Health Canada’s Food Directorate, Health Products and Food Branch carry out a “pre-market evaluation” focusing on safety. They assess the toxicology and uses of the additive as well as microbiological and nutritional factors.

Additional food additive information is provided in the Canadian Food Inspection Agency’s “Guidelines for the Use of Food Additives and/or Processing Aids Intended for Fresh Fruits and Vegetables.” There are no standards in the Food and Drug Regulations for individual fresh fruits and vegetables, but if additives are used in pre-packaged fresh fruits and vegetables they must comply with the Food and Drug Regulations for labelling and additives.

### ADD FOLIC ACID

**BACKGROUND**

Vitamins were discovered in the early 1920s. In 1938, the addition of synthetic vitamins to food, and the enrichment of flour with thiamine (vitamin B1) began in the United States. Canadian government scientists, and public health and medical professionals, were unconvinced of the merits of fortification, prompting Canada to pursue a different approach from the fortification method used in the U.S. and Britain. Instead, Canadian scientists experimented with ways to naturally increase vitamin B1 in white flour. They produced white flour and bread with two to three times the amount of B1 found in regular white flour. Regulations were then passed that declared this new flour to be “Canada Approved.” Henceforth, adding synthetic vitamins to flour and bread was deemed to be adulteration. The word “vitamin” could only be used on labels to describe “Canada Approved” flour and bread products.

Canadians believed that these regulations were required because fortifying flour would lead to the addition of excessive amounts of vitamins to all kinds of foods and products. Despite being incorporated into Canada’s food laws, the vitamin B flours and breads never became popular. The regulations also stirred controversy as manufacturers who were using other methods, such as adding wheat germ or high-vitamin yeast, were prevented from labelling their products as being high in vitamins. As well, there were disagreements among nutritionists as to whether the thiamine levels in the “Canada Approved” products were sufficient to address the perceived nutritional deficiencies that the additional thiamine-milled bread and flours were trying to address.

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1 Health Canada, “Policy for Differentiating Additives.”
2 Health Canada, “Food Additive Dictionary.” Permitted additives and the allowable levels of use are outlined in Part B of the Food and Drug Regulations; Justice Canada, “Regulations Respecting Food.”
3 Except for wax-coating compounds, which are not required to be shown on the label of pre-packaged fresh fruits and vegetables.
4 Agriculture and Agri-Food Canada, “Food Additives.”
5 Health Canada, “Food and Nutrition: Food Additives.”
6 Canadian Food Inspection Agency, “Guidelines for the Use of Food Additives.”
7 Nathoo, Holmes, and Ostry, “An Analysis of the Development.”
Consequently, in the 1940s, new food and drug regulations were developed that moved away from the notion that adding vitamins was adulteration. The regulations defined the quantity of vitamins and minerals that could be added to some foods. As well, at this time in Newfoundland, it was mandatory to enrich flour with iron, calcium, and B vitamins. Thus, Canada reversed its stance on flour enrichment in response to political pressure and a need to harmonize the economies of Newfoundland and Canada when Newfoundland joined the Canadian Confederation.8

**Context**

Folic acid is a B vitamin that is used by the body to synthesize and repair DNA, and produce healthy red blood cells to prevent anemia. Certain foods are very high in folic acid—including green leafy vegetables such as spinach, and legumes such as dried or fresh beans, peas, or lentils.

Folate is especially important during early pregnancy for the healthy development of a baby’s spine, brain, and skull. Taken daily, at least three months before becoming pregnant, and continued through the first trimester, folate (often taken in the form of folic acid) prevents severe neural tube defects (NTD) of the brain and spinal cord (e.g., spina bifida). The incidence of NTDs in Canada, prior to the fortification of food, was about one to four occurrences per 1,000 births, with the highest rate in Newfoundland.9

Public education campaigns alone do not work as a means of ensuring that pregnant women take folic acid when they most need it.10 Over half of the pregnancies in Canada are unplanned, and women are often unaware that they are pregnant in the very early weeks when folic acid is most crucial to the development of the spine, brain, and skull.11

**Approach**

By the time that folic acid became an issue, adding vitamins to foods had become generally accepted. Interestingly, the addition of folic acid was based on a different strategy than the addition of thiamine. Thiamine was aimed at boosting the entire population’s perceived deficiency of that vitamin; while adding folic acid meant treating the vast majority of the population to prevent birth defects that affected only a very small percentage of the population.12

The efforts to make folic acid mandatory were led by industry, seeking harmonization with the United States to enable ease of importation, exportation, and trade.13

Trade considerations played a key role in Canada’s folic acid fortification policy decisions. In 1996, the United States announced that, as of January 1, 1998, the fortification of white cereal grain products—such as flour, pasta, rice, corn, and meal—would become mandatory. Canada followed suit, in an incremental fashion, beginning with regulations in 1996 to provide for the optional addition of folic acid. The intent was to make the additions mandatory at a later unspecified date. Canada changed its levels in order to harmonize with U.S. standards, following consultation with industry, provincial governments, and the public. There was general support for increasing the level of folic acid added to flour and enriched pasta, and for making it mandatory. Perhaps more significantly, the efforts to make folic acid mandatory were led by industry, seeking harmonization with the United States to enable ease of importation, exportation, and trade.13 Similarly, there was also widespread support to harmonize—with the U.S. regulations—levels of nutrients added to flour. In November 1998, Canada amended the regulations to the Food and Drugs Act and made the addition of folic acid (with other B vitamins)—to flour, bread, pasta, and cereal—mandatory.14

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8 Nathoo, Holmes, and Ostry, “An Analysis of the Development.”
10 Ray and others, “Association of Neural Tube Defects”;
Université Laval, “Adding Folic Acid.”
11 Ibid.
14 Government of Canada, “Regulations Amending the Food and Drug Regulations.”
Assessment

Rates of neural tube defect in newborns have been greatly reduced in countries that have legislated mandatory fortification of flour with folic acid. In addition, fortifying folic acid reduces the number of babies born with congenital heart disease by about 6 per cent annually for each year after fortification begins. This reduction generates savings in health-care costs due to averted complex treatments. However, there are some concerns that pregnant women are not getting enough folic acid simply from ingesting fortified flours. In addition to fortification, the Public Health Agency of Canada recommends that women who could become pregnant take a 0.4 milligram folic acid supplement daily to reduce the risk of NTDs. The supplement should be started at least three months before pregnancy and continued through for the first trimester.

On the other hand, there may be risks for the general population if the recommended dosage of folic acid (0.4 mg) is greatly exceeded on a regular basis. Having excessive levels of folate in one’s blood may be associated with a higher incidence of colorectal cancer and other types of cancers although, overall, the data is equivocal. Given the many sources of folate, especially synthetically occurring in additives and vitamin supplements, it may not be difficult to exceed this recommended daily dosage.

Clearly, in terms of preventing NTDs, fortifying flour with folic acid has been a success story: it is a good example of enlightened public health policy. Mandating folic acid in flour has benefited pregnant women, as well as babies. Adding folic acid was a very low-cost intervention that did not alter the taste, composition, or feel of the products and resulted in many lives saved and disabilities avoided—with major health-care cost savings. That said, as our diets and the foods we eat evolve and change, research into the effects of folic acid fortification on the whole population needs to be continued to ensure that the benefits are still outweighing any potential harms. Associated PLRs may need to be modified as the scientific evidence sheds new light on impacts.

Lessons Learned

- Trade considerations and harmonization with trading partners’ PLRs are important considerations in setting Canada’s PLRs and standards.
- PLRs must be based on the best, currently available, scientific evidence and not be implemented because of pressure from interest groups.
- When deciding on a PLR that is based on scientific evidence, the lowest level of intervention should be chosen. The reason is that ongoing research may turn up studies that will necessitate changes to levels or removal of additives, standards, dosages, etc.
- That means, do not choose legislation if the PLR may need changing on an ongoing basis due to changes in the science—choose policies or guidelines that can be more easily modified.
- Consultation with industry to gain support, and a reasonable period of voluntary compliance, allow industry to accommodate any potential changes in production, infrastructure, equipment, taste, etc., and to make allowances for costs incurred.

SUBTRACT SALT (SODIUM CHLORIDE)

BACKGROUND

Although salt is not defined as a food additive under the Food and Drug Regulations, the concerns about “added” salt in our diets have emerged as a key issue for regulators. Most of the salt that people consume comes from processed, pre-packaged, or ready-to-serve foods. The standards for salt are set out in the Food and Drug Regulations, including the provision that all table salt...
for general household use must be iodized. The iodization of salt became mandatory in Canada in 1949 to prevent goitre and conditions that impair physical and mental development, caused by the underproduction of iodine.

There are no legislated limits on the amount of sodium allowed in most foods, unless claims are being made about reduced salt content, such as “no added sodium or salt” or “lightly salted.” In these cases, the amounts are set out in the regulations. But, the regulations do set limits on salt content allowed in baby foods. In addition, labelling requirements for pre-packaged food require the listing of the number of grams per serving as well as “% Daily Value” (% DV) of sodium, along with other nutrients.

Regulations allow limited statements of health benefit claims in advertising of food products. The allowable statement regarding a salt-free product can specify that a healthy diet containing foods high in potassium and low in sodium may reduce the risk of high blood pressure, a risk factor for stroke and heart disease. [Name of food] is sodium-free. There are also other stipulations regarding formulation indicating that a food is for special dietary use from a salt content standpoint, using the limits and wording specified above.

It is estimated that the salt in our diets comes from the following sources: 77 per cent is added by the food industry; 12 per cent is naturally present in food; 6 per cent is added by the consumer during cooking; and 5 per cent is added by the consumer during meals. (See Chart 1.)

Salt content in packaged food varies by country, even in identical brands distributed by the same company. In an international survey of fast-food and processed food, Canada did not fare so well on this basis. In Canada, Kellogg’s All-Bran cereal contains 775 mg of salt per portion (36 g portion) while in the U.S. it contains only 200 mg per portion (31 g portion). Canada also ranked at or near the top in the amount of salt content in Kellogg’s Special K, and with some Burger King, KFC, and McDonalds products. It did not rank lowest for salt content for any of the foods that were studied.

Breads, which include all baked goods, account for about 14 per cent of the salt in our diet; processed meats account for approximately 9 per cent; red meat and poultry about 8 per cent; vegetables, tomatoes, and fruit juices total 8 per cent; and soups and pastas account for 7 per cent and 6 per cent, respectively. Cheese, which is one of the hardest foods from which to remove salt, accounts for 5 per cent of the sodium in our diets. In the case of some foods, such as baked goods, it is the high rate of consumption rather than the high concentration of sodium in the food that adds so much sodium to Canadians’ diets. Other foods are consumed in smaller quantities but have greater levels of sodium per portion. Accordingly, it is difficult to make decisions on what to eat and what not to eat in controlling the quantity of intake.

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19 Justice Canada, “Regulations Respecting Food.”
20 Ibid.
21 Ibid.
22 Ibid.
23 Health Canada, “Sodium: It’s Your Health.”
24 Ibid.
25 Conseil de la transformation agroalimentaire et des produits de consommation, Salt Reduction Guide.
26 World Action on Salt and Health, Food Product Survey.
27 Conseil de la transformation agroalimentaire et des produits de consommation, Salt Reduction Guide.
28 Health Canada, “Sodium Food Sources.”
Context
For centuries, salt has played a key role in human diets; as a preservative, and as a taste-enhancer. Historically, salt played a vital role in food safety and preservation by retarding the multiplication of pathogenic microorganisms to inhibit spoilage. And, to this day, salt is used to affect flavour in several ways: it is one of the five basic taste sensations and intensifies the perception of taste. Food technologists rely on salt to satisfy consumer preferences in colour, texture, appearance, and aroma. The taste for salt is innate and its perception is affected by several factors that include temperature, chemical composition of the food, age, smoking, and pH (acidity). Besides affecting taste, salt can also modify the texture and colour of certain foods. By affecting protein binding in foods, salt promotes food tenderness and mouth feel. Salt is a relatively inexpensive ingredient and makes it possible to retain water in certain products and to mask tastelessness at little cost. Salt is also used to control the fermentation process in cheese and bread.

Given that 77 per cent of the sodium in our diet is added to food by the food industry, the collaborative involvement of the food industry is crucial.

Salt is an essential nutrient for the body. In small amounts, the body requires it for normal functioning. However, most people are consuming too much salt. In Canada, it is “estimated that the average sodium intake is 3,400 mg per person per day from all sources.” According to the Institute of Medicine (IOM) in the United States, 2,300 mg per day should be the upper intake level (UL) for adults; for children under 14, the amounts are even lower.

The adverse health effects of high sodium intake in the diet have been well documented. Excessive amounts cause high blood pressure or hypertension, a major cause of heart attack and stroke. As well, high sodium intake is a risk factor for renal dysfunction, stomach cancer, and may have negative effects on bone metabolism. In Canada, 19 per cent of adults aged 20–79 have hypertension; a further 20 per cent are classified as prehypertensive. “Hypertension is a major cause of cardiovascular disease, which is the number one cause of death in Canada.” Reducing salt intake would result in significant benefits both in lives saved and in health-care costs—estimated to be around $11.65 billion in indirect costs and $6.82 billion in direct costs.

Approach
The World Health Organization and the UN Food and Agriculture Organization issued a joint report in 2003 calling for a major reduction in population salt intake. There have been efforts worldwide to reduce sodium, including work by the World Health Organization, Finland, the United Kingdom, Ireland, the European Union, Switzerland, Brazil, and the United States. Typically, this involves multi-pronged approaches to reducing sodium intake, including:
- partnerships with the food industry;
- regulation of industry;
- reformulation of processed foods;
- targeted consumer education;
- adoption of easy-to-read labelling on food to identify low-sodium products; and
- increasing access and availability of low-sodium foods.

Given that 77 per cent of the sodium in our diet is added to food by the food industry, the collaborative involvement of the food industry is crucial.

In addressing salt consumption, most countries take a population approach rather than an individual approach. This makes sense as only 11 per cent of salt intake in

29 Health Canada, “Sodium Food Sources.”
30 Health Canada, Sodium Reduction Strategy.
31 Ibid.
32 Ontario Agency for Health Protection and Promotion, Population Reduction.
33 Health Canada, Sodium Reduction Strategy.
34 Ibid.
35 World Health Organization, Diet, Nutrition and the Prevention.
36 Penney, Dropping the Salt.
37 Mohan, Campbell, and Willis, “Effective Population-Wide Public.”
38 Ibid.
Canada is controlled by the consumer through home consumption. This is why efforts to change lifestyles alone, rather than changes in the composition of processed and restaurant food, have shown only limited success.

Canada has seen initiatives to reduce salt led by non-governmental organizations, such as the “Sodium 101” website of the Heart and Stroke Foundation and the “Salt Lick Award” for the kid’s saltiest meal. In 2007, the federal health minister established the Sodium Working Group (SWG) to develop a strategy to help lower the sodium content of Canadians’ diets. The SWG had representation from the industry, scientific, and health community, health-focused and consumer non-governmental organizations, as well as government.

The SWG released its comprehensive Sodium Reduction Strategy for Canada. It was based on a multi-staged, three-pronged approach that included: 1) structured voluntary reduction of sodium levels in processed food products and foods sold in food services establishments; 2) education and awareness-raising of consumers, industry, health professionals, and other stakeholders; and 3) research. The strategy set an interim target of 2,300 mg of sodium per day, to be achieved by 2016.

The structured voluntary approach involved a mechanism for industry to publicly commit to meeting sodium reduction targets, with defined timelines, for specific foods. It included a plan for an organization outside of industry to monitor the food industry’s progress in meeting those targets, as well as a plan for an independent evaluation of the program with the option of taking stronger measures, if necessary.

In addition to voluntary compliance, recommendations to amend the Food and Drug Regulations were also included. The recommendations were to:

- make serving sizes in the Nutrition Facts table (NFT) as uniform as possible;
- change the basis of the Daily Value (DV) for sodium in the NFT from 2,400 mg to 1,500 mg to reflect the Adequate Intake (AI) level; and
- amend provincial/territorial legislation to require on-site disclosure of nutritional information in a consistent and accessible manner for standardized menu items that are prepared and assembled in restaurants and food service establishments where there is a high degree of standardization.

The SWG also recommended that the federal, provincial, and territorial governments modernize the processes and standards for identifying food content while maintaining food safety. As well, it recommended that governments develop more consistent sodium guidelines and procurement policies for publicly funded food service operations in schools, daycare centres, hospitals, correctional facilities, and other institutions.

After consulting with food industry stakeholders on targets, the federal government published a list of label data and targets in 2010. In January 2011, Health Canada set out milestones for 2012 and 2014 in the form of Sales Weighted Averages as well as final 2016 targets.

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After consulting with food industry stakeholders on targets, the federal government published a list of label data and targets in 2010. In January 2011, Health Canada set out milestones for 2012 and 2014 in the form of “Sales Weighted Averages” (SWAs), as well as final 2016 targets. The SWA uses the average of the sodium levels of all products in a category weighted by their volume market share. The 2016 SWAs were set to achieve the Sodium Working Group’s interim goal of a population average interim sodium intake goal of 2,300 mg of sodium per day.

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39 Mohan, Campbell, and Willis, “Effective Population-Wide Public.”
40 Health Canada, Sodium Reduction Strategy.
41 Ibid.
42 Ibid.
43 Health Canada, Sodium Reduction Strategy.
44 Ibid.
45 Ibid.
46 Health Canada, “Label Data and Draft Targets.”
47 Health Canada, “Stakeholder Consultation.”
The government disbanded the SWG in February 2011 and handed responsibilities to the Food Regulatory Advisory Committee.\textsuperscript{48} The Committee’s responsibilities are to provide broad expert advice on regulatory and administrative oversight of foods and “advice on matters relating to the strategic planning, priority setting, and environmental scanning of issues related to food safety, nutritional quality, or other issues related to the Food Directorate’s mandate.”\textsuperscript{49}

**Assessment**

Given the myriad functions of salt, it is difficult to reduce its use in food. It is necessary to change certain manufacturing practices to compensate for some of the properties of salt (e.g., its preserving effects). Although many artificial sweeteners have been discovered, there is no salt substitute. The technological challenges in reformulating food to modify salt content can be a troublesome burden, especially since there is no single alternative that has the same taste profile or the same functional role as salt plays in all foods. There are also potential regulatory hurdles for any salt substitutes as Canadian regulations present obstacles to using salt substitute options. For example, potassium chloride cannot be used in bread in Canada. As well, some of the regulations regarding the use of salt substitutes in food products are vague and require clarification.\textsuperscript{51}

**A step-wise approach over a reasonable period allows salt tastes to be gradually modified and results in higher consumer acceptance.**

We have an innate liking for salt and have adapted to levels of salt that are higher than are good for us. Yet, over time we can acclimatize to a lowered salt taste. For example, a study in Australia showed that lowering the sodium in bread from 100 per cent to 75 per cent over a six-week period was undetectable.\textsuperscript{52} The experience in countries such as Finland and the U.K. suggests that strategies to reduce salt gradually over time are more likely to work than those that try to do it quickly. This step-wise approach over a reasonable period allows salt tastes to be gradually modified and results in higher consumer acceptance.

**Should salt reduction targets be voluntary or mandated through legislation or regulation?**

Whether salt reduction targets should be voluntary or mandated through legislation has been widely debated and studied. An Australian study found that voluntary industry restrictions on salt were cost-effective and would cut ill health from cardiovascular disease by almost 1 per cent—but that an 18 per cent reduction in morbidity could be achieved by legislation. The study also found that dietary advice alone to restrict salt intake was not cost-effective, even if directed toward those with the highest blood pressure who were most at risk.\textsuperscript{53}

The U.K. has relied almost entirely on voluntary measures, whereas Finland has relied more heavily on regulation, mostly about labelling. In Finland, foods must be labelled with a “high salt content” label if the level is over a certain threshold, which varies by food (e.g., over 1.3 per cent in bread; over 1.4 per cent in cheese). This has led to a 20 per cent decrease in salt in bread, with some products being pulled from the market rather than having to carry the “high salt” label.\textsuperscript{54}

In the United States, the Institute of Medicine report, *Strategies to Reduce Sodium Intake*, found that food industry efforts, to voluntarily reduce sodium, faced obstacles. The sodium reduction attempts were not consistently undertaken by all, and were not easy to sustain given consumers’ preferences for food with a salty taste. As such, IOM recommended a regulatory approach to reduce the sodium content in food over time. It suggested

\textsuperscript{48} Weeks and Galloway, “Ottawa Disbands Sodium.”
\textsuperscript{49} Health Canada, “Food Regulatory Advisory Committee.”
\textsuperscript{50} Health Canada, “Stakeholder Consultation.”
\textsuperscript{51} Conseil de la transformation agroalimentaire et des produits de consommation, *Salt Reduction Guide*.
\textsuperscript{52} Penney, *Dropping the Salt*.
\textsuperscript{53} Cobiac and others, “Cost-Effectiveness of Interventions.”
\textsuperscript{54} Ibid.
that the Food and Drug Administration (FDA) use its power to determine the conditions of use for salt in processed food—consistent with the dietary guidelines—by modifying the “generally recognized as safe” (GRAS) status of salt. Today, the FDA regulates sodium as a GRAS ingredient with no limits on the amount that can be used in foods. Other regulations apply to labelling associated with sodium-related standards in terms of nutrition content and health claims. While these regulations were being developed, IOM suggested that food manufacturers and the restaurant/food industry work with government and stakeholders to promote voluntary collaborations to reduce the sodium in foods. IOM also recommended that this be a phased-in, step-wise approach to sodium reduction to allow time for consumers to adapt to the reduced sodium levels. As well, IOM recommended that the program be monitored and evaluated.55

The Canadian SWG report recommended a structured voluntary approach to reducing sodium. It cautioned the need to take into account both food security and food safety, notably in terms of food distribution and preservation in remote and Northern communities. The sodium targets needed to be “at a level where they [would] not compromise the variety, quality, quantity, and safety of foods available.”56 The SWG also noted that voluntary government and self-regulatory approaches could speed up implementation of initiatives. It recommended amending the Food and Drug Regulations in order to bring down daily sodium intake and reduce serving sizes. SWG also recommended that the Nutrition Facts table disclose the amounts of potassium in foods, as potassium chloride may be used as a substitute for sodium.

It is unclear how regulation—other than in special cases such as labelling regulation in Finland, or limiting the amount of salt in specific products such as bread—would work. Implementing regulations to cover an entire food supply would require a monitoring and compliance system that would likely be costly. Even where mandatory labelling practices exist, consumers are often confused about how much sodium is in a product, or how much salt they should be having daily. Some are confused by the interchangeable use of salt and sodium in labels and intake targets. The public can also be confused by different metrics for expressing amounts and daily targets. For instance, the WHO uses grams (g/day) per day (of salt) whereas Statistics Canada describes Canadian consumption as milligrams (mg/day) per day (of sodium).57

IOM also considered economic incentives to reduce sodium intake—such as agricultural subsidies for production of lower-sodium foods, a salt tax on foods with higher sodium content, and a cap and trade system for salt or sodium. It found that while each approach had the potential to reduce sodium intake, the fine-tuning for this purpose would be complex and often burdensome and costly, relative to the potential impact on sodium intake.58

In Canada, the change of targets for food to the proposed SWA has met with criticism. Critics say that this approach would allow manufacturers to keep higher levels of sodium in some products as long as sodium is reduced in others. This is opposed to the across-the-board reduction of sodium in all foods, originally proposed by the SWG report. The other issue with SWA targets is the fear they will thwart transparency efforts to track industry progress, as information to assess these targets comes from company sales and is confidential. This essentially allows a company to achieve its sodium reduction target by selecting a mix of its products rather than reducing salt content equally among all products. Health Canada has said that the SWA approach “provides companies [with] the ability to plan their sodium reduction efforts according to which products are most amenable to reformulation or discontinuation.”59

The move to SWA and the dismantlement of the Sodium Working Group has been met with surprise and criticism from various health professionals. Some past members

55 National Academies Institute of Medicine, Strategies to Reduce Sodium.
57 Penney, Dropping the Salt.
58 National Academies Institute of Medicine, Strategies to Reduce Sodium.
of SWG have said that the new reduction targets are not tough enough. They also mentioned that many members of the Regulatory Advisory Committee have close ties to the food industry, and have little or no experience in matters related to sodium or high blood pressure. They were also surprised that duties would be handed to the Regulatory Advisory Committee given that a voluntary, rather than a regulatory, route of enforcement is being embarked upon.

Lessons Learned

- Salt plays a complex role in taste and in food chemistry. There is no one compound that can take its place and alternatives are not cost-effective.
- Because we cannot eliminate salt, and people like it, we have to educate the public about its dangers as part of weaning them off their dependency and reducing use.
- Population-based sodium reduction strategies offer the most likely chance of success.
- Strategies must include targeted public education, consumer-friendly labelling, and industry collaboration with government in order to reduce the sodium content in food in step with reductions in consumer demand.
- Strategies must ensure that the entire food system (including the food processor, manufacturers, restaurants, and food service operators) is on a level playing field.
- When regulatory approaches are used, mandatory labelling appears to be effective. This creates an equal playing field among industry and allows sustainability of efforts.
- Implementing sodium reduction programs needs to be step-wise and gradual to allow for acclimatization of taste, reformulation of recipes, and increasing access and availability of low-sodium foods.
- Achievable targets and timelines for implementation should be established from the beginning, and evaluation and monitoring set up to track progress.

GENETICALLY MODIFIED FOOD

BACKGROUND

The definition of genetically modified used in the Food and Drug Regulations is “to change the heritable traits of a plant, animal, or microorganism by means of intentional manipulation.” For centuries, food crops and animals have been altered through selective breeding to produce stock with desired characteristics. Even without a formal knowledge of genetics, Canadian farmers and breeders were able to draw on their practical experience to produce crops that were more resistant to drought, strawberries that were juicier and redder, and animals that could better withstand Canadian winters. The development of genetics and the application of the rules of heredity gave rise to a much more systematic and scientific approach to genetic modification. Using modern biotechnology techniques, especially recombinant DNA (rDNA), plant breeders can “introduce specific genetic material derived from any species of plant, animal or microorganism, or created synthetically [in a] laboratory, into many different species of plants and animals [to obtain] particular traits” including resistance to insects, plant viruses, or tolerance to herbicides.

The first commercially grown genetically modified crop—a type of tomato—was released into the market in the United States in 1994. Since then, thousands of products on our grocery shelves have come from altered food organisms. Most of the GM crops in the world today are produced in the U.S., Brazil, Argentina, India, Paraguay, South Africa—and Canada. The most important products are soy, maize, cotton, and canola.

In Canada, the regulation of genetically modified food and plants may distinguish between genetically modified (GM) and genetically engineered (GE) food, and could refer to a broader category of “novel foods.”

61 Justice Canada, “Regulations Respecting Food.”
62 Canadian Biotechnology Advisory Committee, Improving the Regulation, 4.
63 Zahn and others, “GM Crops.”
under the Food and Drug Regulations, novel foods may also include a substance that “does not have a history of safe use as a food”; has undergone a process that has not been previously applied to food, or that causes food to undergo a major change; or is a food that comes from a genetically modified plant, animal, or microorganism. Several federal departments are involved in the regulation of GM, GE, and novel foods. (See Table 2.)

**Context**
There are world-wide concerns about genetically modified foods, although these foods have been much more widely accepted in North America than in the European Union. Concerns centre on a number of issues, including:

- **Food safety**—What are the health impacts on humans of foods made from genetically modified organisms? Do they transfer allergens, antibiotic resistance markers, and other unknown effects? As well, there are questions regarding any long-term effects on health, and how these can be monitored or attributed to GM food. GM foods have been on the market for 20 years without any reported effects on health.

- **Environmental**—What is the impact of the unintended transfer of genetically modified genes through cross-pollination? Concerns range from the unknown effects on soil or insects, the effects on the biodiversity and loss of flora and fauna, to the impacts on agricultural practices.

- **Economics**—The benefits of GM food development are concentrated in a small number of companies. Concerns have been raised about the impact on farmers in developing countries. On the other hand, most farmers express positive views about the results of GM on their ability to produce better crop yields. Potentially, biotechnology and other emerging technologies in agriculture and aquaculture may have a positive impact on the global food security and sustainability.

- **Intellectual property and other regulatory issues**—Related to the economic issues are concerns about a relatively few biotechnology companies dominating

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**Table 2**

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<thead>
<tr>
<th>Department/agency</th>
<th>Legislation</th>
<th>Responsibility area</th>
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<tr>
<td>Health Canada</td>
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<td>• Regulation of novel foods</td>
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<td>Regulations Respecting Food and Drugs</td>
<td>• Food labelling for health and safety</td>
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<td>• Assessments under Food and Drug Regulations</td>
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<td><strong>Plant Protection Act</strong> and Regulations;</td>
<td>• Animal biotechnology</td>
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<td><strong>Seeds Act</strong> and Regulations</td>
<td>• Labelling novel foods derived from genetic engineering (non-health and safety labelling)</td>
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<td></td>
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<td>• Novel feeds and novel fertilizer supplements</td>
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<td>• Plants with novel traits</td>
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<td>• Veterinary biologics</td>
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<td>Environment Canada</td>
<td><strong>Canadian Environmental Protection Act, 1999</strong></td>
<td>• Environmental assessments (when not regulated as equivalent under another act [e.g., Food and Drug Act])</td>
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<td>Fisheries and Oceans</td>
<td><strong>Canadian Environmental Protection Act, 1999,</strong></td>
<td>• Risk assessment for aquatic organisms with novel traits (genetically engineered fish)</td>
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<tr>
<td>Canada</td>
<td><strong>New Substances Notification Regulations</strong></td>
<td>• Note: No transgenic fish exist in Canada as of 2011</td>
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Source: The Conference Board of Canada.
the sector because they own patents on seed and plant genes. Similarly, there are concerns that developing nations will become more dependent on industrialized nations for food and farming. Foreign exploitation of indigenous natural resources (biopiracy) is also an issue.

- **Ethics and society**—Is genetic modification tampering with nature by mixing genes among species (“playing God”)? Is it wrong to combine animal and plant genes? Does biotechnology favour affluent nations?

There are also concerns that consumers, especially in North America, are not given the information they need to make informed decisions about buying GM foods because labelling is not mandatory.66

**Approach**

In Canada, in 1993, a “Canadian Federal Regulatory Framework” for regulating biotechnology products was announced. One of the key principles underpinning the framework was the use of existing laws to avoid duplicating existing PLRs. Thus, the regulation of genetically modified food was carried out within the existing framework of legislation and regulations (i.e., *Food and Drugs Act*, *Feed Act*, etc.).67

Canada takes a *product-based* approach to regulation focusing on the safety of the product rather than on the process by which the product or food is produced. GM foods are assessed in the same fashion as conventional products, according to their own characteristics rather than according to the production method used to make them.68 Health Canada is responsible for the regulation of GM food. Under the Novel Foods Regulations in the Food and Drug Regulations, Health Canada requires a pre-market notification prior to the sale or advertising of any novel food so that a safety assessment can be made.

The safety assessment approach used by Health Canada in assessing novel foods is based on a concept of “substantial equivalence,” whereby a GM food is compared with the traditional non-GM version of the food when it can be shown that the two are substantially equivalent. If substantial equivalence cannot be shown, the GM product is subject to further safety assessments. The substantial equivalence is based on the Organisation for Economic Co-operation and Development’s (OECD) internationally applied and recognized standards, which are used by other regulatory agencies in countries such as Australia, New Zealand, Japan, and the U.S. in their assessments of biotechnology. Where a novel food product has no traditional counterpart it is assessed on the basis of its own unique properties and composition.69

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**In 2006, Health Canada, following consultations, revised the guidelines for assessing novel foods derived from plants and organisms.**

In 1999, The Royal Society of Canada was approached by Health Canada, CFIA, and Environment Canada to establish an expert panel to provide advice on ensuring the safety of new food products being developed through biotechnology. In 2001, The Royal Society released *Elements of Precaution: Recommendations for the Regulation of Food Biotechnology in Canada*.70 The report called for an independent peer review of the science involved in regulating GM organisms (GMOs). It also questioned the use of substantial equivalence as a regulatory tool, arguing that it was too vague. The report recommended that safety assessments should include analysis of the consequences of the presence of the genetic material that had been transferred from one organism to another, and that direct testing for harmful outcomes should be undertaken. The report also argued that novel foods or traits needed to be shown to be harmless before safety approval was given, and that substantial equivalence did not imply that products were safe or should be exempt from testing. It also suggested adopting the precautionary principle—that is, to err on the side of safety and wait until there is a definitive body of evidence when confronted by uncertainty.

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66 Human Genome Project, “Genetically Modified Food.”


68 Health Canada, “Genetically Modified Foods.”

69 University of Guelph Food Safety Network, *Substantial Equivalence.*

70 The Royal Society of Canada, *Elements of Precaution.*
In 2006, Health Canada, following consultations, set new guidelines for assessing the safety of novel foods derived from animals and fish and revised the guidelines for assessing novel foods derived from plants and organisms. The Guidelines for the Safety Assessment of Novel Foods are based on, and consistent with, guidance documents adopted at the international level by the World Health Organization and the Food and Agriculture Organization of the United Nations, the Codex Alimentarius Commission, and the Organisation for Economic Co-operation and Development. The revised guidelines use the substantial equivalence concept.

Even though Bill C-474 was voted down, it highlighted the potential importance of having a national biotechnology strategy for agriculture and agri-foods.

In Canada and the U.S., decisions about risk are based on the characteristics of the product or its use rather than on the technique used to produce it. In contrast, the European Union emphasizes the process by which the food is produced; it regulates genetic modification and techniques, but not the final products. The EU also has environmental legislation, covering organisms that will be released into the environment, which requires a manufacturer or importer to show that commercialization of a GM food does not pose a risk to human health or to the environment. The EU takes a precautionary approach, making it difficult, if not impossible, to prove conclusively that a proposed GM product is absolutely safe. Consequently, GM foods are not well accepted in most EU countries.

In the U.S., restrictions on planting GM alfalfa have been lifted. This alfalfa is used as animal feed and to enrich soils, and critics are worried that pollination of the alfalfa by bees could contaminate their non-GM crops. Although the alfalfa has been approved in Canada, the seeds have not yet been sold here.

The issue of GM plants and foods continues to generate interest and controversy. In February 2011, a private member’s bill, favoured by the National Farmers Union and the Canadian Organic Growers, was voted down in the House of Commons. Bill C-474 would have required an analysis of the potential harm to export markets before approving the sale of any new genetically engineered seeds. The supporters of the bill argued that the spread of GM crops in Canada is not well regulated and cited concerns about cross-contamination affecting their ability to compete in export markets that demand non-GM food. Even though Bill C-474 was voted down, it highlighted the potential importance of having a national biotechnology strategy for agriculture and agri-foods.

Approach to Labelling

Both Health Canada and the CFIA play a role regarding labelling. Health Canada develops policies and sets health and safety standards related to labelling under the Food and Drugs Act and Food and Drug Regulations; CFIA applies the policies and enforces the regulations. CFIA also develops non-health and safety-related food labelling policies and regulations, including standards regarding advertising. Most relate to consumer protection from misrepresentation and fraud associated with packaging, labelling, and advertising.

GM foods are treated the same as non-GM foods when it comes to labelling. There are no mandatory requirements in Canada for labelling to specify that a food is genetically modified. But there is also nothing to prevent labelling how a food was produced—provided it is truthful and not misleading. In 2004, draft national standards for Voluntary Labelling and Advertising of Foods That Are and Are Not Products of Genetic Engineering were put in place to facilitate this type of labelling. As with other foods, special labelling is required to address potential health and/or safety risks or changes in nutritional composition.
Worldwide, the practices on mandatory labelling of GM food vary. The international community is working toward a consensus policy using the UN’s Codex Alimentarius Commission to set internationally agreed-upon standards. In the U.S. and Argentina, labelling is voluntary. Among the mandatory labelling countries, regulations vary by the amount of GM material in the product. For example, in the EU, all food produced from GMOs must be labelled whether or not the GM is detectable in the final product. In Australia and New Zealand, any substance that contains more than 1 per cent GM material must be labelled. Some labelling targets the presence of GM in the finished product, while other labelling targets GM technology as a production process. Other countries that have mandatory labelling in place are Japan, South Korea, Taiwan, and China.76

It appears that Canada’s approach to managing the risk associated with GM foods has served it well—which bodes well for future innovations.

Assessment
Canada’s product-based system of regulation is simpler and more transparent than one that is process-based. By using already existing PLRs—rather than placing the regulation of GM separately from other regulations—the Canadian system appears to be more flexible, efficient, and responsive to changing technology and consumer attitudes. It may also stand the test of time with the advances of new technologies, such as nanotechnology and synthetic biology, as it will be the product and not the process that will be assessed for safety.

However, the governance framework for GM foods could be improved to minimize overlapping responsibilities among the multiple departments and agencies that deal with regulations. Awareness of the problem has prompted attempts at reform. A 2002 report by the Canada Biotechnology Advisory Committee recommended that the federal government coordinate the operations and clarify the mandates of the several regulatory bodies involved in GM and novel foods.77 Companies find it increasingly difficult to navigate the maze of agencies, departments, and ministries, to obtain regulatory approval when bringing products to market. The problem will surely worsen with the emergence of new and converging technologies.

The labelling issue will probably continue to be a major consumer concern. With more and more GM foods, organics, and worldwide sourcing of food, traceability will become important as Canadian consumers seek information on the source of their food. Polls have suggested that the majority of consumers want to know which foods contain genetically modified ingredients. In fact, a CFIA study indicated that “Canadians are more concerned about the long-term effects of chemicals, including pesticides and [GM] organisms, than any other food safety issue.”78

GM foods, like most emerging technologies, generate highly polarized public views. As such, it is important that governments present the benefits and the risks of these technologies to the public in a balanced way, and do not let the debate become overwhelmed by special interest groups. While public debate needs to take account of the views of all stakeholders, presentation of scientific evidence needs to be front and centre.

The “substantial equivalence” approach taken by Canada to assess the safety of food meets international standards. It appears that Canada’s approach to managing this risk associated with GM foods has served it well—which bodes well for future innovations.79 After 20 years on the market, GM foods have not yet exhibited any negative effects on humans or on the environment. Some have suggested that it may be time to look at a two-tier regulatory system. The system would allow a less strict approval process in cases where scientific testing shows that the effects of a GMO are benign, but with a more rigorous testing for those products that may pose danger.80

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76 Gruère, Labeling Policies, Centre for Food Safety, “International Development.”
77 Canadian Biotechnology Advisory Committee, Improving the Regulation.
78 Lahey, “Do You Know?”
79 Tait, Risk Governance.
80 Bradshaw, “Ottawa Rejects.”
Overall, the introduction of GM foods into Canada, and the PLRs for GM foods have been a success story.

**Lessons Learned**

- Using an existing regulatory framework, rather than creating a new one to fit each new technology, is more efficient and flexible, reducing delays and impediments to innovation in products based on new technologies.
- Traditionally, foods and drugs had a long developmental cycle from origination to market. Therefore, they needed a stable regulatory environment to ensure that investments could lead to market entry and revenue to compensate for costs.
- Modern food product creation is becoming more like the information and communication technology sector: product cycle times are increasingly short, especially due to the rise of biotechnologies. We need a more nimble regulatory system that can constantly keep up with the pace of technology evolution and product change.
- Government faces the twin challenges of regulating to ensure that consumers feel safe with new technology-enhanced products, and that businesses are confident that they will have the opportunity to bring innovative new products, based on new technologies, to market in a timely fashion.
- The number of agencies and departments involved in regulating agro-biotechnology means that industry faces lengthy, somewhat unpredictable, processes for regulatory approval. This tends to discourage investment in innovation.
- A more coordinated, streamlined, “one-stop” approach would help companies to navigate the product approval process, especially as converging technologies become the norm.
- Engaging the public in debate early and educating them about new technologies and science is important. Equal air time for all sides will keep the debate fairly balanced on the risks and benefits of new technologies.
- Some innovations are intended to achieve a health benefit; some are designed to increase crop yields; while others are intended to enhance the aesthetic characteristics of a food. The public would support a streamlined, “fast-track” regulatory process for approving innovations from the agro-biotechnology sector that are intended to produce health benefits.
- The public might also support more streamlining for regulatory approval of products to enhance crop production or protect the environment. There is much less public appetite for innovations that are merely designed to enhance aesthetics.

**HEALTH BENEFITS**

**BACKGROUND**

The links between food and health are well known and the part that food plays in contributing to the problems of chronic conditions, such as obesity and hypertension, is well researched and documented. What is relatively new is the emergence of a field of innovation in food science relating to how food can help solve chronic health conditions and create positive health benefits.

The growth in the market for functional foods and natural health products is expected to continue.

The recent growing interest in food with health benefits has been attributed to a number of economic, social, and demographic factors. More than in previous generations, Canadians exercise, take care of their bodies, and are aware of the benefits of living a healthy lifestyle. They are better educated and affluent, and more willing to look for self-care approaches to health than in the past. They are more open to alternative treatments and therapies and, being technologically savvy, seek out health advice on the Internet. Our health-care system is starting to put more emphasis on preventing disease in order to control health-care costs. People are becoming more aware of what they can do to take control of their own health, and to make better use of health professionals, such as pharmacists, nurses, and therapists. There is a growing interest in natural remedies; more people are looking to alternative and traditional therapies and providers. As new disease associations with various nutrients become well understood, individual risk and genetics will play a big part in designing personalized diets, just as pharmacogenomics is affecting the treatment of cancer.
Foods with health benefits—functional foods—are found among the foods that we eat daily. Vegetables such as carrots, sweet potatoes, and some fruits, contain alpha- and beta-carotene, which neutralize free radicals, helping to prevent damage to cells and possibly decreasing the risk for certain cancers. Tomatoes and tomato products contain lycopene, which has been linked to a decreased risk of prostate cancer; and oats and barley contain beta-glucan, which reduces blood cholesterol levels that have been linked to a decreased risk of cardiovascular disease. There are also foods that have vitamins or minerals added to them by processing or have the isolated, purified form of the nutrient as a dosage form.

Over the past 10 years, the market for functional foods and natural health products has grown steadily and this pattern is expected to continue. The main markets for food with health benefits are the United States, Europe, and Japan. Emerging markets include China, India, Russia, Eastern Europe, and Latin America. Canada is an important secondary market where both the functional food and natural health products sectors have grown significantly in recent years, as measured by domestic market size and number of firms. Export sales have also increased substantially.81

According to Statistics Canada, in 2007, some 400 companies generated health and wellness product sales of C$2.9 billion and exported C$545 million worth of products abroad for the health and wellness market.82 The main markets for foods with health benefits, functional foods, and natural health products are the United States, Europe, and Japan, with emerging markets in countries including China, India, Brazil, Mexico, Eastern Europe, and Russia.83 The rising trend of consumer interest in foods with added health value is expected to continue and, along with it, growing demands for scientific proof that claims of health-added benefits are true.84 Of course, consumer interest is not solely tied to the nutritional value of food—taste, quality, cost, and convenience will always be important.

Context
Consumers rely on accurate and easily understood information to understand the links between healthy eating and disease reduction. Regulations are established to ensure that the claims made about functional food are true, and to make sure that the quantities of nutrients contained in products do not pose a risk. Foods with health benefits, and natural health products, are regulated—both through the types of claims that can be made about the product, and the products themselves. However, the terminology and definitions for foods with health benefits—including functional foods and natural health products—are not consistent, and there are no international standards for their regulation.

Health claims are meant to give the consumer information about the benefits of a product, such as preventing a disease, increasing wellness, or helping with a health-related issue. There is a common misconception that foods with health benefits, and especially natural health products, are “natural” and are therefore safe. In addition, consumers tend to trust products with government-backed health claims and feel that a regulatory framework provides security against unsafe products and misleading claims.85

The regulatory framework differentiates between a nutrition claim, a food claim, and a health claim. A nutrition claim usually relates to the amount of the nutrient or energy contained in the food, and there is specific wording regarding how the claim can be made. For example, “fat free” means an amount of fat so small that health experts would consider it nutritionally insignificant.86 A food claim is “a claim that [tells] about the composition, quality, quantity, or origin of a food product.” A health claim is any representation (e.g., labelling, advertising) that states or “implies that a relationship exists between the consumption of a food, or an ingredient in food, and a person’s health.”87

The World Health Organization and the FAO set food guidelines and standards on the fortification of vitamins and minerals, through the Codex Alimentarius. The

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81 Agriculture and Agri-Food Canada, “What Are Functional Foods?”
82 Government of Canada, “Canada’s Functional Food.”
83 Government of Saskatchewan, “Natural Health Products.”
84 Agriculture and Agri-Food Canada, “Promising Health Claim.”
85 Henson and others, “Understanding Consumer Acceptance.”
86 Health Canada, “Nutritional Labelling.”
87 Health Canada, “Food and Nutrition: Questions and Answers.”
Codex principles require that a public health need is demonstrated before additions are made to products. In 2010, Canada successfully led an international delegation to challenge this principle to allow for the discretionary fortification of vitamins and minerals within the set standards.88

It is not surprising that there is so much confusion and misinformation around natural foods or foods with health benefits.

Studies have shown that greater consumption of natural health products and foods with health benefits have the potential to reduce health-care costs. Consumers could benefit from better information about good nutrition and the links between diet, lifestyle, and overall health/disease mitigation. Currently, not much reliable information is available to the public, physicians, pharmacists, and other health-care workers regarding natural health products. Consumers are confused about the kinds of products that are good for them and how much they should be consuming.89

Approach

It is not surprising that there is so much confusion and misinformation around natural foods or foods with health benefits. The terms “functional foods,” “foods with health benefits,” and “nutraceuticals” are used, sometimes interchangeably, in Government of Canada documents and websites. Currently, there is no statutory or regulatory definition of functional food in Canada, and no consensus on what the term “functional food” means. Health Canada has said that a functional food is “a food with specific health-enhancing characteristics.” For discussion purposes, Health Canada has referred to functional food as “a food that is similar in appearance to, or may be, a conventional food that is consumed as part of a usual diet and that is demonstrated to have physiological benefits, or that reduces the risk of chronic disease beyond basic nutritional functions.”90

Nutraceuticals are related but different. Agriculture and Agri-Food Canada defines a nutraceutical as “a product isolated and purified from foods that is generally sold in medicinal forms not associated with foods. A nutraceutical has been demonstrated to have a physiological benefit or provide protection against chronic disease.”91

Functional foods or foods with health claims can be categorized as follows:

- **Natural or basic**—Unmodified foods that naturally contain a health benefit ingredient, such as antioxidant, beta-carotene, or high vitamin content. Examples of such foods are carrots, soy, and Jerusalem artichokes.
  
- **Processed foods with added ingredients**—Products that have the “beneficial” ingredient added to it. Examples are milk with vitamin D, calcium-enriched fruit juice, and cereals with vitamins and minerals.
  
- **Foods that have been enhanced to have more of a functional component**—Enhancement can be accomplished by traditional breeding, special feeding techniques, genetic engineering, or genetic modification. Examples of enhanced foods are omega-3 eggs, and tomatoes with higher lycopene levels.
  
- **Isolated purified preparations of active food ingredients (dosage forms)**—Health Canada used to call these ingredients nutraceuticals (and now calls them natural health products). They are isolated from foods and offered as supplements. An example is fish oil capsules, which provide omega-3.92

Health products in Canada—including foods with health claims, and natural health products—are generally regulated using a risk management framework. Products are managed and regulated according to the degree of risk that they pose. Food products that seek to make therapeutic claims are being regulated under the Product Licensing Framework of the Therapeutic Products Programme. The Product Licensing Framework is meant to streamline the approval process for therapeutic products, including drugs and medical devices. It has two components: 1) pre-market categorization, submissions, licensing, and reporting, and 2) post-approval surveillance, license renewal, and

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88 Freedhoff, “Canada Leads Charge.”
89 Blandon, Cranfield, and Henson, *Functional Food*.
90 Health Canada, “Food and Nutrition: Questions and Answers.”
91 Agriculture and Agri-Food Canada, “What Are Functional Foods?”
92 Ibid.
amendment of reporting requirements. Food products do not require pre-market evaluation unless they are infant formula, additives, or novel foods.93

**Foods With Health Claims**

Prior to 2002, the *Food and Drugs Act* restricted foods with health benefits—and claims made about foods with health benefits—as it regulated products as either foods or drugs. The legislation made no provisions for a food product to make claims of a health benefit type; instead the product was regulated as a drug. Obtaining approval as a “drug” required a Drug Identification Number (DIN) and a significant investment of time and money. That is why Tropicana orange juice was introduced to the Canadian market with a DIN and dosage information on its package, and was marketed as a “calcium and vitamin supplement.” In the United States, it was simply known as orange juice.94

It can take many years to gain approval for health claims in Canada.

In December 2002, amendments were made to the *Food and Drugs Act* to exempt food products with certain disease risk reduction claims from the regulations that govern drugs. This followed more than four years of discussion that resulted from Health Canada’s 1998 policy paper, *Nutraceuticals/Functional Foods and Health Claims on Foods*. In accordance with the amended Act, the prescribed wording, nutritional information, and other conditions were set out in the regulations for generic disease risk reduction claims. In order to make new risk reduction claims that are not on the list, a regulatory amendment is required.

Disease risk reduction and therapeutic claims fall under the definition of a drug and are subject to pre-market reviews and regulatory amendments. When a regulatory amendment is required, it involves formal consultation, drafting regulations, consultation processes, and Cabinet approval processes. This is laborious and time consuming, and it can take many years to gain approval for health claims.95 For example, two health claims, for plant sterols and oat products (for the reduction of cholesterol), were approved in 2010 following a three-year-long approval process.96

Claims about known nutrients and their contribution to maintaining specific body functions are regulated, but not as strictly as risk reduction claims. For general health claims, specific rules have not been established, but claims are subject to the *Food and Drugs Act* and cannot have “false, misleading, or deceptive product representation.”97

**Natural Health Products**

Rising interest in natural health products led to government action in the 1990s. The Natural Health Products Directorate in the Food Directorate of Health Canada was set up in 1999 to implement the recommendations stemming from the *Natural Health Products: A New Vision* report98 that the Standing Committee on Health tabled in the House of Commons in 1998. Consultations were undertaken in 2001. Natural health products (NHPs) were first regulated under the *Food and Drugs Act* according to the Natural Health Product Regulations, which came into force on January 1, 2004. Products were gradually transferred from having a DIN (Drug Identification Number) to a NPN (Natural Product Number) or DIN-HM (Drug Identification Number–Homeopathic Medicine).

NHPs include products that were formally known as nutraceuticals and comprise vitamins, homeopathic preparations, substances used in traditional medicine, and essential fatty acids, among others. NHPs can be sold, manufactured, or “represented for use in the diagnosis, treatment, mitigation, or prevention of a disease, disorder, or symptoms in humans.”99 These are the

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94 Fitzpatrick, “Regulatory Issues.”
98 House of Commons Standing Committee on Health, *Natural Health Products.*
99 Health Canada, *Charting a Course,* 40.
same claims that are allowed for drugs. All NHPs need to be registered and receive a distinctive identification number and carry a label claim. A product may be classified as both a food and an NHP.

It is still difficult to determine whether a product will be classified as a food or NHP or both, and whether they are subject to the NHP Regulations. In an attempt to clarify the situation, Health Canada issued a guidance document *Classification of Products at the Food–Natural Health Product Interface: Products in Food Format* that set out how products would be classified when they shared the same traits as foods and NHPs. “Product composition, product representation, product format, public perception, and history of use” as well as risk to public health and safety are all considered. The criteria are a guide that regulators use in making decisions on a case-by-case basis.

**Foods With Health Benefits**

In November 2007, Health Canada released a discussion paper, *Managing Health Claims for Foods in Canada: Towards a Modernized Framework*, which specified broad areas for increased efficiency and transparency in approval processes. Health Canada then consulted widely on how to:

- create standards for the scientific substantiation of evidence for claims;
- manage the confusion about the functional food/and food/natural health product interface;
- expand risk management strategies to include bioactive substances;
- manage a broad range of functional claims and the oversight needed for these claims;
- manage diverse, front-of-package health claims that are not regulated at present; and
- create useful core eligibility criteria for all types of health claims.

Following the consultations, Health Canada’s Food Directorate, Health Products and Food Branch released its Action Plan, in 2009. It set out ideas for additional health claims and for reducing the time between scientific review and authorization to go to market to achieve a goal of having 90 per cent of submissions reviewed within five years. The document also laid out actions for enhancing consumer confidence, clarifying the overlap at the food–natural health product interface, and increasing standardization for package claims, logos, and symbols. Health Canada also published a number of guidance documents to help understand the regulatory framework for foods with health benefits.

**Natural Health Products**

When the regulatory framework for natural health products (NHPs) came into force in 2004, the government committed to review the regulations within five years. A follow-up report identified a strong need for the:

- harmonization of government policies and protocols;
- regulation of NHPs proportional to risk;
- inclusion of provisions for compounding the NHP regulations; and
- revisions of requirements for the use of human tissue in NHPs.

Ultimately, the consultations and reports culminated in an action plan, released in February 2010. The *Phase I Action Plan: Natural Health Products Regulatory Review* addresses four key themes:

1. **Site licensing**—Building on the risk-based approach to regulation, a strengthened licensing system is being worked on.
2. **Product licensing process**—Product license amendments and notifications, multi-ingredient product applications, and consideration of market notification prior to sale are some of the issues being considered.
3. **Product content**—Clarifying what an NHP is: e.g., cosmetic–drug interface; naturally occurring medicinal ingredients.

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100 Health Canada, *Classification of Products*, 5.
101 Ibid.

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Find this report and other Conference Board research at [www.e-library.ca](http://www.e-library.ca)
4. **Post-market**—Options for an updated, risk-based approach for compliance and enforcement with a focus on education and outreach, and a review of current practices related to international trade certification.

**Health Products and Food**

At about the same time, Health Canada’s Food Products and Food Branch was planning to modernize regulations relating to the *Food and Drugs Act*. A suite of reports was prepared between 2006 and 2008, serving as the basis for consultation and recommendations on regulatory reform. None covered issues of foods with health benefits. Where nutrition was addressed, it was about strategies on food contributors to chronic disease—for example, how to reduce the levels of trans fatty acids in Canadian diets.¹⁰⁷

The latest effort at regulatory reform of health claims, novel food, and ingredients/additives was announced in January 2011 as part of an industry/government action plan—Growing the Canadian Food Processing Sector.¹⁰⁸ The action plan includes a section on regulatory reform in the health claims, novel foods, and ingredients/additives areas, describing the need for reforms to address the length of approval time, lack of regulatory responsiveness, and uncertainty. The plan proposes a major initiative to help Health Canada improve the regulatory approval process and “develop enhanced policy frameworks, standards, and regulations that are better able to respond to advances in food technology and innovations in product development.”¹⁰⁹

**Assessment**

There is no comprehensive, clear legislative framework to deal with foods with health benefits and natural health products. Like many of the regulations affecting food, two fundamental objectives underpin the need to regulate food with health benefits and natural health products: 1) to protect the public from harm; and 2) to ensure that the claims made about the food products are accurate and truthful. Although legislation does not define “natural” in relation to food, the word “natural” is protected, through CFIA guidelines, in how it can be used in advertising.¹¹⁰

Essentially, foods with health claims, although covered by one act, fall under two regulatory frameworks and policies—one for natural health products and another for foods with health claims. There are currently no regulations to deal with natural health products in food form and what the recommended dosage should be (e.g., eat one bar per day to ease symptoms for X).¹¹¹ In addition, there is confusion regarding what is classified as a natural health product and a functional food; the fact that products could be classified as both a food and a NHP; and the difficulty determining precisely how a product will be classified.

In June 2010, Health Canada issued *Classification of Products at the Food–Natural Health Product Interface: Products in Food Formats.*¹¹² The report explained how the department determines whether or not a food product is a natural health product. It noted that there is an overlap in the regulatory frameworks between a food and a NHP, and that the distinctions are made on a case-by-case basis. Because NHPs require a Natural Product Number (NPN) or a Homeopathic Medicine Number (DIN-HM), they include dosage information rather than the nutrient information that typically appears on foods. The advertising guidelines are also different: that is why you can walk down a cereal aisle and see hearts on a box of cereal and have to guess that this particular brand contains fibres that promote heart health rather than a box left over from, say, a Valentine’s Day promotion.

Industry concerns about “inconsistent regulatory outcomes for similar products processed through two different frameworks” were raised in 2007, yet persist today.¹¹³ For example, fortified juices may be labelled in a different manner—some juices are not just juices, and waters are vitamin-enhanced waters. These fortified products are allowed under the natural products regulatory

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¹⁰⁸ Agriculture and Agri-Food Canada, “Growing the Canadian Food.”

¹⁰⁹ Ibid.

¹¹⁰ Gnirss, “Mother ‘Natural’ versus Canada.”


¹¹² Health Canada, *Classification of Products.*

framework (but not under the food with health benefits regulatory framework). Because they are regulated as a natural health product, they have to contain a defined dosage, cannot have an ingredients label like regular foods, and must have precautionary statements about drinking too much of the beverage in terms of daily allowances of vitamins and minerals. The problem for manufacturers is that, although they get their products on the shelves, they cannot promote them like a food or a beverage. And they cannot advertise or educate consumers about the benefits and risks of their product.

The issue of whether or not there should be standards—and if there should be discretionary fortification with vitamins and minerals in food—is widely debated. Nutritionists are worried that we could end up with foods fortified without a nutritional rationale. Canada wants the international standards amended to allow industry to have some discretion in adding vitamins and minerals to products. The discretion would still be within the standards and guidelines set by the Codex Alimentarius, but the fortified products would not have to meet a recognized public health need.

**Surveys show that Canadians are responsible users of natural health products.**

Critics say that they do not know the consequences of fortifying the food supply. They also maintain that long-term studies need to be undertaken to determine if chronic, unnecessary, overexposure to high levels of vitamins and minerals poses health risks. For many products, it is unclear what, if any, upper dosage limit there should be. Critics are also worried that less-healthy fortified foods would replace traditional healthy foods—for example, vitamin fortified potato chips instead of fruits and vegetables.

There are little data, however, to support the public safety argument. Surveys show that Canadians are responsible users of natural health products. In a 2006 survey, 68 per cent of participants said they had experienced an adverse drug reaction as a result of a prescription drug, and 6 per cent said their adverse drug reaction was the result of a non-prescription drug. By comparison, only 4 per cent attributed their adverse reaction to a natural health product and 4 per cent to an interaction between two or more different types of products. There are also relatively few adverse reactions to natural health products worldwide.115

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**The pathway for product approval inhibits companies’ abilities to provide meaningful information and education about products and their benefits, and puts them at a competitive international disadvantage.**

The lack of a regulatory framework based on complementarity—and the multi-layered system of regulation—present significant barriers to innovation and growth in this sector. The pathway for product approval is restrictive, burdensome, and bureaucratic. It inhibits companies’ abilities to provide consumers with meaningful information and education about products and their benefits, and puts the companies at a competitive disadvantage compared with international firms. Manufacturers say that there is no incentive to invest in processing in Canada because Canada is out of step with the rest of the world.

The backlog of applications for NHPs seeking approvals remains large and there are products in international markets that have not yet been assessed in Canada, even after lengthy waits. To compound matters, regulations are inconsistently applied. For example, some health food stores—and stores that sell weight loss and body building supplements—sell products with health claims on the packaging that are not in compliance with the regulations. Clearly, there is not yet a level playing field when it comes to competing in the marketplace.

Health Canada has been working on regulatory reform in this sector since 2007, so far with relatively few tangible improvements. Agriculture and Agri-Food Canada seems to recognize the problems. Its industry/government action plan, Growing the Canadian Food Processing

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114 Freedhoff, “Canada Leads Charge.”

115 Ramsay, “Unnatural Regulation.”
Sector, recognizes that producers stand to gain from claiming health benefits for some food products. But the department also realizes that the producers have been slow to apply for approval of these claims because of the length of time, lack of regulatory responsiveness, uncertainty, and costs associated with the regulatory process. The result has been “less development of innovative products and decreased competitiveness of the Canadian food industry.”

The action plan also highlights the issue that imports were “not held to the same level of inspection as domestically produced products, particularly in the area of labelling,” thereby putting Canadian products at a major disadvantage.

In short, Canada’s regulatory system for food with health benefits and natural food products suffers from inefficiencies, inconsistencies, lengthy approval processes, and lack of clarity. It is a system laden with barriers to innovation and to the introduction of new products. In 2008, a report by the George Morris Centre examined economic data and the income lost by companies due to regulatory inefficiencies relating to foods with health benefits, natural health products, and food fortification. The report found that the “forgone economic activity resulting from the impediments faced by food manufacturers working within the Canadian food regulatory system includes forgone economic activity of $440 million and [forgone] employment of 1,869 individuals for 12 case studies. This represents a significant loss to the economy.”

Lessons Learned

- The current regulatory system for foods with health benefits and natural health products represents a “lose-lose” situation for consumers and for producers.
- Consumers are confused about the health benefits of the foods they are getting.
- Although natural health products and food with health benefits are subject to the same food safety precautions as all foods, the extra regulations and restrictions on health claims are a significant barrier to Canadian producers and processors in domestic markets.
- Producers cannot use legitimate health claims to promote their products and educate consumers unless they use the limited claims prescribed by the Food and Drug Regulations as “foods with health claims.”
- Producers can market their products as natural health products only by indirect methods. This dampens their efforts to innovate through R&D and commercialization of products.
- Natural health products and foods with health benefits could reduce health-care costs associated with unhealthy eating—however, with restrictive, confusing, and overly limited advertising and health benefit claims, it is hard for consumers to make informed decisions about products that can benefit their health.
- Canada needs to set an overarching, coherent, nutritional policy that takes into account foods with health benefits and natural foods. It also needs to build a regulatory framework that will encourage innovation.
- Closer collaboration between the Natural Health Products Directorate and the Food Directorate would help sort out confusion regarding the product categories and the interface between a food and a natural health product.

COUNTRY-OF-ORIGIN LABELLING

BACKGROUND

In the late 19th and early 20th centuries, governments around the world began to legislate rules about labelling. One objective was to prohibit false identification of goods by country of origin. This objective was essentially to regulate the voluntary identification of goods by producers. A second objective was to require national identification for certain types of goods. This was a mandatory requirement to identify domestic and foreign goods. These different approaches to country-of-origin labelling (COOL) remain to this day.

116 Agriculture and Agri-Food Canada, “Growing the Canadian Food Processing.”
117 Ibid.
118 Stiefelmeyer, Martin, and Klimas, Canada’s Performance.
119 Ibid, 66.
120 Johnecheck, Consumer Information.
In the 1920s, mandatory COOL regulations drew the ire of manufacturers who were beginning to mix sources of raw material supply in their manufacturing processes. This made mandatory COOL costly and, in many cases, impractical. American and European manufacturers were subsequently successful in encouraging soft standards for COOL through so-called “marks of origin.”

In response to the challenging economic environment of the late 1920s and early 1930s, governments around the world began to raise tariff barriers (e.g., the U.S.’s Smoot-Hawley Tariff of 1930). These tariffs were differentiated by country of origin and by type of goods, which inevitably required rules of origin. So “marks of origin” became an aspect of tariff systems.

U.S. COOL standards are now a major trade irritant between the U.S. and Canada. By one estimate, U.S. COOL will cost Canada between US$3.7 billion and US$5.6 billion to implement.

In the post-war years, there was widespread recognition that liberalized trade would foster global development. This realization provided the rationale for multilateral trade liberalization under the General Agreement on Tariffs and Trade (GATT). Rules of origin were then used as a basis for driving liberalization through reciprocal tariff reductions under the most-favoured-nation (MFN) rules.

But those rules were primarily designed to identify the national origin of goods for tariff purposes. Today, to the retail consumer, COOL is essentially an issue of identification. Later GATT and World Trade Organization rounds have tended to deal with COOL as either an intellectual property issue (branding based on location) or as a technical barrier to trade. These issues are now being dealt with through the trade-related aspects of intellectual property rights (TRIPS) and technical barriers to trade (TBT) of the WTO. They are also addressed through other international forums (e.g., Codex Alimentarius) and through bilateral trade negotiations.

Context

Current international agreements on country-of-origin labelling are sufficiently general to allow national governments to set their own standards, as long as these cannot be shown to be non-discriminatory toward particular countries or explicitly geared to limit trade. This has created a window for governments to create COOL standards as a “consumer education” mechanism. These standards inevitably have implications for trade, regardless of whether the intention of the standards is to limit trade or to inform consumers.

The United States has been especially active in COOL. The Farm Security and Rural Investment Act of 2002 (2002 Farm Act) required that a variety of food products— including meat, fish, fruit, vegetables, and peanuts—be identified by COOL at the retail level. The implementation of most of these provisions was delayed as objections were raised by large retailers, such as Walmart, about the cost and practicality of the regulations. The 2008 Food, Conservation, and Energy Act (2008 Farm Act) extended the number of food items covered by COOL regulations, including goat meat, poultry, ginseng, pecans, and macadamia nuts. This time, the U.S. Department of Agriculture moved expeditiously to implement COOL, which it finalized through a ruling on March 26, 2009.

Given the importance of the United States to Canada’s agricultural trade, U.S. COOL standards are now a major trade irritant between the two countries. By one estimate, U.S. COOL will cost Canada between US$3.7 billion and US$5.6 billion to implement. These costs are likely to get pushed down to producers, especially foreign meat producers, and possibly up to consumers in the form of higher prices. Table 3 shows estimated impacts through the supply chain.

Canada accounts for about one-third of U.S. beef imports. Canada and Mexico account for more than half of U.S. beef exports. Canada’s two-way agriculture and food trade with the United States is about $40 billion per annum. The integration of the North American

122 McGiven, “Country of Origin Labelling: Protecting?”
123 United States Department of Agriculture Research Service, “Data Sets.”
agricultural sector means that Canada and Mexico are likely to bear the brunt of new U.S. COOL rules. That explains why Canada and Mexico have been at the forefront of the opposition to these rules. Canada has joined with Mexico to lodge a complaint with the WTO over U.S. COOL regulations, arguing that they are effectively non-tariff barriers to trade. The WTO has agreed to strike a dispute-settlement panel to determine whether U.S. COOL regulations contravene U.S. GATT and WTO commitments. The panel was due to issue its report in June 2011.

**Approach**

Canada’s complaint to the WTO has highlighted its own approaches to COOL, which differ markedly from the U.S. approach. At the time of filing its WTO complaint, Canada’s ministers of international trade and of agriculture issued a joint statement in which they emphasized U.S. COOL as a “mandatory U.S. labelling measure that imposes unfair and unnecessary costs on integrated North American supply chains, reducing competitiveness in both Canada and the U.S. and creating confusion and uncertainty for livestock industries on both sides of the border.”

The “mandatory” nature of the U.S. provisions is the main difference between the Canadian and United States approach to COOL.

The label indicates in which country the value was added to the product. Typically, this means that the label must take into account the location of the principal value-add in the supply chain process for a product. It does not refer to the corporate ownership or responsibility for final production and release of the product into the marketplace, which is a mandatory labelling requirement.

Given the U.S. and other countries’ more restrictive approaches to COOL, labelling there has caused pressure for Canada to toughen its own COOL standards. Partly in response, in 2008, the Canadian government issued revised guidelines for food COOL. The idea was to distinguish between the degrees to which a product is based on Canadian value-added. There are three categories: “Product of Canada,” “Made in Canada” with a qualifying statement, and “Other Specific Processing Claims.”

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Estimated Operating Cost Increases to Implement U.S. COOL, by Supply Chain (per cent)</th>
</tr>
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<tbody>
<tr>
<td>Beef, lamb and goat</td>
<td>Pork</td>
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<tr>
<td><strong>Farm supply</strong></td>
<td></td>
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<tr>
<td>Domestic</td>
<td>1.30</td>
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<tr>
<td>Imported</td>
<td>1.30</td>
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<tr>
<td><strong>Processing</strong></td>
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<tr>
<td>Domestic</td>
<td>2.10</td>
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<tr>
<td>Imported</td>
<td>2.10</td>
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<tr>
<td><strong>Retail</strong></td>
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<tr>
<td>Domestic</td>
<td>2.20</td>
</tr>
<tr>
<td>Imported</td>
<td>2.20</td>
</tr>
</tbody>
</table>

n.a. = not available
Source: Jones, Somwaru, and Whitaker.

124 Foreign Affairs and International Trade Canada, “WTO to Hear Canada’s Challenge.”

125 Canadian Food Inspection Agency, Guide to Food Labelling.
Product of Canada
A food product may claim “Product of Canada” when all or virtually all major ingredients, processing, and labour used to make the food product are Canadian. This means that all significant ingredients are Canadian, and non-Canadian material must be negligible. The foreign content must be less than 2 per cent of the product’s value, which usually applies to flavourings and vitamin supplements.

Made in Canada With a Qualifying Statement
A food, where the last major transformation occurs in Canada, may be termed “Made in Canada,” even in the event that some ingredients are sourced outside of Canada. When a food undergoes a “substantial transformation” that changes its nature and, possibly, the name that consumers know it by, then it may be called a “Made in Canada” product. Products must be at least 51 per cent Canadian value-added to carry the “Made in Canada” label. The regulation allows for different versions of “Made in Canada,” such as when a food contains foreign-sourced ingredients, the label may state “Made in Canada from imported ingredients.” When a food contains both domestic and imported ingredients, the label may state “Made in Canada from domestic and imported ingredients.”

Other Specific Processing Claims
Other labels can speak to specific processes that are conducted in Canada without clarifying the extent to which these processes have contributed to the value-added of the product. Examples include “Refined in Canada,” “Roasted in Canada,” “Prepared in Canada,” or “Distilled in Canada. As long as these labels are true expressions of the process, they are allowed.

Assessment
Labelling is required to convey product information to the consumer so that the consumer can make informed choices. There is an argument alleging that there are “information asymmetries”—either a lack of information, or inaccurate or misleading information—that may prevent consumers from making the best choices. But that assumes that the national origin of products is an important attribute in consumer choice, and that consumers would make poorer choices in its absence.

The Canadian position has traditionally been that the most important information asymmetries relate to the safety and nutritional content of food. Those are attributes that are difficult for consumers to observe and that are truly important to the buying decision. Although country of origin is sometimes a factor, there is little relationship—between originating country and these other factors—that is not already covered by the regulations governing safe food and mandatory nutritional labelling. Surveys show that only a minority of Canadians think that the national origin of food is an important consideration in Canadian consumer-buying decisions. This would suggest that the COOL regulations may be redundant from a consumer protection standpoint.

From a producer perspective, COOL is a branding tool; a way of tapping customers’ nationalistic values or quality concerns in the food sales process. Primary food producers are generally in favour of COOL, whereas large processors and retailers are generally opposed. The reason is that their processes cut across borders and many of their products contain materials from outside of Canada. When seen from a branding perspective, those different interests make sense—primary producers focus on homogenous goods, whereas food processors and retailers have an array of other means to segment products, through the creation of food products and the way the products are displayed and advertised.

Processors and retailers’ opposition to COOL is justifiable. They take greater responsibility for labelling than do primary producers and, therefore, bear more of the cost. And processors are more likely to have supply chains that cut across borders, making COOL much more complicated than it is for, say, fruit and vegetable growers that sell within Canada’s borders. Even primary producers can see costs rise with COOL when their supply chains cut across borders. This explains why Canadian pork and beef producers have been highly supportive of Canadian efforts to challenge the U.S. COOL rules at the WTO.

126 Heslop, “Literature Review.” The author cites research for Canada, which suggests that few Canadian consumers deliberately look for information on country of origin when buying food products.
Canada is in a difficult position when it comes to COOL. When the U.S., Canada’s largest market, decides to become more restrictive in its trading relationships through COOL rules, Canadian producers may seek tit-for-tat measures. The 2008 Canadian COOL regulations seem like a reasonable compromise that tightens regulations on labelling without turning to the restrictive and costly mandatory elements of the U.S. system.

While the Canadian system has faults, they are ones that are likely to plague any COOL system. Inevitably, COOL rules set arbitrary guidelines around the per cent of value-added that constitutes a “Product of Canada” versus a “Made in Canada” product. And, the level of value-added will always be a problem for some because it is too high or too low. Some Canadian producers have complained that the 98 per cent rule for “Product of Canada” designation is much too onerous and should be lowered below 90 per cent. Others may like an even lower figure.

At any rate, it doubtful that Canadian consumers fully understand these fine regulatory distinctions. Given that the point of COOL rules is consumer information, these distinctions seem contrary to the objective. Yet, they compare favourably with the U.S. approach. In our view, the Canadian voluntary approach is, on the whole, preferable to the mandatory system that is currently in force in the U.S. because it allows firms to opt out if they choose.

Lessons Learned

- The rationale for COOL rules is to inform consumer choice.
- The cost of these rules can be justified only when they support consumer choice beyond what is already achieved through existing packaging and other labelling regulation (e.g., nutritional labelling).
- COOL is, by its nature, a form of non-tariff barrier. This type of barrier can be justified only when there is a genuine public interest at stake.
- Mandatory COOL in the United States is an inefficient and trade-distorting intervention.
- Canada has wisely decided to challenge U.S. COOL rules and, in its own approach, has taken a much more moderate position of voluntary participation.
- The Canadian position on COOL is not perfect, but is more efficient, effective, and proportionate than that of the U.S. because of the voluntary nature of corporate involvement.
- Introducing a voluntary system may produce better overall results than a mandatory system, depending on the economic context, commitment of firms to take action, and the nature of related regulatory regimes already at work.

INSPECTION

BACKGROUND

A key distinguishing feature of food, compared with other consumer goods, is that it is ingested by humans and therefore can have significant health effects if the food is contaminated. Potential threats are everywhere: even a consumer’s kitchen is a source of food-borne pathogens. It is virtually impossible for the consumer to tell whether food is safe to eat because contamination often occurs at the bacterial level. Even fresh fruits and vegetables may contain pathogens and pesticide residues that may make people ill when ingested. That makes consumers highly dependent on the quality control systems of farmers, food processors, and retailers. Government food safety regulation and enforcement is designed as a check on these systems and as an emergency response system when these systems fail.

A recent survey found that Canadians have a high degree of confidence in the safety of the Canadian food system. Canadians are especially confident that farmers and the Canadian government have food safety under control, but are somewhat less confident of the Canadian food processing sector. That lower level of confidence may be because of high-profile cases, especially the 2008 outbreak of listeriosis in Canada. Canadians are less confident of foreign-based food safety systems—a

127 Ipsos Reid, Canadian Perceptions.
situation that is, no doubt, the product of repeated disease outbreaks such as the 1985 and 2008 salmonellosis scares in the United States and Mexico.

It is impossible to completely contain food contamination given the highly complex nature of food production and processing, and the role of thousands of restaurants and millions of consumers in food preparation. Inspection is only one checkpoint in an elaborate food safety regulatory system that also includes regulations regarding seeds, plants, and livestock. The entire system is designed to ensure safe food and to enhance Canadians’ confidence in the food system so that they can confidently purchase food without fear of illness or, in extreme cases, death. Our inspection system must be assessed on the basis of whether or not it improves safety outcomes and increases consumer confidence.

The high incidence rate of food illness has made Canadians very aware of the risks associated with food-borne bacteria and stimulated public expectations that government will play an active role in food safety.

Context
In the latter 19th century, food laws emerged that led to structured food quality control systems. Laws and standards established at this time were mainly targeted at food adulteration and fraud. In 1920, when Canada’s Food and Drugs Act was passed, there was widespread concern about the adulteration of food. Section 4 of the Act bespeaks this concern as it prohibits the sale of food that “consists in whole or in part of any filthy, putrid, disgusting, rotten, decomposed, or diseased animal or vegetable substance.”

Fortunately, Canadian food producers and processors have, on the whole, moved well beyond the “filthy, putrid, disgusting” stage. In parallel with federal standards, industry has developed its own processes for ensuring high-quality, safe food. Most noteworthy is the Hazard Analysis Critical Control Point (HACCP) method. In the 1960s, the HACCP method was applied in the United States to meet the food requirements of the space program. NASA was dissatisfied with the “end of pipe” quality control procedures that had been used to that point, and recognized that the key was to establish critical checkpoints throughout the food production process. This approach proved far more effective than “end of pipe” quality control.

Although food standards have improved considerably over the years, the public awareness of food safety issues is probably greater than it has ever been. By one measure, the incidence of food illness is very high, as there are about 13 million cases of food illness per year in Canada, according to the Public Health Agency of Canada. Nonetheless, this high incidence rate has made Canadians very aware of the risks associated with food-borne bacteria and has stimulated public expectations that government will play an active role in food safety. Centralized food inspection is part of this response.

Approach
The Canada Food Inspection Agency became operational on April 1, 1997. The CFIA was the first federal departmental agency created at a time when the federal government was exploring new service models. The idea of a separate agency was to improve the efficiency and integrity of the inspection system by consolidating inspection functions (at least at the federal level). The idea was also to separate and focus industry support, public health, and inspection functions, which to that point were scattered among four departments.

CFIA consolidated the “food safety and animal and plant health [functions of] Agriculture and Agri-Food Canada, Health Canada, and the Department of Fisheries and Oceans.” It now operates inspection activities across these three areas. “These three departments transferred

128 Randell, Codex Alimentarius.
129 Canada, Food and Drugs Act.
130 Public Health Agency of Canada, “Listeriosis Epidemiological Curve.”
about $330 million and 4,500 full-time staff equivalents (FTEs) [to CFIA] when the Agency was created.” The intended benefits were:

- improved service delivery by providing a single contact for consumer and food industry clients’ federal food inspection requirements;
- reduced overlap and duplication of services;
- improved efficiency in the delivery of federal food inspection;
- support for safe food supply through the use of science-based inspection programs; and
- enhanced access to international markets for Canadian producers and processors.

The inspection methodology involves visits to farms, input manufacturers, and food processors to verify compliance with government standards. Increasingly, the approach is to conduct establishment audits to ensure compliance with a wide range of regulations. In the event of a food contamination outbreak, CFIA coordinates with other federal and provincial departments to control the outbreak through recalls and production restraints.

The Canada Border Services Agency (CBSA) is responsible for inspecting imports of food, agricultural inputs, and agricultural products as they enter Canada. The CFIA “sets the policies and regulations for these [imports] and they are enforced by CBSA at Canadian entry points.”

Some shipments are referred to CFIA for follow-up and action. In addition, a CFIA veterinarian is responsible for inspecting most imports of live animals on entry.

The CFIA delivers a number of programs and services designed to protect Canada’s animal resource base. About one-third of its budget is allocated to animal health programs.

Although federal consolidation has streamlined federal inspections, as in other areas of food safety, Canada still has a multi-tiered inspection regime. The CFIA works with the CBSA to inspect international shipments. Food products that are traded within provincial borders are subject to provincial inspection regimes, which may involve multiple provincial government departments—including agriculture, health, and the environment. Meanwhile municipal-level health departments play a role in restaurant inspections, working with their own standards.

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The probability of an inspector finding pathogens during an inspection is low.

The Auditor General estimates that CFIA is responsible for about half the value of food consumed by Canadians with the remainder being the responsibility of provincial regulation.

Assessment

Canada’s inspection system is actually a combination of a standards enforcement system and an emergency response system. Of CFIA’s 7,272 employees, less than half are field inspectors. Given the size and complexity of Canada’s food system, it is virtually impossible for this number of inspectors to guarantee food safety through establishment audits. As a matter of basic statistics, the probability of an inspector finding pathogens during an inspection is low.

The CFIA acknowledges that Canada’s food safety system is inherently dependent on the quality management processes of food producers throughout the supply chain. Modern food producers have adopted the quality control techniques of general management—such as total quality management—and quality regimes specific to the food industry—such as the HACCP—which have been incorporated into the International Organization for Standardization’s ISO 22000 standards. It is the adoption of these day-to-day quality management practices that are mostly responsible for ensuring Canada’s food safety.

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132 Canadian Border Services Agency, “About Us. What We Do.”
134 Canadian Food Inspection Agency, “Home page.”
This raises the following question: What *incremental* protection is offered by governmental inspection regimes and how does it interact with farmers’ and processors’ own systems for quality control? The cost of tainted food to farmers and food processors is extremely high and the two groups are clearly motivated to have systems for managing this. But the adoption of quality control systems may not be universal, and even in cases where an establishment ostensibly has a quality control program, it may not be diligent in its implementation. This is a strong concern regarding the thousands of small restaurants that prepare food daily. Governments, therefore, need to focus their limited enforcement resources in the riskiest areas.

The food industry and regulators have to develop trustworthy and cooperative relationships based on their mutual interest in safe food.

Food safety is the classic example of risk management. The question is: What is the best way to manage that risk? First, it is important to have data systems that can identify the nature of risk. Currently Canada maintains a relatively weak risk database. Its reporting system for enteric disease arises from two data-gathering procedures: the National Notifiable Infectious Disease Reporting System, based on case information; and the National Enteric Surveillance Program, which pools laboratory data. “Case results in five provinces and territories are aggregated before they are entered into the infectious disease reporting system, and the data from water, food, humans, and animals in the enteric surveillance program are not segregated.” Improvements need to be made in the consistency and usefulness of these data for risk analysis.

Second, most of the quality data reside at the establishment level where constant testing is conducted to ensure food safety. But an enforcement system may make food producers reluctant to voluntarily report outbreaks for fear that the system’s emergency response aspects will increase the cost of containment beyond the extent of the actual risk. The idea of collecting establishment data on an ongoing basis simply raises the overall cost of the system, diverting resources away from efficient quality management.

All of this suggests that the food industry and regulators have to develop trustworthy and cooperative relationships based on their mutual interest in safe food. This might result in a movement toward encouraging the adoption of quality management practices throughout the industry, and a better system for addressing system failures as they occur. A risk management approach might see federal and provincial authorities prioritize their efforts on systemic risks by channelling resources toward surveillance and prevention in risky areas. This offers an alternative to compliance with mundane aspects of labelling, grades, and measurements, which—although strictly required by the law—may not contribute greatly to the safety of Canada’s food system. The principle of proportional risk is particularly applicable.

**Lessons Learned**

- The creation of the Canadian Food Inspection Agency shows that efficiencies can be realized by consolidating effort.
- Nonetheless, Canada’s inspection system is still distributed among federal, provincial, and municipal levels with varying standards among these three levels.
- Inspections regimes can make only a small contribution to food safety because of the necessarily periodic nature of inspections and the relatively low incidence of pathogen outbreaks.
- The “standard and enforcement” approach of the current inspection regime may be dysfunctional and prevent the development of a true partnership between government and industry that is focused on their mutual interest in safe food.
- The food industry and regulators have to develop trustworthy and cooperative relationships based on their mutual interest in safe food.
Resources could be best deployed through a risk assessment framework that focuses on systemic risks and directs resources toward surveillance and prevention of risks that are not well managed at the establishment level and have significant negative impacts on the safety of Canada’s food system.

Less attention should be paid to tracking compliance with other aspects of labelling, grades, and measurements, which—although strictly required by the law—may not contribute greatly to food safety.

INTERNATIONAL TRADE

BACKGROUND

Food industry policies, laws, and regulations address many issues—including economic viability, consumer protection, and environmental sustainability. As all countries have different approaches to these issues, PLRs effectively create non-tariff barriers to trade as foreign suppliers are required to conform to different national systems. Indeed, some Canadian domestically oriented PLRs require Canada to maintain tariff and non-tariff trade barriers to prevent undermining their domestic effectiveness. This has created a symbiotic relationship between domestic and international food policies that, at times, is liberating, but is constraining at other times. Therefore, Canada’s domestic food policy needs to take into account its international trade policies, and vice-versa.

Trade liberalization is a reciprocal process where foreign markets open as Canada’s market opens. That liberalization process will involve reform to the PLRs that act as barriers to trade. There is little reason to advocate for a more export-orientated Canadian food sector unless Canada is willing to improve market access for foreign suppliers. For that reason, Canada’s approach to PLRs that have an impact on international trade is a major strategic concern.

Context

At the turn of the 19th century, Canadian international trade was closely tied to its colonial relationship with Great Britain. Therefore, developments in colonial trade policies had a significant effect on the Canadian agricultural sector. A liberalized British policy in the 19th century (e.g., repeal of the Corn Laws in 1842) facilitated later Canadian inducements to attract immigrant settlers to its Western prairie. Yet, even as Canadian wheat farmers benefited from preferential access to Great Britain, they successfully advocated for tariffs against wheat imports from the United States.

The economic viability of settlers was a longstanding concern for Canadian governments. This viability was highlighted during the Great Depression, which saw the coincidence of declining agricultural markets and environmental degradation (i.e., the Dust Bowl). Prairie farmers were especially hard hit, as their net income fell disastrously from $218 million in 1928 to $42 million in 1933 and $18 million in 1937.137 The interwar years saw a growth of protectionism around the world that exacerbated the challenges facing the agricultural sector. Gradually, post-war multilateral trade negotiations have chipped away at barriers to trade in agricultural goods—most notably via the Uruguay Round of the GATT Agreement on Agriculture, which came into effect in 1995.

Approach

Initially, Canadian farmers took it upon themselves to stabilize markets through cooperative arrangements such as “wheat pools” and marketing cooperatives. These started to emerge tentatively in the 1920s and 1930s. Periodic agricultural crises had the effect of expanding voluntary arrangements into compulsory regimes. For instance, the Canadian Wheat Board, established in 1935, assumed a major marketing role in 1938–39, during an especially poor crop year.138 The Second World War years saw the Board take control of the marketing of the prairie wheat crop, a function that it maintains to this day.

By the 1960s, provincial marketing boards had become well established and pervasive. Dairy supply management is the most advanced and complex of these marketing

137 Britnell and Fowke, Canadian Agriculture, 71.
systems. The Conference Board of Canada’s 2009 report *Making Milk: The Practices, Players, and Pressures Behind Dairy Supply Management* details the history and impacts of dairy supply management in Canada. The Canadian Dairy Commission, established in 1966, further institutionalized collective marketing through an elaborate system of domestic quotas, import restrictions, and direct price controls. Canada now has extended supply management to broilers, eggs, and turkeys—an approach that contrasts with the United States where there are no livestock marketing arrangements. The evolution of voluntary cooperatives into institutionalized marketing systems is a key structural feature of Canadian agriculture. This feature has made international trade liberalization more challenging.

As an example of liberalization, consider the history of the “Crow Rate.” Preferential shipping rates were established in return for concessions granted to the Canadian Pacific Railway in 1897. Initially, this took the form of an internalized subsidy that operated through railway pricing policies. In the 1960s, the federal government agreed to compensate the railways for the value of this subsidy, thereby making the cost to Canadian taxpayers explicit. As the value of the subsidy increased, there was pressure to reduce the subsidy rate. Eventually, the subsidy was eliminated completely, through the Western Grain Transition Payment Program, as part of the fiscal adjustment in the mid-1990s. This is a good example of the symbiosis between domestic and international reform, as this program coincided with Canada’s commitments under the Uruguay Round.

Once the Crow Rate was converted into direct fiscal subsidy, it was easier for the federal government to make the case for reduction as part of fiscal retrenchment. These subsidies had amounted to an average of about $17 per tonne of grain, for a total of $600 million in 1995. Other parts of the federal spending program were being retrenched, so an argument could be made that the agricultural sector should share in the pain.

The experience of the Crow Rate is instructive because there is an analogous situation with some of the agricultural marketing boards, where PLRs support a market structure that can exist in its current form only if international trade is constrained to allow it to function with full effect.

International trade negotiators face challenges in sorting through the thicket of tariff and non-tariff barriers that distort international trade. In a sense, their approach seeks to replicate the process of the Crow Rate reform by converting a series of complex institutionalized barriers into a simplified barrier in the form of a tax (a tariff). This is then followed by an agreement to fix the level of barrier (so-called “binding”) and eventually reduce the level of the barrier (tariff reductions). (See Table 4.)

A simplified barrier is much easier to reform. Politicians can focus on one thing and the barrier can be compared with barriers in other sectors and other taxes, which facilitates a debate around equity.

“Tariffication” converts an arcane protection system into a transparent system. The process has worked well in reducing trade barriers—both multilaterally (the Uruguay Round Agreement on Agriculture) and continentally (the Free Trade Agreement and the North American Free Trade Agreement).

Recently, there has been concern that the success of multilateral tariff liberalization has encouraged the growth of non-tariff barriers. Tarification has also been successful with many of these barriers, but there remain persistent problems in areas such as export subsidies, government procurement practices, and quantitative restrictions.

In the case of agriculture, non-tariff barriers are likely to manifest themselves in two ways. First, marketing arrangements involve quota restrictions, a form of quantitative restriction. Second, consumer protection measures include restrictions on the food content (additives, pesticide residues, pathogens, and allergens); biotechnology restrictions; and labelling (country of origin and nutritional). These differ from jurisdiction to jurisdiction.

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139 Gardner, Distortions to Agricultural, 18.
and greatly impact the ability of farmers and processors to rationalize their operations across borders and to globalize their markets. Country-of-origin labelling has proven to be a particular irritant to Canadian food processors who wish to globalize their sources of supply, but who see their end products as essentially Canadian.

Although there are a variety of initiatives to achieve complementarity or harmonize standards, the upper hand on standard setting is still very much with national and provincial agencies. The UN’s Food and Agriculture Organization’s Codex Alimentarius is a good example of an international initiative—aimed at harmonizing food standards—that has an uneven history of adoption. Private sector organizations have also made strides in establishing their own standards on, for example, aquaculture. However, these standards lack the force of law. Therefore, they will always be secondary to government-imposed standards that governmental entities have been reluctant to harmonize across borders, even between highly integrated markets such as Canada and the United States.

### Assessment

As seen in Table 1, Canada is in the early stages of liberalizing its agricultural trade. The current multilateral round, the Doha Development Agenda (DDA), is focused on agriculture. Pressure is mounting from a variety of countries for free trade in agriculture and that pressure is likely to become more intense over time. As a member of the Cairns Group of agricultural exporters, Canada has a declared interest in free agricultural trade. Canada’s fellow Cairns Group members, New Zealand and Australia, have gone much further in liberalizing their agricultural sectors and thereby improving their export orientation.

This pressure for agriculture free trade is going to put Canada’s food PLRs in the spotlight. Tarification reveals the parts of Canada’s agricultural system that are especially protective, namely the supply-managed parts of the sector. But it also shows that Canada has made considerable progress in opening its agricultural markets through multilateral and bilateral trade talks. According to the WTO, a higher percentage of Canada’s agricultural imports are duty-free than in the United States. (See Chart 2.)

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**Table 4**

Agricultural Tariffs—Canada, 2010 (per cent)

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Duty free</th>
<th>Maximum tariff</th>
<th>Binded per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal products</td>
<td>29.2</td>
<td>46.2</td>
<td>539</td>
<td>100</td>
</tr>
<tr>
<td>Dairy products</td>
<td>218.5</td>
<td>0.0</td>
<td>314</td>
<td>100</td>
</tr>
<tr>
<td>Fruit, vegetables, and plants</td>
<td>3.5</td>
<td>58.7</td>
<td>19</td>
<td>100</td>
</tr>
<tr>
<td>Coffee and tea</td>
<td>7.5</td>
<td>55.0</td>
<td>265</td>
<td>100</td>
</tr>
<tr>
<td>Cereals and preparations</td>
<td>19.5</td>
<td>14.9</td>
<td>277</td>
<td>100</td>
</tr>
<tr>
<td>Oilseeds, fats, and oils</td>
<td>5.2</td>
<td>51.1</td>
<td>218</td>
<td>100</td>
</tr>
<tr>
<td>Sugars and confectionary</td>
<td>6.0</td>
<td>7.8</td>
<td>24</td>
<td>100</td>
</tr>
<tr>
<td>Beverages and tobacco</td>
<td>6.8</td>
<td>26.3</td>
<td>256</td>
<td>100</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.8</td>
<td>90.0</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>Other agricultural products</td>
<td>2.8</td>
<td>67.2</td>
<td>206</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: World Trade Organization.
To some extent, these data show the effect of trade liberalization. Those areas in which trade is liberalized attract more trade, and trade expands through “tariff holes.” Canada maintains some very high barriers in agriculture that effectively cut off niches of the agricultural sector from the innovation pressures, processes, and market disciplines of international trade. Here, change has been proposed. Proposals made during the DDA would see a tiered approach to further tariff reductions that, for instance, would result in a 70 per cent reduction in the highest protected good categories.140

Assuming that progress continues to be made on tariff reductions, attention is likely to shift to non-tariff barriers. Some of these barriers, such as quantitative restrictions and preferential pricing, are being addressed in multilateral negotiations.

It will be more difficult to make progress on a range of issues relating to the broad class of consumer protection. Those measures are, generally speaking, not targeted at trade restriction as such, yet have the same effect. As highlighted earlier in this report, Canada already has a serious problem with the complexity of its PLR system, compounded by it being distributed across several jurisdictions. Adding the international dimension to this further complicates matters. To date, international coordination mechanisms have not proven to be very effective at achieving complementarity or harmonization. That will need to change if traditional tariff and non-tariff barriers continue to fall, encouraging more trade across national boundaries.

Lessons Learned

- Complex transfer systems are resistant to reform, especially when the systems effectively “hard wire” costs that are borne by a diffuse group of consumers to a concentrated group of producers.
- When a policy is made explicit, and expressed in terms that average Canadians can understand, the general public is much more likely to support reform.
- International trade policy is necessarily linked to domestic agricultural and agri-food policy because trade deals have domestic implications.

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International negotiations can encourage domestic reform. They do so by creating a broad range of trade-offs whereby producer “losses” of domestic market can be offset by improved export opportunities. Negotiators also develop techniques, such as tariffication, that deal with the issue of complexity.

Non-tariff barriers are likely to play a more important role in the future. The main sticking point will be new types of non-tariff barriers that may be unintended barriers, such as the measures designed for consumer protection (e.g., food content and labelling).

Policy-makers need to be open to adopting a science-based approach to standards that will see the standards made complementary or harmonized across borders. Making standards complementary or harmonized with Canada’s largest trade partner, the United States, would seem a good place to start in order to avoid possibly unintended restrictions on trade.
CHAPTER 5

Conclusion

At a Glance

- Canadian policy-makers strive to create “optimal” regulations when faced with issues that require new regulations.
- The main problem is that the system has evolved over many years. It includes many regulations that were appropriate when first enacted, but that are now dated and may conflict with more recent regulations.
- There are no systemic mechanisms for updating and consolidating regulations at the federal level and in most provinces.
- The complexity and pervasiveness of the system means that it continues to enforce regulations where they may no longer be required, while being slow to adapt to new regulatory challenges.
- A closer relationship between all parts of the food industry and government is crucial to achieving our goal of developing a more efficient and effective food PLR system.

This report has identified key areas for strategic change and reform of policies, laws, and regulations that could give us the food system we require for future health, security, and prosperity. In doing so, it has highlighted features of Canada’s historical and current approaches to food policies, laws, and regulations. Five characteristics of an “optimal” PLR system have been identified, and subsequently used in our initial examination of elements of the current Canadian PLR system. There is reason to believe that the Canadian system might be improved upon in terms of proportionality, responsiveness, efficiency, effectiveness, and transparency—the characteristics that comprise an “optimal” system.

Initial studies of Canada’s approaches to genetically modified foods, country-of-origin labelling, and food additives suggest that they are generally sensible.

Problems of governance remain even though Canadian policy-makers try to improve the system. Our review of the critical issues shows that Canadian policy-makers and regulators tend to consider these features of an optimal system when making new regulations. They also show signs that they are attempting to create PLRs in keeping with these characteristics. Initial studies of Canada’s approaches to genetically modified (GM) foods, country-of-origin labelling (COOL), and food additives suggest that they are generally sensible. And, for the most part, Canada’s approaches do balance regulatory needs with industry sensitivities. These examples of Canadian moderation and industry consultation have allowed Canada to benefit by avoiding some of the excesses of Europe (in the case of GM foods) and the United States (in the case of COOL).
New government initiatives, at least in theory, seem to reflect the need to balance genuine public interest concerns without significantly undermining innovation in the agriculture and agri-food system. The Growing Forward initiative and the federal Cabinet Directive on Streamlining Regulation are both steps in the right direction that should, if properly implemented, go some way toward limiting regulatory overkill.

WHY THEN DOES CANADA NEED TO IMPROVE ITS FOOD PLR SYSTEM FURTHER?

A CUMBERSOME AND UNWIELDY SYSTEM
The main reason for improvement is that the system has grown more elaborate over time and has become increasingly unwieldy, notwithstanding attempts at improvement. Arguably, the problem is not so much the current approach to creating new PLRs in food, but rather the cumulative weight of all the old PLRs and the now-outdated motivations that lie behind some of them. The system still reflects an accumulation of political concerns about food that dates back to the Food and Drugs Act in 1920 and beyond. Therefore, while new government directives may require that new regulations are “science-based” and justified through “cost-benefit” analyses, the problem is not simply ensuring a rational basis for new PLRs. Equally challenging is the problem of reforming and modernizing old PLRs in the absence of systemic mechanisms for review, rationalization, and updating. In addition, the administrative system is slow to evaluate innovations that may, in fact, help achieve the desired policy outcomes of providing Canadians with safe, nutritious, and healthy food.

The system might be described as suffering from “scope creep.” It purports to address a wide variety of public interests, including safety, the environment, health, and economic sustainability. But the more objectives it takes on, the more costly and slow moving it becomes—in turn, undermining its overall cost-effectiveness and stifling industry innovation. This is clearly the case for the regulatory system for foods with health benefits and natural health products: an unintentional “lose-lose” situation where consumers are not demonstrably better off while industry is noticeably worse off.

OUT OF STEP WITH THE TIMES
There is evidence of a systemic bias toward greater intervention brought on by governmental, and sometimes public, concerns caused by the pace of change—technological and otherwise.

Despite the urge to address new consumer demands and new technology, the Canadian approach to PLRs is sometimes premised on debatable assumptions and out-of-date thinking. In today’s modern agriculture and agri-food system, there is perhaps less need for regulatory prescription, allowing a movement toward outcome-based approaches that allow industry to innovate to achieve the commonly held (with government) objective of providing Canadians with safe and nutritious food. This might change the orientation of the system toward more of a government–industry partnership model with shared accountabilities as opposed to a prescriptive governance model.

BARRIERS TO INTERNATIONAL TRADE
Given the plethora of food-related PLRs, the conundrum is how to rationalize and modernize strategically. Canada’s approach to international trade demonstrates some of the challenges. As a member of the Cairns Group, Canada is a leader in multilateral trade negotiations to free international agricultural trade that, as numerous studies have shown, would produce billions of dollars of benefit for the world economy. Yet our negotiators are limited by Canada’s approach to tariffs. The level of tariffication, under multilateral trade negotiations, reveals the scale of the problem in specific areas.

COSTLY SYSTEM IMPEDES INNOVATION
Multi-layered regulations and policy interventions have created an administrative thicket that hampers the dynamism of Canada’s food economy. It is unclear how much the whole system costs and whether that cost is actually justified by societal benefits. But there are indications that it is extremely costly. For instance, research by the George Morris Centre found that there was forgone economic activity of $440 million and forgone employment of 1,869 in a study of 12 cases of regulation in food manufacturing.
Canada’s costly and slow-moving PLR system, like those of other countries, creates a drag on agriculture and agri-food sector productivity and inhibits innovation. If we wish to enhance our economic performance and become more competitive in the rising global market for food—as well as meeting all of our needs for accessible, safe, and affordable food—then modernizing the PLR system is an important step.

NO QUICK FIXES BUT START WITH MODERNIZING THE FOOD AND DRUGS ACT

There are no quick fixes for Canada’s food PLR system. This report points out specific areas where the PLR system could be made more effective in meeting the needs of the agriculture and agri-food sector, government, and consumers. A good starting point would be to revise and modernize the Food and Drugs Act. That would create an opportunity to initiate a national dialogue about what Canadians really require in their food PLR system. And, at the same time, it would establish a platform to recalibrate the relationship between government and the food industry.

A closer relationship between all parts of the food industry and government will be crucial to achieving our goal of developing a more efficient and effective food PLR system.

Our review of the data and literature tells us that Canadians are primarily concerned about safe and healthy food. They assume that governments are playing a role in food safety and that leaves them free to make food choices in the marketplace without undue worry about risks to their health. Beyond safety, individual Canadians appear to be much less concerned about government intervention so that food security and sustainability-related PLRs are not uppermost in their thinking.

This initial analysis suggests that governments at all levels need to renew their focus on intervening where there are genuine market failures; recognizing that markets change and that some previous failures may no longer exist. And, they need to engage more with industry as partners who share common goals for food safety, security, and sustainability. Responding by creating new PLRs may not be the solution in every case: interventions should be carefully weighed against the value to citizens and consumers and the cost to economic performance and innovation. In some cases, PLRs will be justified; in others action might be better left to the marketplace and voluntary industry compliance.

A closer relationship between all parts of the food industry and government will be crucial to achieving our goal of developing a more efficient and effective food PLR system. Ultimately, this relationship is the key to ensuring safe and healthy food for Canadian consumers, while improving food security, safeguarding the continued health of all parts of our food economy, and building our national competitiveness in a rapidly growing global food market.

LESSONS LEARNED TO INFORM A CANADIAN FOOD STRATEGY

The modernization of PLRs is so important that it will likely figure as a key element in our forthcoming Canadian Food Strategy, planned for release in September 2013. Drawing from among the 49 “Lessons Learned” in Chapter 4, the following are identified as fundamental principles in shaping the framework for the Canadian Food Strategy. Some have been modified slightly to generate a more generic, rather than issue-specific, “lesson.”

For Good Governance

1. PLRs should be based on the best, currently available scientific evidence and not be implemented because of pressure from interest groups.
2. Where continuous revision of PLRs relating to levels/ removal of additives, standards, dosages, etc. can be expected (as science advances), policies and guidelines are preferable to legislation, which is difficult to change.
3. Canada has the opportunity to set an example in food policy and lead in the field of food with health benefits and natural health products. But Canada needs to set an overarching, coherent, nutritional policy with a regulatory framework that will accommodate innovation and changing trends in food technology.
4. The creation of the Canadian Food Inspection Agency shows that efficiencies can be realized through consolidation of effort.
5. Achievable targets and timelines for implementation should be set from the beginning and evaluation and monitoring set up to track progress.

6. A more nimble regulatory system is needed to keep up with the pace of technology evolution and product change.

7. Resources could be best deployed through a risk assessment framework that focuses on systemic risks and directs resources toward surveillance and prevention of risks that are not well managed at the establishment level, with significant negative impacts on the safety of Canada’s food system.

For Consumers

8. Reduction strategies (applicable to food that causes harm in great quantities) should include targeted public education, consumer-friendly labelling, and industry collaboration with government to reduce a food’s sodium content (or other similar ingredient, such as sugar) in step with reductions in consumer demand.

9. An effective regulatory regime should safeguard consumers so that they feel safe with new technology-enhanced products, while ensuring that business has confidence in the regulatory system and has opportunity to bring innovative products to the market.

10. Natural health products and foods with health benefits may have the potential to reduce health-care costs associated with unhealthy eating. Regulations restricting advertising and health benefits claims about natural health products and foods should be modified to make it easy for consumers to make informed decisions that could benefit their health.

11. When a policy is made explicit and put in terms that average Canadians can understand, the general public is much more likely to support reform.

For Business

12. Trade considerations and complementarity with trading partners’ PLRs are important considerations in setting PLRs and standards.

13. Consultation with the industry is vital to gain support and to allow for a reasonable period of compliance.

14. Strategies have to ensure that the entire food system (including the food processor, manufacturers, restaurants, and food service operators) is on a level playing field.

15. The food industry and regulators have to develop trustworthy and cooperative relationships based on their mutual interest in safe food.

16. A more coordinated, streamlined, “one-stop” approach would help companies to navigate the product approval process.

17. Non-tariff barriers can be justified only when there is a genuine public interest at stake.
## Federal Legislation Impacting the Agriculture and Agri-Food Sectors

### Table 1
Federal Legislation Impacting the Agriculture and Agri-Food Sectors

<table>
<thead>
<tr>
<th>Legislation</th>
<th>Responsibility</th>
<th>Purpose of legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Marketing Programs Act</td>
<td>AAFC</td>
<td>Assists producers and marketing agencies. Two programs: Advance Payments Program and Price Pooling Program.</td>
</tr>
<tr>
<td>Agricultural Products Marketing Act</td>
<td>Farm Products Council of Canada</td>
<td>Extends provincial marketing boards’ authority to federal level.</td>
</tr>
<tr>
<td>Agriculture and Agri-Food Administrative Monetary Penalties Act</td>
<td>CFIA and Canadian Border Services Agency (CBSA)</td>
<td>Establishes a monetary penalty system for contravention of agri-food acts. CBSA has powers over violations as set out in sections 8(1), 9(2)(b), 12(1), and 13(1).</td>
</tr>
<tr>
<td>Animal Pedigree Act</td>
<td>AAFC</td>
<td>Breed improvement; protects breeders and consumers.</td>
</tr>
<tr>
<td>Anthrax Compensation Terms and Conditions No.2</td>
<td>CFIA</td>
<td>Compensation paid for death of animals due to anthrax.</td>
</tr>
<tr>
<td>Atlantic Fisheries Act</td>
<td>Fisheries and Oceans Canada</td>
<td>Facilitates development of viable Atlantic fisheries that are competitive and privately owned through the restructuring of fishery enterprises.</td>
</tr>
<tr>
<td>Canada Agricultural Products Act</td>
<td>Agriculture and Agri-Food Canada (AAFC), Canada Agricultural Review Tribunal, and Canadian Border Services</td>
<td>Regulates the marketing of agricultural products in import, export, and interprovincial trade; provides national standards and grades of agricultural products; allows for inspection and grading, and the registration and standards of establishments.</td>
</tr>
<tr>
<td>Canada Grain Act</td>
<td>Canadian Grain Commission (CGC)</td>
<td>Gives power to CGC to establish and maintain standards of quality so that product is dependable; regulates grain handling.</td>
</tr>
<tr>
<td>Canada Shipping Act</td>
<td>Transport Canada</td>
<td>Objective is to provide a safe and efficient marine transport system.</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

(continued . . .)
<table>
<thead>
<tr>
<th>Legislation</th>
<th>Responsibility</th>
<th>Purpose of legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canada Transportation Act</strong></td>
<td>Transport Canada</td>
<td>Sets out rules for air and railway transportation. Part III Division VI deals with the tariff rates for the transport of Western grain by railroad. Schedule II specifically defines grain, crop, or product.</td>
</tr>
<tr>
<td><strong>Canadian Agricultural Loans Act</strong></td>
<td>AAFC</td>
<td>Minister provides guarantee for loans made by financial institutions to farmers.</td>
</tr>
<tr>
<td><strong>Canadian Border Services Act</strong></td>
<td>Canadian Border Services Agency (CBSA) (public safety)</td>
<td>Establishes the Agency and gives it the power to provide integrated border services that support national security priorities and facilitate the free flow of persons and goods, including animals and plants.</td>
</tr>
<tr>
<td><strong>Canadian Dairy Commission Act</strong></td>
<td>Canadian Dairy Commission (CDC)</td>
<td>Provides milk and cream producers a fair return and provides consumers with high-quality dairy products. CDC has power to purchase, sell, and dispose of dairy products, make payments for benefit of producers, and investigate all aspects of production. It administers milk classes and sets prices to meet international competition and works with provinces in pooling of market returns system.</td>
</tr>
<tr>
<td><strong>Canadian Food Inspection Agency Act</strong></td>
<td>Canadian Food Inspection Agency (CFIA)</td>
<td>Establishes the Canadian Food Inspection Agency. Assigns enforcement responsibilities that are covered under other acts and regulations pertaining to food safety, export certification, biotechnology, animal and plant protection, and animal to human disease.</td>
</tr>
<tr>
<td><strong>Canadian Wheat Board Act</strong></td>
<td>Canadian Wheat Board</td>
<td>Authority for the marketing of grain and barley grown in Canada for interprovincial and export trade.</td>
</tr>
<tr>
<td><strong>Coastal Fisheries Protection Act</strong></td>
<td>Fisheries and Oceans Canada</td>
<td>Sets out rules for foreign vessels entering Canadian fisheries waters. Specifically mentions protection of stocks on the Grand Banks of Newfoundland.</td>
</tr>
<tr>
<td><strong>Consumer Packaging and Labelling Act</strong></td>
<td>CFIA</td>
<td>Administers the parts of this Act relating to food.</td>
</tr>
<tr>
<td><strong>Customs Act</strong></td>
<td>CBSA</td>
<td>Controls the movement of goods and people in and out of Canada.</td>
</tr>
<tr>
<td><strong>Department of Agriculture and Agri-Food Act</strong></td>
<td>AAFC</td>
<td>Establishes the Department of Agriculture and Agri-Food with responsibility for agriculture, products derived from agriculture, and agriculture and agriculture product research.</td>
</tr>
<tr>
<td><strong>Department of Fisheries and Oceans Act</strong></td>
<td>Fisheries and Oceans Canada</td>
<td>Establishes the Department of Fisheries and Oceans.</td>
</tr>
<tr>
<td><strong>Environmental Protection Act</strong></td>
<td>Environment Canada</td>
<td>Sets out rules respecting pollution prevention and the protection of the environment and human health.</td>
</tr>
<tr>
<td><strong>Experimental Farm Stations Act</strong></td>
<td>AAFC</td>
<td>Establishes farm stations in Canada to conduct research in areas of agricultural productivity and conservation.</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
<table>
<thead>
<tr>
<th>Legislation</th>
<th>Responsibility</th>
<th>Purpose of legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Credit Canada Act</td>
<td>Farm Credit Canada</td>
<td>Provides specialized and personalized financial services to farming operations to enhance rural Canada.</td>
</tr>
<tr>
<td>Farm Debt Mediation Act</td>
<td>AAFC</td>
<td>Provides mediation services between insolvent farmers and their creditors.</td>
</tr>
<tr>
<td>Farm Income Protection Act</td>
<td>AAFC</td>
<td>Allows agreements between federal government and provinces to provide income protection for agricultural producers.</td>
</tr>
<tr>
<td>Farm Products Agencies Act</td>
<td>Farm Products Council of Canada</td>
<td>Allows producers of farm products (except for industrial milk and wheat) to develop marketing plans and supply management for eggs, poultry, and tobacco.</td>
</tr>
<tr>
<td>Feeds Act</td>
<td>CFIA and CBSA</td>
<td>Rules for manufacturing, selling, and importing feed. CBSA can act as inspector.</td>
</tr>
<tr>
<td>Fertilizer Act</td>
<td>CFIA and CBSA</td>
<td>Rules for selling and importing fertilizer or supplement. CBSA can act as inspector.</td>
</tr>
<tr>
<td>Fish Inspection Act</td>
<td>CFIA, CBSA, and Fisheries and Oceans Canada</td>
<td>Rules for importing, exporting, and inspecting of fish and containers; sets standards for grade, class, and quality for marine plants as well as inspection, grading, and labelling of marine plants. CBSA can act as inspector.</td>
</tr>
<tr>
<td>Fisheries Act</td>
<td>Fisheries and Oceans Canada</td>
<td>Sets out rules for fishing in Canada.</td>
</tr>
<tr>
<td>Fisheries Development Act</td>
<td>Fisheries and Oceans Canada</td>
<td>Sets out areas for development of new fisheries and fishery resources, new types of fishing vessels, fishing equipment, fishing techniques, and new fishery products; and for the improvement of the handling, processing, and distribution of fishery products.</td>
</tr>
<tr>
<td>Fisheries Improvement Loans</td>
<td>Fisheries and Oceans Canada</td>
<td>Rules for government to guarantee loans for purchase, development, or improvement of a primary fishing enterprise, vessel, or equipment.</td>
</tr>
<tr>
<td>Food and Drugs Act</td>
<td>CFIA and CBSA</td>
<td>CFIA administers the parts of this Act relating to food. CBSA can act as inspector.</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
Table 1 (cont’d)
Federal Legislation Impacting the Agriculture and Agri-Food Sectors

<table>
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<tr>
<th>Legislation</th>
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| **Food and Drugs Act**      | Health Canada                   | Sets out rules for safe food, labelling (including mandatory nutritional labelling on pre-packaged foods), importing and interprovincial movement of food. Pertinent regulations and changes to the *Food and Drugs Act* include:  
  - Food and Drug Regulations: Detailed rules regarding all types of food products and seasoning as well as additives and novel foods, which include genetically modified foods, products that do not have a history of safe use as food, foods that are made from processes that have not previously been used to make food.  
  - Natural Health Products Regulations: A natural health product includes specific vitamins (natural or synthetic), amino acids (natural or synthetic), essential fatty acids (natural or synthetic), minerals, probiotics, homeopathic medicines, herbal remedies, and traditional medicines (e.g., Chinese).  
  - Health Claims: Schedule A lists diseases and conditions that you cannot make health claims for. In 2008, natural health products and non-prescription drugs were exempted from the prohibition on labelling and advertising of preventative (but not treatment or cure) claims.  
  - Product licence: Products supported by sufficient evidence for safety, efficacy, and quality of the product are issued a product licence and corresponding Natural Product Number (NPN) or Homeopathic Medicine Number (DIN-HM), which must appear on the product label. Products that are NHPs that currently have a product licence as a Drug Identification Number (DIN) are being transferred over time to have a NPN or a DIN-HM. |
| **Free Trade Agreements**   | Foreign Affairs and International Trade Canada | Sets out agreements regarding trade, including agriculture. There are nine free-trade agreements—North American Free Trade Agreement with Mexico and U.S. (NAFTA), Panama, Jordan, Columbia, Peru, Europe, Costa Rica, Chile, and Israel.                                                                 |
| **Freshwater Fish Marketing Act** | Fisheries and Oceans Canada | Sets up the Freshwater Fish Marketing Corporation for marketing and trading in fish, fish products, and fish by-products in and outside Canada.                                                                                                                                   |
| **Great Lakes Fisheries Convention Act** | Fisheries and Oceans Canada | Sets up the Great Lakes Fisheries Commission, which governs the Great Lakes Fisheries Convention between the U.S. and Canada.                                                                                                               |
| **Health of Animals Act**  | CFIA and CBSA                    | Sets out rules for control of disease and toxic substances with regards to animal health; also allows for inspection of facilities. Regulations set out compensation for birds in British Columbia, destroyed animals, reportable disease, and importing and exporting certification. CBSA can act as inspector.                                      |
| **Meat Inspection Act**     | CFIA and CBSA                    | Sets out rules for meat safety, including registration of facilities and establishment of a national trademark. CBSA can act as inspector.                                                                                                                                         |

Source: The Conference Board of Canada.

(continued . . .)
### Table 1 (cont’d)
Federal Legislation Impacting the Agriculture and Agri-Food Sectors

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</thead>
<tbody>
<tr>
<td><strong>Motor Vehicle Transport Act</strong></td>
<td>Transport Canada</td>
<td>Ensures safety provisions for extra-provincial motor carriers.</td>
</tr>
<tr>
<td><strong>Pest Control Products Act</strong></td>
<td>Health Canada—Pest Management and Regulatory Agency (PMRA)</td>
<td>Purpose is to prevent unacceptable risks to people and the environment from the use of pest-control products.</td>
</tr>
<tr>
<td><strong>Pesticide Residue Compensation Act</strong></td>
<td>Health Canada</td>
<td>Sets out compensation to a farmer for loss because of the presence of pesticide residue in or on an agricultural product.</td>
</tr>
<tr>
<td><strong>Plant Breeders’ Rights Act</strong></td>
<td>CFIA</td>
<td>Sets out the rights of plant breeders.</td>
</tr>
<tr>
<td><strong>Plant Protection Act</strong></td>
<td>CFIA and CBSA</td>
<td>Purpose of Act is to prevent the importation, exportation, and spread of pests that would be harmful to plants and to provide for the control and eradication of the pests as well as the certification of plants. CBSA can act as inspector.</td>
</tr>
<tr>
<td><strong>Prairie Farm Rehabilitation Act</strong></td>
<td>AAFC (formerly Prairie Farm Rehabilitation Administration [PFRA])</td>
<td>Establishes PFRA to coordinate and implement programs to deal with drought disaster. PRFA also develops and delivers soil and water conservation programs and administers federal–provincial economic development and diversification initiatives in rural Manitoba, Saskatchewan, Alberta, and the Peace River Region in British Columbia. Note: PFRA has been integrated into the Agri-Environment Services, along with the National Land and Water Information Service (NLWIS) and Agri-Environmental Policy Bureau (AEPB) to address AAFC’s agri-environmental issues across Canada.</td>
</tr>
<tr>
<td><strong>Public Health Agency of Canada Act</strong></td>
<td>Health Canada</td>
<td>Establishes the Public Health Agency of Canada (PHAC) which has a role in food safety by conducting outbreak surveillance and epidemiology and participates in outbreak response.</td>
</tr>
<tr>
<td><strong>Rabies Indemnification Regulations</strong></td>
<td>CFIA</td>
<td>Compensation to provinces of two-fifths of the cost paid to owners for animals that have died from rabies.</td>
</tr>
<tr>
<td><strong>Seeds Act</strong></td>
<td>CFIA and CBSA</td>
<td>Sets out rules for standards, licensing, registration, and packaging of seeds. CBSA can act as inspector.</td>
</tr>
<tr>
<td><strong>Species at Risk Act</strong></td>
<td>Fisheries and Oceans Canada, Environment Canada</td>
<td>Sets up the Canadian Endangered Species Conservation Council to prevent the extinction of wildlife species, to provide for the recovery of endangered or threatened wildlife species, and to manage species of special concern to prevent them from becoming endangered or threatened.</td>
</tr>
<tr>
<td><strong>World Trade Organisation Agreement</strong></td>
<td>Foreign Affairs and International Trade Canada</td>
<td>Agreement between countries is to ensure fairer competition and a less-distorted sector. WTO member governments agreed to improve market access and reduce trade-distorting subsidies in agriculture.</td>
</tr>
</tbody>
</table>


Source: The Conference Board of Canada.
## APPENDIX B

### Agencies, Boards, and Commissions

<table>
<thead>
<tr>
<th>Ministry</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Agriculture and Agri-Food Canada (AAFC)</strong></td>
<td>Canada Agricultural Review Tribunal</td>
<td>Quasi-judicial body that reviews administrative decisions or penalties imposed under various agriculture and agri-food acts&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>AAFC</strong></td>
<td>Canadian Dairy Commission</td>
<td>Coordinates federal and provincial dairy policies and creates a control mechanism for milk production&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>AAFC</strong></td>
<td>Canadian Food Inspection Agency</td>
<td>Applies science and standards to safeguarding public health from risks associated with food supply and transmission of animal disease to humans and ensuring a sustainable plant and animal resource base; and contributes to consumer protection and market access&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>AAFC</strong></td>
<td>Canadian Grain Commission</td>
<td>Regulates and certifies the quality, safety, and weight of Canadian grain for domestic and export markets&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>AAFC</strong></td>
<td>Canadian Wheat Board</td>
<td>Sole marketing agency for wheat and barley in Canada—controlled by Western farmers&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>AAFC</strong></td>
<td>Farm Credit Canada</td>
<td>Enhances rural Canada by providing specialized and personalized business and financial services and products to farming operations, and to those businesses in rural Canada related to farming&lt;sup&gt;7&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>AAFC</strong></td>
<td>Farm Products Council of Canada</td>
<td>Responsible for poultry and eggs supply management agencies and national promotion research agencies. Administers the <em>Agricultural Products Marketing Act</em>; allows delegation by federal government of interprovincial and export trade to provincial commodity/marketing boards&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td>Environment Canada</td>
<td>Canadian Environmental Assessment Agency</td>
<td>Provides high-quality environmental assessments that contribute to informed decision-making, in support of sustainable development&lt;sup&gt;9&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

(continued . . .)
### Table 1 (cont’d)
Agencies, Boards, and Commissions Whose Mandates Affect Agriculture and Food

<table>
<thead>
<tr>
<th>Ministry</th>
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<tbody>
<tr>
<td>Finance Canada</td>
<td>Canadian International Trade Tribunal</td>
<td>Investigates trade cases and complaints regarding federal government procurement as well as judgments of appeals regarding customs and excise. Also provides advice regarding tariff, trade, commercial, and economic matters.</td>
</tr>
<tr>
<td>Fisheries and Oceans Canada</td>
<td>Canadian Coast Guard</td>
<td>Has a key role in ensuring the sustainable use and development of Canada’s oceans and waterways, protects marine environment, and ensures sovereignty and security of waterways.</td>
</tr>
<tr>
<td>Fisheries and Oceans Canada</td>
<td>Fisheries Resource Conservation Council</td>
<td>Provides scientific and academic expertise for the fishing industry, and makes public recommendations on conservation measures.</td>
</tr>
<tr>
<td>Fisheries and Oceans Canada</td>
<td>Freshwater Fish Marketing Corporation</td>
<td>Buys, processes, and markets all freshwater fish caught for commercial sale in Manitoba, Saskatchewan, Alberta, Northwest Territories, and part of Northwestern Ontario.</td>
</tr>
<tr>
<td>Foreign Affairs and International Trade Canada</td>
<td>International Joint Commission</td>
<td>Assists U.S. and Canadian governments in finding solutions to problems in river and lake waters that border the two countries (e.g., pollution, irrigation).</td>
</tr>
<tr>
<td>Health Canada</td>
<td>Canadian Institutes of Health Research</td>
<td>Provides research funding for 13 virtual institutes of networks of researchers that focus on important health problems. Some of the institutes have a focus on food (e.g., Institute of Nutrition, Metabolism, and Diabetes).</td>
</tr>
<tr>
<td>Health Canada</td>
<td>Pest Management Regulatory Agency (PMRA)</td>
<td>Regulates all pesticides and does scientific evaluations on all pesticides in Canada before they are available on the market—must meet health and safety standards. Also dictates the use, instructions, and safety precautions on every product label.</td>
</tr>
<tr>
<td>Health Canada</td>
<td>Public Health Agency of Canada (PHAC)</td>
<td>Main agency responsible for public health—initiatives to prevent and control chronic and infectious diseases, including food safety. Responsible for responding to public health emergencies and doing surveillance and epidemiology of outbreaks for food safety.</td>
</tr>
<tr>
<td>Industry Canada</td>
<td>Canadian Foundation for Innovation</td>
<td>Provides funding to universities, colleges, research hospitals, and non-profit research institutions to carry out world-class research and technology development, including agricultural food engineering, environment, etc.</td>
</tr>
<tr>
<td>Industry Canada</td>
<td>Competition Tribunal</td>
<td>Adjudicates cases that deal with mergers, misleading advertising, and restrictive trade practices.</td>
</tr>
<tr>
<td>Industry Canada</td>
<td>Export Development Canada</td>
<td>Export credit agency, offering innovative financing, insurance, and risk management solutions for exporters and investors for expansion in international business; administers the Export Development Act.</td>
</tr>
<tr>
<td>Industry Canada</td>
<td>National Research Council Canada</td>
<td>Funds research, development, and technology-based innovation; many of the projects and institutes are relevant to agriculture and food.</td>
</tr>
<tr>
<td>Industry Canada</td>
<td>Natural Sciences and Engineering Research Council of Canada</td>
<td>Promotes and supports discovery research, and fosters innovation by encouraging Canadian companies to participate and invest in post-secondary research projects.</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

(continued . . .)
## Table 1 (cont’d)
Agencies, Boards, and Commissions Whose Mandates Affect Agriculture and Food

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<tr>
<th>Ministry</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Industry Canada</td>
<td>North American Free Trade Agreement (NAFTA) Secretariat</td>
<td>Administration of the dispute settlement provisions of NAFTA, and the free trade agreements between Canada-Israel (CIFTA), Canada-Chile (CCFTA), and Canada-Costa Rica (CCRFTA)²³</td>
</tr>
<tr>
<td>Industry Canada</td>
<td>Standards Council of Canada</td>
<td>Develops and oversees national standards for products, services, and systems²⁴</td>
</tr>
<tr>
<td>Privy Council Office</td>
<td>Intergovernmental Affairs</td>
<td>Provides advice and support to the prime minister and the Minister of Intergovernmental Affairs on policies, communications, and parliamentary affairs relating to federal-provincial-territorial relations²⁵</td>
</tr>
<tr>
<td>Privy Council Office</td>
<td>Transportation Safety Board of Canada</td>
<td>Investigates and makes recommendations regarding transport in marine, pipeline, rail, and air modes of transportation²⁶</td>
</tr>
</tbody>
</table>

7 Farm Credit Canada, [www.fcc-fac.ca/en/AboutUs/Profile/corporatevision_e.asp](http://www.fcc-fac.ca/en/AboutUs/Profile/corporatevision_e.asp).
10 Canadian International Trade Tribunal, [www.citt.gc.ca/index_e.asp](http://www.citt.gc.ca/index_e.asp).
11 Canadian Coast Guard, [www.ccg-gcc.gc.ca/eng/CGG/Who_We_Are](http://www.ccg-gcc.gc.ca/eng/CGG/Who_We_Are).
13 Freshwater Fish Marketing Corporation, [www.freshwaterfish.com/content/pages/about-us](http://www.freshwaterfish.com/content/pages/about-us).
15 Canadian Institutes of Health Research, [www.cihr-irsc.gc.ca/e/9466.html#a](http://www.cihr-irsc.gc.ca/e/9466.html#a).

Source: The Conference Board of Canada.
APPENDIX C

Bibliography


Ipsos Reid. *Canadian Perceptions of Food Safety and Quality*. Report to Agriculture and Agri-Food Canada. IPSOS Reid: June 2010.


The Conference Board of Canada has launched a major multi-year initiative—the Centre for Food in Canada (CFIC)—to address one of the mega-issues facing our country today. Food impacts Canadians in an extraordinary range of ways: it affects our lives, our health, our jobs, and our economy.

**Key Objectives**

CFIC’s key objectives are to:

- raise public awareness of the nature and importance of the food sector to Canada’s economy and society; and
- create a shared vision for the future of food in Canada articulated in a framework for the Canadian Food Strategy.

Achieving these purposes requires a combination of research and effective communication to stimulate public understanding of the significance of the food sector and spur the demand for collaborative action.

**Who Should Invest**

CFIC will appeal to investors from both the private and public sectors. Private sector firms have an interest in understanding the long-term food trends in Canada. These firms also have experience in the operation of their businesses, and they understand the opportunities and challenges their businesses face.

Public sector organizations clearly have an interest in the operation of Canada’s food sector. They are responsible for the policy and regulatory environment within which the private sector corporations operate. In addition, public sector organizations understand the interconnections between food and Canada’s health-care system, the nutrition of its citizens, and the health and viability of its communities. They are also familiar with the complexities and interrelationships among federal departments and, as well, among these federal departments and their provincial counterparts.

Membership from these organizations, each of which has a vested interest in the food system in Canada, will help to ensure that a balanced and holistic research approach is taken—one that reflects the priorities and concerns of Centre members.

E-MAIL contactcfic@conferenceboard.ca to receive more information.