

# Advancing a Policy Dialogue



Series II: Addressing Issues and Perspective on Policy Options

# Regulations Helping Canadian Agri-Food Competitiveness: A Summary

FEBRUARY 2011

BY DARRELL TOMA, BERNARD VINCENT, AND JUSTIN TOMA

## About this publication

This paper is part of the series, The Viability of Canada's Agri-food Sector. The opinions stated are those of the authors, and not necessarily those of the Canadian Agri-Food Policy Institute.

Reproduction of this publication requires the permission of the Canadian Agri-Food Policy Institute.

The Institute is focused on stimulating a national dialogue on agricultural issues, by addressing the policies that will enable Canada to thrive in the global agri-food marketplace.

This series is available from [www.capi-icpa.ca](http://www.capi-icpa.ca) in pdf format.

For more information, please contact:

Canadian Agri-Food Policy Institute  
960 Carling Avenue, CEF  
Building 49, Room 318  
Ottawa, ON K1A 0C6

Telephone: 613-232-8008 or  
Toll-free 1-866-534-7593  
Fax: 613-232-3838

[info@capi-icpa.ca](mailto:info@capi-icpa.ca)  
[www.capi-icpa.ca](http://www.capi-icpa.ca)



# SUMMARY

Government regulations can facilitate competitiveness along the agri-food supply chain. Regulations have many purposes, including ensuring food safety and quality. The focus also needs to be on a regulatory environment that positions and accelerates competitive success.

Traceability initiatives (some of which are mandatory), food safety regulations, and quality standards provide quality assurance to buyers and can further the competitive positioning of Canadian agri-food products in export markets. Regulations can provide successful risk management processes in response to a food safety crisis. Canadian meat inspection, food safety, and product risk regulations have helped reposition the supply chain and respond to a food safety-risk emergency. While these types of events can reoccur, the system seems capable of responding to such an emergency.

Food labelling regulations provide necessary information to help consumers make informed choices. Improvements can be made in labelling regulations and enforcement to help consumers identify healthy Canadian food products and ensure imported food products are properly labelled.

In the area of productivity improvement, regulations provide incentives for private investment, such as in plant and animal genetics, to respond to market demands. In niche and emerging industries, such as functional foods and nutraceutical products, regulations help establish and guide the industry, which helps attract capital, skilled workers and resources. The canola industry's supply chain model illustrates how regulations that provide private-sector flexibility can accelerate initial development toward international growth.

Regulatory standards also help the competitive positioning of food companies as they compete with other suppliers. This ranges from exporters

of genetic material and organic soybeans to suppliers of branded processed food products. The success of export-focused industries is based in part on a supportive regulatory environment throughout the supply chain, including the input supply sector, primary production, and processed and manufactured food products. The Canadian VQA brand, as a symbol of quality supported by regulated standards, has helped transform the wine industry. It facilitated the development of regional clusters and increased sales in domestic and international markets. Some wineries have even won international awards.

In his 1991 report, *Canada at the Crossroads*, Michael Porter indicated that: "Strict anticipatory regulatory standards can be a potent force for spurring upgrading in industry, provided they are designed and administered effectively. Strict product quality and safety standards pressure firms to improve products in ways that are eventually demanded by international markets." This statement is highly relevant today.

Regulations can improve the competitive positioning of the agri-food sector. Porter's ideas on industry clusters – which enable policies and regulations and focus on strong input suppliers and factor conditions – are sound. Regulation design should consider more transformational ideas, in order to encourage industry participants to harness and adapt technological solutions, build regional clusters, and foster innovations to better serve the agri-food industry and consumers. Not enough is being done relative to the innovative efforts of other countries. Accordingly, companies both in Canada and abroad should assess how to become involved as investors and developers in more value-added products and services, using these high-quality agriculture sector inputs for world demand. To seek out appropriate markets, strategic companies should build on the Canadian brand attributes, which include sound and healthy agriculture products, the use of science, and leading technology deployment.

## Project Overview

CAPI required a review of regulations that could benefit the competitiveness of the Canadian agri-food sector. The review relied on a brief examination of relevant literature and Acts and a number of industry case studies. The objectives included:

- ❑ What examples exist that illustrate how regulations enhance the competitiveness of agri-food sector supply chains?
- ❑ How regulations have facilitated competitiveness in agri-food supply chains?
- ❑ What types of regulations positively affect agri-food supply chains in export and domestic markets?

This document summarizes the findings of this review. The full report is available from CAPI.<sup>1</sup> The full document contains case studies that were used to provide insight on how regulations can enhance competitiveness. The specific industry case studies<sup>2</sup> covered:

- ❑ The beef sector;
- ❑ Canola and soybeans representing the grains and oilseed sector;
- ❑ The wine sector;
- ❑ Nutraceuticals and functional foods; and
- ❑ Food labelling for healthy food.

## Canadian Competitiveness and Regulations

Dr. Michael Porter of the Harvard Business School uses a “Diamond model” to investigate competitiveness issues at a national level, and suggests that the standard of living of a nation depends on the productivity of its human capital and natural resources. Productivity in a nation is determined by the interplay of three broad influences: the political, legal and macroeconomic context; the quality of the microeconomic business environment; and the sophistication of corporate operations and strategies.

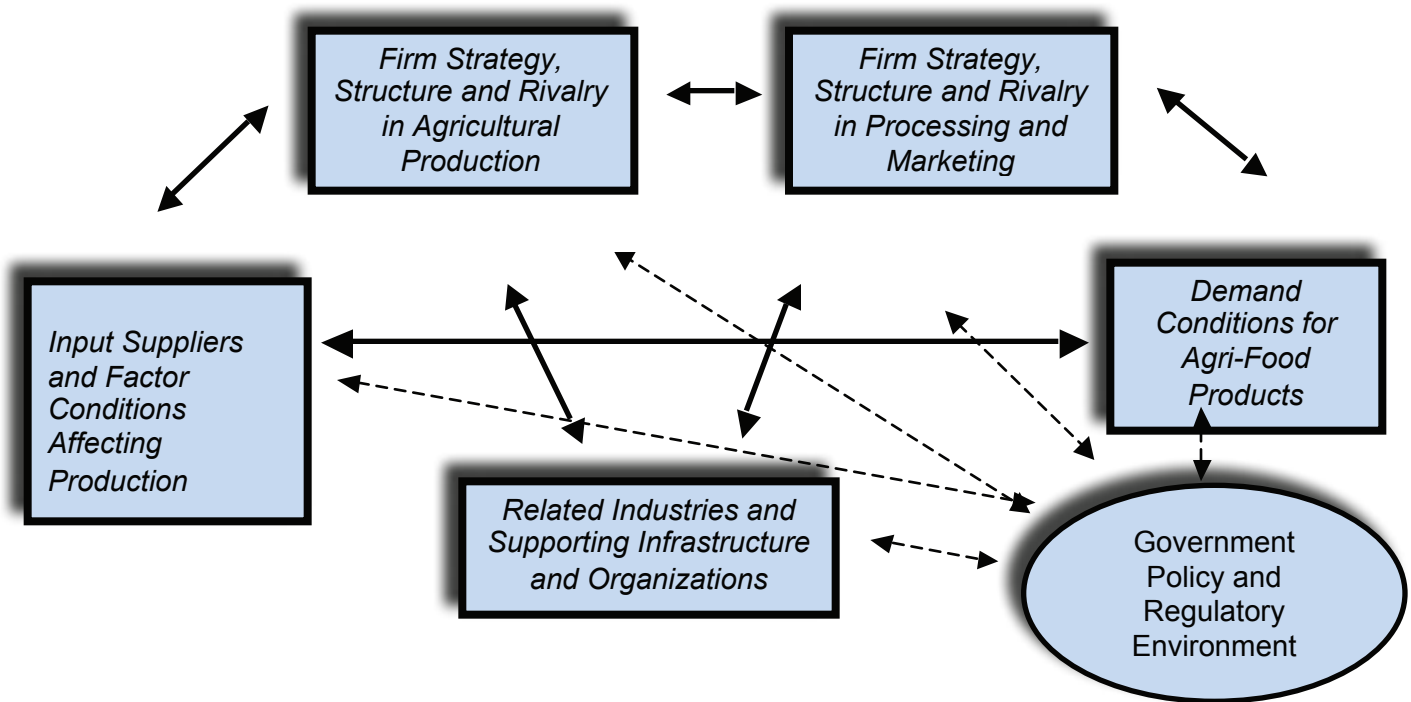
Figure 1 provides an overview of the agri-food supply chain derived from the competitive advantage model advanced by Michael Porter<sup>3</sup>. This framework reveals the positive influence that government policy, including the policy instrument of regulations, can have on the competitiveness of an agri-food sector supply chain. This framework can offer insights on the competitiveness of Canada’s agri-food sector.

Porter completed a study for the Canadian government entitled *Canada at the Crossroads – The Reality of a New Competitive Environment*, 1991. The study concluded that Canada’s endowment of natural resources, its well-educated population, and its proximity to the United States had allowed the nation to enjoy relative economic prosperity with a high standard of living. His research identified agriculture, in particular beef, as one of Canada’s most competitive sectors.

In the study, Porter briefly highlighted beef as a case study. He indicated that the industry had moderate influence from factor conditions, demand conditions, and the government. It had a low influence from related industries and supporting infrastructure and organizations, and from strategy, structure and rivalry, and had 1% of world export market shares. This was the lowest export share of Canada’s nine resource-based industries (the highest share was in newsprint at 80%).<sup>4</sup> Canada’s market share has not changed substantially (in 2009, it was assessed at 1.3% of the world cattle herd).

To ensure that this favourable situation would not erode, the study outlined a number of national policy recommendations that focused on the aggressive restoration of the macroeconomic environment for Canadian businesses. This restoration involved a reduction in the federal budget deficit as well as a reduction in personal and corporate tax rates. Another recommendation was the elimination of inter-provincial trade and investment barriers.

The report also addressed recommendations for the microeconomic business environment. The Canadian government was encouraged to enhance the intensity of domestic competition by abandoning protectionist policies for national champions in the home market. Other recommendations include the adoption of stringent and forward looking regulatory standards in regard to government demand for goods and services, revisions



**Figure 1. Competitive Advantage and the Canadian Agri-Food Supply Chain.**

in procurement practices, increased investment in education and specialized skills development, increased pace of deregulation in infrastructure sectors, and the development of mechanisms for the fast adoption of new technology.

Porter also noted in a section on regulatory reform regarding infrastructure (factor conditions) sectors that:

“Regulatory reform in Canada has lagged the pace set in the United States. Canada should continue to move ahead with regulatory reforms in key infrastructure areas such as transportation and communications. In addition, federal and provincial governments should renew efforts to achieve a greater degree of harmonization of policies that restrict inter-provincial competition and rationalization in areas such as trucking (pg 93).”<sup>5</sup>

This IPT (inter-provincial trade) issue remains largely relevant today. He also noted in a later section (demand conditions) that Canada should adopt stringent and forward looking regulatory standards. This notion was about industry product quality standards and safety.

“Strict anticipatory regulatory standards can be a potent force for spurring upgrading in industry, provided they are designed and administered effectively. Strict product quality and safety standards pressure firms to improve products in ways that are eventually demanded by international markets (pg 95).”

Porter did not foresee the food safety issues in the agri-food sector; rather he was addressing general Canadian industrial development.

Another area for action was found in related and supporting industries and regional cluster developments. This was seen to be a specific area of weakness in Canada.

“Ensure that programs and policies in all areas are consistent with the development of stronger industry clusters... Employ policies that build on existing regional strengths. The presence of an industry or cluster in a region is generally a sign that some competitive advantage already exists (Porter pg 96).”

This recommendation applies to all of the case studies reviewed as part of this project.

His comment on the USA market still applies to Canada.

“More than 70 percent of Canadian manufacturers do not serve any export markets, and the majority of those that do export sell solely to the United States... Given a more open trade and business environment, firms in Canada need to develop global strategies if they are to compete successfully against foreign rivals in many industries (pg 81). “

In 2001, Porter and Dr. Roger Martin of the University of Toronto completed an updated report titled, *Canadian Competitiveness: A Decade After the Crossroads, 2001*. This second report had a more sombre tone. Even with the adoption of recommendations from the previous study, Canada was not seen to be progressing quickly enough or in the right direction.

Despite progressive gains in the macroeconomic environment, the results of the 2001 study indicated that Canadian firms were experiencing some key weaknesses in the microeconomic environment. The absence of intense local rivalry combined with weak consumer demand (critical mass issues) resulted in insignificant pressures on firm productivity. Unfavourable factor market conditions, particularly with respect to specialized human capital and research and development infrastructure, slowed the pace of productivity gains and innovation.

The main conclusion drawn from the 2001 study is the need for Canada to focus on innovation and productivity enhancing tools. Canada’s inability to create a competitive microeconomic environment can best be demonstrated in a global context. The results from Porter and Martin’s study on Canadian competitiveness clearly suggest that Canadian businesses and the Federal government need to focus on innovation, and the establishment of competitive advantages. Canadian businesses must take firm level actions to identify and implement best practices in management and manufacturing. The study did not focus on regulations, as did the earlier report.

Porter makes a number of specific comments on the progress in Canada since 1991, which can still apply today to the agri-food sector:

- ❑ Canada’s related and supporting industries were weak and inhibit productivity improvements, and the rate of innovation;
- ❑ Absence of local rivalry and weak customers produced weak pressure for productivity improvements;
- ❑ There is little orientation to global competition, and the focus is still on the US and in natural resource advantages;
- ❑ A lack of specialized education and cluster development initiatives exist with the belief it is the government’s responsibility;
- ❑ “Due to natural resource advantages, a 19<sup>th</sup> century decision to protect the Canadian economy with high tariffs... Canadian institutions have been more inclined to replicate practices and strategies elsewhere rather than innovate to be uniquely positioned in global terms.”

The three main areas for government actions include:

- ❑ Investments in specialized education and improvements in managerial skills in strategy;
- ❑ Building firm level global strategies with awards similar to the Baldrige Award for Quality;
- ❑ More cluster developments and support to clusters in training, specialized infrastructure, incentives for related and supporting industries and even specialized regulatory regimes (pg 20).

Some comments are instructive for focusing policy.

“The single most important priority for Canadian prosperity is to bring about a transformation in the way Canada’s companies compete. Historically, natural resource endowments and high tariff barriers have combined to provide a tendency toward a set of company strategy choices that are distinctly incompatible with global competitiveness. This set of choices is incompatible with rising prosperity. It does not lead to the intensive investments in upgrading for high productivity and international competitiveness (pg 21).”

Firms have options. Specific firm level actions can include higher technology adoption, more training of employees, increased emphasis on R&D, and more technological commercialization of university/public sector research. It is important to note that imitating and assimilating the best practices of other competitive firms is not enough. Canadian firms must also pioneer new best practices that will enable them to adopt distinctive strategies and achieve competitive advantages over competitors. However, an interesting framework was proposed for industry in assessing competitiveness.

In conjunction with the World Economic Forum, Porter measured and ranked the competitiveness of 58 countries over three years.<sup>6</sup> During this period, Canada's overall competitiveness ranking dropped from 6th in 1998 to 11th in 2000. This drop in competitiveness can be attributed to the quality of Canada's microeconomic business environment, a ranking that fell from 3rd to 8th. In other categories, Canada ranked 20th in innovation, product design and branding, 19th in value chain presence, 17th in international distribution, 16th in company operations and strategy, and 23rd on the nature of competitive advantage. "Overall, Canada ranks squarely in the second tier of countries on the innovation index." Clearly more work is needed to maintain and enhance competitiveness.

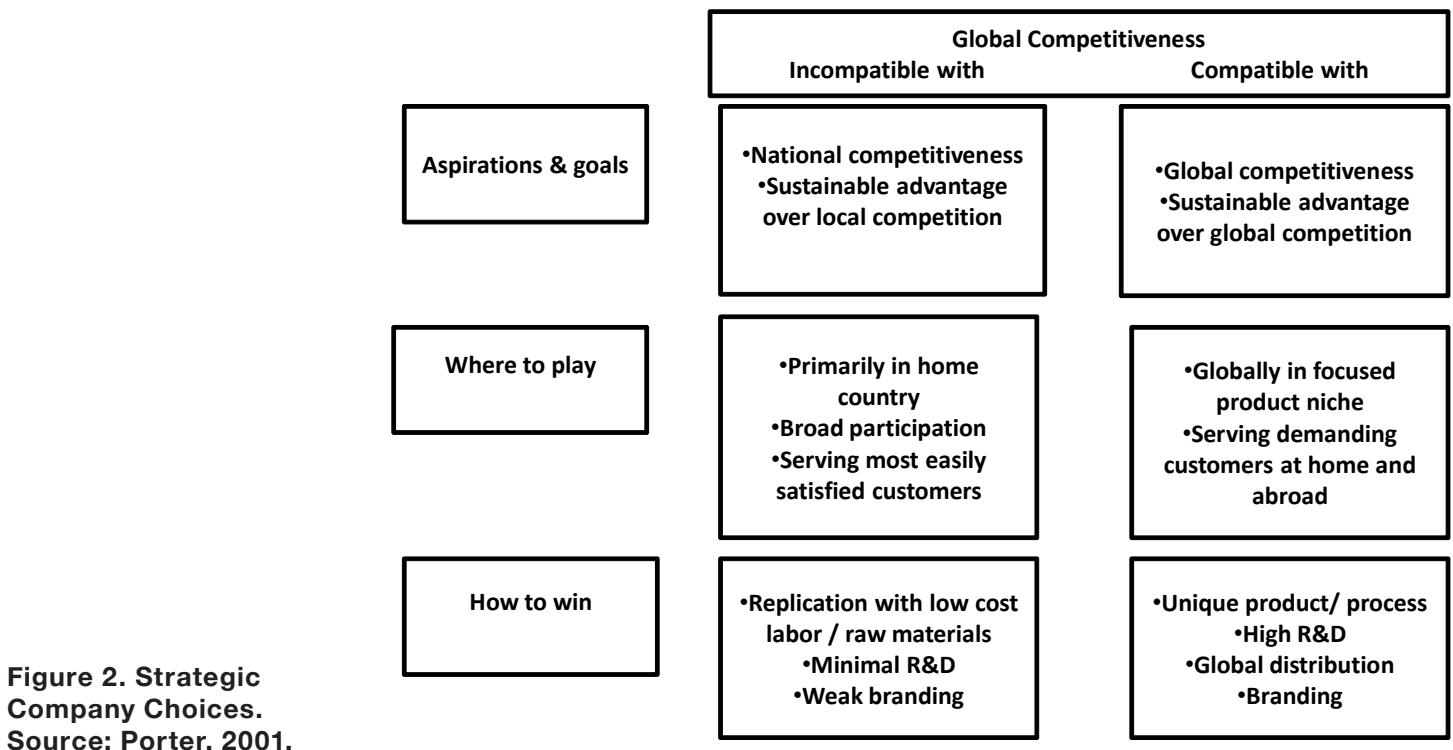
The definition of competitiveness draws from the framework of export orientation envisioned in the Porter model. The case studies for this review were selected to describe the competitive position realized through enabling regulations, as viewed by industry and as noted in the literature.

## **Regulations Can Enhance Agri-Food Sector Competitiveness**

A former president of the Canadian Food Inspection Agency (CFIA) noted that regulations can enhance competitiveness. But if not properly designed, they can inhibit competitiveness:<sup>7</sup>

"The Canadian regulatory system can provide a competitive advantage and encourage companies to do business here, or it can be seen as a regulatory system that is unclear and unresponsive and therefore creates an unduly heavy regulatory burden that undermines competitiveness and discourages innovation and investment." (Doering, pg 6)

Very little research appears to be done on the topic of how regulations help industry compete (also noted by



**Figure 2. Strategic Company Choices.**  
Source: Porter, 2001.

Doering). Reports have more commonly reviewed the costs of the system and ways to improve it.<sup>8</sup> Porter offers several insights to Canadian competitiveness in his two studies which still apply to how the Canadian government, industry, and even the agri-food industry can be challenged. Given the importance of regulations, more research may be needed in view of competitiveness and innovation.

These findings reveal certain principles or themes emerge including the need to:

- ❑ make the regulation intent clear;
- ❑ ensure transparency in application and product review for enhancing private sector product developments;
- ❑ ensure a market focus to enhance Canadian industry competitiveness;
- ❑ develop clear roles and responsibility for unplanned events or scenarios;
- ❑ enable and foster cluster development against regional strengths and to catalyze new technology development and applications; and
- ❑ where necessary, help provide transformative actions to reposition traditional industries.

Regulations which allow for private breeding and seed developments in response to demand factors – as in the case of canola, soybeans, and even beef – show how the industry growth conditions can be enhanced. The canola industry has a very interesting supply chain model which has been developed rapidly to meet global market needs, and has succeeded in spite of extreme international competition. The beef industry has developed in a similar private-sector driven manner, while supported by health of animals, meat inspection and food safety regulations (even when confronted with two very severe food safety events). The market driven approach has helped create new industry clusters in western Canada, which have a global brand and solid reputation.

In Canada, a competitive sector requires the supportive factor conditions of an educated workforce, specialized skills, and labs. Challenges emerge when we suffer a loss of highly qualified people (cereal grain breeders), the consequent decline in seed development, the pull back of public sector labs, the concentration of global seed companies, and an unclear Canadian strategy relative to competitor countries.

More attention needed to be put on the technology transfer function of leading technologies, and the bundling of technologies into the agri-food sector, given the lack of provincial extension systems and the pull back of similar support from the federal system that has occurred since the 1990s. Notably, the IRAP system of NRC (with technology advisors) supports technology transfer for other Canadian businesses; the agricultural sector has gone in the opposite direction, eliminating the direct support. In the US, the MEP (manufacturing extension partnership) is helping its food industry and other sectors to compete. The MEP is actually based on the historic agricultural extension model. The Canadian agri-food system is also facing a shortfall of a possible 90,000 highly trained and skilled labour workers, which is the main role for the university and college systems and others.<sup>9</sup> Given a need to enhance Canadian agri-food innovation, the technology transfer gap needs attention.

Associated federal “foundational food safety and quality” regulations help to manage and guide safe food production, processing, and related supply chain activities, and are still evolving in view of global supply chain developments. These regulations apply from farm to retailing and include: health of animals, grading, food handling, inspection and labelling. For some farms it can also include HACCP systems, and even environmental farm plans. Food safety regulations allow the system to plan, monitor, and even respond to domestic and global markets. In addition to these regulations, some industries are also implementing additional corporate and supply-chain specific protocols to strengthen their quality and traceability methods for further differentiation.

Associated regulations provide successful risk management processes in a rapid response to a food safety crisis. Canadian health of animals, meat inspection, food safety, and product risk regulations have been successfully used to help reposition the supply chain and respond to a food safety emergency. Examples of the BSE, avian flu and listeria events since 2003 prove the regulations give the supply chain – from farm to processor and the related regulatory agencies – the tools and methods necessary to contain the event and respond. These events demonstrate that Canada can retain a sound food system that is safe and quality oriented, and is able to adjust procedures when needed. These types of events will very likely reoccur, and the system seems able to respond.



Regulations can provide quality assurance to buyers. Canada has developed an identity preservation system for delivering specific soybean attributes to specific purchasers. In some Asian soyfood markets, Canada is viewed as a preferred supplier, in part thanks to the identity preserved system. Three quarters of soybean exports to Asia are classified as identity preserved under the Canadian Identity Preserved Recognition System (CIPRS). The system has Canadian Grain Commission oversight, which is governed by the Canada Grain Act.<sup>10</sup> This system provides clients with confidence that the product delivered is the product specified in the contract, and has not been contaminated during the distribution process.

Market-based regulations which guide an industry transformation in relation to global market demand are important. The transformation of the wine industry from a poor quality product to an integrated Canadian VQA brand that is winning international awards provides a good example. The industry transformation model will likely be needed again as markets change, and especially when the industry is highly tied to traditional models and approaches that cannot continue. This proactive model is consistent with Porter's observation that a new path based on innovation-driven models is needed, as opposed to one based solely on low cost raw materials. It is also consistent with a cluster development model that creates a strong domestic industry characterized by competitive firms.

In spite of many Canadian agri-food system developments, food labelling is confusing to consumers and can be greatly improved to help the food sector better differentiate itself. This is a gap which is not commonly seen to be an issue in restricting the growth of healthy Canadian foods in markets. Food labels are an interface for all stakeholders in the food system, and are a common weak point. Compared with other systems, more can be done to help companies compete and better inform the public. A regional pilot project to test simple and clear healthy food labelling would be very useful and timely.

For newer niche industries, regulations have meshed federal responsibilities with provincial industry strengths to provide an integrated hybrid regulation model in a cluster approach. The wine industry and its regulatory focus on VQA products prove a quality niche product

from local supply chains can compete. In the case of the developing functional food and nutraceutical products, regulations helped establish and guide the industry, which has helped attract capital, highly trained people, and resources. Niche industries may have a much easier path in branding and adapting to global markets and these examples show how regulations support clusters.

For commodity industries like beef, regulations in health of animals, grading, plant licensing, and food safety provide a strong foundation for the establishment and management of a system across many links in the supply chain. The development of global supply chains and interest in their own brand often means these regulations at the product and food quality level become important "glue" for all in the chain. As has occurred in other industries, perhaps more can be done in beef and meat ingredients in terms of specific niche product development.

It is important that regulations be clear, transparent, timely in response or application, market oriented, and have independent authority. These regulations appear to assist industry growth. As has been noted by other industry players, regulations need to be reviewed in view of global markets against the best domestic fit. Some researchers argue for better harmonization with the US and others, and for updating out of date regulations which are applicable to a much earlier and different market environment.

The regulatory review process, contrary to the intent of a regulation associated with regulatory design, and system operations can be made more efficient through the concept of "lean thinking". A lean thinking approach can help reveal the key bottlenecks in a process, while improving innovations in the system for all users. Lean thinking is a method to examine a process, but is not well understood or applied in the agri-food sector. First written up by James Womack (1996), it is based on the Toyota production system. It focuses on organization processes for competitive solutions.<sup>11</sup> Lean has been a best practice "evolutionary" model for manufacturers, service organizations and NGOs throughout the world. The purpose is to eliminate waste (7 key sources). Regulations should adhere to these lean principles in their design and application.

Lessons from the case study indicate that some of Porter's ideas on clusters, on enabling policy and regulations, and with regard to a focus on strong input suppliers and factor conditions appear to be sound. Future regulation design should consider more transformational ideas, in order to encourage industry participants to harness and adapt more technological solutions, regional clusters, and innovations. These measures will better serve the agri-industry and the public. Not enough is being done relative to the innovation and technology transfer efforts of other countries. Given that design intent, Canadian and international companies can then assess how to become involved as investors and developers in more value added products and services (using these high quality agriculture sector inputs for world demands). To seek out appropriate niche markets, strategic companies can build on the Canadian brand attributes of sound and healthy agriculture products, high use of science, and leading technology deployment that features highly trained people.

## Summary

These findings indicate that regulations can help create competitiveness along the agri-food supply chain. Federal food safety and quality regulations provide quality assurance as they help manage and guide safe food production, processing and related supply chain activities. These regulations apply from farm to retailing and include: grading, food handling, inspection and labelling. For some farms it can also include HACCP systems and even environmental farm plans. Traceability initiatives, some of which are mandatory, provide quality assurance to buyers, and can further the competitive positioning of Canadian agri-food products in export markets.

Food labelling regulations provide necessary information to help consumers make informed choices. Improvements can be made in labelling regulations and enforcement to help consumers identify healthy Canadian food products and to ensure imports are properly labelled.

Regulations provide successful risk management processes in a rapid response to a food safety crisis. Canadian meat inspection, food safety and product risk regulations have been successfully used to help

reposition the supply chain and respond to a food safety-risk emergency. These types of events will very likely re-occur and the system seems able to respond.

In the area of productivity improvement, regulations provide incentives for private investment in plant and animal genetics, and in innovations, that are developed in response to market demands. Related regulations also establish minimal standards that provide quality assurance to buyers. In niche and emerging industries, such as functional foods and nutraceutical products, regulations help establish and guide the industry, which helps attract capital, highly trained people and resources. The canola industry developed in a supply chain model that showed how regulations that provide private sector flexibility can accelerate initial development towards international growth.

Regulatory standards also help competitive positioning of food companies as they compete with other suppliers. This ranges from exporters of genetic material, to exporters of organic soybeans, to suppliers of branded processed food products. The success of export-focused industries is based in part on the supporting regulatory environment throughout the supply chain – from the input supply sector, primary production, and processed and manufactured food products. The Canadian VQA brand as a symbol of quality supported by regulated standards has helped transform the wine industry, facilitated development of regional clusters, and increased sales in domestic and international markets. It has resulted in international awards for some wineries.

In his 1991 report, *Canada at the Crossroads*, Michael Porter suggested that: "Strict anticipatory regulatory standards can be a potent force for spurring upgrading in industry, provided they are designed and administered effectively. Strict product quality and safety standards pressure firms to improve products in ways that are eventually demanded by international markets". This statement is highly relevant for the Canadian agri-food sector in 2010.

Regulations can improve the competitive positioning of the Canadian agri-food sector. The case study review suggests that Porter's ideas on industry clusters, enabling policy and regulations, and a focus on strong input suppliers and factor conditions are sound. Regulation design should consider more transformational ideas to encourage industry participants to harness and

adapt more technology solutions, build regional clusters, and foster innovations in order to better serve the agri-food industry and consumers. Not enough is being done relative to other countries' innovation efforts. Accordingly, Canadian and international companies can then assess how to become involved as investors and developers in more value added products and services, using these high quality agriculture sector inputs for world demands.

## References

1. Regulations which help Canadian Agri-Food Competitiveness
2. A survey with certain questions was used to help collect data on a standard basis. Furthermore, specific industry calls were made to help discuss how regulations impacted the industry. As well, and specific industry literature which was located on regulations was reviewed for comments.
3. Porter, M. The Competitive Advantage of Nations, The Free Press, 1990
4. Porter (1991), Canada at the Crossroads, pg. 37
5. Porter, *ibid*, pg. 93
6. World Economic Forum, The Global Competitiveness Report 2007-2008. <http://www.weforum.org/en/initiatives/gcp/Global%20Competitiveness%20Report/PastReports/index.htm>
7. Doering, R. A Duty To Do It Well: Regulations and Food Industry Competitiveness and Innovation Under the Food and Drugs Act, March, 2005
8. George Morris Centre, The Competitiveness Impacts of Canada's Agricultural Product Review Regulations, 2004
9. Canadian Human Resources Sector Council, Labour Market Information on Recruitment and Retention in Primary Agriculture, 2009
10. Canadian Soybean Exporters' Association. The Canadian Advantage. [www.canadiansoybeans.com](http://www.canadiansoybeans.com)
11. Womack J. and Jones. D, Lean Thinking, 2006

