

# **PROFILE AND OUTLOOK FOR THE BC AGRI-FOOD INDUSTRY**

by

**Gregg Burkinshaw**  
Manager – Special Projects  
Business Council of British Columbia

**APRIL 2010**

*A paper prepared for the  
Business Council of British Columbia Outlook 2020 project*

The opinions expressed in this document are those of the authors and do not necessarily reflect those of the Business Council of British Columbia. Permission to use or reproduce this report is granted for personal or classroom use without fee and without formal request provided that it is properly cited. Copies may not be made or distributed for profit or commercial advantage.

## **TABLE OF CONTENTS**

<b>I.</b>	<b>Introduction .....</b>	<b>1</b>
<b>II.</b>	<b>Background And Context .....</b>	<b>2</b>
<b>III.</b>	<b>Physical Factors Shaping The Outlook For The Sector To 2020 .....</b>	<b>10</b>
<b>IV.</b>	<b>External Factors Shaping The Outlook For The Sector To 2020 .....</b>	<b>13</b>
<b>V.</b>	<b>Internal Factors Shaping The Outlook For The Sector To 2020 .....</b>	<b>16</b>
<b>VI.</b>	<b>Opportunities For BC .....</b>	<b>18</b>
<b>VII.</b>	<b>Potential Responses And Actions To Help Realize The Long-Term Opportunities .....</b>	<b>24</b>
	<b>REFERENCES .....</b>	<b>26</b>



# **PROFILE AND OUTLOOK FOR THE BC AGRI-FOOD INDUSTRY**

## **I. INTRODUCTION**

BC is a small, open economy and as such relies heavily on trade and exports to raise, or even maintain, living standards of British Columbians. Trade is critical to the success of most of the province's wealth generating sectors, such as forestry and mining. Although a larger share of its output is consumed domestically, exports are also important to the well-being of the agriculture and agri-food sector in BC. British Columbia and even Canada have small domestic markets for agri-food products and growth of the sector depends on its capacity to export.

This paper provides an overview of BC's agri-food industry with a particular focus on opportunities to strengthen the province's export base. The primary agriculture and agri-food system is a complex and highly integrated group of industries. For the purpose of this paper, the agri-food industry includes primary agriculture (including livestock and related products; and, fruit vegetables and field crops), aquaculture (including finfish and shell-fish but excluding commercial and sport fishing) and food processing. It excludes other aspects of the food industry related to distribution (retail and wholesale activities) and hospitality (restaurants).

For most people the agriculture industry is about food and is therefore valued for more than its contribution to provincial GDP. There is an emotional element to food and agriculture that does not exist in the same way as for other industries such as the extraction of copper or the production and consumption of yoga wear. There is also growing awareness of food and how and where it's grown and greater respect for the farmer who grows it. Consumers are also demanding healthier and safer food choices along with more variety and convenience. These trends bode well for the sector since most of BC's agricultural output is consumed locally.

BC with its varied topography and climactic zones is the most agriculturally diverse region in Canada. The province produces over 200 major primary agriculture products as well as broad array of seafood (finfish and shellfish) products. But, is BC making the most of its export opportunities? Given BC's relatively small and diverse agri-food sector, can the sector compete globally and expand in international markets?

## II. BACKGROUND AND CONTEXT

The Canadian agriculture and agri-food system is a complex and integrated supply chain of importance to the Canadian economy. It makes significant direct and indirect contributions to the Canadian Gross Domestic Product (GDP) and employment, but its importance varies from province to province.<sup>1</sup>

According to Agriculture and Agri-food Canada, the Canadian system accounted for 8% of GDP in 2006 or about \$87.9 billion (measured in 1997 dollars). The industry breaks down as follows: primary agriculture (not including aquaculture) represents about 1.3% of GDP, food beverage and tobacco processing about 2%. The federal agency, however, employs a broader definition of the sector than the one used for this paper. It has food services and food retailing making up the balance of the 8% at 1.5% and 2.6% respectively.

The BC industry is comprised of primary agriculture and aquaculture which had \$2.3 billion and 43 million in sales in 2006, respectively. Food processing sales were \$6.6 billion.<sup>2</sup>

While BC has 13% of the Canadian population, with its often mountainous terrain it accounts for just 3.5% of the country's farmland. Although land is comparatively scarce the province manages to produce 7% of farm gate receipts and accounts for 8% of all farms, 8% of food & beverage manufacturing shipments, and 11% of agricultural and food & beverage processing in Canada.<sup>3</sup>

### **Agriculture and Agri-Food System and the Canadian and BC Economies**

Agriculture and Agri-Food Canada recently produced a comprehensive report on the country's agri-food sector entitled *An Overview of the Canadian Agriculture and Agri-Food System, 2008*. This section draws from the report to provide background and context for the national industry and provides a basis for comparing the size of the provincial agri-food industry.

From 1991 to 2006, the Canadian agriculture and agri-food sector grew at an average annual rate of 2.4% underperforming the 3.1% average growth rate for the entire economy over the same period. Primary agriculture and food processing lagged well behind, registering average growth rates of 1.3% and 1.4% respectively.

Agriculture and food processing, play a comparatively small role in BC economy, accounting for less than 2% of GDP which is below the Canadian average of about 3.5%, and the lowest share among the provinces. Looking at it another way, in 2006, BC's

---

<sup>1</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.13

<sup>2</sup> Fast Stats, Agriculture, Aquaculture and Food, 2007, Ministry of Agriculture and Lands, Government of British Columbia, p. 20 and 21

<sup>3</sup> Focus on the Future: Developing the Agri-Food Industry in British Columbia, Final Report, March 31, 2006, prepared by Ference Weicker & Company Ltd., p.ii

contribution to the total Canadian agriculture and food processing GDP was 7.2% while the province's economy makes up around 11% of all Canadian economic output. Ontario's agri-food industry accounts for about 34.2% of the Canadian total, Quebec 17.7% and Alberta 16.1%.<sup>4</sup>

The agri-food sector's contribution to employment is also relatively small at 1.7% for primary agriculture and 1.8% for food, beverage and tobacco processing. Nationally, these two segments grew at an average annual pace of 1.3% from 1991 to 2006, slightly below the employment growth rate of 1.7% in the overall Canadian economy.

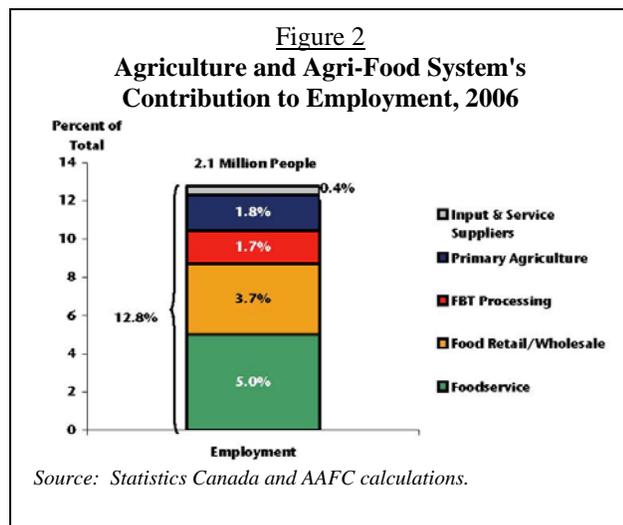
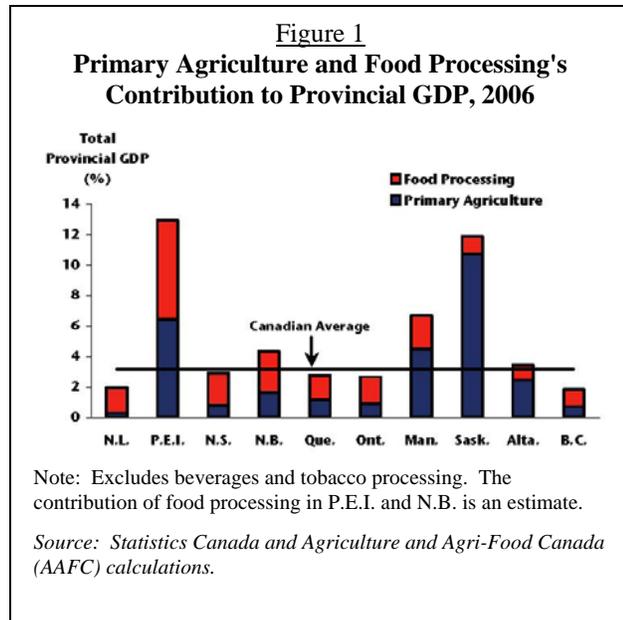
In terms of the share of employment, BC is similar Canada. In 2006, the agriculture and agri-food sector's share of total employment in the province was about 12%. However, half of that 12% were employed in foodservices (which is outside the scope of the current paper), while primary agriculture accounted for less than 2%.<sup>5</sup>

**Canada is a Major Player in Agri-Food Trade**

Canada is the world's fourth largest agriculture and agri-food exporter, accounting for 5.6% of the total of world agriculture and agri-food exports behind the European Union (18.4%), the United States (17.6%) and Brazil (8.3%). In 2007, Canadian agriculture and agri-food exports amounted to \$31.6 billion. Just under one third or \$9.6 billion of the total was in bulk products (products that receive little or no processing), another quarter was intermediate products (some processing but are not yet ready for final consumption) and 44% or \$13.8 billion of all exports agri-food was in consumer-oriented products (requiring little or no further processing and generally ready for final consumption). Examples of the latter include fresh fruits, vegetables, processed meat and seafood. The export value of consumer-oriented products has more than quadrupled from \$3.1 billion

<sup>4</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, 15-16

<sup>5</sup>An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, 15-16



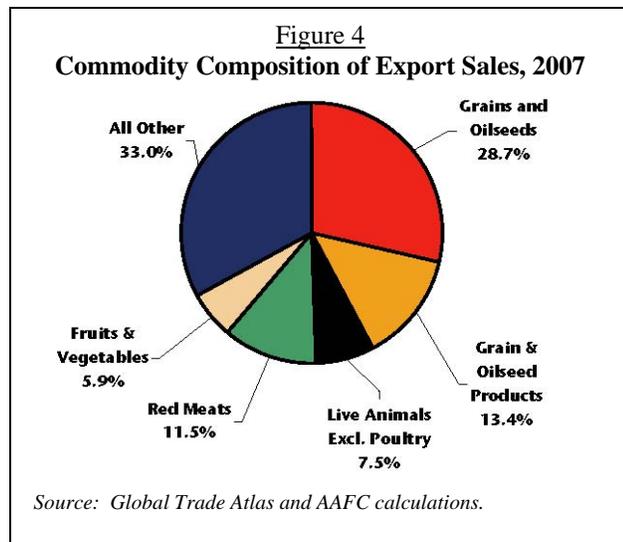
since then. Over the past couple of decades international agriculture and agri-food trade has been driven by consumer-oriented products.<sup>6</sup>

### ***Who Does Canada Trade With?***

Not surprisingly, the majority of Canada’s agriculture and agri-food exports are destined for the United States. This pattern is consistent with Canadian trade in general as North American has become increasingly integrated following the implementation of the Free Trade Agreement (1988) and North American Free Trade Agreement (1994). From 1992 to 2007, US destined agriculture and agri-food exports surged from about \$6 billion to about \$17 billion. This means the United States now buys about 55% of Canada’s total agri-food exports, up from a 40% share a decade and half earlier. While sales to the US have climbed sharply, exports to the European Union and Japan have also grown at a healthy clip.<sup>7</sup> Trade with some of the emerging markets has grown at an impressive pace, especially Mexico and India. In contrast to most other markets, agricultural sales to China fell and were stagnant for much of the period, but have recently returned to levels enjoyed in the early 1990s.<sup>8</sup>

### ***Composition of Canada Agricultural Exports***

Grains and oilseeds and Grain and Oilseed products are the largest product groups of Canadian agricultural exports. Combined they account for 42% of the total value of agriculture and agri-food exports. Red meats and Live Animals (excluding poultry) are third and fourth, amounting to 11.5% and 7.5% of exports respectively. The commodity composition of Canadian export sales has remained relatively stable over the past decade, except for fruits and vegetables which have increased their share of the total exports from 4.1 to 5.9% (between 1998 and 2007).



### ***Where does BC Export To?***

The US is also the number one destination for BC’s agri-food exports (which includes aquaculture and processed fish products). Producers in the province collectively shipped \$1.64 billion across the border in 2008, or roughly two-thirds of the \$2.4 billion of international agri-food exports. Japan was a distant second to the US buying \$294

<sup>6</sup> Ibid, p.21

<sup>7</sup> Ibid, p.22

<sup>8</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.24

million of BC agri-food exports. China purchased just \$94 million worth of agri-food products.<sup>9</sup>

The rest of Canada is also an important market for BC farmers and agri-food producers. An estimated \$2.5 billion of agriculture and related exports (roughly the same as the total for international exports) are shipped to other provinces.

### *Primary Agriculture*

In contrast to the Canadian picture, grains and oilseeds are a relatively small part of BC's agricultural landscape while the value of aquaculture products is the largest. Fruit and vegetables (including potatoes) are the next two largest broad categories each with export values about half the size of aquaculture.

Aquaculture leads the way for all BC agriculture food exports with an export value of about \$400 million in 2007. Moreover, the industry has grown at a very robust compound annual rate of 19% from the early 1990s to 2007.<sup>10</sup> Since 1984, when aquaculture exports were essentially non-existent, aquaculture has outpaced almost every other industry in the BC (both within and outside of agriculture). This rapid growth is due primarily to the expansion of salmon farming, which now accounts for 75% of all aquaculture output in BC.<sup>11</sup>

The vast majority of Canada's aquaculture production (85%) is exported, with most of this destined for the US marketplace. A small share is sold to Japan, Taiwan and European markets. BC accounts for nearly half of the total value of Canadian production. On the global scale, however, Canada is still but a minnow accounting for less than 2% of the total value of world aquaculture production.<sup>12</sup>

Although the appreciating Canadian dollar makes it more challenging to export to the US and the industry still faces intense scrutiny on the environmental front, future prospects for aquaculture look promising. Canada's small share of the global market suggests there is plenty of scope to grow international sales and expand the sector's export footprint as well as employment in smaller communities. Ongoing technological advances and the development and commercialization of new products should also help sustain a healthy expansion in the industry (although probably not at the pace recorded over the past decade).

### *Horticulture: Greenhouse Vegetables*

Greenhouse agriculture is a highly productive industry. It produces 21% of the total value of BC agricultural output on a small fraction (just 0.01%) of provincial ALR farmland. In 2007, the export value of vegetables and potatoes was about \$214 million.

---

BC Stats, Exports (BC Origin), 2009.

<sup>10</sup> Ibid, p.2

<sup>11</sup> British Columbia's Fisheries and Aquaculture Sector, 2007 Edition, BC Stats, April 2007, p.35

<sup>12</sup> VISTA Taking Stock: A profile of Canada's aquaculture industry, by Bernadette Alain, Catalogue no. 21-004-XIE, October 2005

Green house grown tomatoes and cucumbers accounted for about 42% of this total and sweet peppers about 20%.

Greenhouse horticulture is a remarkable success story. Greenhouse tomatoes and cucumber production have expanded at an annual compound rate of 25% and 23% respectively, significantly lifting the total value of output in the broader sector.<sup>13</sup> Much of this success is attributable to the effective use of new technology, skilled farmers, integrated pest management, a commitment to research and development, and a coordinated and effective marketing effort.<sup>14</sup> In the industry's infancy a low Canadian dollar relative to the US dollar and relatively low energy costs were also favourable factors. In recent years however, these advantages have largely disappeared. .

The US market is the primary destination for greenhouse vegetable exports. With the capacity to build on its strengths the industry is well-positioned for further expansion. It may, however, be difficult for the industry to sustain the pace of growth as competition intensifies both from within the US as well as from lower cost producers such as Mexico. The Canadian dollar around parity with the US dollar also makes it much more challenging for BC producers to compete in the US marketplace.

#### *Horticulture: Fruit*

In 2007, fruit had an aggregate export value of \$217 million, slightly ahead of vegetable and potatoes at \$213 million.<sup>15</sup> Over the past two decades, fruit exports have grown at a compounded annual rate of about 20%. Small fruits, specifically blueberries, cranberries and sweet cherries are the main reason for exceptionally rapid growth. Since the early 1990s, increasing awareness of nutritional and health benefits have lifted blueberry sales. Much of the gain in sales value is due to higher prices which almost tripled for blueberries (from \$1.08 to \$2.88/kg) between 2004 and 2006; more than doubled for cranberries (from \$0.41 to \$0.91/kg); and, more than tripled for sweet cherries (from \$0.86 to \$2.92/kg).<sup>16</sup> Cranberries sales grew at an astounding 76% from 2006-08. More recently, however, cranberry and blueberry prices have slipped as North America production has increased with more producers entering in response to the higher prices.

In contrast to the small fruits, apple exports have been flat since the early 1990s. Some new varieties such as the Ambrosia have been profitable in terms of both export sales and in terms of licensing these new varieties to growers abroad.<sup>17</sup>

---

<sup>13</sup> Ibid, p.4

<sup>14</sup> An Overview of the BC Greenhouse Vegetable Industry, BC Ministry of Agriculture , Food and Fisheries Factsheet, Revised November 2003

<sup>15</sup> Ibid, p.2

<sup>16</sup> Fast Stats, Agriculture, Aquaculture and Food, 2007, Ministry of Agriculture and Lands, Government of British Columbia, p.17

<sup>17</sup>Expansion of Agricultural Exports: Background and Opportunities for Action, December 15, 2008, Prepared for the BC Progress Board by Peter Barichello, University of British Columbia, p.5. Ibid, p.4

### *Livestock and Meats, Grains and Oilseeds and Wine*

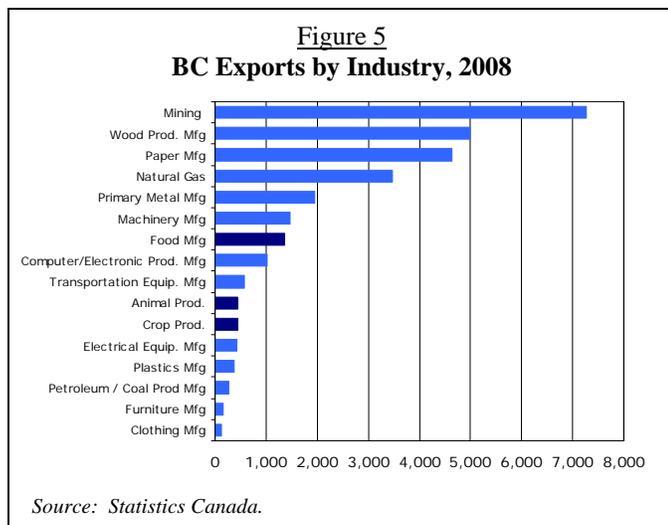
The three other important export commodity groups for BC are: livestock and meats (beef, poultry, hogs, dairy and other), grains and oilseeds (mainly wheat and oats and the oilseed, canola) and wine. The export value of livestock and meats was about \$180 million in 2007 and represents about 20% of all provincial agricultural exports. This segment grew at a respectable compounded growth rate of about 5% from the base period of 1990-02. This solid growth is notwithstanding a nearly two-year elimination of beef and cattle exports following the outbreak of BSE in 2003. The hog industry, which accounted for about 16% of total livestock exports in 2007, faced similar but ultimately less extreme circumstances due to the H1N1 (“swine flu”) outbreak and related regulatory issues.

Grains and oilseeds had a 2007 export value of about \$91 million. The compounded rate of growth from the base period 1990-92 is a modest 2%. As the longer-term trend for real prices for grains and oilseeds is downward (despite a temporary lift in grain prices in 2008), there does not appear to be much growth opportunity for this sector’s exports going forward, except perhaps for the Peace River region.

Exports for the wine industry in BC were a very modest \$3 million in 2007. Growth in wine exports has also been near zero over the past 15 years. The domestic market remains the primary market for BC wine producers and here there may be growth opportunities as wine becomes increasingly popular. According to Statistics Canada, Canadians aged 15 years of older consumed 15.0 litres of wine per person in 2008 which is 5 times greater than the amount consumed in the early 1960s.<sup>18</sup> Another consideration when thinking about export potential is the fact that wine industry is also an important component of the tourism industry in BC.

### *Composition of Food Manufacturing Exports in BC*

Manufacturing and food processing is a large and important part of the agri-food sector. According to Statistics Canada, BC food manufacturing exports reached almost \$1.4 billion in 2008. Although this is much smaller than BC’s largest export industries such as wood and mining products, it is also larger than many other export sectors. Food manufacturing exports are also not subject to large cyclical fluctuations providing some welcome stability for BC’s export base.



<sup>18</sup> Food Statistics 2008, 21-020-X, Statistics Canada website

It is interesting to note that the seafood preparation and packaging industry is the largest component of food manufacturing (just over 30% of the total), underscoring the importance of the growing aquaculture industry in the province. Meat production manufacturing accounted for 20% of the sector's exports and fruit and vegetable processing rounds out the top three with a 14.7% share of total food manufacturing exports.

### ***How Does BC Measure Up Against Regional Competition?***<sup>19</sup>

A comprehensive review of the competitive position of the BC agri-food industry relative to Alberta, Saskatchewan, Manitoba, Ontario, Washington State and Oregon was prepared in 2006. The process examined a host of characteristics and factors including the size of the industry, access to labour and management skills, costs of production (such as electricity and location costs), strength of innovation and support systems, access to financing and, access to markets.

*Industry size* – Measured in terms of total and per capita farm cash receipts (in 2004 Canadian dollars), BC has the smallest agriculture and agri-food sector among the seven jurisdictions. As a share of total economic output however, the BC sector has a slightly higher ranking. Agri-food GDP as a percentage of total GDP is approximately 2.3% in BC, the same as Oregon and higher than Washington State at 1.9%, but still lower than the four Canadian jurisdictions surveyed.

*Access to labour and management capacity* – According to the review, the BC industry has more university educated farm operators than any of the other four Canadian jurisdictions. However, labour productivity – defined as agri-food GDP per employee – is lower in BC than in the other jurisdictions surveyed. This lower level of productivity likely reflects the fact that BC has proportionally more smaller-sized farms.

*Food processing* – BC enjoys cost advantages in areas such as labour, transportation, utilities and taxes compared to Oregon and Washington State but less so vis-à-vis the other Canadian provinces. The one input where BC has a significant cost advantage is electricity. However, agriculture operations face relatively high costs for chemicals and fertilizers because of lower production volumes and the diverse mix of crops in the province.

*Access to financing* – BC farms rely more on chartered banks as a source of financing in comparison to the other seven jurisdictions. Notwithstanding a significant jump in 2004, access to venture capital is lower in BC for both early stage and later stage financing. This appears to be the case across all agriculture and agri-food sectors.

*Access to key markets* – BC has a larger domestic market than the other western provinces, which is an important feature that shapes the structure of the agri-food sector in BC. Ontario benefits from its proximate location to the population centres on the US

---

<sup>19</sup> Focus on the Future: Developing the Agri-Food Industry in British Columbia, Final Report, March 31, 2006, prepared by Ference Weicker & Company Ltd. While the data may be getting stale, it should still have some utility for comparative purposes.

east coast and while Washington State and Oregon are closer to the large California market than BC. BC, however, is the closest jurisdiction in North America to Asia Pacific markets.

***Does Canada's Agriculture And Agri-Food Trade Contribute To Canada's Overall Trade Surplus?***

On balance, Canada's agriculture and agri-food trade contribute to Canada's overall trade surplus.<sup>20</sup> In 2007, for example, agri-food exports totaled \$428 billion and while imports were \$387 million. In 2006, British Columbia exported \$2.5 billion internationally and imported \$3.8 billion for an international trade deficit of \$1.3 billion. However, BC also exports around \$1.2 billion worth of agricultural products to other provinces.<sup>21</sup>

---

<sup>20</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.28

<sup>21</sup> Fast Stats, Agriculture, Aquaculture and Food, 2007, Ministry of Agriculture and Lands, Government of British Columbia, p.20

### III. PHYSICAL FACTORS SHAPING THE OUTLOOK FOR THE SECTOR TO 2020

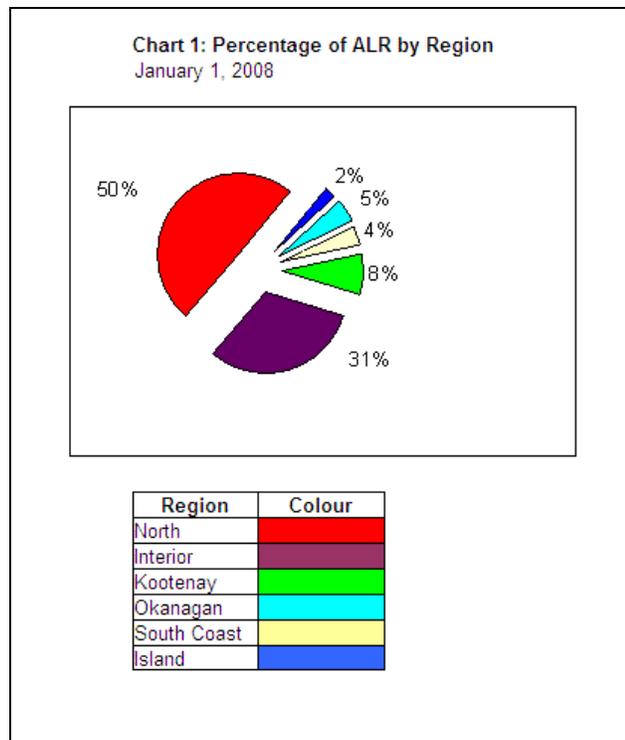
#### Access To Arable Land And Fresh Water

Agriculture production depends on access to arable land and fresh water. Canada is blessed with a relative abundance of arable land, ranking second in the world behind only Australia in the amount of arable land per capita. However, Canada’s geography is such that the proportion of land suitable for agriculture production is actually relatively small with only 5% of the total land mass being used for horticulture and crop production.<sup>22</sup> The share is slightly smaller in BC, where just 4.2% of the provincial land mass (4.7 million hectares) is suitable for farming. In the case of BC, most of this land is protected under the Agriculture Land Reserve (ALR) – a designated zoning established under provincial legislation in which agriculture is recognized as the priority use.

A further 30% of the non-arable land in the province is suitable for purposes other than crop production such as grazing or pasture land.<sup>23</sup>

One potential challenge for the industry is that the most productive agricultural regions in BC – the Fraser Valley and the Okanagan Valley – also happen to be among the most desirable places to live in the province. This has inevitably led to land use conflicts and concern over the potential loss of agricultural land for residential purposes as well as industrial and commercial activities notwithstanding the protections of ALR. One current example is the desire to re-open the Brown Pit to supply gravel for the construction of the new Port Mann Bridge project. Opponents believe that

re-opening the pit (which was closed in 1963) will threaten the nearby aquifer that supplies irrigation water to local blueberry farms and supports about 3000 wells in Langley.<sup>24</sup> Concerns over the loss of agricultural lands and other impacts have also been raised over the South Fraser Perimeter Road, another transportation project that is part of the provincial Gateway initiative. Given the growing population and volume of trade shipped through the region, the Gateway infrastructure initiatives are widely viewed as



<sup>22</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.100Ibid, p.101

<sup>23</sup> Agriculture Land Reserve Homepage, statistics section

<sup>24</sup> Gateway project puts Langley aquifer at risk by Peter Mitham, Country Life in BC, Vol.95, No 4, April 2009

vital and necessary to keep people and goods moving. There have also been many conflicts over housing development, especially around the boundaries of the ALR. Land used for recreational purposes such as golf courses has also generated controversy.

Canada has an abundance of fresh water, especially by world standards. And in Canada agriculture (mostly for irrigation and livestock) uses only 0.18% of all renewable water resources (based on the average use over the 5 year period from 1998 to 2002). To put this in context, India has the highest rate of water use for agricultural purposes at 30% and Mexico and the US use about 17% and 6% respectively of their renewable water resources for agriculture.

However, this relative abundance does not mean water is plentiful in all regions. In BC's moisture-deficit regions such as the Okanagan, fresh water (both surface and groundwater) is under growing pressure due to rapid population growth and related economic activity as well as more intense recreational use. In 2006, BC had the second highest total use of water for agriculture in Canada at about 600 million cubic metres (well behind Alberta, which accounted for 60% of water use in Canada, at nearly 3 billion cubic metres). The high water usage of BC's agriculture industry is attributable to fruit and vegetable crop production in moisture-deficit areas.

Another potential threat to BC's freshwater resource is pollution from agriculture. Nutrients, pathogens and contaminants from livestock manure and crop fertilizer are risks to surface and groundwater quality, especially in areas with high livestock densities such as the Lower Fraser Valley.

The BC Government released its new water strategy in June 2008, which has been described as a good but timid first step in water management. The strategy includes a number of measures to improve management of BC's freshwater resources that are particularly important in the drier parts of the province. These range from employing simple conservation techniques through to developing livestock density regulation in more sensitive areas.<sup>25</sup>

With sound management and stewardship of arable land and fresh water resources, British Columbia (and Canada more generally) is well positioned to maintain its vital agriculture sector and even capitalize on future export opportunities that many arise in response to the increasing global demand for food and food security.

### **Climate change and unpredictable weather**

The challenges and opportunities relating to climate change and climate adaptation in BC is the subject of a separate paper<sup>26</sup> in the *Outlook 2020* series but because agriculture is one of the most vulnerable sectors to climate change it warrants a brief discussion here.

---

<sup>25</sup> Agriculture Water Policy Challenges in BC, Hans Schreier, Policy Options, July-August 2009, p.48-50

<sup>26</sup> Climate Change: BC's Progress Toward a Low Carbon Economy, Nancy Olewiler.

Over the longer term, British Columbia is expected to experience warmer winters and hotter drier summers which may result in longer growing seasons, the potential for new types of crops, a longer growing season, and an increased range for existing crops.<sup>27</sup> As some meteorologists predicted, the return of El Nino in the winter of 2009/10 brought warmer than normal temperatures and less snowfall to BC. The downside to hotter, drier summers and reduced snow pack in alpine areas is even more pressure freshwater resources in drier regions. Warmer temperatures could also lead to more crop damage from extreme heat and a rise in insect infestation.

In early 2008, the BC Agriculture Council began a two year initiative called the BC Agri-Food Climate Action Initiative. The project – funded by the Investment Agriculture Foundation – identifies a number of key issues and opportunities for the BC farming industry including on-farm energy production, incentives and offsets for management linked to greenhouse gas reduction, food security and marketing niches such as product labeling, and programs to support locally produced food. The Pacific Institute for Climate Change is also doing work in the area of climate adaptation strategies for BC.

Other jurisdictions including New Zealand, Washington State and the Prairie provinces are pursuing climate change adaptation and mitigation strategies and research programs.

---

<sup>27</sup> Climate Adaptation: Planning for BC, Pacific Institute for Climate Solutions, p.8/9

#### **IV. EXTERNAL FACTORS SHAPING THE OUTLOOK FOR THE SECTOR TO 2020**

##### **Increase In World Demand For Food**

There is a growing chorus of voices – including the United Nations Secretary General Ban Ki-Moon in Rome at the UN Food and Agriculture Summit in early June 2008 – that are concerned about a global food crisis. A combination of high oil prices, the production of bio-fuels, urbanization, population growth, rising incomes in emerging markets like Brazil, China and India, climate change and flawed trade policies (especially in the developed world) are just some of the factors that have led to changes in global food supply and demand. The UN Secretary and others believe global food production must increase by 50% by 2020 to keep up with rising demand.<sup>28</sup>

Rising global demand for food has already led to an increase in global commodity prices. The world food price index almost doubled between 2002 and 2008. Over roughly the same period soybean, corn, wheat, and rice prices rose 83%, 84%, 94%, and 104% respectively. The recent 2008-09 global slowdown reversed these price trends, but as the global economy recovers the underlying structural conditions that originally led to rising prices will return.

As incomes rise in emerging markets food consumption patterns change. New wealth in China, for example, has led to a sharp increase in the demand for meat, dairy products, fish, fruits and vegetables. Meat and milk consumption jumped 140% and 200% respectively between 1990 and 2005. Over the same period, there was a 20% decrease in the consumption of cereals. The growing demand for meat and dairy in emerging markets is also creating greater demand for livestock feed, which in turn puts more pressure on grain and cereal prices.<sup>29</sup>

##### **Rising Energy And Fuel Costs**

Rapid growth of emerging economies like China and India has also led to rising energy consumption and higher crude oil prices. While it is currently trading at about \$US 80/barrel, crude oil prices rose dramatically from \$US25/barrel to over \$US140/barrel during the strong global expansion running from 2002 to mid-2008.

Higher energy and oil prices feed directly into the price of agricultural products via higher fuel and chemical and fertilizer costs as well as higher transportation costs. High crop prices may benefit Canadian crop farmers in the shorter term, but higher production costs driven by higher energy prices affect farmer's production decisions creating more uncertainty over time.<sup>30</sup>

---

<sup>28</sup> CBC New Report, June 3, 2008

<sup>29</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.5-6

<sup>30</sup> VISTA, Canadian Agriculture in 2007: Better Farm Prices and Incomes as World Demand for Food Increases by Bishnu Saha and Michael Trant, Statistics Canada, October 2008, Catalogue no. 21-004-X. p.9

## **The Exchange Rate**

There are many market influences including currency speculation, the movement of investment in and out of the country, commodity prices, productivity, and the performance of the economy generally that affect the value of the Canadian currency vis-à-vis other currencies. Central banks also have some influence. If the Bank of Canada raises its trend setting interest rate, everything else equal, the value of the \$C will rise. Commodity prices, especially crude oil, also influence the value of the “loonie.”

Given the expected increase in demand for many Canadian produced commodities and the country’s comparatively strong fiscal setting, many economists believe that we have moved to an era of a strong Canadian dollar. The dollar is now close to parity with the US dollar and will likely remain near or over parity with the \$US through the medium term. This translates into higher US dollar prices for Canadian produced goods sold in the US and makes it more difficult for agri-food exporters to compete in that market.

## **Global Competition And Competition From Emerging Markets**

New and emerging economic powers are forcing change. In agriculture, overseas producers have increased their market share in many crops. For example, Argentina and Brazil both increased oilseed production by more than 85% from a three year average base period of 1995-1997 to 2000 to 2003. .By comparison, over same period, Canada’s production fell by over 10% and the US grew only by about 10%.<sup>31</sup> Emerging countries from South and Central America are not only a threat to BC’s exporters for market share abroad but they are also competing with local producers for the BC and Canadian markets.

## **The Threat Of American Protectionism, Border Delays And Closures**

Even though BC is less dependent on the US market than other Canadian jurisdictions, it remains the number one destination for BC’s agriculture exports. A relatively prosperous trading period between Canada and the US followed the implementation of the FTA (1988) and NAFTA (1994) until the events of 9/11. Although there has not been a reduction in the volume of BC exports generally to the US, the post 9/11 era has brought longer delays and increased costs at the border caused by greater uncertainty and a number of new security related fees.<sup>33</sup>

**According to the Canadian Pork Council,<sup>32</sup> live hog exports to the US have declined sharply since the US Country of Origin Labeling (COOL) rules came into effect last year. Depressed hog prices and the resulting oversupply have almost certainly been exacerbated by the global recession, appreciating Canadian dollar and the impact of the H1N1 pandemic. In response, the federal government announced a comprehensive aid package for the industry which includes \$75 million to encourage farmers to curtail production to combat oversupply.**

<sup>31</sup> Future of North American Market Integration – A Canadian Perspective, Michael Keenan, Presentation to the USDA Agriculture Outlook Forum, February 25, 2005, p.3

<sup>32</sup> News Release, July 23, 2009, Canadian Pork Council website.

<sup>33</sup> 08-03 Border Line Threats to Trade, May 2008, BC Stats Exports, p.3

The recently implemented Country of Origin Labeling (COOL) requires all retailers in the US to inform consumers of the country of origin on a number of agriculture commodities including beef, pork, wild and farm-raised fish and shellfish. The US may argue that this is a food safety measure but it is viewed by Canada and other countries as an unfair trade practice and it has at least been held partly responsible for depressed hog prices that prompted a federal government response in the form of a \$75 million aid package to combat oversupply. Canada is assessing the impact of the COOL requirements – as are other nations – and may challenge them at the World Trade Organization.

### **Bovine Spongiform Encephalopathy (BSE), Avian Flu (H5) and Swine Flu (H1N1)**

BC's cattle, poultry and hog exports have faced trade restrictions that have had a significant detrimental impact on BC's agricultural exports. Canadian beef producers suffered substantial financial losses in 2004 after the US and other countries closed their borders to Canadian beef in response to the discovery of 3 cases of BSE in Alberta in May 2003<sup>34</sup>. Prior to BSE cases, the beef and cattle industry was moving toward full market integration with the US. Market integration and supply chain efficiencies were deeply disrupted by BSE and the fallout may have long term consequences beyond the cattle sector.<sup>35</sup>

More recently, and closer to home, nearly 60,000 turkeys and thousands of chickens were culled in early 2009 after the H5 virus was found present on an Abbotsford farm. In 2004, 17 million birds in the Fraser Valley were slaughtered after the same virus was discovered. The impact of the H1N1 virus is also cited as a contributing factor to the hog crisis of 2009

---

<sup>34</sup> Canada's Beef Industry and BSE, modified June 28, 2006, 21-020-X, Statistics Canada website

<sup>35</sup> Future of North American Market Integration – A Canadian Perspective, Michael Keenan, Presentation to the USDA Agriculture Outlook Forum, February 25, 2005, p.3

## V. INTERNAL FACTORS SHAPING THE OUTLOOK FOR THE SECTOR TO 2020

### **Are The Supply Managed Industries In Canada And British Columbia An Impediment To Trade?**

There are five supply managed sectors in British Columbia that span the dairy, egg and poultry industries. These sectors pose some unique challenges to the development of the agriculture export base in Canada and British Columbia. These sectors are regulated in BC under the Natural Products Marketing Act and are part of a broader national supply management regime. The objectives of supply management in Canada and BC are mainly two-fold: protect Canada's and BC's domestic production; and, provide price stability by setting strict quotas on how much is produced and determining the prices at which the products are sold.

Supply managed sectors and value chains were significant contributors to provincial GDP (estimated at about \$1.6 billion nominally) and employment - supporting about 28,375 jobs or about 1.2% of total employment - in BC. These sectors are also relatively stable and experience less volatility than other sectors in responding to changing market conditions and producer price increases have been less than inflation since 1980.

Proponents of the system argue there are socio-economic benefits of supply management. One is that the system operates in a cohesive, industry-wide manner positioning it to adapt quickly to innovation and changes in the market place without dampening the entrepreneurial nature of the individual producers. A second benefit is that the system is well positioned to respond to external events (such as an avian flu outbreak) that could impact the industry. Another plus is that with member producers – dairy in particular – located throughout the province, supply management provides a level of economic stability especially in rural communities.<sup>36</sup>

Notwithstanding the economic and social benefits, supply management in Canada and BC has its critics at home and abroad. They argue phasing out supply management in Canada would result in fairer prices and greater choice for consumers and more opportunities to expand domestic and import markets for efficient producers. For BC, this may include a chance to increase market share in fluid milk production for industrial purposes. According to BC Stats, producers in Quebec, a province with only about one-quarter of Canada's total population, produced almost half of its milk for industrial purposes in 2007. By comparison, BC, which has about 12% of the country's population, produced less than 6% of national total.

New Zealand and Australia – two countries that have successfully transitioned out of supply management in their dairy sectors – are cited as examples supporting the contention that Canadian producers and consumers would not be negatively affected without supply management.

---

<sup>36</sup> BC Dairy, Egg and Poultry Industries, April 2009, PricewaterhouseCooper

Agriculture has taken centre stage at the ongoing Doha round of the World Trade Organization which started in 2001, in part due to mounting fears about the potential for a future global food crisis. Canada and other developed nations such as France have drawn criticism from the OECD and other nations for protective practices like Canada's supply management system arguing that these measures inhibit free trade and disproportionately harm poorer trading nations.<sup>37</sup> The position to protect supply management may also be harming Canada's own interests at the trade tables. It is more difficult for Canadian negotiators to seek increased market access and tariff reductions for agricultural and non-agricultural goods and services while they are at the same time mandated to protect Canada's supply management system in agriculture.<sup>38</sup>

### **Aging Farmers & Succession Issues**

The workforce in Canada and other developed countries will continue to age over the next 20 years. A growing share of the workforce moving into retirement age presents challenges for all sectors in the economy, but the problem may even be more pressing in BC's agriculture industry. Urbanization, declining farm incomes and losses, higher energy and input costs, and the high cost of farm land, particularly in the Lower Mainland and the Okanagan, are all complicating succession planning for BC farmers.<sup>39</sup> In addition to these factors, with an average age of 53.6 years BC has the oldest farmers in Canada.

While there are no simple solutions to the demographic and related succession challenges that lay ahead, arguably economic success will be one of the most important elements of a solution. Industry participants and policy makers need to ensure there are profitable opportunities in farming in BC. The introduction of the Harmonized Sales Tax will reduce business costs and should help BC farms (along with other export sectors) be more competitive. Education at the secondary and tertiary level and programs aimed at children such as the 4H Club are also helpful in attracting people into the industry. The use of technology and emerging sustainable and green farming practices may also help engage younger people in the industry.

---

<sup>37</sup> The Doha Round and Agricultural Trade, Economic Note prepared by Sylvain Charlebois and Marcel Boyer, May 2008, Montreal Economic Institute, p.1

<sup>38</sup> Milking the System: Is Canada's Supply Management System an Impediment to Free Trade? Exports, August 2008 released October 2008, BC Stats, p.5

<sup>39</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.80 and 82

## VI. OPPORTUNITIES FOR BC

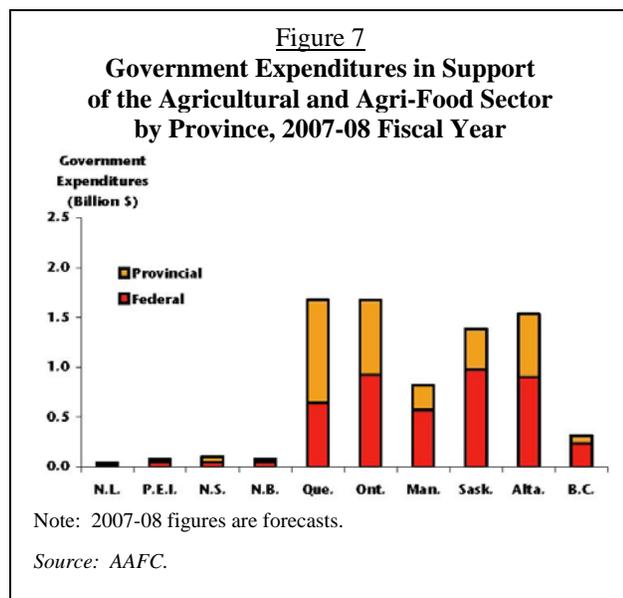
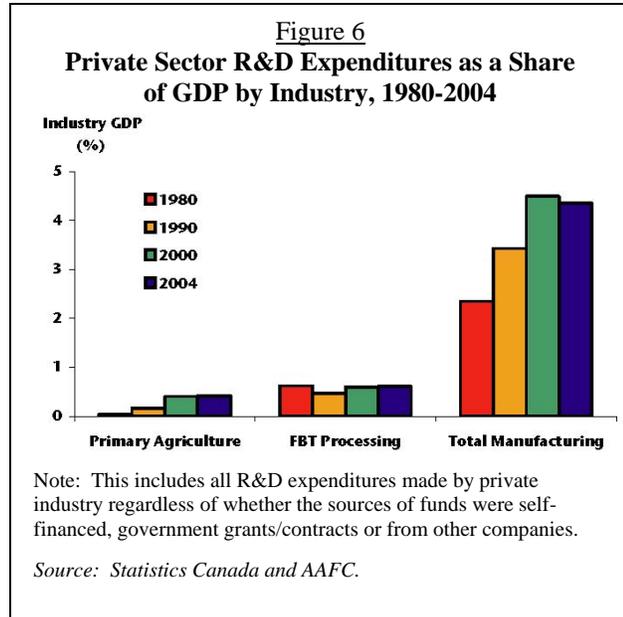
### Productivity, R&D And Innovation

*“Innovation is the key to the agriculture and agri-food system’s productivity growth and long-term prosperity. Innovation improves the manner in which capital and labour inputs are combined, resulting in more efficient and effective production. Innovation has been taking place in the food, beverage and tobacco industry, but has been challenged by impediments in developing new products and processes, as well as in commercializing.”<sup>40</sup>*

In Canada’s primary agriculture sector productivity has grown at a respectable annual average pace of 1.25% over the 1988 to 2004 period. In comparison, however, the US industry’s productivity during the same period has been markedly higher at about 2%. In Canada, the more recent performance (from 1997 to 2004) productivity growth increased 0.3% whereas productivity slipped -0.5% in the US. This has been attributed to changes in the food industry.

Research and development spending (both private and public) is critical for innovation to take place. Canadian private sector R&D in primary agriculture experienced a period of rapid growth beginning in 1980 and peaking in 2005 at about \$66 million for primary agriculture. However, private sector R&D expenditures in primary agriculture measured as a share of GDP are just 0.4%, a small fraction of the comparable 4% share of R&D in manufacturing. Although manufacturing is R&D intensive, the wide gap does point to a low level of investment in innovation in agriculture.

Public sector R&D expenditures in agriculture are higher, although growth



<sup>40</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.29

has been limited. Government expenditures in support of agriculture and agri-food vary significantly by province. As with most provinces, the federal government contributes a larger share of total research dollars in British Columbia than does the province. In fiscal 2007-08, the combined federal and provincial expenditures amounted to approximately \$200 million, with about 25% coming from the province. By comparison, in Alberta federal and provincial R&D expenditures totaled more than \$1.5 billion, a third of which came from the Alberta government. Looking at it another way, in fiscal year 2007-08, BC received the second lowest amount of public funding in support of the agriculture and agri-food research when expressed as a share of sector GDP. BC's funding amounted to about 20% of GDP (ahead of only New Brunswick) and well below the Canadian average of 36%.

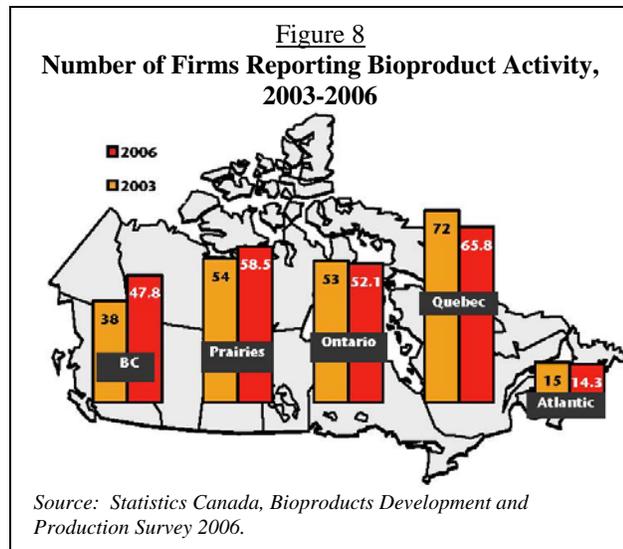
### Bioproducts

*“Bioproducts are products other than food, feed, or medicine made from renewable biological inputs (often referred to as biomass). This term includes new bio-based products as well as those traditional products which have been adapted to replace non-renewal inputs. Conventionally- made industrial products (such as lumber) are excluded. The term biomass refers to materials sourced from forestry, agriculture (plant, livestock products, or by-products) marine, and aquaculture materials, as well as from municipal and industrial waste.”<sup>41</sup>*

Bioproducts is an innovation-led growth industry. In 2006, revenues from bioproducts in Canada were \$1.76 billion up slightly from the previous year. Bioproducts generated \$828 million in export sales. Bioproduct firms in BC had \$254 million in revenue in 2006. Firms in Quebec and Ontario generated \$580 million and \$565 million respectively.

According to a 2006 industry survey, there were 239 firms reporting bioproducts activities across the country. Like the high-technology sector and other newly-emerging industries in Canada, the bioproducts industry has a high proportion of small and medium-sized firms with over 80% of firms having fewer than 50 employees. While Quebec and Ontario have the largest clusters, the industry is gaining strength in the west and by the

end of 2006 accounted for 48% of all bioproduct firms, up from 43% in 2003. BC saw the largest increase in the number of firms reporting bioproduct activity in 2006 at 47.8 up 10 from 2003. In 2006, the prairies provinces had 58.5 firms reporting bioproduct activity.<sup>42</sup>



<sup>41</sup> An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.38

<sup>42</sup> Ibid, p.39

### *Functional Food<sup>43</sup> and Nutraceuticals<sup>44</sup>*

There are a number of new food products and processes such as functional food and nutraceuticals that link agri-food innovation to health and other consumer benefits that have export potential.<sup>45</sup> Blueberries and cranberries contain powerful antioxidants that have many health benefits such as improving memory, protecting hearts and reducing the risk of cancer<sup>46</sup>.

BC has a strong network of research facilities such as Agriculture and Agri-Food Canada's Pacific Agri-Food Research Centre in Summerland, UBC's Food Science Group and Human and Animal Nutrition Group, and BCIT's Food Processing Resource Centre and the National Health Product Research Group, in addition to a number of provincial agencies like the BC Innovation Council, federal agencies and other organizations. There is a significant amount of competition in this area, however, both internationally and from other Canadian provinces.

The BC Innovation Council (BCIC) has been charged with taking a leadership role in BC in the advancement of innovation and commercialization in the life sciences sector. Its work is specifically aimed at partnering and collaborating to develop human resource talent and supporting innovation and commercialization in life sciences. Prior to the shift to life science, BCIC focused on biopharma (similar to nutraceuticals), bio-refining; food safety; and clean technologies.

### *Bioproducts: Bioenergy and Biofuels*

Proponents argue reducing greenhouse gas emissions as well as dependency on fossil fuels are important benefits of expanding the use of bioenergy and biofuels. Many jurisdictions in the US and elsewhere are providing generous incentives in the form of tax credits and other production incentives to increase production. Ethanol is most commonly manufactured with sugar or in North America typically from starch-containing crops such as corn and wheat. With the exception of the Peace River region, BC does not have a natural advantage in producing these crops. There are also concerns about the price impact of developing a larger ethanol industry. The George Morris Centre has come out against provincial and federal government subsidies for grain-based ethanol because the associated increase in demand for feed grains resulted in Canadian farmers paying more for feed than their American

---

<sup>43</sup> "A functional food is similar in appearance to, or may be, a conventional food that is demonstrated to have physiological benefits and/or reduce the risk of chronic disease beyond, basic nutritional functions, i.e. they contain a bioactive compound. An example is lycopene which is found in tomatoes and may reduce the risk of prostate cancer." What are functional Food and Nutraceuticals? Agriculture and Agri-Food Canada website.

<sup>44</sup> "A nutraceutical is a product isolated or purified from food that is generally sold in medicinal forms not usually associated with food. A nutraceutical is demonstrated to have physical benefits or provide protection against chronic disease." What are functional Food and Nutraceuticals? Agriculture and Agri-Food Canada website.

<sup>45</sup> Expansion of Agricultural Exports: Background and Opportunities for Action, December 15, 2008, Prepared for the BC Progress Board by Peter , University of British Columbia, p.9

<sup>46</sup> Fact Sheet: Polyphenols in Berries, Agriculture and Agri-Food Canada website

counterparts. Somewhat perversely the high grain prices worked to undermine the recent federal assistance for the ailing hog industry.<sup>47</sup>

BC has an abundance of natural biomass resources, including sawmill residues, mountain pine beetle-killed timber, logging debris and agricultural and municipal waste. In 2008, the Government of BC announced a bioenergy strategy and among other things established the BC Bioenergy Network to deploy near-term bioenergy technologies and to research for the development and demonstration for new environmentally sustainable technologies for British Columbia. The BC Bioenergy Network is developing a number of strategic partnerships with key stakeholders in the emerging bioenergy industry, including the BC Agricultural Council. As we move to an increasingly carbon-constrained world, bio-energy is a promising growth area, but to date there is no evidence of any export capacity or export activity in the bio-energy segment.

**An Abbotsford company, Catalyst Power Inc., has received final municipal approvals to proceed with plans to build BC's first anaerobic digester, known as Catalyst One.**

**Catalyst Power will use a water scrubbing system - provided by Greenlane Biogas, a subsidiary of Flotech Group of companies, and digester - provided by PlaNet - to convert agricultural waste, including cow and poultry manure, into pipeline quality bio-methane.**

**The Catalyst One project "... will generate enough renewable natural gas to heat approximately 1000 homes and is expected to start injecting bio-methane into the natural gas network during the spring of 2010."**

**Catalyst Power intends to build a number of similar systems at farms across Canada.**<sup>48</sup>

### ***Plant Breeding Research and New Varietal Development and Licensing***

A form of intellectual property involving new varieties of tree fruits (in particular cherries and apples) is being developed and licensed in BC and sold at home and abroad. Although in its infancy, this industry has commercial and export potential. One good cultivar has the potential to return millions of dollars in royalties annually which, if extrapolated across the industry, would rank favorably with some current BC agriculture and food product exports. However, at present, this activity is limited by the availability of new fruit cultivars as well as expertise in how to design, negotiate and network licensing agreements. Investment in the research and development at the plant breeding stage is vital and requires cooperation and collaboration between industry and research facilities. The current collaboration between the tree fruit industry in the Okanagan and the Pacific Agriculture Research Centre in the field of tree fruit cultivars is working well now and shows promise for new products that may have commercial and export promise down the road.<sup>49</sup>

<sup>47</sup> George Morris Centre blasts ethanol subsidies by Jim Romahn, Country Life in BC, September 2009, p.13

<sup>48</sup> Abbotsford Farmer to Convert Waster to Renewable Natural Gas, Press Release, September 2, 2009, Greenlane Biogas.

<sup>49</sup> Expansion of Agricultural Exports: Background and Opportunities for Action, December 15, 2008, Prepared for the BC Progress Board by Peter , University of British Columbia, p.10

## *Agro-forestry*

Agro-forestry is defined as a land use system that involves the deliberate retention, introduction or mixing of trees or other plants into crop and animal production systems in order to increase profitability, sustainability, protection of the environment and social acceptance.<sup>50</sup>

One potential opportunity is in syrup production from the bigleaf maple. With well over 2 million cubic meters in BC, mostly on Vancouver Island, the bigleaf maple is North America's second most abundant hardwood and is a tree with a wide range of uses. The sap, which is comparable in quality to the eastern sugar maple, contains many essential vitamins and minerals and has potential in the growing health food market as well as uses in other value-added products such as beer and wine.<sup>51</sup> This opportunity is funded under the Agroforestry Industry Development Initiative, a joint initiative of the federal and provincial agriculture ministries and the Investment Agriculture Foundation of BC to support the development and adoption of agroforestry practices and business opportunities in BC. The initiative is administered by the BC Woodlot Association.

There is also the potential for agro-forestry to contribute to the mitigation of GHG emissions by sequestering carbon in trees and potentially soils and in the process diversifying sources of income from timber to non-timber forest products.<sup>52</sup>

## *Agri-tourism*

There are many definitions of agri-tourism which include a wide range of activities and products. According to the Ministry of Agriculture and Lands, agri-tourism is defined in British Columbia as travel which combines agricultural or rural settings with products of agricultural operations - all within a tourism experience. It includes providing tourists with opportunities to enjoy a broad spectrum of agriculturally based products and services ranging from fruit and vegetable stand shopping to winery, orchard, and alpaca tours. Farm based bed and breakfast accommodation and tourist participation in harvest festivals and cattle drives are also popular activities.

***EatBC!* - A program sponsored by the BC Agricultural Council and the BC Restaurants and Food services Association with the objective to create connections between producers, retail, restaurants and consumers that benefits local food systems.<sup>53</sup>**

A concerted and deliberate marketing effort between tourism represented by the likes of the Canadian Tourism Commission and the agricultural, food service industry represented by EatBC! should be encouraged to leverage this exposure to help Vancouver and BC become a high-end culinary tourism destination.

<sup>50</sup> Ministry of Agriculture and Lands website, Government of British Columbia

<sup>51</sup> Growing Tomorrow, Winter/Spring 2009, Vol. 9, Issue 1, p.2

<sup>52</sup> Agriculture and Greenhouse Gas Mitigation, BC Agri-Food Climate Action Initiative, p.4

<sup>53</sup> IFABC's Growing Tomorrow – Winter/Spring 2009, Vol. 9, Issue #1

## ***Organic Agriculture***<sup>54</sup>

The organic agriculture and agri-food industry in BC is a parallel specialty sector to the broader conventional sector. Like the conventional sector, the organic industry produces a wide variety of primary agriculture products (attributable to the province's varied geography, topography, soil types and climatic conditions, and its relatively mild climate). The organic sector also enjoys the same access to major markets, transportation and distribution facilities.

One advantage BC enjoys over other regions in Canada is consumer loyalty for the local organic product and growing demand. Consumers in BC are the most likely in Canada to purchase organic products on a regular basis. BC's internationally recognized accreditation and labeling program likely plays a significant role by providing consumers with confidence that the products meet the required standards.

The conventional and organic sectors also face many of the same challenges including labour shortages, global competition, unpredictable weather and short growing seasons, and a lack of sector and product development relative to other North American producing regions. The organic sector in BC also faces some unique challenges including the lack of a geographic cluster and industry infrastructure, food safety issues, pest and disease control, research funding shortages, sourcing and obtaining supplies appropriate for organics, and the onerous compliance standards.

Finally, supply management of certified organics may be both a blessing and a curse. Although some organic farmers do well in the supply managed system, the marketing boards and organic farmers are often at odds over the different standards required to maintain organic status.

## ***Niche Agriculture and Food Processing***

There may be opportunities for value-added organics and conventional agriculture to capitalize on emerging trends in the food industry such as in health (cross-linking with functional food and nutraceuticals) and specialty foods.

There appears to be an opportunity to tap into the social and economic capital that accrues from the culture, lifestyle, food preferences, connections, and creativity and business skills of new and established Canadians from Hong Kong, India and China that make BC their home. In particular, identifying and catering fresh, local, organic food products to the Chinese and South Asian community in BC will not only develop domestic markets but may open up markets in China, Taiwan, Hong Kong and India in the future.<sup>55</sup> One example is Mission-based Ridgecrest Dairy Ltd., a small artisan cheese company that makes panir, a specialty cheese popular in Indian cuisine. The panir is produced fresh and distributed to local grocers and about 60 restaurants every week. While not yet exported, the need to import panir to serve the local market has been reduced significantly.<sup>56</sup>

---

<sup>54</sup> This section draws from British Columbia Organic Industry Overview, Ministry of Agriculture and Lands, December 2007

<sup>55</sup> The Rise of Asia: Opportunities and Challenges for British Columbia, Dr. Rosalie Tung, June 2009, p.22

<sup>56</sup> *Cheese specialist on mission to produce global food* by Anita Rai, Country Life in BC, Vol. 95, No. 9, September 2009, p.39

## **VII. POTENTIAL RESPONSES AND ACTIONS TO HELP REALIZE LONG-TERM OPPORTUNITIES**

BC's relatively mild and varied climate compared with the rest of Canada is a main reason why BC is a leader in the production and export of many fruits and vegetables, mainly from the Okanagan Valley. Water for irrigation (despite some regional shortages); vast tracts of range lands for grazing beef cattle (particularly in the north); and relatively abundant hydro-electric power throughout BC are some of the inexpensive resources that contribute to BC's export competitiveness. Investing in infrastructure development including highways, ports, air freight facilities, electricity and communications is a theme that emerges repeatedly in the Outlook 2020 papers and is echoed in the context of agriculture.<sup>57</sup>

It is worth noting that land is not inexpensive everywhere. The cost of land is high in southern BC, particularly, the lower mainland, Okanagan and southern Vancouver Island, serving as impediment to investment in agriculture and contributing to an urban/rural conflict over the highest and best use of agricultural land.

Export success also needs management skills or "know-how", development and use of technology, and support for innovation. Management skills, including production and marketing expertise are important for success in any business. Marketing is one area that is commonly identified as a weakness encumbering BC's competitiveness globally, especially for value-added niche products. Barichello points to the success of the apple marketing efforts of New Zealand and Washington State as examples for BC to follow. Investment in innovation and technology is necessary to reduce costs, increase yields and improve efficiencies in existing, traditional agricultural production and processing. Investing in innovation is also necessary to take advantage of emerging life sciences research and bio-economy opportunities to develop and adopt new products (such as new foods, new varieties and nutraceuticals), to reduce the environmental impact from agricultural practices, and to mitigate climate change.

Another theme that emerged in most of the other Opportunity 2020 papers is the need to develop skills and support additional training. Farmers, processors and exporters drive business and export success. Investing in skills development at the tertiary level to further develop knowledge in areas such as intellectual property law will be important for future growth and success. Shorter more targeted courses and workshops designed to develop other business, marketing and exporting skills may also be beneficial.

As with other industries research and development of new products is critical for success. In the agriculture sector the medicinal qualities of foods is emerging a promising area as is green and sustainable food production. In BC, aquaculture remains a significant part of the overall industry. Support in the form of long-term research funding would help expand the sector and its export potential.

---

<sup>57</sup> Some of these themes are drawn from "Expansion of Agricultural Exports: Background and Opportunities for Action," December 15, 2008, unpublished paper prepared for the BC Progress Board by Peter Barichello, University of British Columbia, p.10&11.

There are opportunities to build on collaborations such as the one between the tree fruit industry and the Pacific Agricultural Research Centre in Summerland that has already had some success in commercializing research in varietal development and licensing, and encourage more innovative partnerships using this is an example.<sup>58</sup>

In order to increase the likelihood of any federal or provincial funding or stimulus finding in an era of fiscal belt-tightening and beyond it may be advantageous to present a compelling, multi-faceted business case around export opportunities in the agriculture and agri-food sector in BC. This may include establishing a vision for innovation in agriculture and agri-food production to help focus scarce resources accordingly. With areas of focus identified, the plan could outline steps to develop business, management and marketing expertise. It will be important to build on existing strength's and but should also embrace and foster new opportunities in emerging areas of primary agriculture and food processing.

\*\*\*\*\*

---

<sup>58</sup> Ibid.

## REFERENCES

Agriculture and Agri-Food Canada (2008), *An Overview of the Canadian Agriculture and Agri-Food System, 2008*.

Agriculture and Agri-Food Canada News Release, August 15, 2009, *Government of Canada delivers support for hog industry restructuring*. Accessed at [http://www.agr.gc.ca/cb/index\\_e.php?s1=n&s2=2009&page=n90815b](http://www.agr.gc.ca/cb/index_e.php?s1=n&s2=2009&page=n90815b)

Agriculture and Agri-Food Canada, *Fact Sheet: Polyphenols in Berries*. Accessed at: <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1180015614966&lang=eng>

Agriculture and Agri-Food Canada, *What are Functional Foods and Nutraceuticals?* Accessed at: <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1171305207040&lang=eng>

Agriculture Land Commission, January 1, 2008, *Chart: Percentage of ALR by Region*. Accessed at: [http://www.alc.gov.bc.ca/alr/stats/Perc\\_ALR\\_by\\_Region.htm](http://www.alc.gov.bc.ca/alr/stats/Perc_ALR_by_Region.htm)

Alain, Bernadette, Statistics Canada, October 2005, *VISTA Taking Stock: A profile of Canada's aquaculture industry*, Catalogue no. 21-004-XIE

Barichello, Peter, December 15, 2008, *Expansion of Agricultural Exports: Background and Opportunities for Action*, unpublished paper prepared for the BC Progress Board

British Columbia Agriculture and Food, Climate Action Initiative, January 2009, *Fact Sheet 3, Agriculture and Greenhouse Gas Mitigation*. Accessed at: <http://www.bcagclimateaction.ca/documents/CAI-FactSheet-3.pdf>

British Columbia Innovation Council website. Accessed at: <http://www.bcic.ca/>

BCStats, April 2007, *British Columbia's Fisheries and Aquaculture Sector, 2007 Edition*

BCStats Infoline, June 13, 2008, *Border Line Threats to Trade, Issue: 08-24*. Access at: <http://www.bcstats.gov.bc.ca/releases/info2008/in0824.pdf>

BCStats, Exports, August 2008 (released October 2008), *Milking the System: Is Canada's Supply Management System an Impediment to Free Trade?* Accessed at: <http://www.bcstats.gov.bc.ca/pubs/exp/exp0808.pdf>

British Columbia Woodlot Association website. Accessed at: <http://www.woodlot.bc.ca/agroforestry/>

Bourdain, Anthony, *No Reservations, "Vancouver"*, Season 4, Aired on Travel Channel, January 2008

Canadian Pork Council, News Release, July 23, 2009, *CPC responds to US counterpart*. Accessed at <http://www.cpc-ccp.com/documents/ResponsetoNPPCNRLFINALJuly23Eng.pdf>

Central One Credit Union, January 2009, *Economic Analysis of British Columbia*, Volume 28, No.7, 2008

Charlebois, Sylvan and Boyer, Marcel, Montreal Economic Institute, May 2008, *The Doha Round and Agricultural Trade*.  
Federation of British Columbia Woodlot Associations. Agroforestry Industry Development Initiative. Accessed at: <http://www.woodlot.bc.ca/partnerships.html#aidi>

Ference Weicker & Company, March 31, 2006, *Focus on the Future: Developing the Agri-Food Industry in British Columbia, Final Report, March 31, 2006*

Foreign Affairs and International Trade Canada, *Trade Negotiations and Agreements*. Accessed at [http://www.international.gc.ca/trade-agreements-accords-commerciaux/index.aspx?lang=eng&menu\\_id=57&menu=L](http://www.international.gc.ca/trade-agreements-accords-commerciaux/index.aspx?lang=eng&menu_id=57&menu=L)

Greenlane Biogas, September 2, 2009, News Release, *Abbotsford Farmer to Convert Waster to Renewable Natural Gas*, Press Release. Accessed at: [http://www.catalystpower.ca/Greenlane%20Press%20Release%20-%20Catalyst%201%20\(Sept.%202%20'09\).pdf](http://www.catalystpower.ca/Greenlane%20Press%20Release%20-%20Catalyst%201%20(Sept.%202%20'09).pdf)

Grier, Kevin, Senior Market Analyst, George Morris Centre, March 2009, *Recession Clearly Impacting Food Industry, Consumer Caution Affects Retail Strategies*.

Harford, Deborah (Lead Author), November 2008, *Climate Change Adaptation: Planning for BC*, Pacific Institute for Climate Solutions, Research Assistants, Vanderwill, Christine and Church, Amber

Investment Agriculture Foundation of British Columbia, *Tapping the Bigleaf Maple of Vancouver Island*, Growing Tomorrow, Winter/Spring 2009, Vol. 9, Issue 1, Accessed at: [http://www.iafbc.ca/publications\\_and\\_resources/documents/2009-Spring.pdf](http://www.iafbc.ca/publications_and_resources/documents/2009-Spring.pdf)

Keenan, Michael, February 25, 2005, *Future of North American Market Integration – A Canadian Perspective*, Michael Keenan, Presentation to the USDA Agriculture Outlook Forum.

Korstrom, Glen, November 3-9, 2009, *New crop of B.C. farmers needed*, Business in Vancouver, Issue 1045, November 3-9, 2009

Martin, Larry, CEO George Morris Centre, February 7, 2007, *Canadian Dollar Commentary*

Ministry of Agriculture and Lands, Government of British Columbia (2007), *Fast Stats, Agriculture, Aquaculture and Food, 2007*

Ministry of Agriculture and Lands, Government of British Columbia, Accessed at: [http://www.al.gov.bc.ca/Agriculture\\_Plan/](http://www.al.gov.bc.ca/Agriculture_Plan/)

Ministry of Agriculture, Food and Fisheries, Government of British Columbia, Revised November 2003, *Factsheet: An Overview of the BC Greenhouse Vegetable Industry.*

Ministry of Energy, Mines and Petroleum Resources, Government of British Columbia, January 31, 2008, *The BC Bioenergy Strategy: Growing Our Natural Energy Advantage*, Accessed at: <http://www.energyplan.gov.bc.ca/bioenergy/>

Mitham, Peter, April 2009, *Gateway project puts Langley aquifer at risk*, Country Life in BC, Vol.95, No 4, April 2009

PricewaterhouseCoopers, April 2009, *BC Dairy, Egg and Poultry Industries: Socio-economic impact of British Columbia's dairy, chicken, turkey, hatching egg and table egg industries, April 2009*

Rai, Anita, September 2009, *Cheese specialist on mission to produce global food*, Country Life in BC, Vol. 95, No. 9, September 2009, p.39

Romahn, Jim, September 2009, *George Morris Centre blasts ethanol subsidies*, Country Life in BC, Vol.95, No 9, September 2009

Saha, Bishnu and Trant, Michael, Statistics Canada, October 2008, *VISTA, Canadian Agriculture in 2007: Better Farm Prices and Incomes as World Demand for Food Increases*, Catalogue no. 21-004-X. p.9

Schoenfeld, Bruce, February 2008, *Top Winery Restaurants*, Travel & Leisure Magazine, February 2008. Accessed at: <http://www.travelandleisure.com/articles/insider-eat-top-winery-restaurants/1/>

Schreier, Hans, *Agriculture Water Policy Challenges in BC*, Policy Options, July-August 2009, p.50

Statistics Canada, 2008, Food Statistics, 21-020-X. Accessed at: [http://dsp-psd.pwgsc.gc.ca/collection\\_2009/statcan/21-020-X/21-020-x2008001-eng.pdf](http://dsp-psd.pwgsc.gc.ca/collection_2009/statcan/21-020-X/21-020-x2008001-eng.pdf)

Tung, Dr. Rosalie L., June 2009, *The Rise of Asia: Opportunities and Challenges for British Columbia*, Prepared for the Business Council of British Columbia's Outlook 2020 project.