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AN OVERVIEW OF BRITISH COLUMBIA'S AGRI-FOOD SECTOR

The primary agriculture and agri-food system is a diverse and highly integrated group of industries. It includes primary agriculture, aquaculture and a wide array of related food processing activities. Together, these industries make a sizable contribution to the British Columbia economy and employ thousands of people in a host of occupations. For the most part the BC agri-food industry is comprised of smaller niche producers, often of higher-value products. This diversity is the foundation of the sector's strength and resiliency. Many British Columbians value the sector for its locally-produced food products, but the industry is also an important element of the export base. The export-oriented part of the agri-food industry is of particular importance because expanding the province's export base is vital to BC's future wealth and prosperity. But, is BC making the most of its export opportunities?

BC's Agri-Food Industry

In BC the value of sales in the *primary agriculture and aquaculture industries* amounts to more than \$2.7 billion annually. Sales from *secondary food processing* activities are more than twice as big, at \$6.6 billion in 2008. Although these figures are substantial, BC's agri-food sector punches below its weight. Together, primary agriculture and related processing account for less than 2% of provincial GDP, well below the Canadian average of 3.5% and the smallest proportion among the ten provinces.

Geography is part of the reason. While the province accounts for about 13% of Canada's population, it contains just 3.5% of the country's farmland. Although farm size and mix vary widely, the supply of arable land is a chief reason why BC is home to just 8% of all farms in Canada, which collectively generate a modest 7% of Canadian farm gate receipts. It is interesting to note, however, that BC's 11% share of Canadian agricultural and food and beverage processing is more closely aligned with its population share. The higher proportion of manufactured food products is due in part to the inclusion of seafood aquaculture processing – an area of strength for BC. It also reflects the processing within BC of some higher-value products and the importation of various primary food products as inputs into the manufacturing process.

The agri-food sector's contribution to employment in BC is also relatively small at 1.7% for primary agriculture and 1.8% for food and beverage processing. These two components have grown at an annual pace of 1.3% since 1991, which is below the average overall employment growth rate of 2.3%.



Exports ~ An Important Part of the Agri-Food Industry

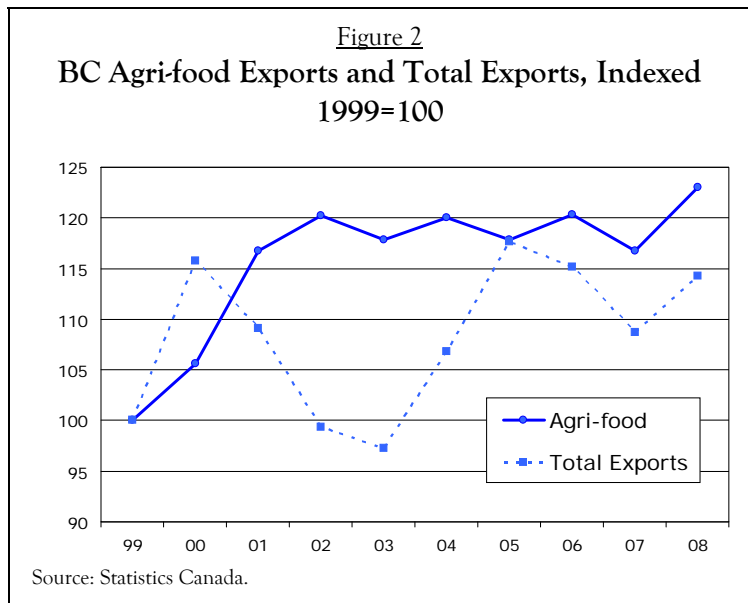
Agricultural and related food products make up a sizable chunk of national and provincial merchandise exports. With vast farmlands Canada ranks as the world's fourth largest agriculture and agri-food exporter, accounting for 5.6% of total world exports. The largest exporter of food products is the European Union (18.4% of global exports) followed by the United States (17.6%) and then Brazil (8.3%).

As a relatively small player within Canada, BC is not an exporting powerhouse, yet agricultural and food products are still an important part of the province's export sector. Last year BC sold \$2.3 billion worth of agriculture, food and seafood products to other countries, equal to 7.5% of all provincial merchandise exports. The industry sold another \$2.5 billion worth of agri-food goods to other provinces. Agri-food products represent a much larger 20% share of BC's total inter-provincial merchandise exports.

Not surprisingly, the US is the number one foreign destination for BC's agri-food exports, buying almost \$1.6 billion worth of BC food products in 2008. Japan is a distant second (\$288 million), followed by China (\$81 million), South Korea (\$74 million), and Hong Kong (almost \$60 million).

The good news is that BC's agri-food exports have grown at a solid clip over the past decade:

from 1999 to 2008 they increased by 23%, whereas the value of all provincial exports advanced by 14%. In addition, agri-food exports are comparatively stable and are less prone





to the sharp swings seen by other resource-based industries. This pattern of steady export growth and comparative market stability are welcome attributes.

Key Exports

Within the broad agri-food sector, aquaculture leads the way with an export value of more than \$400 million in recent years and a compound annual growth rate of 19% (trailing only fruit at 20%) from 1992 and 2007. Since its infancy in 1984, aquaculture exports have outpaced almost every other industry both within and outside of agriculture – an impressive record. This rapid growth is due mostly to the expansion of salmon farming, which now accounts for 75% of the broader BC aquaculture industry. As with agri-food exports in general, the vast majority (85%) of aquaculture exports are destined for the US, while the rest go to Japan and Taiwan. BC is responsible for nearly half of total Canadian aquaculture production, but on a global scale Canada is a minnow – generating less than 2% of the total value of world aquaculture production.

Horticulture: Vegetables

Greenhouse tomatoes and cucumbers are the dominant products, accounting for about 42% of total horticulture vegetable production, while sweet peppers represent another 20%.¹ Owing to BC's significant success in the US marketplace, exports of greenhouse tomatoes and cucumbers have grown at an average annual rate of 25% over the past twenty years.² Effective use of new technology, skilled farmers, effective pest management, strong research and development, and a coordinated and organized marketing effort have all contributed to this expansion. For much of the period in question, a favourable exchange rate and relatively low energy costs were positive factors as well, but in recent years these have become challenges for the greenhouse sector.

Horticulture: Fruit

The value of fruit exports (\$217 million) is similar to vegetable and potato shipments and has also enjoyed strong growth (20% annually on average).³ Small fruits, specifically blueberries, cranberries and sweet cherries, are the main reason for BC's strong showing in the fruit segment. Sales of cranberries rose at an astounding 76% pace for the years 2006-08.⁴ Blueberries have also done well, thanks to increasing nutritional awareness and knowledge about their health benefits. Higher berry prices – which tripled between 2004 and 2006 for blueberries and cherries, and more than doubled for cranberries (from \$0.41 to

¹ Expansion of Agricultural Exports: Background and Opportunities for Action, December 15, 2008, forthcoming paper prepared for the BC Progress Board by Peter Barichello, University of British Columbia.

² Ibid.

³ 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.

⁴ Ibid.



\$0.91/kg) – drove up farm receipts.⁵ More recently, both cranberry and blueberry prices have slipped as North American production jumped in response to higher prices.

Livestock and Meats, Grains and Oilseeds and Wine

The export value of BC-produced livestock and meats is typically in excess of \$180 million, representing about one-fifth of all provincial agricultural exports. Sales in this segment have grown at a respectable annual rate of 5% since 1990.⁶ This expansion has occurred despite a nearly two-year elimination of beef and cattle exports following the outbreak of BSE in 2003. BC's hog industry, which accounts for about 16% of total livestock exports, has also experienced challenges due to H1N1 (swine) flu and related regulatory issues.

Grains and oilseeds shipments generated \$91 million in export receipts for BC in 2008. Compound annual export growth for these products since 1990-92 was just 2%. The longer-term trend for real (inflation-adjusted) prices for grains and oilseeds is predicted to be downward despite a temporary lift in grain prices in 2008.⁷

BC's international wine exports have amounted to a tiny \$3 million in recent years and have grown little since the early 1990s.⁸ On the other hand, BC wine has become increasingly successful in the domestic marketplace and there may be scope to grow the domestic market. According to Statistics Canada, Canadians aged 15 years of older consumed 15.0 litres of wine per person in 2008, five times more than in the early 1960s.⁹ The wine industry is also an important contributor to tourism in BC, which is also a key source of export earnings.

Supply Managed Sectors – Dairy, eggs and poultry

Supply managed sectors and their value chains are significant contributors to provincial GDP (estimated at about \$1.6 billion nominally) and employment (supporting 28,375 jobs or about 1.2% of total employment).¹⁰ Because these industries tend not to experience sudden and or large fluctuations in prices they are relatively stable compared to other agri-food sectors. Producer price increases have generally been below the prevailing rate of inflation since 1980.

Notwithstanding certain economic and social benefits, supply management in Canada and in BC has attracted criticism. Critics argue that phasing out supply management would result in lower prices for dairy and poultry products, greater choice for consumers, and more opportunities to expand markets for value-added producers. Overhauling supply

⁵ Fast Stats, Agriculture, Aquaculture and Food, 2007, Ministry of Agriculture and Lands, Government of British Columbia, p.17

⁶ Fast Stats, Agriculture, Aquaculture and Food, 2007, Ministry of Agriculture and Lands, Government of British Columbia, p.3.

⁷ Ibid, p.3

⁸ Ibid, p.2

⁹ Food Statistics 2008, 21-020-X, Statistics Canada website.

¹⁰ BC Dairy, Egg and Poultry Industries, April 2009, PricewaterhouseCoopers.



management would also do much to enhance Canada's credibility in global trade negotiations at the WTO.

Food Manufacturing Exports in BC

Manufacturing and food processing is a big and important part of the broader agri-food sector. According to Statistics Canada, BC food manufacturing exports reached \$1.4 billion in 2008. In contrast to most of BC's large commodity industries, food manufacturing exports are not subject to sharp cyclical fluctuations.

Seafood preparation and packaging represents just over 30% of total food manufacturing exports from BC, underscoring the importance of the growing aquaculture industry. Meat products amount to 20% of the total and fruit and vegetable food manufacturing and round out the top three with a 14.7% share of total food manufacturing exports in 2008.

Factors Shaping the Outlook

In BC, only about 4.2% or 4.7 million hectares of provincial land is suitable for farming, most of which is protected under the Agriculture Land Reserve (ALR), a designated zone established under provincial legislation in which agriculture is recognized as the priority use. A further 30% of non-arable land can be used for agricultural purposes other than crop production, such as grazing or pasture land.

The most productive agricultural regions - the Fraser Valley and the Okanagan Valley - also happen to be in proximity to population centres which are seen as highly desirable places to live. This inevitably has led to land use conflicts. Some argue that potentially productive agricultural has been (and will be) lost to industrial, commercial and residential purposes, despite the protections afforded by the ALR. Others claim that much of the "protected" farm land in BC is actually marginal for agricultural purposes.

Given the agri-food industry's export orientation to the US market, the rise of the Canadian dollar relative to the US greenback has undermined the competitive position of part of the industry. While exchange rates are difficult to forecast, some economists expect an upward trend in the loonie in the coming years. Higher energy and fuel costs are also a challenge for the industry, especially hothouse growers who heat greenhouses for much of the year. Another significant threat is American protectionism and the thickening of the border (and in some instances border closures, e.g., BSE in 2003). The recently implemented US Country of Origin Labelling rules are partly responsible for depressed hog prices that have led the federal government to provide a \$75 million aid package to combat oversupply.

Opportunities for BC

As with all industries, innovation is at the heart of productivity gains and business success in the agriculture and agri-food system. Research and development spending (both private and public) is key to spurring innovation. Private sector R&D in Canada's agri-food sector rose



rapidly from 1980 through to 2005, but private sector R&D expenditures within primary agriculture amounted to just 0.4% of primary agriculture GDP and 0.6% of food and beverage processing, compared to 4% share for the overall manufacturing sector.¹¹ While this comparison is somewhat unfair because manufacturing depends heavily on R&D and new technologies and techniques, it does suggest there is scope for additional investment in research within the agricultural sector.

Government devotes substantial funding to support the agriculture and agri-food sector. As in most provinces, the federal government provides more support for the industry in British Columbia than does the provincial government. Proportionally, however, BC typically receives the second lowest amount of public funding for the agriculture and agri-food sector (about 20% of industry GDP), exceeding only New Brunswick and well below the Canadian average of 36.3%.¹²

Bioproducts is emerging as an innovation-led growth industry in the broad agri-food sector. “Bioproducts are products other than food, feed, or medicine made from renewable biological inputs, which is often referred to as biomass.”¹³ In 2006, bioproduct revenues in Canada reached \$1.8 billion and the industry made \$828 million in export sales. Bioproduct firms in BC posted \$254 million in sales in 2006. Not surprisingly, BC firms in this segment make heavy use of forests for biomass. Another 24% use agricultural biomass and 21% food processing products. Reducing greenhouse gas emissions and dependence on fossil fuels are key benefits of pursuing bioenergy and biofuels research, development and production.

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 BC government announced a bioenergy strategy and established the BC Bioenergy Network to deploy near-term bioenergy technologies and support research for the development and demonstration of new environmentally sustainable technologies. The Bioenergy Network is developing a number of strategic partnerships with stakeholders in the emerging bioenergy industry, including the BC Agricultural Council.

One sub-sector in its infancy but showing commercial and export potential is a type of intellectual property where new varieties of tree fruits (in particular cherries and apples) are developed and licensed in BC and sold at home and abroad. Collaboration between the tree fruit industry in the Okanagan and the Pacific Agriculture Research Centre on tree fruit cultivars is leading to new products that may have commercial and export promise down the road.¹⁴

¹¹ An Overview of the Canadian Agriculture and Agri-Food System, 2008, Agriculture and Agri-Food Canada, p.34.

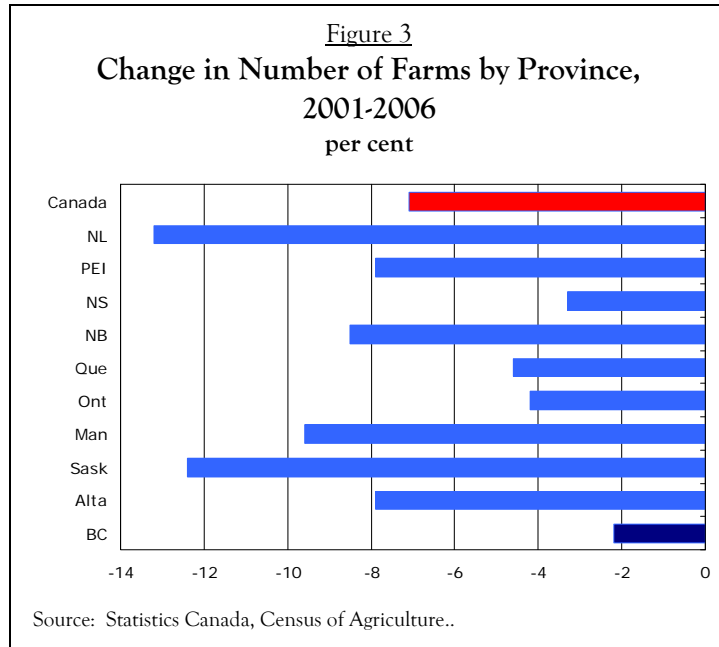
¹² Ibid. p.113.

¹³ Ibid. 29.

¹⁴ 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.



Agro-forestry is another area of innovation in the sector. It involves the deliberate retention or introduction of trees or other plants into crop and animal production systems to increase profitability, sustainability, protection of the environment and social acceptance. One small but promising opportunity lies 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 with a wide range of uses.¹⁵



Although smaller, the organic agriculture and agri-food industry parallels the broader conventional sector. Like the conventional sector, the organic industry produces a wide variety of primary products, reflecting the province's diverse geography, topography, soil types and climatic conditions. In BC, 16% of farms produced organic products in 2006, which is well above the national average of 7%.¹⁶ One advantage BC enjoys over other some regions in Canada is loyalty from consumers for local organic products, with demand for many products continuing to outpace supply. Within Canada BC consumers are the most likely to purchase organics on a regular basis. British Columbia's internationally recognized accreditation and labelling program plays a role in providing confidence to consumers in this regard.

Factors for Industry Export Success in BC

British Columbia's relatively mild and varied climate compared to the rest of Canada is a main reason why the province is a leader in the production and export of many fruits and vegetables, predominantly 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 all provide inexpensive inputs that support BC's export competitiveness in the agri-food sector. Land, however, is expensive in many parts of BC, particularly the lower mainland, the Okanagan and southern Vancouver Island.

¹⁵ Growing Tomorrow, Winter/Spring 2009, Vol. 9, Issue 1, p.2

¹⁶ BC Stats, "Food for Thought: How Green is Our Diet?" Environmental Statistics, November 2009.



Success in exporting also requires management skills, the development and use of technology, and an inclination toward innovation. Marketing is commonly identified as a weakness encumbering BC's competitiveness globally, especially for value-added niche products. The apple marketing efforts of New Zealand and Washington State are examples that BC could emulate as it strives to develop an export growth strategy. Investment in innovation and technology are necessary to reduce costs, increase yields, and improve efficiencies in existing, traditional agricultural production and processing as well as in the development of newer products (such as new foods, new varieties and nutraceuticals).

As with all export-oriented industries, access to good transportation infrastructure (including ports), sufficient capital, and quality human resources as well as a streamlined regulatory environment are necessary to help keep costs down, encourage investment and improve competitiveness.

Conclusion

Exports are an important aspect of BC's agri-food industry. Combined, primary agriculture, aquaculture and agri-food exports represent the fifth largest export category for the province. In contrast to the prairie provinces, where grains and cattle dominate, BC's diverse agri-food sector provides needed stability and a platform for consistent growth in exports. It gives British Columbians access to a wide array of locally produced food products.

British Columbians value the agri-food sector for more than its contribution to exports or GDP. Globally, there is increasing consumer awareness of the importance of food and how and where it is grown. Consumers are also demanding healthier and safer food choices along with more variety and convenience. Looking ahead, these trends bode well for BC's agri-food sector, since much of what it produces is still consumed locally.

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