An Overview of the BC Field Vegetable Industry

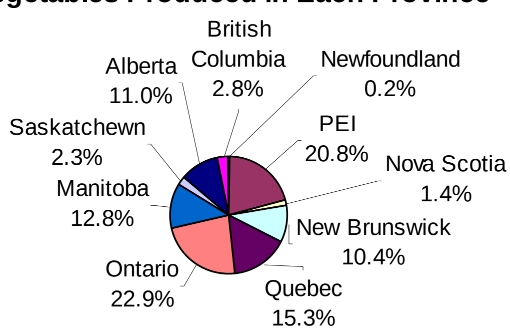
Field vegetable production is a diverse, sector of British Columbia horticulture. A moderate climate, fertile land, and access to ample water enables growers to produce a wide variety of vegetables for fresh and processed markets. Over the past decade, the industry has experienced fluctuations in annual revenue and production volumes, but overall, has maintained revenue levels despite a decline in production. Growers are highly committed to maintaining stability as the industry faces numerous production, marketing and economic challenges.

INDUSTRY PROFILE

Across Canada

In 2002, Canada had an estimated 286,783 ha (708,641 acres) under field vegetable production.[1,2] Close to 6.7 million metric tonnes (14.7 billion lbs) of vegetables were produced with a value of over $1.5 billion. Potatoes account for approximately two thirds of the value of all field grown vegetables. Other important crops are corn, peas, beans, tomatoes, carrots and onions. The majority of potatoes are produced in Prince Edward Island, Manitoba, New Brunswick and Alberta.[2] The major producers of field vegetables (other than potatoes) are Ontario and Quebec. British Columbia produces 2.7% of the volume of all Canadian field vegetable crops. Nationally, over half of the total volume of vegetables are processed, with as much as 95% of some crops, such as corn and field tomatoes, being grown for processing.[6]

Figure 1: Percentage of Total Canadian Field Vegetables Produced in Each Province



Data Source: Statistics Canada, Catalogue No. 22-003-XIB and 22-008-XIE.

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British Columbia
In 2001, BC produced over 141,514 metric tonnes (312 million lbs) of field vegetables with a value of $88.3 million.[3] An estimated 500 large scale commercial field vegetable operations, plus numerous smaller growers farm a total of 21,606 acres throughout the province (see Table 1). Over 75% of production is located in the Lower Mainland with the balance on Vancouver Island, in the Interior, and a small amount in northern regions. Operations range in size from a few acres to over 500 acres.

Growth
British Columbia's field vegetable industry showed modest growth between 1996 and 2002, with an increase in farmgate salesi of approximately 12% overall.3 Poor weather plagued the industry in 1996 and 1997, and again in 2000, resulting in marked declines in production during those growing seasons. Under the stimulus of warmer weather, the total output of field vegetables rose 12% in volume and almost 20% in value, in 2001, with production remaining stable into the following year. Figures 2 and 3 show the fluctuations in crop value and volume of production of field vegetables since 1993.

Figure 2: BC Field Vegetable Sales, 1993 to 2002*

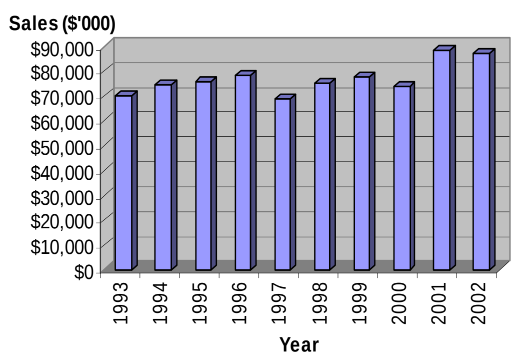
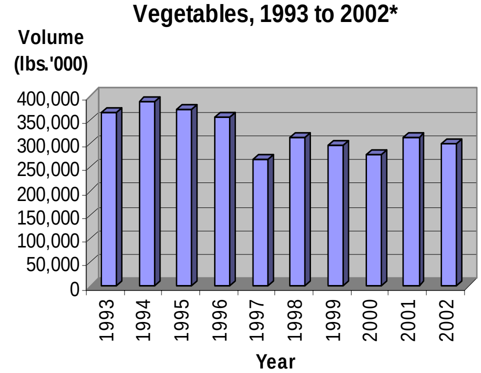


Figure 3: BC Production Volume of Field Vegetables, 1993 to 2002*



*2002 preliminary figures.
Source: BC Ministry of Agriculture, Food and Fisheries, Horticultural Statistics.

Crop Production
A wide range of vegetable crops are grown in BC (see Table 1). The primary crop is potatoes, including early, mid and late season varieties. Other important crops are: topped and bunched carrots; sweet corn; head and leaf lettuce; squash, marrow and pumpkin; red and green cabbage; broccoli, and green and wax beans. Many of the crops are hand harvested for optimum fresh-market quality, requiring considerable numbers of seasonal field labourers.

[i] Farmgate sales figure include levies charged on regulated crops.

Table 1: Summary of the BC Field Vegetable Industry, 2001

Commodity	Acres	TOTAL SALES Quantity 000 lb	TOTAL SALES Value $'000
Potatoes	6,002	113,924	28,526
Carrots	796	20,693	7,162
Corn	3,052	30,426	5,296
Lettuce (all types) (field)	750	17,438	4,750
Squash, Marrow & Pumpkin	905	23,600	4,054
Cabbage	605	17,492	3,894
Broccoli	1,412	8,411	3,754
Beans	1,865	11,470	3,003
Brussels Sprouts	659	6,152	2,377
Tomatoes (field)	200	5,000	2,298
Peas, shelled	1,857	9,460	2,081
Other vegetables	314	4,858	1,985
Cucumbers (field)	295	3,500	1,965
Onions - Dry Bulb	275	7,751	1,668
Peppers (field)	278	2,632	1,462
Rutabagas	153	5,298	1,425
Chinese vegetables	230	3,226	1,392
Cauliflower	485	2,557	1,206
Beets	183	3,224	1,195
Spinach	170	1,800	1,181
Asparagus	270	552	1,077
Parsley	40	528	1,037
Parsnips	61	1,285	906
Rhubarb	110	2,180	832
Peas, pod	110	880	692
Radishes	126	1,466	594
Onions - Bunched	81	1,185	558
Zucchini	125	1,173	523
Celery	52	2,200	489
Melons	105	1,450	470
Garlic	40	175	442
TOTAL BC FIELD VEGETABLES	**21,606**	**311,986**	**88,293**
SOURCE: BC Ministry of Agriculture, Food and Fisheries - Horticultural Statistics			

Marketing

Storage Vegetables

Many of the high volume storage vegetable crops are regulated by the *Natural Products Marketing (BC) Act*. These crops include; potatoes, red and green cabbage, onions, carrots, beets, parsnips, rutabagas, and white turnips.[4] The BC Vegetable Marketing Commission (BCVMC) administers the Act and regulates products within the three Districts in BC; the Lower Mainland (District I); Vancouver Island and Gulf Islands (District II); and the Southern Interior Region (District III). Quota is required to grow regulated crops. Storage crop quota is based on a producer's 5-year average production during the various quota periods established. When 100% of the quota has been shipped, all producers, including new producers, get an equal opportunity to ship additional product. The Commission may also allocate additional quota to new or existing producers based on market requirements. Producers of regulated products in the three districts are required to register annually with the Commission and provide their production intentions to the Commission.[4]

Fresh Vegetables

Fresh (non-storage) field vegetables are unregulated, with the exception of iceberg and fancy lettuces produced on Vancouver Island.[4]

Marketing Options

Registered producers may market regulated commodities directly to consumers at farmer's markets or from stands located on their farms. Unless the producer has been exempted from doing so, all other regulated product must be marketed through a designated agency of the BCVMC.[4] There are four designated agencies in BC that market storage and/or fresh field vegetables: Lower Mainland Vegetable Distributors Inc., the Island Vegetable Co-operative Association, Vancouver Island Produce, and the Interior Vegetable Marketing Agency.

Producers may apply to the Commission for an exemption from marketing through a designated agency. The Commission regularly provides exemptions for producers in isolated areas if the Commission determines there will be no impact on the orderly marketing of the regulated product. All regulated crops produced north of the 53rd parallel (Quesnel) are exempted, but growers selling more than one ton of individual vegetables are required to register with the Commission.[4]

The BCVMC provides stability to the market by setting minimum prices for the regulated fresh market crops every week, taking into account the landed price of imported product. This practice maintains the competitiveness of BC product, while limiting BC grower-to-grower price competition which could force prices down below the cost of production.

Growers of unregulated or exempted crops are responsible for finding and servicing their own markets. This requires developing a marketing plan and lining up buyers before planting. Product may be sold through brokers or direct to wholesalers and retailers or through direct market outlets such as roadside stands and farmer's markets. Another direct marketing option is on-farm sales of fresh produce (this may be combined with numerous value added sales, and agri-tourism concepts).

Details on direct farm marketing are available on the BC Ministry of Agriculture, Food and Fisheries website at: http://www.agf.gov.bc.ca/resmgmt/fppa/refguide/activity/directfm.htm

Information on preparing a direct farm marketing plan is available in the BCMAFF publication *Preparing a Business Plan: A Guide for Agricultural Producers: Direct Farm Marketing Example*, available on the BCMAFF website at:
http://www.agf.gov.bc.ca/busmgmt/bus_guides/direct_guide.htm

Organic vegetables

Organically grown potatoes are subject to the BC Vegetable Marketing Commission's marketing regulations. Marketing is through Fraserland Organics Inc., a marketing agency dedicated to selling organic vegetables. Growers of other organic vegetables sell directly to retail grocery and specialty stores, or through on-farm sales and farmers' markets.

Processed Vegetables

Crops grown for processing are: beans, broccoli, brussel sprouts, cauliflower, corn, shelled peas and mid and late potatoes. Processed products include IQF (Individually Quick Frozen), and secondary niche market processed products, such as 'home-style' canned vegetables, preserves and convenience foods.

Markets

Of the total $88.3 million in farmgate sales of field vegetables, wholesale markets accounted for $48.3 million or 55% of the total in 2001.[3] About 32%, valued at $28.5 million, were sold through roadside stands, farmers' markets and on-farm produce stands, and 13% of sales, with a value of $11.4 million, were to processing markets (see Table 2). Over 60% of crops are sold to markets within BC.[4] In addition to markets for conventionally produced vegetables there is a small, but growing, niche-market for organic field vegetables led by increasing consumer demand.

Table 2: Field Vegetable Markets in BC, 2001

Market	Sales	Percent of Total
Wholesale Fresh/Storage Markets	$43.3 million	55%
Direct to Public	$28.6 million	32%
Processing Markets	$11.4 million	13%
Total	**$88.3 million**	

Source: BC Ministry of Agriculture, Food and Fisheries, Horticulture Statistics

Trade

Canada and British Columbia are net importers of fresh and processed field vegetables. In 2002, BC exports of fresh and processed field vegetables were valued at approximately $32 million, whereas, imports totaled close to $332 million.[5] Seasonality is the largest factor contributing to the negative balance of trade; the majority of fresh vegetables are imported between November and June.[6]

Exports
Almost 100% of BC's field vegetable exports are sold to the United States. Other export markets, representing less than 1%, include Japan and Britain.[7] Processed vegetable products account for over 80% of exports, with less than 20% being shipped fresh.[5] There is a small export niche market for organic corn and potatoes, which are sold in the western United States.

Imports
The majority of British Columbia's fresh field vegetable imports are from the United States and Mexico.[7] US imports account for approximately 80% of all imported fresh, and 85% of processed, field vegetable imports.

Grower Organizations

The BC Potato and Vegetable Growers' Association
The association acts on behalf of members on issues that affect the viability of their operations. It also provides direction to industry development and research, mainly through the Potato Industry Development Committee's annual work plan. Membership includes all growers licensed by the BC Vegetable Marketing Commission and dues-paying seed potato growers.

BC Asparagus Growers' Association
Facilitates the exchange of cultural information among members that benefits the production and marketing of asparagus in BC.

Fraser Valley Bush Bean Growers' Association
Primary functions are annual contract negotiations with processors, and information transfer.

Fraser Valley Cole Crop Growers' Association
Negotiates price and advises members on grading and shipping issues. Education and research are other important functions of the Association.

Fraser Valley Corn Association
Negotiates price and processing specifications on behalf of its members.

Fraser Valley Pea Growers' Association
Monitors production and harvesting and negotiates contract prices with processors.

BC Vegetable Marketing Commission
Besides administering quota and marketing regulations, the BCVMC represents BC growers in trade and regulatory issues, provides industry information through its website and online newsletter, *Veggie Times,* and is involved in promotional activities such as development of point-of-sale material. In association with government and other organizations, the Commission is also involved in ensuring food safety.[4]

BC Agriculture Council
The British Columbia Agriculture Council (BCAC) provides leadership in representing, promoting, and advocating the collective interests of all agricultural producers in the province. The Council fosters cooperation and a collective response to matters affecting the future of agriculture in the province, such as environmental and labour issues, and facilitates programs that benefit the industry.

Canadian Horticultural Council
A non-profit, national organization representing many Canadian horticultural sectors at a national and international level on issues such as: research and technology, trade, industry standards, finance and human resources. The Council also addresses other issues pertinent to the vegetable industry, such as plant health, crop protection tools, and food safety.[8]

Economics
Cost of production varies considerably due to the wide range of fresh vegetables being produced throughout the province, under different marketing and production systems, climates, soil types, and land costs. Detailed information on the cost of production for specific crops is available in the BC Ministry of Agriculture, Food and Fisheries *Enterprise Budgets* series, available online at: http://www.agf.gov.bc.ca/busmgmt/budgets/vegetables.htm.

Industry Advantages

Increasing demand
Increasing consumer awareness of the benefits of a diet high in fruits and vegetables is increasing the demand for fresh and processed vegetable products. Busy consumers' preference for convenience foods has fueled increased demand for frozen vegetable products and prepared fresh vegetables.

Growing conditions
The main growing regions have a moderate climate relative to other regions of Canada, fertile land, and access to ample water.

Value added products
There is enormous potential for value added vegetable products that address changing trends in the food industry. Fresh-cut and processed convenience foods, ethnic and specialty products, health foods and snack foods are being developed in the processed vegetable market.

Regulated marketing system
A well established marketing/quota system provides cohesive pricing and distribution for small growers dealing with large corporate buyers.

Location
The main growing regions have good access to major markets, transportation and distribution facilities.

Industry Challenges

Labour shortages
The field vegetable industry is experiencing an acute shortage of seasonal field workers. A 2002 labour survey of BC cole crop producers indicates that the industry lost nearly $2 million in revenue due to a shortage of seasonal labour.[9] BC is one of the few jurisdictions in North America without a foreign seasonal worker program that has alleviated similar labour shortages in other horticultural production areas. Producers must rely on a declining and aging local workforce that is unable to meet the labour demands of the industry.

Competition
BC producers compete with growers in the United States and Mexico who have lower production costs due to their large scale operations and lower labour costs. These competitors are able to use their longer growing season to produce a consistent year-round supply from multiple crops per year. Seasonal production volumes and less favourable economies of scale are major factors affecting the competitiveness of BC's vegetable growers and processors.

High production costs
Of all the major field vegetable production areas in Canada, BC producers have the highest costs for land, labour, chemical and fertilizer inputs and fuel.[10]

Unpredictable weather & seasonality
Poor weather has historically affected the quality and volume of yields which, in combination with seasonal production, creates fluctuations in supply. This has been particularly significant to the processing market, resulting in inconsistent economic returns for both processors and growers.[10]

Economies of scale
The relatively small size of BC vegetable farms, and small markets for some crops, reduces the opportunity for higher returns based on economies of scale that influence overhead costs.[10]

Declining processing market
The production volume of BC vegetables is not large enough to support major processing companies. As a result the BC processing market has seen steady decline. In the early 1980's there were eight vegetable processing companies in BC. By the late 80's the number was reduced to five. Closure of two more major processing companies in recent years has had a major impact on the local processed vegetable market.[10]

Lack of research and development
Local scientific research and industry development activities are limited by government funding cuts and the small size of the BC industry relative to other North American vegetable producing regions.[10]
Pest and disease control

Pest and disease management is a major concern for growers. The lack of research in the area of pest management, and limited pesticide registrations, places BC growers at a disadvantage. The United States and Europe have several new effective pesticides that are not registered in Canada. The small size of the Canadian vegetable industry influences large pesticide companies' decisions to spend the resources needed for Canadian registration. Often these new pesticides are less harmful to the environment and to biological controls. The decreasing effectiveness and reduced number of registered pesticides places more emphasis on integrated pest management (IPM) practices.

Food safety
The threat of food-borne illnesses has received increased attention in recent years. A food safety program has been developed for producers by the BC Vegetable Marketing Commission, in association with BCMAFF. Growers must keep records that detail their production practices, and processors are currently working on implementing practices that comply with the Hazard Analysis Critical Control Point (HACCP) program, which involves analyzing and monitoring food safety risks and developing an action plan to manage them.

Regulations
The field vegetable industry in BC is regulated by numerous government acts at federal, provincial and municipal levels. The regulations relate to environmental protection, health and safety, imports/exports and land use.[11,12] Details are available online from InfoBasket, Field Vegetable Community – FAQ webpage:
http://infobasket.gov.bc.ca/infoman/mypage/gadgets/FieldVegetables/EditedContent/legislation.asp

Outlook

Field vegetable production in BC appears to be stable; however, the industry is facing economic, production and labour challenges. Successful strategies to manage these challenges and develop new opportunities will be required by growers, processors, and marketers in order to expand the industry. Labour shortages will continue to be a serious concern for growers; a number of federal and provincial programs and initiatives offer hope to increase the seasonal workforce.[9] Continuing emphasis on food safety will improve on-farm food safety practices.

Opportunities exist in the areas of market and product development. BC producers supply a relatively small proportion of the fresh and frozen vegetables in the province, indicating that there may be opportunities to displace imports and develop markets outside BC.[10] The value of the Canadian dollar may be influential in this development. The trend toward specialty food products will provide niche market opportunities for small to medium sized processing businesses, and larger processors that are able to redefine their product lines.[10] Active development of new and existing markets and, innovative value added products, as well as initiatives to encourage expansion of the vegetable processing sector, would have a positive effect on the BC vegetable industry.

FURTHER INFORMATION SOURCES

Publications

- *BC Vegetable Production Guide for Commercial Growers,* BCMAFF.
- *An Overview of the Potato Industry in BC*, BCMAFF.
- *Preparing a Business Plan: A Guide for Agricultural Producers: Direct Farm Marketing Example,* BCMAFF. Available online at*:* http://www.agf.gov.bc.ca/busmgmt/bus_guides/direct_guide.htm
- *Knott's Handbook for Vegetable Growers*, Donald Maynard & George Hochmuth. 1997, Toronto: John Wiley & Sons Inc.
- *World Vegetables*, Mas Yamaguchi. 1983, New York: Van Nostrand Reinhold Company Inc.

Websites

- **InfoBasket**
  A portal to agricultural information on the internet including production, new business start-up, business management, marketing & trade, regulations, directories, statistics and data.
  http://infobasket.gov.bc.ca

- **BC Vegetable Marketing Commission**
  Veggie Times newsletter, information on the BCVMC mandate, quota, and industry issues, and food safety checklists.
  http://www.bcveg.com

- **Certified Organic Associations of BC**
  Information on organic certification, *BC Organic Grower* newsletter, contact information for regional organic growers' associations.
  http://www.certifiedorganic.bc.ca/

- **Canadian Horticultural Council**
  On-Farm Food Safety Guidelines for Fresh Fruit and Vegetables.
  http://www.hortcouncil.ca/offs.htm

- **Ontario Ministry of Agriculture and Food**
  Vegetable Information
  www.gov.on.ca/OMAF/english/crops/hort/vegetable.html

- **Oregon State University**
  Vegetable Production Guides
  http://oregonstate.edu/Dept/NWREC/vegindex.html

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References

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[5] Statistics Canada Trade Data.

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[10] *Review of the Field Vegetable Industry,* Ference Weicker and Co., (British Columbia. April 1998).

[11] *Field Vegetables - Legislative and Regulatory Risks*. Online, InfoBasket, Field Vegetables, Frequently Asked Question. Available: http://infobasket.gov.bc.ca/infoman/mypage/gadgets/FieldVegetables/EditedContent/legislation.asp.

[12]*Farm Practices: Field Vegetables*. June 1996. Online, BC Ministry of Agriculture, Food and Fisheries, October 2003. Available: http://www.agf.gov.bc.ca/resmgmt/fppa/refguide/commodity/fieldveg.htm.