

## **6. Organic Horticulture in British Columbia**

For the purposes of this overview, organic horticultural systems have been separated from livestock operations, and further divided into individual sectors. However, the principles of organic farming promote farm designs which rely on the interactions between individual horticultural and animal components with the aim of creating a more sustainable form of agriculture. Many farmers in British Columbia have integrated these different aspects of the organic industry on individual farms in order to achieve their vision of sustainable farming, while others use relationships with local farms to complete the ecological cycles on their farms and maintain a degree of specialization.

While some vegetables and greenhouse products are regulated commodities under the *Natural Products Marketing (British Columbia) Act*, in most cases organic farmers are not required to be licensed by the British Columbia Vegetable Marketing Commission (BCVMC), obtain quota, or market through a designated agency of the Commission. While there are designated production volumes used to determine if farmers are required to be licensed, the BCVMC typically uses its own discretion in determining if a producer should be required to market through its agencies and have quota. Greenhouse tomatoes, peppers and cucumbers are all regulated commodities; however, licenses and quota are only required for producers marketing over a certain amount of greenhouse products into commercial markets. Organic potatoes produced in the Lower Mainland are the only organic crop specifically regulated by the BCVMC; however, organic potato farmers producing prior to the 2003 designation of a marketing agency for organic potatoes are exempted from obtaining quota and marketing through an the agency.

### **6.0.1 Principles of Organic Horticulture**

Organic horticultural production focuses on the maintenance of a healthy farm ecosystem and utilizes natural interactions to promote productivity. Cover cropping and crop rotations are the organic farmer's tools to build soil fertility, along with applications of composted crop residues and manure to manage nutrients. Herbicides are prohibited in organic production, therefore controls such as mulching and mechanical or hand cultivation are used to manage weeds. To manage insect pests, methods such as the release of natural predators or parasites; trap or repellent crops; and farm systems which foster wild predators are used along with approved pest control products. Organic farming techniques aim to prevent topsoil erosion, improve soil fertility, protect groundwater resources, and conserve energy.

### **6.0.2 Certified Organic Seed and Transplants**

While the use of certified organic seed and transplants is required when available, non-genetically modified and non-treated seeds and transplants are allowed if certified organic sources are not readily available. A list of sources of certified organic seed that supply growers in Canada is located on the Cyber-Help for Organic Farmers webpage found below. A list of certified organic seed growers in British Columbia is included in [Appendix 3](#) of this overview.

<http://www.certifiedorganic.bc.ca/rcbtoa/services/seeds-sources.html>

## 6.1 Field Vegetables

With 247 farms producing vegetables in 2005, field vegetable production occurs on more organic farms in British Columbia than any other enterprise. In British Columbia, organic field vegetables are often grown together with edible herbs and other horticultural products in organic market gardens. Organic market garden farms tend to have large varieties of crops, and may be coupled with other farm operations such as livestock or tree fruit production. Roughly half of the farms marketing vegetables in



British Columbia also produce berries or tree fruit. Approximately a seventh of the organic vegetable operations also have an organic livestock or poultry component.

Specialized production of organic field vegetable crops also takes place on farms of varying sizes, though these operations are not as abundant as the more crop-diverse operations. Organic vegetable farms in British Columbia are very diverse in size and type, ranging from small market gardens with an acre or less in production to relatively large scale vegetable production on hundreds of acres. Organic field vegetables are produced throughout the province; however, the Okanagan and Similkameen, southern Vancouver Island and the Gulf Islands, and the Lower Mainland and Fraser Valley regions account for the most farms in British Columbia.

**Table 6.1 Area of Certified Organic Vegetable Crops on British Columbia Farms in 2005**

Crop	Area (ha)	Crop	Area (ha)
Vegetables*	380	Squash	6
Potatoes	185	Carrots	18
Green Beans**	199	Garlic	6
Corn***	122	Bulb Onions	6
Broccoli	42	Beets, Chard & Spinach	5
Peas	17.8	Field Peppers	2
Salad Greens	12	Field Tomatoes & Eggplant	3.5

\*The “vegetables” category was reported by CBs for entire small farms growing diverse crops or portions of farms growing small amounts of several crops. Crops where specified areas were reported are minimum values as they are likely also produced on the 'vegetables' area. A portion of the acreage in this category may be devoted to cover crops, green manures or may be in fallow.

\*\*The “green beans” category includes both fresh market and processing beans

\*\*\*The “corn” category includes both fresh market and forage corn

Certified organic seeds of some vegetable varieties are available; however, quantity remains a limiting factor in widening the organic seed selection. Non-treated seeds of virtually all varieties are available through seed distributors. Organic farmers that transplant crops typically grow their own vegetable transplants. While some organic farmers produce vegetable transplants and other bedding plants for retail, there are

currently no enterprises in British Columbia specializing in the sale of organic vegetable transplants for commercial crop production.

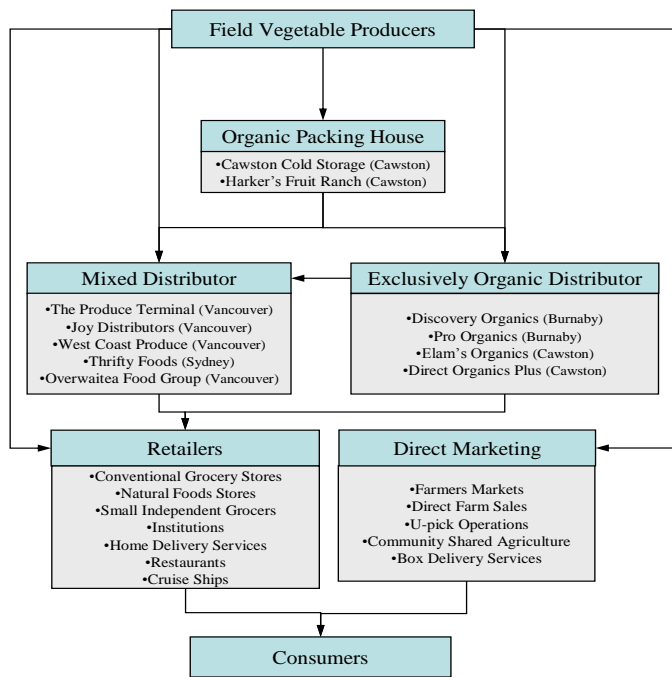


Figure 6.1 Organic Field Vegetable Value Chain

The means used to market organic field vegetables are as diverse as the farms themselves. See Figure 6.1 below for a diagram of the field vegetable value chain.

The many small market garden farms tend to use direct marketing channels in preference to the wholesale distribution and retail routes. Direct marketing itself takes many forms, including farmers markets, direct farm sales and u-pick operations, community shared agriculture and box delivery services. Some farms use multiple channels for marketing their product; farmers often move product through a wholesaler and also maintain a form of direct marketing within their local community.

Depending on arrangements made between growers and wholesalers,

produce is transported from the farm to distribution warehouses either by the farmer; or is picked up on the farm by the wholesaler's trucks. There are two major wholesalers in the Lower Mainland certified as handlers of organic products, who carry exclusively organic produce. These wholesalers purchase products from farmers, and resell them to retailers, but also supply other wholesalers who carry mixtures of organic and conventional products. Mixed wholesalers may also source directly from growers, though more often from larger or established growers, or growers located within specific geographic areas. In the southern interior of the province, organic tree fruit production has well-established marketing channels (see [Tree Fruit](#) section) through independent and cooperative packing houses. These same packing houses also buy and sell vegetables in addition to fruit from their growers.

Additionally, some organic farmers sell their product directly to retailers with whom they have an established relationship. There are several types of retailers of organic field vegetables: including natural food stores; conventional retailers; home delivery services; restaurants and other food service outlets. Contracts between British Columbia growers and distributors or retailers are rarely used in the British Columbia market. Wholesale prices for organic vegetables in British Columbia are updated regularly on the Cyber-Help for Organic Farmers webpage, found below. Farmers typically receive higher prices selling directly to consumers or to retailers than by selling large volumes at wholesale.

<http://www.certifiedorganic.bc.ca/rcbtoa/services/prices.html>

## 6.2 Tree Fruit

Organic orchards are the second most numerous farm enterprise in the British Columbia organic industry. There were 138 farms producing tree fruit in 2005. Approximately half of the farms producing tree fruit also reported producing vegetables, and a seventh of the organic orchards were integrated with an organic animal operation. Organic orchards produce all of the major British Columbia tree fruit crops: apples, pears, peaches, cherries, plums and prunes, apricots, and nectarines. Apples, pears and peaches are produced in the largest volumes. Organic tree fruit likely has one of the widest distribution ranges of all organic products in British Columbia, with small volumes of British Columbia fruit being sold into markets as far as Europe and Asia. The Similkameen Valley is home to the most organic orchards in British Columbia, followed by the Okanagan Valley.

British Columbia organic tree fruit flows through many value chains to reach consumers both in and outside the province (see Figure 6.2 for a diagram). Co-operative and independent packing houses purchase produce from the majority of the organic orchards in British Columbia.

Cawston Cold Storage (CCS), an independent packing house, purchases an estimated 65% of the organic tree fruit in British Columbia, and sells the fruit under the Nature's First Fruits label. CCS sells their fruit to a major Canadian wholesaler, and also to other wholesalers and large retailers. Harker's Fruit ranch is another independent packing house which packs fruit for a smaller number of growers in British Columbia.

### What is certified organic tree fruit?

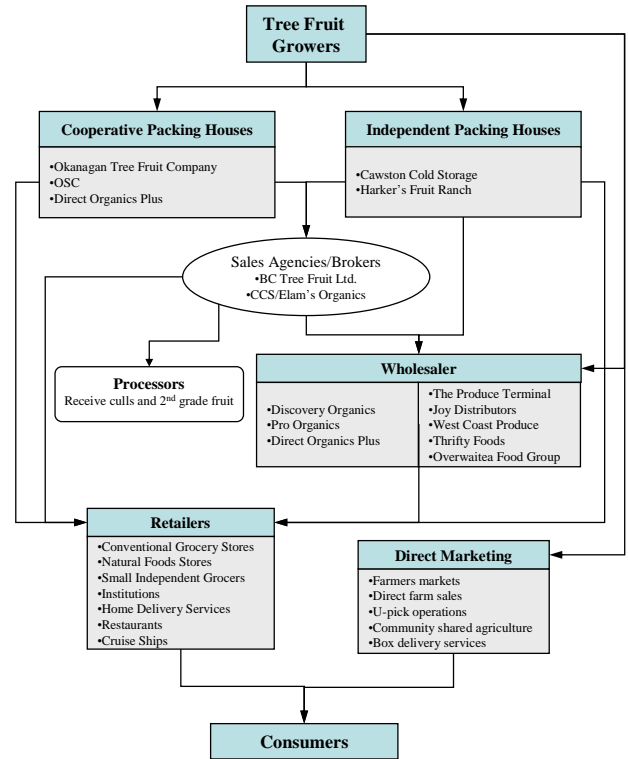
Organic tree fruit is produced using practices unique to organic systems blended with the advanced technological improvements of the tree fruit industry. The majority of the commercial organic apple acreage in British Columbia is in high density orchards. Cultivation is used for weed control around the trees and to incorporate nutrients from compost applications.

Along with synthetic thinning chemicals, fumigants, and ripening agents, applications of fruit waxes are prohibited. Controlled atmosphere storage is permitted throughout the packing and shipping process; however, organic produce must be kept separate from conventional produce.

The cooperative packing houses: Okanagan Tree Fruit Company and Okanagan Similkameen Cooperative Growers (OSC), collectively own British Columbia Tree Fruits Ltd (BCTF), a marketing agency for their produce. Though organic produce accounts for only 2% of BCTF's total sales, it is estimated they sell approximately 30% of the organic tree fruit produced in British Columbia. Direct Organics Plus Ltd is another cooperative packinghouse that also acts as a produce wholesaler and purchases produce from non-members. Some packing houses also purchase field vegetables from their farmers who produce them in addition to tree fruit.

**Table 6.2 Area of Certified Organic Tree Fruits on British Columbia Farms in 2005**

Crop	Area (ha)
Apples	277.7
Mixed Tree Fruit	67.5
Peaches	25.3
Pears	24.7
Nectarines	13.4
Apricots	12.4
Plums and Prunes	10.2
Cherries	9.4



**Figure 6.2 Organic Tree Fruit Value Chain**

It is estimated that there will not be significant growth in organic apple and pear production levels in the coming years as there have not been many recent transitional farmers producing these crops. Organic cherry production is expected to increase in the next three years as recent registration of approved organic pesticides has encouraged several organic growers to bring their existing conventional cherry crops into transition. Price premiums received for organic tree fruit products range from 20% to 80% over their conventional counterparts. Premiums vary depending on the type of fruit and the variety. Wholesale prices for organic fruits in British Columbia are updated regularly on the Cyber-Help for Organic Farmers webpage, found below.

<http://www.certifiedorganic.bc.ca/rcbtoa/services/prices.html>

### 6.3 Grains

Organic grain production in British Columbia takes place mostly in the Peace River and the north Okanagan regions. Organic grain farmers in the Okanagan produce mostly specialty food grains such as spelt and some malting grains. Spelt grows well on marginal land, and there is currently no cereal pest infestation of spelt in British Columbia, making it well suited for organic production. Food grade oats are grown in the Peace River region, along with other grains for livestock feed. In 2005, field crops (grains, oilseeds, or pulses) were grown on 85 farms.

In the Okanagan, the Organic Milling Co-operative purchases grains from its own members, and other farmers. The co-op provides cleaning services and is the only source of certified organic grain seed in British Columbia. The specialty baking industry, health food processors, and grain distributors purchase grains from the Organic Milling Co-op. The combination of long crop rotations and small farm sizes makes it difficult for individual organic grain farmers in the Okanagan to maintain a stable supply of grains from year to year.

In the Peace River region of northern British Columbia, organic grain farmers clean food grade grains themselves and sell it to mills for processing. Currently, food grade oats from northern British Columbia are mostly sold to US mills, which then sell the processed grains back to British Columbia manufacturers. Most of the animal feed grains grown in this region are utilized by local certified organic livestock producers, often by

#### What are certified organic grains?

Crop rotation is the key control for weed, disease, fertility and pest management in organic grain production. In contrast to conventional grain and oilseed systems, where the use of synthetic fertilizers, pesticides and herbicides allows for high frequencies of cash crops in a rotation, organic grains can only be grown for one, or at most two years successively, before land must be returned to grass and alfalfa, or a green manure to restore soil nutrients and disrupt weed and pest cycles. Many producers use at least a five year crop rotation; however cropping patterns are unique to every farm.

Grains produced organically are cleaned and processed separately from conventional grains by certified processors.

**Table 6.3 Area of Certified Organic Grains on British Columbia Farms in 2005**

Type	Area (ha)
Barley	210
Oats	348
Wheat	158
Spelt	25
Rye	53
Flax	26
Buckwheat	9

the grain farmers themselves for their own livestock. The livestock producers will process the grains for their animals. Some of the animal feed grain is transported to feed mills in the Fraser Valley. Certified organic grain farmers in Peace River save their own seed when possible. However, lack of a reliable source for new seed which is free of GE contaminants could challenge the industry in the future. Prices for organic grains (food grade or livestock feed) are typically sold for double the conventional price.

## 6.4 Berries and Grapes

In 2005, CB's reported 19 farms producing organic berries. There are likely many more organic farms that also produce small amounts of berries among their products that were not recorded by CB's. Blueberries account for most of the organic berry acres in the province. There are also more blueberry farms that are currently in transition to organic and more growers in BC who are seriously considering it. Some of these are growers

**Table 6.4 Area of Certified Organic Berries and Grapes on British Columbia Farms in 2005**

Crop	Area (ha)
Blueberries	24.1
Strawberries	1.7
Raspberries	12.1
Blackberries	2.2
Berries and Table Grapes	15.8
Wine Grapes	57.6

have their own commercial packing facilities. Organic berries are sold either fresh or frozen with packaging or freezing done on the farm rather than through a processor. Direct marketing, through either farmgate sales or farmers markets is typically used by organic berry farmers to sell their product. Networks of berry producers have developed to market their combined products through an organic wholesaler or to retailers.

There were 26 certified organic vineyards in British Columbia in 2004, covering 57.6 ha. The processing of organic wine is not certified on any of these vineyards, therefore there are no certified organic wines produced in British Columbia. A small number of wineries source organic grapes from several vineyards, and market their products as "made from organic grapes". There is not a significant price premium for certified organic wine grapes. Table grapes are also produced on some vineyards, and on mixed farms alongside other fruit products. Certified organic table grapes are sold directly to consumers, and through the packing house channels of the tree fruit industry.

## 6.5 Organic Greenhouse Vegetables

Greenhouse vegetables are produced on 26.8 ha in British Columbia on 16 farms. Two large greenhouses producing tomatoes, cucumbers, and peppers account for a large proportion of this area. Ten farmers reported 2.8 ha of greenhouse area specifically for transplant production. Produce from the large greenhouses is purchased by one organic wholesaler and marketed in Canada and the US. The remaining farmers with greenhouses produce a wide variety of crops and transplants, often as a part of an organic field vegetable operation. Producers with small greenhouses typically use the marketing channels described in the field vegetable section for selling their greenhouse products.

## 6.6 Mushrooms

There were 13 certified organic mushroom producers in the province in 2005. Organic mushroom producers typically grow specialty mushrooms such as *Agaricus*, oyster, shiitake, portabella and others. The specialty mushroom operations are generally small-scale family run farms and are highly labour intensive. Producers sell mushrooms into both wholesale and retail markets.

## 6.7 Herbs and Specialty Crops

While many market garden organic farmers produce herbs among their crops, there are also organic farms devoted specifically to herb production, both medicinal and culinary. The majority of medicinal herb farmers in British Columbia market themselves as “natural” or “organic” producers, and a significant portion of them are certified. Some processors of medicinal herbs have left British Columbia in recent years and most medicinal herb farmers either sell to wholesalers in the US, local herbalists, or market

**Table 6.7 Area of Certified Organic Herbs and Specialty Crops on British Columbia Farms in 2005**

Crop	Area (ha)
Herbs (medicinal)	95.9
Herbs (culinary)	37.9
Echinacea	0.4
Wasabi	0.4
Sea Buckthorn	1.0
Hops	0.4

directly to consumers. Drying, extraction, and other forms of processing are typically done on farm. Organic culinary herbs are produced alongside medicinal herbs and as a part of field or greenhouse vegetable operations. Culinary herbs are marketed to restaurants, directly to consumers in farmers markets, and also to wholesale or large retailers by larger producers who can package their products.

Specialty crops are defined as crops that are generally not part of mainstream agriculture and may be a new commodity, new use for an established commodity, or an established crop new to another region. Specialty crops may be produced as part of a farm operation, an integrated agroforestry management system, or under conditions of wild craft or wild harvest. Agroforestry is an intensive land management system that optimizes the benefits created when trees and/or shrubs are deliberately combined with crops and/or livestock.

Specialty crops are defined as crops that are generally not part of mainstream

## 6.8 Nuts

Certified organic nuts are produced on 15 farms, the majority of which are located in the Lower Mainland. Hazelnuts are produced in the greatest quantity; however certified organic walnuts and chestnuts are also produced in British Columbia. There are several organic nut producers in transition and organic nuts are likely produced in small amounts on other organic farms that were not recorded by CBs. Producers wash, dry, crack and

**Table 6.8 Area of Certified Organic Nuts on British Columbia Farms in 2005**

Crop	Area (ha)
Hazelnuts	36.8
Walnuts and Chestnuts	6.3
Miscellaneous nuts	18.4

often roast their own nuts, or sell nuts wholesale to clients in the US where they are processed. More and more organic nut producers are processing their own nuts and marketing their products themselves rather than selling to US clients who offer lower prices per pound. Producers may market directly to consumers via farmers markets or farmgate sales, or sell to clients

who use nuts in baking or confectionary products. British Columbia produces the majority of the certified organic nuts in Canada.