



Ministry of Agriculture,
Food and Fisheries

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Industry Overview

Apples and Pears in British Columbia



Industry Overview: Apples and Pears in British Columbia

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Industry Description

The BC apple and pear industry is centered in the Okanagan Valley from Salmon Arm in the north to Osoyoos in the south, the Similkameen Valley to the west and the Creston Valley in the Kootenays to the east. Fewer than 100 acres of apples are also produced in the Fraser Valley and on Vancouver Island. The climate in the Okanagan is well suited for the production of apples and pears: low rainfall and plentiful sunshine result in naturally low disease and insect pressures, and cool nights in the early fall combined with warm days produce excellent apple colour.

The industry generated \$72.3 million in farm gate sales from approximately 11,000 acres of apples and \$4.4 million from 680 acres of pears in 2002. Due to poor returns for the more traditional varieties of apples in the 1990's, many growers have been planting new varieties into their orchards with the goal of increasing returns and profitability.¹

BC is a price-taker in apple market, therefore world surpluses depress prices and impact grower returns in the BC tree fruit industry.¹⁴ A recent world apple surplus has resulted in even lower prices for some varieties.²²

Canada is a net importer of apples, with the majority coming in from the USA and secondly from Chile.⁴ Canada also exports a significant amount of its domestic production, primarily to the USA, but shipments also go to the UK and to Mexico.⁴ For both pears and apples the biggest competition comes from Washington State that has a similar climate and growing season but produces 15 to 20 times more apples and pears annually than BC.¹⁴

The industry has a well organized packing and selling system for the majority of the apple and pear crops. Four cooperative packers have modern packing lines and storage facilities.

The Okanagan Kootenay Sterile Insect Release Program is a leading edge program to control codling moth, the apple and pear industry's most damaging and costly pest. This area-wide program uses environmentally friendly technology to reduce the use of organophosphate insecticides. The industry is also embarking on a certification system (BC Good Agricultural Practices) to allow increased markets particularly in Europe.

New varieties are the focus for the revitalization of the industry. "Galas", "Fujis", and "Ambrosia" are considered to be the cornerstone of the new industry. "Galas" have taken over from "Red Delicious" and "McIntosh" as the premier variety in BC. "Ambrosia", a newly discovered apple by a BC grower has been widely planted by growers and is projected to reach 7,600 tonnes by 2008. The main traditional varieties include "McIntosh", "Red Delicious", "Golden Delicious" and "Spartans".

Significance

Production Volume

- In 2002, BC produced about 136,000 tonnes of apples valued at \$72.2 million
 - BC produces 25.3% of the Canadian apple production
 - BC is the second largest apple producer after Ontario.
- About 2/3 of Canadian apples are sold to the fresh market and the remaining 1/3 are sold to the processing market.³⁷
- BC produces 7 million kilograms of pears. This production is about 50% of the Canadian crop of “Bartlett” pears and all of the commercial production of “Anjou” pears.³
- The main pear varieties grown in BC are “Bartlett” and “Anjou” with minor production of “Bosc” and others.

Grower Revenue

- Apples are produced in a significantly higher volume than any other tree fruit crop in BC.
- In 2002, 299,846,000 lbs of apples were produced with a value of \$72,231,000.²¹ (See Table 1.)
- New varieties are providing the industry with increasing profitability as the traditional older varieties decline in production, price and overall value. (See appendix C for replant tables.)

Table 1: BC Apple Production and Value, 2002

| Market | Volume (‘000 lbs) | % of Total Volume | Value (\$’000) | % of Total Value |
|---------------------------------|-----------------------------|------------------------------------|--------------------------|---|
| Fresh Sales - Wholesale | 246,256 | 82.1% | 71,034 | 98.3% |
| Fresh Sales – Farm and Roadside | 6,093 | 2.0% | 3,029 | 4.2% |
| Processed Sales | 47,497 | 15.8% | -1,832 | -2.5% |
| Total | 299,846 | 100% | 72,231 | 100.0% |

Data Source: BC Ministry of Agriculture, Food and Fisheries, Tree Fruit Statistics

- In 2002, 17,704,000 lbs of pears were produced with a value of \$4,424,000.²¹ (See Table 2.)

- There is substantial world-wide competition in the apple and pear markets. Washington State is our main competitor for both apples and pears. Traditional production areas are: Europe, North America, Australia, and New Zealand. New growing areas are: Chile, Argentina, Brazil, and Turkey and emerging competitors are: India, Iran, Pakistan, and Uruguay.³⁰

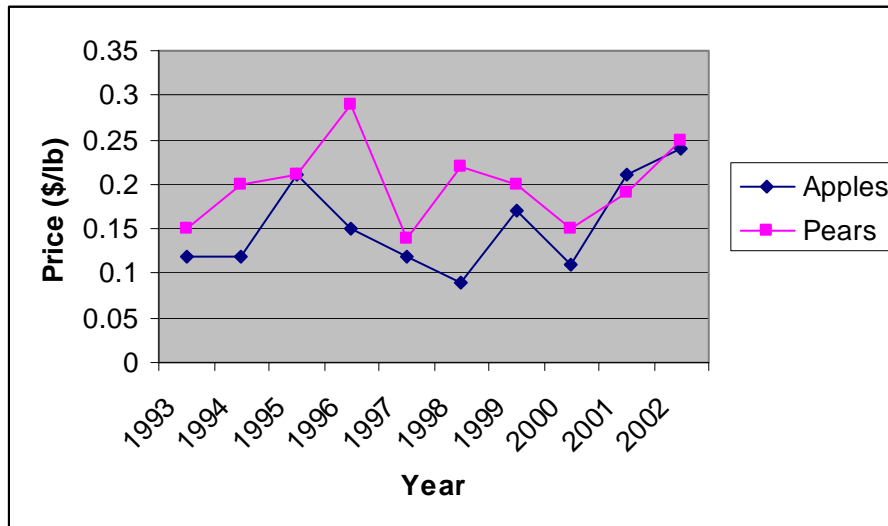
Table 2: BC Pear Production and Value, 2002

| Market | Volume (‘000 lbs) | % of Total Volume | Value (\$’000) | % of Total Value |
|---------------------------------|-----------------------------|--------------------------|--------------------------|-------------------------|
| Fresh Sales - Wholesale | 14,160 | 80% | 3,787 | 85% |
| Fresh Sales – Farm and Roadside | 1,415 | 8% | 783 | 18% |
| Processed Sales | 2,129 | 12% | -146 | -3% |
| Total | 17,704 | 100% | 4,424 | 100% |

Data Source: BC Ministry of Agriculture, Food and Fisheries, Tree Fruit Statistics

- Price fluctuations are caused by changes in production and fruit quality from year to year. (See Figure 1.)
- Increased production in the US generally results in lower prices in Canada.
- Knowing the strengths and weaknesses of your competition helps the industry compete in the world market.
- In addition, knowledge of consumer preferences and projected trends allow the industry to plan ahead for future marketing opportunities when replanting.

Figure 1: BC Apple and Pear Prices Paid to Growers, 1993-2002



Source: Ministry of Agriculture, Food and Fisheries. Agriculture Statistics

Major Markets/Competition

- Since 1961/62 the world has seen a 200% increase in apple and pear production parallel to a 100% world population increase.³⁰
- The increase has been due, in part, to a 90% increase from China over the past decade.³⁰
- There is a world consolidation trend; larger and fewer farms and bigger and fewer sales and packing agencies.³⁰
- The above trend has contributed to a better apple and pear market due to improved service and economies of scale resulting from the consolidation.

World Apple Production and Markets:

- Apples are ranked 4th by volume in world production of fruit crops.³³
- Canada produces approximately one percent (510,000 metric tons) of the world's apple production which is estimated to be close to 45 million metric tons in the 2002/2003 season.²² (See Table 3.)

Table 3: Selected Country Apple Production in 2002/2003

| Country | Production (metric tons) |
|----------------------------|--------------------------|
| Argentina | 1,000,000 |
| Brazil | 825,000 |
| Canada | 510,000 |
| Chile | 1,060,000 |
| China | 20,050,000 |
| European Union | 7,646,080 |
| Mexico | 465,000 |
| New Zealand | 462,000 |
| Poland | 2,107,000 |
| Russia | 1,400,600 |
| South Africa | 680,000 |
| Turkey | 2,500,000 |
| United States | 3,900,000 |
| Total (selected countries) | 44,859,000 |

Source: FAS/USDA, Horticultural & Tropical Products Division ²²

- Top world apple exporting countries are: China, France, Italy, Chile, the USA, and South Africa.
- Top world apple importing countries are: Germany, United Kingdom, Netherlands, Russia, Belgium-Luxembourg, Spain, and USA
- Almost half of the world's apples are produced in China.²²
- For the second consecutive year, China and the US, the two leading world apple producers, have witnessed a decrease in apple acreage.²²
- In China, government policies focused on diversification of the fruit industry are contributing to less acreage being planted in apples and the replanting of old orchards with new varieties.²²
- In the USA, difficult economic times forced some growers out of apple production, resulting in a smaller 2002/2003 crop. Around 30,000 acres of apples have been removed from Washington State orchards.²²

World Pear Production Markets:

- Pears are ranked 9th by total volume in world production of fruit crops.³³
- In 2002/2003, world pear production was an estimated to be 14 million metric tons; a record year.²³ (See Table 4.)

Table 4: Selected Country Pear Production in 2002/2003

| Country | Production (metric tons) |
|----------------------------|--------------------------|
| Argentina | 550,000 |
| Canada | 17,500 |
| Chile | 247,000 |
| China | 8,800,000 |
| European Union | 2,246,285 |
| Japan | 426,300 |
| New Zealand | 23,000 |
| Russia | 226,000 |
| South Africa | 280,000 |
| Turkey | 375,000 |
| United States | 830,000 |
| Total (selected countries) | 14,229,985 |

Source: FAS/USDA, Horticultural & Tropical Products²³

- Top world pear exporting countries are: Argentina, China, USA, Italy, Chile, and South Africa.²³
- Top world pear importing countries are: Germany, Russia, the Netherlands, United Kingdom, Italy, France, and Mexico.²³
- World pear production has increased the past 7 years (including 2003).²³
- The USA's pear production has been decreasing as less acres are planted to pears each year because of world competition.²³
- BC has also experienced a reduction in pear acreage planted.

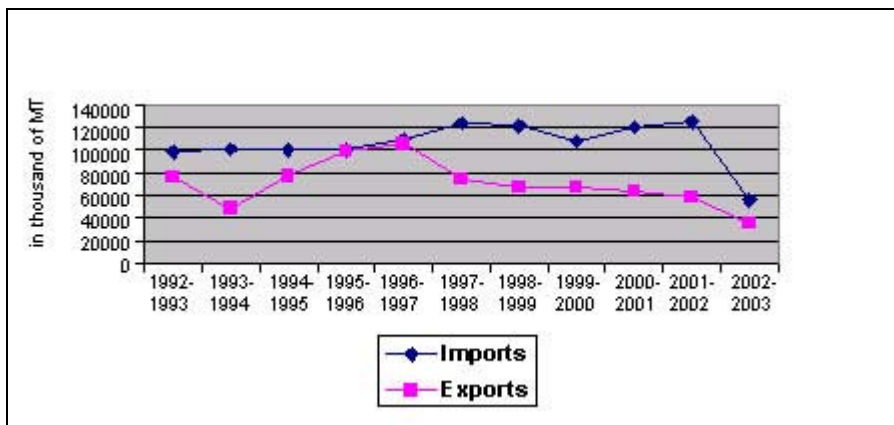
Organic Tree Fruit Production

- Around the world organic tree fruit production is expanding.³¹
- The US has the largest acreage with organic apple production.³¹
- The largest producers of organic tree fruit in Europe are: Italy, Germany, France, Switzerland and Austria.³¹
- Most of the Canadian organic tree fruit industry is located in the Similkameen valley³¹ with approximately 400 to 500 acres.¹
- Organic production is expanding to other areas of the Okanagan.
- Organic fruit realizes higher grower returns when compared to conventional production returns.

Imports and Exports

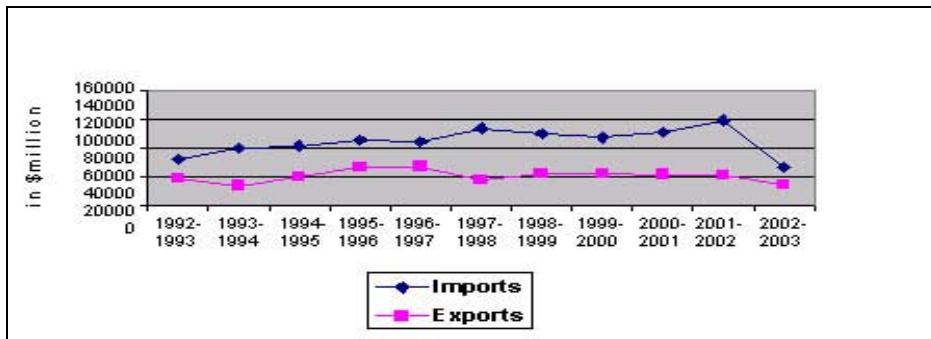
- During the 1996/97 season, Canadian apple imports were roughly the same as exports, but these ratios have changed and during the 2001/02 crop year Canada imported 113% more apples than it exported.⁵ (See Figure 2.)
- For the 2001/2002 crop season, imports increased into Canada by 16% to a total of \$147.8 million; 92% of these imports came from the United States.⁵ (See Figure 3.)
- Canada imports apples mainly from: the US, New Zealand, South Africa, Chile and Argentina.⁵
- In the 2002/2003 season, 65% to 70% of Canadian apple exports were BC-grown. BC accounts for 25% to 30% of the total Canadian apple production.⁵
- In 2003, BC apple exports were primarily to: the U.S, Mexico, Taiwan, the UK, Indonesia and Costa Rica.³²
- Since January 1st, 2003 there has been duty free access to the Mexican market for fresh Canadian apples, and apple juice.⁵
- The majority of apple exports are fresh for consumption, although a small amount are exported fresh for processing.³²
- In 2003, BC exports of pears were mainly sent to: the US, Taiwan, the Netherlands, Hong Kong, and Norway.³²
- See appendix A and B for more information on the Canadian apple and pear markets and Canadian apple and pear exports and imports.

Figure 2: Canadian Imports and Exports of Fresh Apples (quantity in metric tons)



Source: Agriculture and Agri-Food Canada. Canadian Apple Production.

Figure 3: Imports and Exports of Fresh Apples (value in million dollars Cdn)



Source: Agriculture and Agri-Food Canada. Canadian Apple Production.

Employment

- In the Okanagan Valley approximately 7% of the labour force has jobs connected to the apple industry.²⁶
- There are about 4,800 people who work in the orchards, 2,500 who work in packinghouses and 1,000 who all work seasonally in the BC apple industry.²⁶

Structure

Number of producers

- There are approximately 1,200 apple growers in BC.
- Around 200 growers produce pears in BC.

Industry Concentration

- Apples are grown throughout the Okanagan Valley, Similkameen Valley and Creston area. The Okanagan and Similkameen Valleys produce 98% of BC grown apples.²⁷
- Pears are grown throughout the region as well; the Kelowna area has the largest concentration.

Industry Organizations

BC Fruit Growers Association

Represents about 600 growers and it is the main grower organization for safety net programs, regulation lobbying, grower education and other activities.¹

Okanagan Federated Shippers Association

Represents all of the cooperative packinghouses in labour relations, storage research, bulk packaging purchasing and other issues that involve the packing industry as a whole.¹

New Variety Development Council

“Ambrosia” apple growers have organized a promotion and quality development council to introduce new varieties. The council has developed an “Ambrosia” marketing strategy and is working on plans to develop a 5 year program of “Ambrosia” market launch. The council is a grower driven organization that cooperates with industry packinghouses and various marketing agencies.¹

Packinghouses

Cooperatives

BC Fruit Packers Cooperative (BCFP), Okanagan North Growers Cooperative (OKN), Sun-Fresh Cooperative Growers, and Okanagan Similkameen Cooperative Growers (OSC), Direct Organics Plus.

Independent Packinghouses

Blacksage Orchards, Cawston Cold Storage, Dawson Farms, Desert Fruits (Demelo’s), Desert Produce, Fairview Orchards, Fernandes Farms, Gemini Orchards, Gold Star Fruit Company, Grant Thelin, J. Ferreira, Oliver Fruit House, Southern Fruit Packers.

Sales Agencies

BC Tree Fruits Ltd (BCTF), ProFresh International, Nelson Roy Associates.

Processors

Sun Rype, Kettle Valley Dried Fruit.

Labour Agencies

The Open Door Centre, The Ki-Low-Na Friendship Society, Employment Benefit Centre

Performance/Direction

- Cash Receipts for the 2003 season for BC’s tree fruit industry showed a 1.5% increase over the previous season.¹⁷
- Although the BC apple crop was 5% smaller, cash receipts increased because of higher prices resulting from the smaller apple crop in the US¹⁷

Industry Trends:

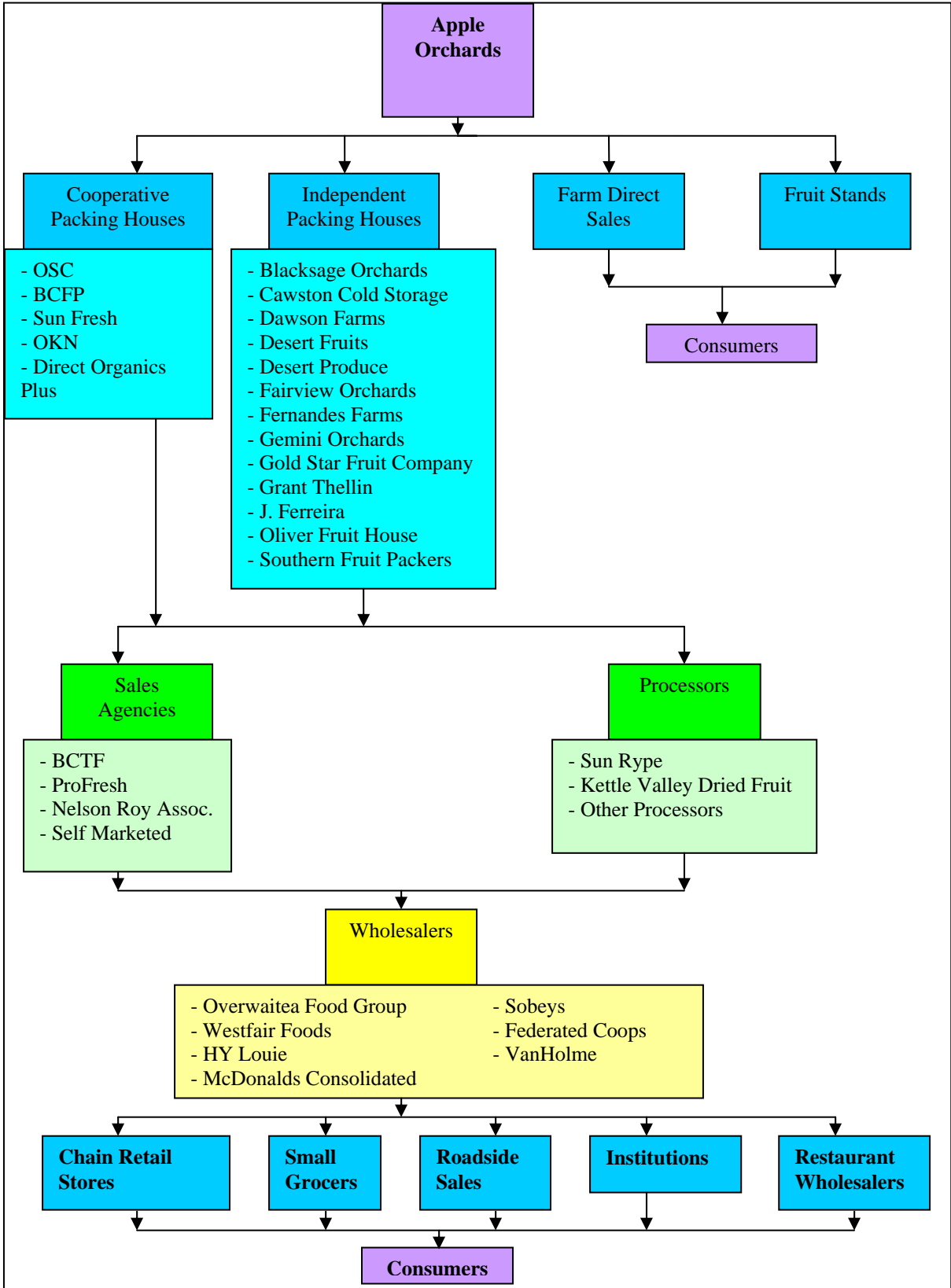
- Acreage is shrinking, but production is remaining constant because of new high density plantings. The quality of new varieties is improving.
- Both the apple and pear industries are slowly shrinking due to a variety of reasons.³⁴

- Urban encroachment continues to be one of the major reasons for a reduction in farm acres.³⁴ Housing developments are a major competitor for orchard land.³⁴
- Some of the apple and pear acreage have been converted to other crops such as grapes and vegetables.
- Some tree fruit orchards are being converted to hobby farms which are easier to manage for owners who are new to the industry or who no longer depend upon all their revenue from farm operations.³⁴
- A major industry trend is the replanting of old orchards to dwarf rootstock at higher densities which has tended to maintain production levels, but on a smaller land base.

Industry Structure and Value Chain

- See Figure 4 for a schematic overview of the two sectors.
- Cooperative Packinghouses: BC Fruit Packers Cooperative (BCFP), Okanagan North Cooperative (OKN), Sun-Fresh Cooperative Growers, and Okanagan Similkameen Cooperative Growers (OSC) all collectively own BC Tree Fruits Ltd (BCTF).²⁵
- Independent Packinghouses: Blacksage Orchards, Cawston Cold Storage, Dawson Farms, Desert Fruits (Demelo's), Desert Produce, Fairview Orchards, Fernandes Farms, Gemini Orchards, Gold Star Fruit Company, Grant Thelin, J. Ferreira, Oliver Fruit House, Southern Fruit Packers.
- BC Tree Fruits Ltd. Sells 75% of the apples and 30% of soft fruits produced in the BC tree fruit industry.²⁵
- The remaining 25% of apples and 70% of soft fruits are marketed through the independent packing houses and farm direct sales.²⁵

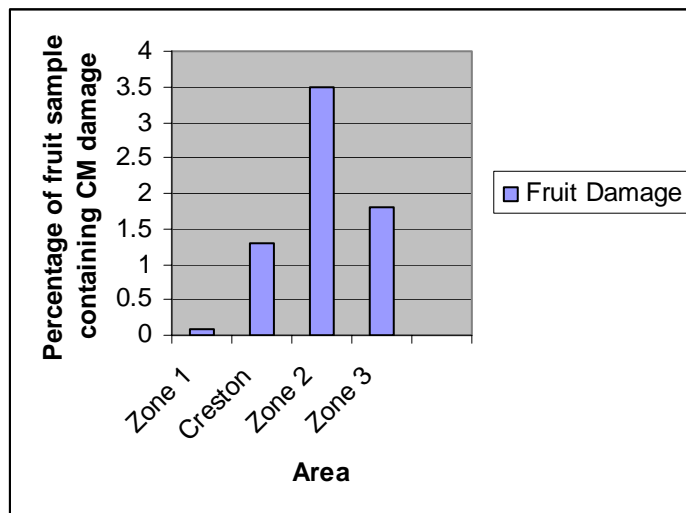
Figure 4: Industry Structure and Value Chain



Regulatory Framework

- The BC apple and pear industries operate under a number of different legislative acts. (An overview can be seen in the Challenges: Regulatory Issues section.)
- Neither the BC apple industry nor the BC pear industry is regulated by a central marketing board or quota system.
- **The Okanagan-Kootenay Sterile Insect Release Program (SIR)** is one of the industry/government initiatives to reduce the impact of codling moth on tree fruit production. Codling moth, a species introduced from Europe in the early 1900's, has the biggest impact of all pest species of tree fruits in the BC interior valleys. Figure 5 shows the damage to fruit in the various areas. The program uses a variety of methods including sterile moth release, sanitation, mating disruption, and minimal pesticide application to keep the impact of codling moth in BC below the economic threshold.²⁸ The SIR program has made it possible for an 83% decrease in the use of organophosphate pesticides in Zone 1 (South Okanagan, Similkameen and Creston Valleys) and a 65% decrease in zones 2 (Central Okanagan Valley) and 3 (North Okanagan and Shuswap Valleys). The program funding comes from Regional Districts (40%), Fruit Growers (20%), the Federal Government (20%), and the Provincial Government (20%). Codling Moth damage has been drastically reduced since the implementation of this program.³⁰

Figure 5: Codling Moth Damage to Fruit Sampled by Area (2003)



Source: SIR Annual Report 2003

- Growers pay a levy of 2.5 cents/lb of Ambrosia fresh apple sales to the **New Tree Fruit Varieties Development Council** for promotional/development purposes of “Ambrosia” apples.

Research, Technology and Innovation

- **Pacific Agri-Food Research Centre (PARC)** - The Agriculture and Agri-Food Canada research centre has current research projects on crop diversification, apple breeding, post harvest pathology, soil fertility and plant chemistry, tree fruit nutrition/soil chemistry, integrated control, insect behavior ecology, IPM, and pesticide resistance as well as numerous projects on biotechnology that may be of benefit to tree fruit growers in BC.¹²
- **Tree Fruit New Varieties Development Council** – a group of growers committed to promoting “Ambrosia” apples in conjunction with BC Tree Fruits LTD, organic growers, sales agencies and cooperative packing houses.¹¹
- **Okanagan Federated Shippers** - Represents all of the cooperative packinghouses in labour relations, storage research, bulk packaging purchasing and other issues that involve the packing industry as a whole.¹
- **Okanagan Biotechnology Inc.** – based on industry/government partnership and focused on the development of new tree fruit varieties.²⁹

Challenges

- The Canadian apple industry has been facing a number of challenges over the past decade or so, including a general decline in wholesale prices and an increase in North American and world production.⁵

Production Issues

- There are many pests that fruit growers have to deal with but the three main difficult ones are: codling moth, leaf roller and bud moth.²⁷
- Since BC is located in a cooler growing area, our yields tend to be lower than, for example, in warmer areas in Washington State
- It’s hard for small production areas to compete against production giants like China and the US, especially with a high Canadian dollar.

Marketing Issues

- The main challenge pear producers face is trying to increase consumer demand.³
- Consumers are also more educated and conscious of their environment and the way food is produced or processed. They want to know more about pesticides, food additives and the nutrition value of the food they buy. As people are more educated and informed about what they eat, they in turn want more convenient, prepared and ready-to-eat food, especially of the snack variety.⁵
- Food spending continues to fall as more money is spent on technological innovations.³⁰

- New variety development is critical if the Canadian tree fruit industry is to remain competitive in world markets.¹³
- A marketing plan including methods of promotion is very important with the introduction of any new variety.¹³
- There is a need for profitability incentives at all levels of the marketing chain.¹³

Labour Issues

- There are sometimes problems with seasonal worker shortages.¹⁶
- Increasing cherry crops will create a greater demand for harvest workers.

Trade Issues

- Liberalization of trade under the WTO should help Canadian exporters to continue to develop offshore markets.⁵
- Canada's shorter growing season reduces opportunities for market expansion into offshore markets. Strong competition from earlier maturing US crops tends to set the price and generally impacts negatively on growth opportunities.⁵
- Increased competition from Chinese fresh apples in Asian markets is expected to increase in coming years and could exert downward pressure on prices.⁵
- Lower exchange rates may hinder Canadian exporters by reducing market share in foreign markets.
- Consolidation in the retail food sector and the increased popularity of large warehouse superstores are forcing producers, packers and distributors to reassess their marketing strategies.⁵
- Export restrictions for phytosanitary reasons by importing countries have caused problems related to our exported goods.

Regulatory Issues

The Tree Fruit Industry is under a variety of government regulations as follows:

Provincial Government –

Ministry of Agriculture, Food and Fisheries -

- *Plant Protection Act* – “The Act provides for the prevention of the spread of pests destructive to plants in British Columbia including the powers of inspectors and the authority to establish quarantine areas”
- *Farm Practices Protection (Right to Farm)* – “The Act ensures that farmers can farm in the agricultural land reserve by protecting them from nuisance lawsuits, nuisance bylaws and prohibitive injunctions when they are using normal farm practices.”
- *Soil Conservation Act* – “The Act is intended to protect soil on land in an agricultural land reserve by regulating its removal & the placement of fill.”
- *Weed Control Act* – “The Act places responsibility for control of noxious weeds upon occupiers of land.”
- *Food Products Standards Act* – “This Act allows the Province to establish compositional and quality standards for processed foods”

- The Invasive Plant Strategy - “A strategy to build cooperation and coordination to protect BC’s environment and minimize negative social and economic impacts caused by the introduction, establishment and spread of invasive plant species.”

Ministry of Skills, Development and Labour

- *Employment Standards Act* – “The main purpose of this Act is to set minimum standards for wages and terms of employment for all workers in British Columbia.”
- *Workers Compensation Act* - “The Act sets out safety related criteria and conditions for all workers in BC.”

Ministry of Sustainable Resource Management –

- *Environmental Management Act* – “This Act provides the ministry with the authority to manage, protect and enhance the environment. The Act also requires the preparation of plans for flood control, drainage, soil conservation, water resource management, fisheries and aquatic life management, wildlife management, waste management, and air management. The Act provides for the regulation of some environmental assessments, the issuance of environmental protection orders; the declaration of environmental emergencies and the allocation of required resources to control emergencies and the recovery of moneys spent during an emergency from the responsible party.”
- *Land Commission Act* – regulates land in the Agricultural Land Reserve (ALR)

Ministry of Water, Land and Air Protection

- *Fish Protection Act* – Protection of all fish inhabited waterways

Federal Government –

Agriculture and Agri-Food Canada –

- *Canada Agriculture Products Standards Act* – Fresh Fruit and Vegetable Regulations: Regulations respecting the grading, packing and marking of fresh fruit and vegetables

Health Canada –

- *Pest Control Products Act* – “Requires that all products imported, manufactured, sold or used in Canada to control pests must be registered.”

Opportunities

- BC is known throughout the world as one of the leaders in the adoption of new technology in the tree fruit industry.²⁶
- Breeding programs at the Pacific Agri-Food Research Centre in Summerland may lead to new opportunities for fruit growers.
- Improved production and packing technology will provide BC growers with opportunities for improved production efficiency.
- Some price stabilization has occurred in recent years, caused by apple removals in the US and other countries.

Government and Industry Actions and Initiatives

Sterile Insect Release Program – A cooperative project funded jointly by growers, local, provincial and federal governments to control codling moths.¹ (See regulatory framework section for more detail.)

Tree Fruit Production Guide for Commercial Growers – A guide produced by BC Ministry of Agriculture, Food and Fisheries in collaboration with BC Fruit Growers Association. The guide is produced for use by commercial growers and covers the topics: integrated pest management, crop management schedules, pollination, insects and mites, diseases, wildlife damage prevention, weed control, fruit tree nutrition, spray thinning and growth regulators, variety information, pesticides, growers records and spray schedules and tables.

Investment Agriculture Foundation:

Orchard Renovation Program –

“To encourage growers to replace older, lower-quality inefficient orchard plantings with plantings at higher densities (1000 to 2000 trees/acres vs. 200 trees/acre) of varieties favoured by the marketplace”¹⁴

Replant Program – (Prior to April, 2003 the Okanagan Valley Tree Fruit Authority (OVTFA) replant program) “Provides growers with grants covering approximately 1/3 the cost of replanting”¹⁴ Table 4 shows how many acres of apples and pears have been replanted under the program. (See appendix C for replant tables broken down by commodity and area.)

Grafting/Budding Program – (Prior to April, 2003, the OVTFA Grafting/Budding Program) “to assist growers to upgrade orchards to higher value varieties and strains. A cost effective program since growers can adapt existing plantings and infrastructure to higher value strains and varieties.”¹⁴

Transitional Production Adjustment Program (TRAP) – “compensates tree fruit growers for a portion of revenue losses they may experience during the unproductive years following replanting.”¹⁰

Table 5: Replant Summary, 1991-2003, by Commodity

| Year | Apples (Acres) | Pears (Acres) |
|--------------------|-------------------|------------------|
| 1991 | 587 | 12 |
| 1992 | 425 | 8 |
| 1993 | 337 | 3 |
| 1994 | 356 | 7 |
| 1995 | 322 | 16 |
| 1996 | 410 | 14 |
| 1997 | 537 | 10 |
| 1998 | 391 | 3 |
| 1999 | 312 | 4 |
| 2000 | 375 | 8 |
| 2001 | 250 | 22 |
| 2002 | 279 | 19 |
| 2003 | 314 | 12 |
| Total Acres | 4,895 | 138 |

Source: BC Investment Agriculture. Orchard Renovation Program.

Canadian Agriculture Income Stabilization (CAIS) Program – Program was designed to provide income protection for Canadian Farmers. Growers/Producers select the level of protection they would like for their operation and then pay the necessary fee.²⁹

Crop Insurance – Provides financial protection against crop loss and quality loss to growers.

National Water Supply Expansion Program – An initiative that provides technical and financial support to producers for the planning and development of projects that will enhance the long term sustainability of water supplies.³⁶

Agriculture Policy Framework – Provincial and Federal funding committed to improving agriculture. The five key elements are: environment, food safety and food quality, science and innovation, renewal, and business risk management.

Pacific Agri-Food Research Centre (PARC) Summerland – The Agriculture and Agri-Food Canada research centre is currently conducting research projects on crop diversification, apple breeding, post harvest pathology, soil fertility and plant chemistry, tree fruit nutrition/soil chemistry, integrated control, insect behavior ecology, IPM, and pesticide resistance as well as numerous projects on biotechnology that may be of benefit to tree fruit growers in BC.

Agricultural Land Reserve (ALR) –The ALR was created to protect the declining agricultural land in BC. The primary objective is to “preserve agriculture land and encourage the establishment and maintenance of farms” and the secondary objective to: “create parks, acquire greenbelts and assemble land for urban and industrial uses”.

Currently the ALR is approximately 4.8 million hectares and has not fluctuated significantly from this number since its establishment.³⁵

BC Fruit Growers Association: Provides a number of services and products (products often available at a fee) to tree fruit growers.

Okanagan Plant Improvement Company (PICO) – PICO provides nursery plant material to growers and nurseries. It also markets new varieties from the breeding program at PARC as well as private varieties such as “Ambrosia”.¹

Deer Fencing Program

Deer Fencing is used to protect fruit trees and grapevines from damage caused by browsing ungulates, especially deer. The Deer Fencing Program provides a grant to partially off-set the expense of installing Deer Fencing. The Deer Fencing Program is administered by the BCFGGA. BCFGGA members receive a reduction in the administration fee for the program.⁷

BC Good Agriculture Practices (BCGAP) –

An industry initiative with:

“Long term goals: to produce apples and pears with out using synthetic chemical insecticides or fungicides between blossom and harvest and to reduce pesticide applications on soft fruits”¹⁵

“Short term goals – to be Integrated Fruit Production (IFP) ready by 2003 and to be using IFP by 2005. IFP is an internationally recognized fruit quality standard.”¹⁵

The Canadian On-Farm Food Safety (COFFS) Program – is a producer-led, industry/government partnership that provides national commodity groups with the opportunity to develop the strategies and the necessary tools enhance food safety initiatives.¹⁹

BC Investment Agriculture Foundation -

An industry led initiative which invests government funds in projects which will help agriculture industries continue to successfully compete in world markets. The IAF has taken over the Orchard Renovation Program from the Okanagan Valley Tree Fruit Authority and will continue to run the program until March 31, 2006.⁸

Tree Fruit Industry Development Fund - managed by the BC Fruit Growers Association provides matching funds for research and development projects.¹

Useful Publications for Growers

Tree Fruit Production Guide for Commercial Growers 2004 Edition – BC Ministry of Agriculture, Food and Fisheries in partnership with BC Fruit Growers Association.

Tree Fruit Variety Information – PICO

Farm Practices in BC Reference Guide - Tree Fruit – BC Ministry of Agriculture, Food and Fisheries

Okanagan and Southern Interior Tree Fruit Blossom & Harvest Schedule – BC Ministry of Agriculture, Food and Fisheries

Enterprise Budgets Planning for Profit – BC Ministry of Agriculture, Food and Fisheries

Integrated Fruit Production Guidelines for Apple Orchards in Canada – Canadian Horticulture Council

Organic Tree Fruit Production Guide – Certified Organic Association of BC

Conclusions

- In order to compete in the world market, it has been necessary for fruit growers to change to modern methods of fruit production²⁶
- There will continue to be new opportunities for BC apple producers with the adoption of new technologies and varieties. With the loss of the replant program after 2005, growers will need to continue to plant new varieties as they become available without that financial incentive.
- Growers will need to produce high quality fruit to remain competitive with other producing areas of the world.
- Growers and packers will need to utilize as many markets as possible and certification of fruit production and packing will soon be a reality. For example, BC Organic association or BC Good Agriculture Practices.
- Promotion for BC fruit will continue to be important
- Support for the Sterile Insect Release Program is an integral part of the industry strategy and will continue to be required.
- Imports of apples and pears into Canada are more than double our exports to other countries which puts our growers under a price disadvantage.

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Appendices:

Appendix A1: Apple and Pear Markets

Table A1: Canadian Apple Market Estimate 2002/2003 Season (metric tons)

| | Production | Imports | Supply/Utilization | Exports | Fresh Domestic Consumption | Processed |
|----------------|---------------------------------|---------|--------------------|---------|----------------------------|-----------|
| In Metric Tons | 510,000 (World = 45,000,000) | 130,000 | 640,000 | 58,000 | 382,000 | 200,000 |

Source: USDA

Table A2: Canada's Pear Market (in Metric Tons)

| | Production | Imports | Supply/Utilization | Exports | Fresh Domestic Consumption | Processed |
|-------|------------|----------|--------------------|---------|----------------------------|-----------|
| 99/00 | 17,419 | 70,670 | 88,089 | 779 | 82,610 | 4,700 |
| 00/01 | 15,072 ↓ | 72,009 ↑ | 87,081 ↓ | 765 ↓ | 82,116 ↓ | 4,500 ↓ |
| 01/02 | 17,000 ↑ | 75,000 ↑ | 92,000 ↑ | 500 ↓ | 86,900 ↑ | 4,600 ↑ |
| 02/03 | 17,500 ↑ | 77,000 ↑ | 94,500 ↑ | 500 -- | 89,000 ↑ | 5,000 ↑ |

Source: USDA. World Apple Situation²⁴

Appendix B: Apple and Pear Imports and Exports

Table B1: 2003 Apple and Pear Imports by Country of Origin (in \$CAN)

| Country | Apples | Pears |
|--------------------|-------------------|-------------------|
| United States | 51,923,484 | 14,790,695 |
| China | 746,557 | 6,996,146 |
| New Zealand | 6,213,209 | 113,390 |
| Chile | 2,027,847 | 281,171 |
| Argentina | 24,585 | 350,560 |
| Switzerland | 18,966 | 0 |
| Canada | 20,011 | 910 |
| Thailand | 3,223 | 0 |
| India | 800 | 0 |
| Vietnam | 1,035 | 0 |
| Dominican Republic | 167 | 0 |
| Korea | 0 | 266,404 |
| Australia | 0 | 2,699,833 |
| Total | 60,979,884 | 25,499,109 |

Source: BC Stats – Ministry of Management Services

Table B2: 2003 Apple, Pear and Quince Exports to Destination Country (in \$CAN)

| Country | Apples | Pears and Quinces |
|----------------------|-------------------|-------------------|
| United States | 25,858,998 | 54,823 |
| Mexico | 6,156,160 | 0 |
| United Kingdom | 99,503 | 0 |
| Taiwan | 402,969 | 31,285 |
| El Salvador | 17,863 | 0 |
| Dominican Republic | 14,622 | 0 |
| South Africa | 3609 | 0 |
| Indonesia | 93,858 | 0 |
| Costa Rica | 77,222 | 0 |
| Columbia | 51,138 | 0 |
| Guatemala | 48,284 | 0 |
| Iceland | 24,262 | 0 |
| Netherlands | 0 | 40,283 |
| Hong Kong | 0 | 37,102 |
| Thailand | 0 | 8051 |
| Norway | 0 | 62,814 |
| Total Exports | 32,848,488 | 234,358 |

Source: BC Stats – Ministry of Management Services

Appendix C: Regional Replant Data

Table C1: Replant Regional Report: Apples: 1991-2001

| | North | Central | South | Creston | Total Acres |
|---------------------|-------------|------------|-------------|------------|-------------|
| Ambrosia | 70 | 36 | 71 | 1 | 178 |
| Braeburn | 45 | 15 | 82 | 0 | 143 |
| Fuji | 224 | 49 | 283 | 0 | 555 |
| Gala | 1023 | 287 | 628 | 68 | 2005 |
| Golden | 48 | 6 | 13 | 4 | 71 |
| Granny Smith | 60 | 13 | 21 | 0 | 95 |
| Spartan | 230 | 43 | 24 | 52 | 349 |
| Sunrise | 38 | 26 | 46 | 0 | 110 |
| Other | 446 | 99 | 177 | 80 | 802 |
| | 2184 | 573 | 1346 | 206 | 4309 |

Source: Investment Agriculture Foundation: Orchard Renovation Replant Program

Table C2: Replant Regional Report: Pears: 1991-2001

| | North | Central | South | Creston | Total Acres |
|-----------------|-----------|-----------|-----------|----------|-------------|
| Anjou | 13 | 2 | 4 | 2 | 20 |
| Bartlett | 21 | 5 | 9 | 5 | 40 |
| Other | 13 | 7 | 24 | 1 | 46 |
| | 47 | 14 | 37 | 8 | 106 |

Source: Investment Agriculture Foundation: Orchard Renovation Replant Program

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