

“Grow BC”

A Guide to BC's Agriculture Resources

Produced By
The British Columbia
Agriculture in the Classroom Foundation
1767 Angus Campbell Road
Abbotsford, British Columbia
V3G 2M3
P 604.556.3088
F 604.556.3030

www.aitc.ca/bc

Copyright 2014

All rights reserved. No part of this resource covered by the copyrights hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical—without prior written permission of the publisher. A limited copyright is granted for the purchasing teacher who may photocopy the blackline masters for his/her own classroom use. These pages may be reproduced for their intended use only.

Produced by:

British Columbia Agriculture in the Classroom Foundation

1767 Angus Campbell Road

Abbotsford, BC V3G 2M3

Phone: (604) 556-3088

Fax: (604) 556-3030

Funded by:



Ministry of
Agriculture
and Lands



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada

Printed and bound in Canada

National Library of Canada Cataloguing in Publication Data

Main entry under title:

Grow BC : a guide to BC's agriculture resources

Rev. ed.

Previously published: Grow BC, a teacher's handbook on BC's agriculture, fish and food business. Pacific Edge Publishing, 1998.

ISBN 0-7726-4871-9

1. Agriculture - Study and teaching (Secondary) - British Columbia. 2. Agriculture - Study and teaching (Elementary) - British Columbia. 3. Food industry and trade - Study and teaching (Secondary) - British Columbia. 4. Food industry and trade - Study and teaching (Elementary) - British Columbia. 5. Agriculture - British Columbia. I. British Columbia Agriculture in the Classroom Foundation. II. Title: Grow BC : a teacher's handbook on BC's agriculture, fish and food business.

S451.5.B7G76 2002 630'.71'2711 C2002-960241-6

Acknowledgements

Our Sponsoring Partners

The British Columbia Agriculture in the Classroom Foundation gratefully and sincerely acknowledges the support of the following industry agencies in the development and financial support of this project. This support is sincerely appreciated and contributes to the accuracy and value of this handbook.

Agriculture and Agri-Food Canada
BC Association of Grape Growers
BC Cattlemen's Association
BC Cranberry Growers' Association
BC Goat Breeders' Association
BC Llama and Alpaca Association
BC Ministry of Agriculture and Lands
BC Raspberry Growers' Association
BC Sheep Federation
BC Vegetable Marketing Commission
Horse Council of BC
Peace Country Reindeer Association

BC Asparagus Growers' Association
BC Blueberry Council
BC Christmas Tree Council
BC Fruit Growers' Association
BC Hog Marketing Commission
BC Milk Producers' Association
BC Mushroom Marketing Board
BC Seed Potato Growers' Association
BC Turkey Marketing Board
Fraser Valley Strawberry Growers' Association
Investment Agriculture Foundation of British Columbia

Content Acknowledgements

There have been many contributors to the development of this handbook. Most notably, many teachers have liberally given their ideas for the map's design, as well as for the content and layout of the handbook.

The British Columbia Ministry of Agriculture and Lands has been very instrumental in developing this project, not only with financial support, but also with the expertise of numerous staff who have provided detailed information on commodities and regions. Their help and devotion to the education of young people is unquestioned.

Information was used from many sources, including:

- BC Dietitians' and Nutritionists' Associations, BC Ministry of Health
- Alberta Agriculture in the Classroom publications
- Canadian Western Agribition Teacher's Handbook

This information was highly valuable and is gratefully acknowledged.

Table of Contents

Preface

Agriculture and Food 6

Introduction

Using This Book in the Education System . . 7

Education Areas 7

How to Use the Information 7

**Agriculture, Fish and Food
in BC Map 9**

**Map of the Agriculture
Regions of British Columbia. 10**

Industry Profile. 11

Industry Significance 15

General Statistics 17

The Beginning 22

Nutrition. 24

**Food Safety and Quality
on the Farm 26**

What is Agriculture? 28

The Commodities

Animal

Beef-Cattle Ranching. 30

Beef-Feedlot Finishing. 32

Bison 34

Chickens. 36

Dairy (Milk). 38

Eggs. 42

Fallow Deer 44

Game Birds. 46

Goats 48

Hogs 50

Horses 52

Llamas 54

Ostrich and Emu. 56

Reindeer 58

Sheep 60

Turkeys 62

Veal 64

Fish

Aquaculture - Fish Farming. 66

Aquaculture - Shellfish 68

Commercial Fishing 70

Plant

Apples 74

Apricots 76

Asparagus 78

Beans 80

Belgian Endive (Witloof). 82

Blueberries 84

Cabbage	86
Canola	88
Carrots	90
Cherries	92
Chinese Vegetables	94
Christmas Trees	96
Corn	98
Cranberries	100
Floriculture	102
Forage	106
Forage Seed	108
Forage (Range)	110
Ginseng	112
Grains	114
Grapes and Wine	116
Greenhouse Vegetables	118
Hazelnuts	120
Herbs	122
Holly	124
Honey	126
Kiwifruit	130
Lettuce	132
Mushrooms	134
Nursery Crops	136
Onions	138
Peaches	140
Pears	142
Peas	144
Plums	146
Potatoes	148
Pumpkins	150
Raspberries	152

Seed Potatoes	154
Strawberries	156
Turfgrass (Sod)	158
Vegetable - Other	160

***The Regions* 163**

North Coast	164
Nechako	167
Peace River North East	170
Cariboo-Central	173
Vancouver Island-Coast	175
Mainland-South Coast	177
Thompson-Okanagan	180
Kootenay	183

***Careers in Agriculture and Food* 185**

The Farm Connection	188
Educational Institutions in BC	189

***Technology* 190**

***Conservation* 191**

***Products of BC* 193**

***Glossary* 197**

***Resources & Contacts* 201**

Preface

Agriculture and Food in BC—What it means to BC students

Food is an essential, basic human need. Early humans were agrarians, having one major activity—to gather or cultivate food for themselves and their families. Early generations of British Columbians worked on farms or had direct connections to farming. The introduction of modern technology to agriculture increased food production and allowed for widespread distribution of food products. Today, our young people are at least one or more generations away from a farm or rural background. Too often, their understanding of where food comes from is minimal.

BC's global economy in many ways hinges on an operational and effective agriculture and food system. Critical food problems in many of the world's countries are testament to the fundamental importance of this fact.

Future decision makers cannot take for granted this fundamental aspect of human life. The British Columbia Agriculture in the Classroom Foundation has an obligation to ensure that teachers have the tools to give students of all ages adequate information with which to gain an understanding and awareness of what sustains them—food.

For more information about materials specific to your classroom contact:

BC Agriculture in the Classroom Foundation

1767 Angus Campbell Road

Abbotsford, BC

V3G 2M3

Phone: 604.556.3088

Fax: 604.556.3030

www.aitc.ca/bc

Introduction

Using This Book in the Education System

This handbook is designed for teachers of all grades. It includes information and ideas for easy integration into existing curriculums.

The intent is to help our children—our future decision-makers—understand the origin of their food. The guide and accompanying map/poster will help teachers incorporate agri-food related topics while teaching their curriculum.

Teachers were directly involved in developing this resource to ensure its effective use in most curriculum areas.

Education Areas

Teachers will find that *Grow BC* and other resources provided by the BC Agriculture in the Classroom Foundation will help them meet learning outcomes provided in the BC Ministry of Education's Integrated Resource Packages.

Elementary: Kindergarten–Grade 7

Science, Language Arts, Social Studies, Math, Health and Career Education, and Fine Arts

Secondary: Grades 8–12

Science, Social Studies, Geography, Home Economics, and Health and Career Education

How To Use the Information

The large colour map/poster shows the range of commodities and products grown in various regions of the province. For space purposes, not all commodities are represented on the map.

The commodity profiles in this handbook generally coincide with the commodities or commodity groupings shown on the map. These profiles give interesting details about each commodity and

contacts for further information. This gives teachers and students some basic information to draw upon in learning about that commodity or in doing more research for detailed projects.

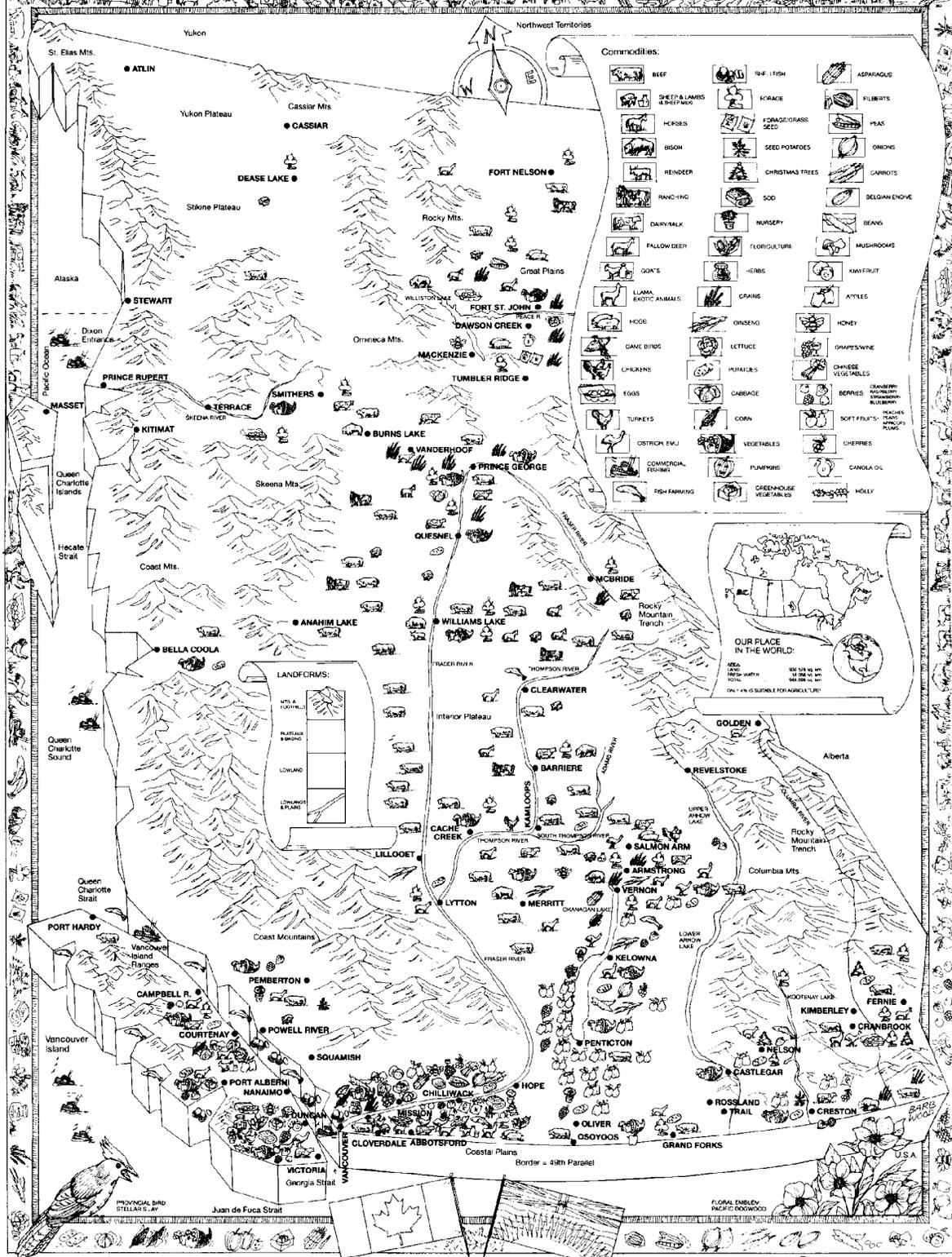
The regional profiles are general descriptions of specific “development” regions of BC. This information is not detailed, but gives teachers and students basics in discussing the agriculture and food industry in communities and its impact on the local economy. These regions do not necessarily match specific agricultural regions or areas of production, but have been used in the past to describe BC's regional characteristics and economic indicators. More information is available from local agencies or government offices for detailed discussion and in-depth projects.

The following suggestions are intended to help teachers effectively use *Grow BC* and accompanying resources to incorporate agriculture themes in their classroom.

- Using a variety of categories including colours, alphabet, holidays, animals. . . ask students to name/draw BC agriculture commodities. Locate commodities on the map—use commodity profiles, regional profiles and the map.
- Have students illustrate the pathway a food product such as ice-cream or pizza travels from the farmer's barn or field to the consumer. Ask them to provide a list of careers that would be involved along the pathway—use commodity profiles and career section.
- Have students create a board game to represent the challenges that face farmers. Choose a commodity and brainstorm all the factors that hinder or help farmers such as: crop failure, new technology, climate conditions, bumper crops, pests.

- Have students present the game to other grades or use as discussion generator—use commodity profiles and career section.
 - Ask students to collect current agriculture media reports to be displayed in the classroom. Articles can be collected under specific themes such as global trade, biology, nutrition, genetics, technology, geography, health, environment, animal welfare, business and marketing, careers, consumer trends. Students should prepare and present their articles to the class—use handbook and map.
 - Have students create a bulletin board on careers in the agriculture and food industry. The following headings could be used: Production, Processing, Transportation and Distribution and Marketing/Retail—use commodity profiles and career section.
 - Have students investigate the climatic and topographic conditions of the Fraser River Delta and explain why it is an ideal location for both agriculture and wildlife habitat.
 - Have students prepare a role-play that examines the current land use issues and concerns of the Fraser River Delta.
 - Have students create a food label and/or marketing campaign for a BC commodity and prepare an oral presentation to the class—use commodity profiles and nutrition section.
 - Have students investigate old and new technology in the agriculture and food industry. Have them create a new tool/technique used in production, processing, distribution or the retail sector of the agriculture and food industry and present it to the class—use commodity profiles and technology section.
 - Have students lead discussions on ethical, economical and environmental issues that relate to technology application—use career and technology section.
 - Have students choose a recipe to prepare for the class. Ask students to research the ingredients that are produced in BC. Have students prepare the food and present an oral and written description about the BC commodities—use commodity profiles.
 - Have students analyze statistical data on agriculture commodities. Ask students to research and compare the top 10 agriculture commodities produced 25 years ago in BC to present day. Have students list the top 10 commodities they think will be popular in 25 years and give reasons why.
 - Have students create a “Trivial Pursuit” game exploring BC’s history, culture and geography with various categories including holiday commodities, recent consumer trends, greenhouse and berry crops, geography.
 - Have students create models illustrating BC’s diverse geographical features and relate it to agriculture production throughout BC using regional profiles
 - Have students brainstorm and make a list of at least 10 reasons why they should shop locally—relate to economics and environmental sustainability
- The following is a list of suggested learning expectations students (K—12) will have the opportunities to attain through active participation:
- knowledge of math and science skills
 - mapping skills
 - graphing skills
 - debating techniques
 - research skills
 - predicting and hypothesizing
 - oral communication skills (for a variety of purposes and specific audiences)
 - statistical data analysis
 - organizing and developing ideas and opinions
 - designing experiments
 - preparing information for demonstration
 - evaluating information

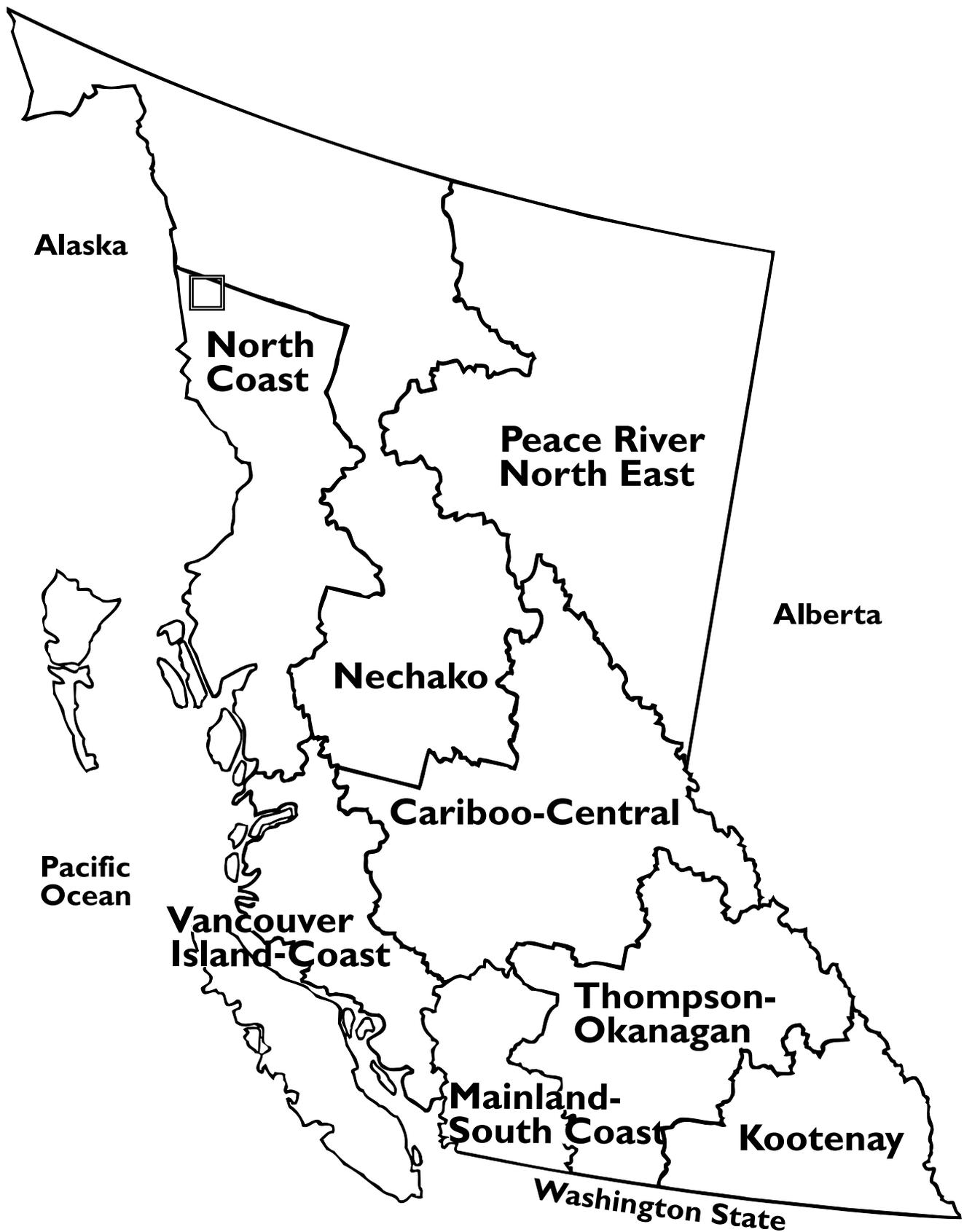
AGRICULTURE FISH & FOOD in B.C.



This project was produced by B.C.'s agriculture and food producers, B.C.'s agribusinesses, in partnership with:



Map of the Agricultural Regions of British Columbia



Industry Profile

Because of the diverse landscape, climatic zones, geographical features and coastline of British Columbia the province boasts a diverse agriculture and food industry.

As a result, BC's major commodities are considered specialty products and are different than those of most other provinces in Canada.

Agriculture

Agriculture is an applied science that uses water, energy (heat and light) as well as soil nutrients to grow plants, raise animals and rear fish for food and other related products. Today's agriculture uses a combination of advanced technology and appropriate agricultural practices to provide fresh quality products to the consumer.

Only 5% of the total provincial land base is considered arable or potentially arable, although up to 30% of the province has some agricultural potential. Farm holdings (19,759 farms in 2011) cover 2.6 million hectares. Of this, 599,674 hectares are in crops and 1.61 million hectares are for pasture or grazing. An estimated 10 million hectares, of which over 8.5 million hectares are Crown lands, are classed as open or forested grazing land, used by the ranching industry.

All arable soils have been mapped and classified on the basis of quality, (Class 1 through Class 7 with Class 1 being the best suited for soil based agriculture and Class 7 being the least suited) and the best classes have been placed within the Agricultural Land Reserve (ALR) to be maintained for agricultural and related purposes. Slightly over 4.7 million hectares of land are in the ALR.

According to the 2011 Census of Agriculture, the average census farm had an area of 132 hectares. However, farm size varies greatly, depending on the

type of activity, from thousands of hectares for grain or ranching enterprises to less than five hectares for mushroom, greenhouse, or poultry production.

Agriculture in British Columbia is distinguished by its diversity. Some of the activities carried out by provincial farmers include: dairy farming, cattle-ranching, and poultry-raising, as well as the growing of tree fruits, vegetables, berries, grapes, mushrooms, bulbs, ornamental flowers and shrubs. Agriculture is the province's third-largest primary industry, behind forestry and mining.

Livestock and Related Products

The largest single component of the agriculture industry, in terms of assets and annual revenues, is the dairy industry. Other livestock industries of key importance are beef cattle and poultry farming. Large dairy herds are concentrated in the Lower Mainland, southeastern Vancouver Island and the North Okanagan-Shuswap area. Smaller concentrations are found near Creston, Smithers, Vanderhoof, Prince George, Dawson Creek and Fort St. John.

Cattle ranching is carried out primarily on the rangelands of the Southern and Central Interior, the Peace River North East region and the Kootenays. However, beef cattle are raised throughout the province on large and small operations. Hog and poultry production remains concentrated near Greater Vancouver and Victoria, although most areas with larger populations have some hog and poultry production as well.

BC produces turkeys, chickens, eggs, sheep and lambs, wool, honey, furs, veal, game products such as bison, fallow deer and reindeer, and many other livestock-related products across the province.

Fruit, Vegetables and Field Crops

Crops of major importance to BC's agriculture in terms of annual value include floriculture and nursery crops, berries and grapes, and tree fruits. The Southern Interior, principally the Okanagan, is well suited to the production of tree fruits and grapes. The cooler and wetter climate of the lower Fraser Valley and southern Vancouver Island favour the production of berries and vegetables. Most of BC's potatoes, vegetables, mushrooms, berries, floriculture, and nursery crops are produced on the rich soils and flat terrain of the Fraser River Delta. This soil is considered to be among the richest soils in Canada. Ninety-five per cent of BC greenhouses are also located in this region. Most of the province's grain and oilseed crops are grown in the Peace River North East region although some grain is also produced in the Kootenay area. The Peace River North East region is an extension of the prairie-like terrain of Alberta and is well suited to grain and oilseed crops because of its topography and climate.

Seafood

The seafood industry is comprised of three principal economic components: commercial fishing, aquaculture and seafood processing. More than 80 species of finfish, shellfish and marine plants are grown, harvested, and marketed by British Columbia's seafood industry. The total value of the BC seafood harvest was \$704 million in 2012, with finished processed products generating an estimated total of more than \$1.1 billion wholesale.

Salmon is one of the most dominant and important commodities of the entire agri-food industry, usually accounting for about 50% of the total value of all BC seafood products. Following salmon are shellfish and groundfish species as well as herring.

The BC seafood industry provides full and part-time employment for 13,900 people. Commercial fishing provides 1,400 jobs, aquaculture contributes 1,700 jobs and seafood processing adds another 2,400 jobs.

Aquaculture

Aquaculture is the farming of finfish, shellfish and plants in marine or fresh water. With its climate,

good water quality and sheltered bays, British Columbia's coastline is well suited for aquaculture. Aquaculture operations can be commercial or non-commercial. Commercial aquaculture involves the raising of species for sale, while non-commercial aquaculture involves raising species for one's own personal use. Aquaculture is a significant contributor to the provincial economy, and most aquaculture jobs are located in coastal communities. Thirty per cent of all fish and shellfish harvested in BC is produced in aquaculture facilities. In 2012, the farm gate value of the salmon, shellfish and trout sectors combined was \$366 million and the wholesale value of processed aquaculture products was \$464 million. Farmed salmon is BC's largest agricultural export.

Salmon farms are primarily located in and around the north-east and west coasts of Vancouver Island. Marine shellfish farms are primarily located on the west coast of Vancouver Island and around the Georgia Basin, with major concentrations in the Baynes Sound, Cortes Island and Okeover Inlet areas. The industry's freshwater trout farms and salmon hatcheries are located all around the province with major concentrations in the Lower Mainland and the Thompson-Okanagan areas.

Aquaculture provides opportunities for many small businesses. Manufacturers of nets, net pens, floats, anchors and other equipment have developed a strong service industry. Other related businesses include the supply of feed, broodstock development, disease management services and specialist consulting services. There are value added industries involved with fish farming such as those involved with transportation, processing and packaging.

British Columbia is the fourth largest producer of farmed salmon in the world after Norway, Chile, and the United Kingdom. The primary salmon species cultured in BC is Atlantic salmon. In 2011, 95% of the total provincial farmed salmon harvest by weight was Atlantic salmon. Pacific salmon species make up the remainder of the production with 5%.

The Pacific oyster and Manila clam are the predominant species of shellfish cultured in BC. Other species farmed in smaller quantities are scallops, mussels and geoduck clams.

Freshwater aquaculture consists of three different types of operations: fish hatcheries, fish ponds and

“u-catch-em” operations. The hatcheries provide the juvenile fish for both the fresh and saltwater fish farms; the ponds produce primarily rainbow trout for retail food market sales; the “u-catch-em” operations are privately-owned recreational trout fee-fishing sites. Other freshwater finfish species cultured in BC are Arctic char, carp and other trout.

Commercial Fishing

Commercial fishing is the fourth largest primary industry in British Columbia after forestry, mining and agriculture. More than 80 different species of finfish, shellfish and plants are harvested commercially. Salmon is again a dominant and important commodity in BC’s commercial fishing sector. Second to the salmon are roe herring, groundfish such as halibut, and shellfish species including sea urchin, geoduck, and crab.

Harvesting is undertaken by vessels using seine or gillnets and by trawling, trolling or trapping. Other harvest methods include diving and hand picking. Many fisheries have become limited entry that provide for year-round harvesting, higher quality

products and increased values to the fishers. Wild shellfish is the most important commercial fishery in terms of value to the harvester. High prices are realized primarily in the geoduck clam, crab and prawn fisheries. Groundfish species account for 68% of the commercial fishery harvest by volume. New and emerging fisheries are being developed to increase diversification of the harvesting sector while providing opportunities for enhancing the value of underutilized species.

Both federal and provincial authorities exercise control over the industry. The Federal Department of Fisheries and Oceans assumes responsibility for the protection and conservation of fisheries. The Aquaculture and Commercial Fisheries Branch of the British Columbia Ministry Agriculture, Food and Fisheries assumes control after the fish are caught and removed from the water.

The BC seafood industry provides full and part-time employment for more than 13,900 people. Seafood processing plants and aquaculture operations support approximately 2,400 and 1,700 jobs respectively. Some 6,435 personal commercial



fishing licenses are issued annually.

The seafood industry operates all over the British Columbia coast. The major concentrations of the over 200 seafood-processing plants are in the Lower Mainland, Vancouver Island and Prince Rupert areas. The fleet, excluding packers and floating processors, is made up of over 6,847 vessels, with about two-thirds of the harvesters operating outside the Lower Mainland.

Seafood Processing

Seafood processing occurs at 275 facilities located throughout the province. These plants are operated by 260 separate companies, many of which operate facilities in more than one area of the province so as to be close to fishing grounds or to distribution centres. Seafood processing occurs in three primary regions of BC—Prince Rupert on the north coast, and Vancouver Island and the Lower Mainland on the south coast. The wholesale value of BC's seafood products was more than \$1.1 billion in 2012. Seafood is BC's number one food export as more than 85% of our fish and seafood products are shipped out of the country. BC seafood processors exported \$903 million worth of fish and seafood products to more than 60 countries in 2013. More than 70% of all shipments are destined for the US and Japan. Seafood products derived from species other than salmon and herring are becoming increasingly important.

Food Processing

The BC food industry plays a significant role in the provincial manufacturing economy. It contributes about \$1.7 billion to the provincial Gross Domestic Product (GDP), and is ranked the third highest among manufacturing industries.

The BC food industry is dominated by a large number of small and medium sized firms, which provide the industry with operational flexibility by responding to shifts in consumer tastes and preferences.

Each firm has less than 500 employees. The diversity of BC's primary production—200 major agricultural and 73 seafood commodities—provides a broad foundation. This enables the BC food industry to specialize and produce a wide selection of

products for domestic and export markets.

The fish, dairy, poultry, meat and beverage sectors have historically represented the largest share of the total value of manufactured shipments of the BC food industry. Other smaller sectors are contributing an increasing proportion with the production of specialty food products.

57% of all food processing firms are located in the Greater Vancouver area and the nearby Fraser Valley. Another 37% of food processing firms are located in the Okanagan Valley and the coastal regions. The majority of food processors are located in close proximity to the population and raw material supplies and are well-positioned geographically to benefit from new marketing opportunities in the U.S. and Pacific Rim markets.

At about 60% of the value of food production, raw materials and supplies (including packaging) comprise the most significant component of input cost in the food industry. The wages and salaries category averages about 12%, the energy category 3%, and the rest 25%.

Labour productivity in the BC food industry is generally higher than in the Canadian food industry and substantially higher than in most manufacturing industries in BC. The hourly wage rate for labour in the BC food industry is higher by approximately 15% compared to Canada.

The BC food industry is well positioned to substantially increase and exploit its domestic and export market's potential. Such potential is due to its excellent transportation and communication infrastructure; established supporting industries; abundant energy, water and other natural resources; a diversified agricultural base; and its strategic location on the Pacific Rim—one of the fastest growing market regions in the world. It can also play an important role in the movement of commodity and food products from other parts of Canada to the world market.

Industry Significance

Agriculture and food production are important economic contributors to the British Columbia economy. There are many people in BC involved in producing food and non-food products for both local and global markets.

Agriculture, Fish and Food Production

- British Columbia's agricultural products generate receipts to farmers of more than \$2.8 billion each year.
- More than 200 different commodities are produced on about 20,000 agricultural farms.
- The annual ocean fish catch is valued at over \$811 million.
- Aquaculture production is about \$510 million yearly.
- Aquaculture farms grow more than 10 different species of fish and marine plants.
- Since 1984, the number of salmon farms operating on the BC coast has increased from 10 to about 121
- Salmon is one of the most dominant and important products of BC's entire agriculture and food industry.

Food Processing and Retail Sales

- Food retail sales in British Columbia are estimated to be over \$15.7 billion each year.
- Some 1516 food processors in BC take the raw product and produce a wide variety of foods and beverages for the marketplace.
- The activities of processing, transporting, storage, distribution and retailing increase the value of BC's primary food products by about 3 to 4 times, to about \$8 billion each year.
- The food industry generates about 330,000 jobs for British Columbians, this constitutes, nearly 17% of the employed labour force of

the province. The agriculture labour force is more than just farmers. Truckers, equipment dealers, machinery manufacturers, scientists, carton/package suppliers, restaurant workers, food store workers and many others are all involved in the food industry.

BC's Products are Sold to Other Provinces and Countries

- Agricultural and fish products valued at over \$2.7 billion are exported to over 140 countries around the world.

Taking Care of British Columbia's Land and Water...Everybody's Responsibility

We have a total of 89.3 million hectares of land in BC's borders (provincial land area). That's larger than many countries in the world. But less than 5% of that is suited to agricultural production. We must make sure we make the best use of every available hectare and ensure its' preservation to produce food and other agricultural products for future generations.

British Columbia's land suited to agriculture and food production is included in the Agricultural Land Reserve (ALR). This includes land that is privately owned, and owned by the government (Crown land). The Agricultural Land Commission ensures that land best suited to agriculture may not be developed or used for other purposes, and therefore, provides some guarantee that it will be available for food production for future generations.

Farmers today are using advanced techniques to make the best use of their land by:

- Using fewer chemicals to control weeds and pests by using a program called Integrated Pest Management

- Using controlled methods to apply exact amounts of fertilizers needed to grow healthy crops and thus reducing waste.
- Formulating feed for all types of livestock and fish to ensure proper growth and reduced waste.

Computers are becoming more common as a tool to not only operate sophisticated machines and livestock feeding equipment, but also to help farmers manage their businesses and make marketing decisions.

These sophisticated, modern techniques being used by today's farmers and processors are giving each of us some of the best and highest quality food and agricultural products in the world.

General Statistics

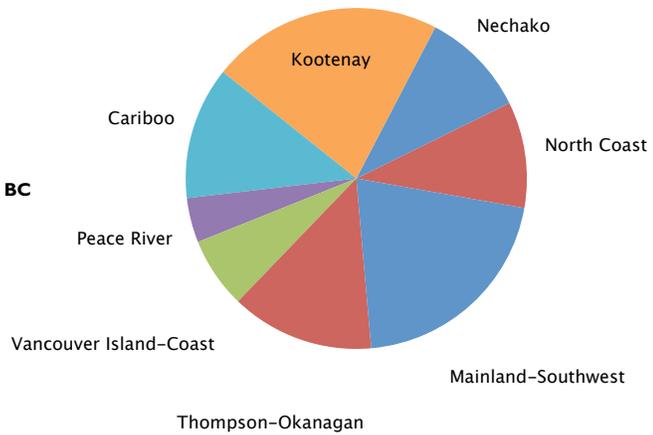
Based on 2011 Census Data

Total population of British Columbia 4,113,487

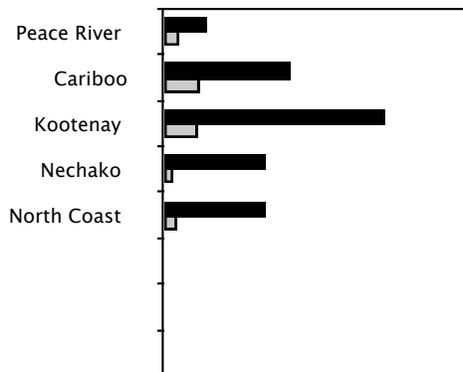
Total Land Area (hectares)



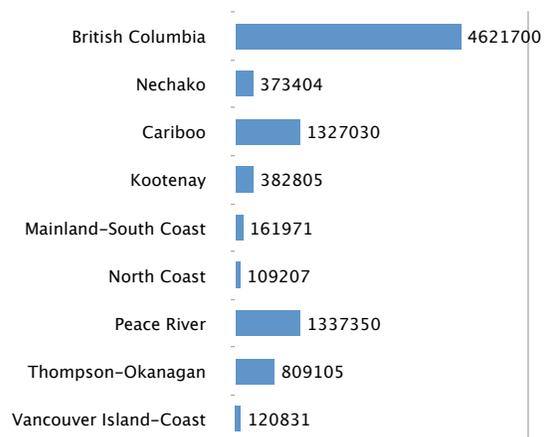
Total Land Area (by region)



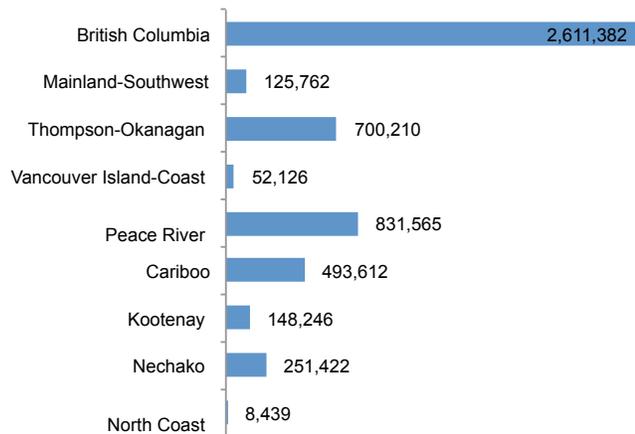
Total Land & Population (by region)



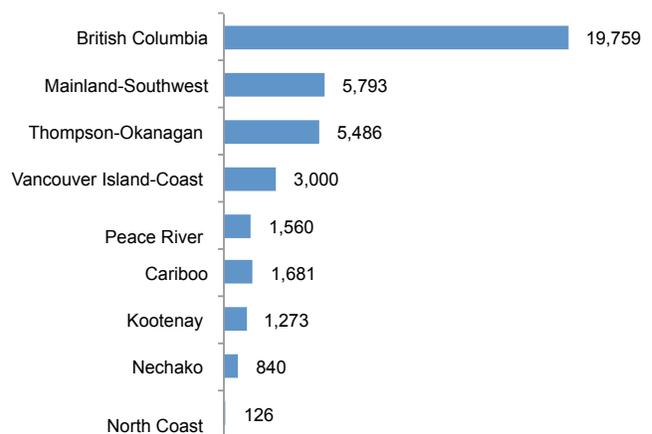
Total Land in ALR (hectares by region)



Total Area of Farms (hectares)



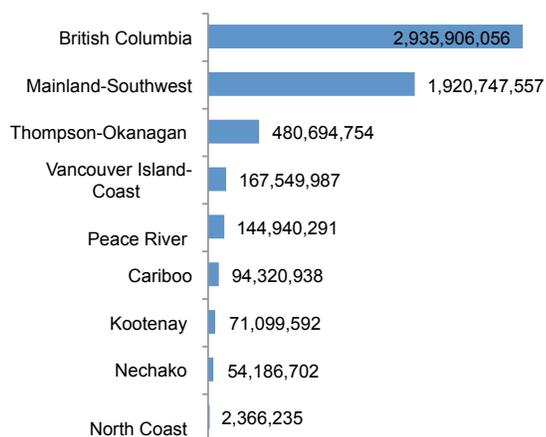
Total Number of Farms



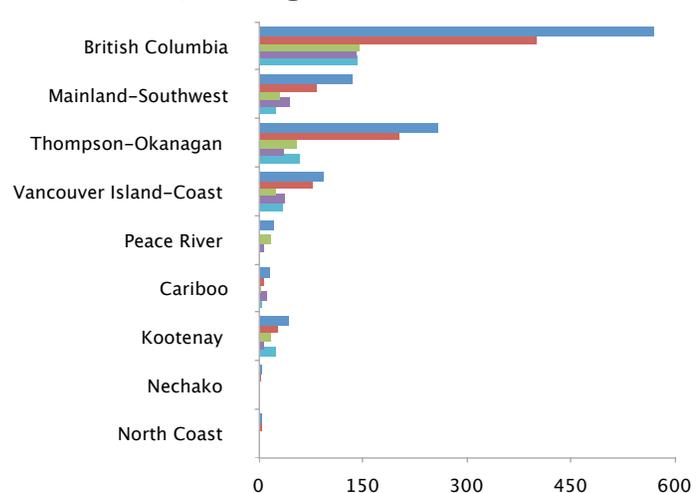
Classification by Total Gross Farm Receipts

	Total # of farms	Under \$10,000	\$10,000 - \$24,999	\$25,000 - \$49,999	\$50,000 - \$99,999	\$100,000 - \$249,999	\$250,000 - \$499,999	\$500,000 - \$999,999	\$1,000,000 - \$1,999,999	\$2,000,000 and Over
British Columbia	19,844	9,466	3,194	2,037	1,592	1,536	889	618	328	184
Nechako	886	360	176	133	102	66	39	6	1	3
Cariboo	1,781	785	395	225	175	127	49	12	10	3
Kootenay	1,349	736	257	119	102	89	28	11	4	3
Lower Mainland-Southwest	5,410	2,299	650	407	370	472	436	400	233	143
North Coast	134	76	31	13	11	1	2	-	-	-
Peace River	1,729	620	353	257	197	189	75	24	9	5
Thompson-Okanagan	5,700	2,756	913	665	512	481	196	116	41	20
Vancouver Island-Coast	2,855	1,834	419	218	123	111	64	49	30	7

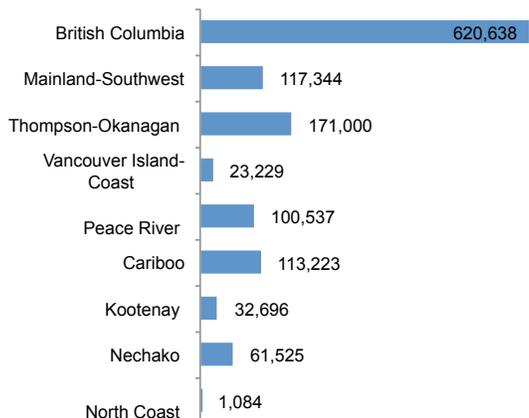
Total Gross Farm Receipts (\$)



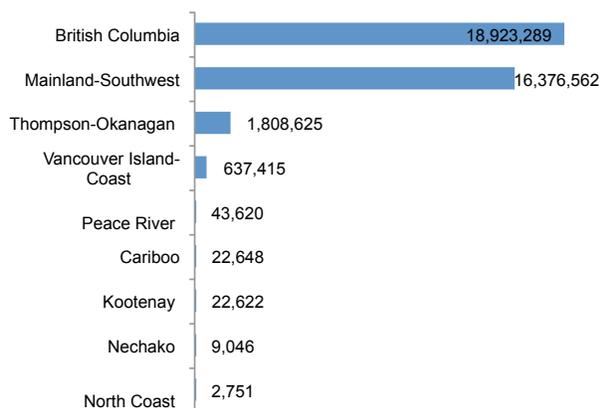
Farms classified by Certified Organic Products



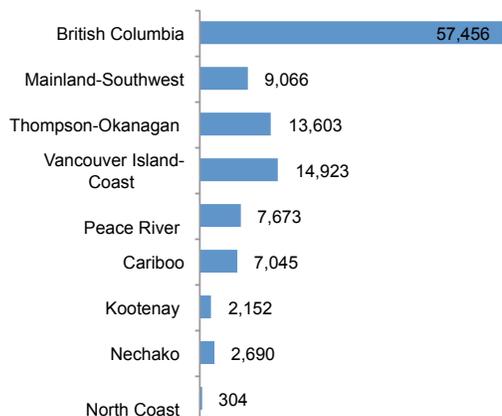
Total number of Cattle and Calves



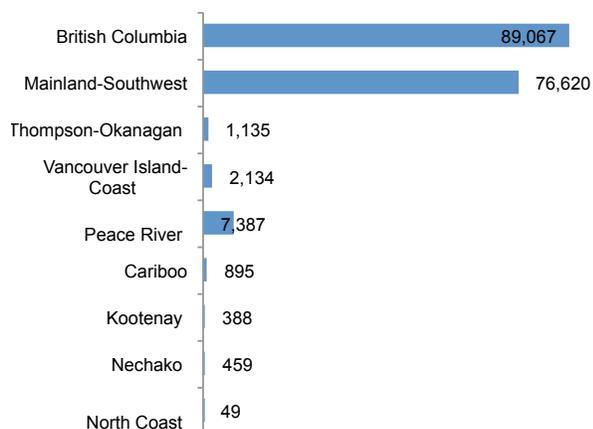
Total number of Hens and Chickens



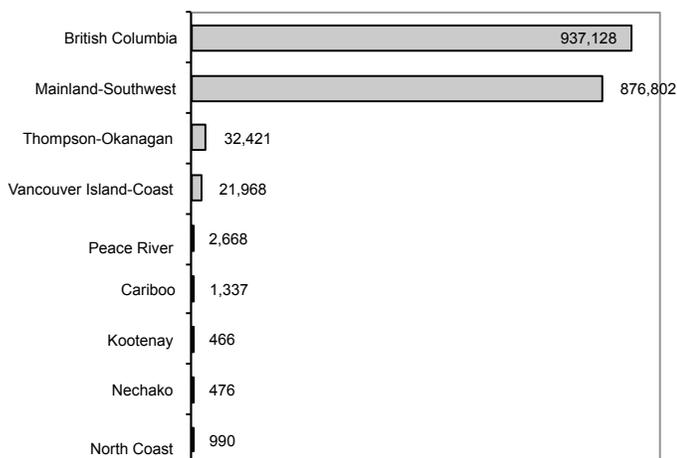
Total number of Sheep and Lambs



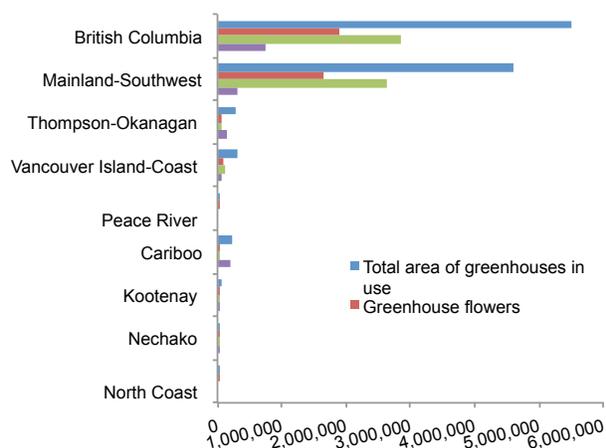
Total number of Pigs



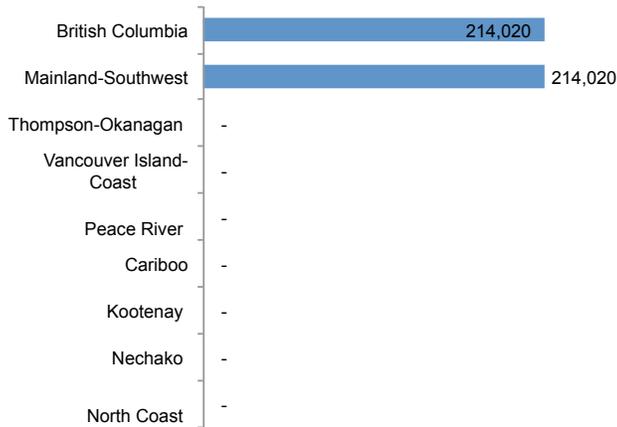
Total number of Turkeys



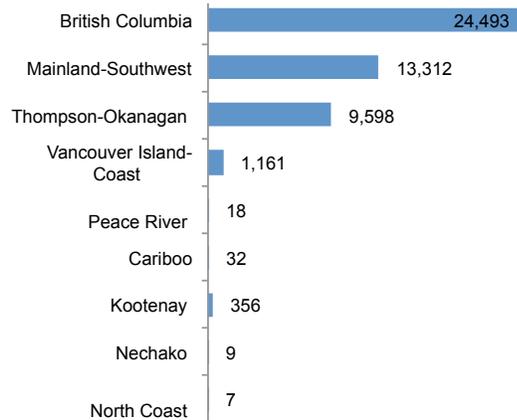
Total Greenhouse Production (m²)



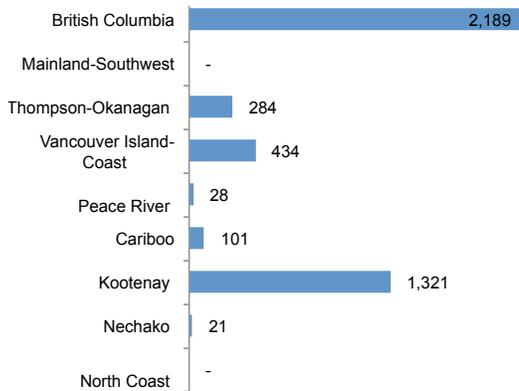
Total Mushroom Production (m²)



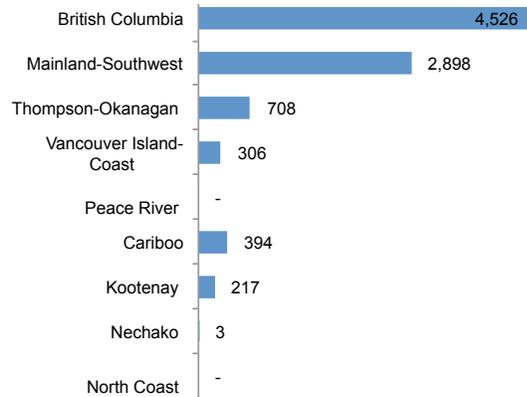
Total Area of Fruit, Berry and Nuts (hectares)



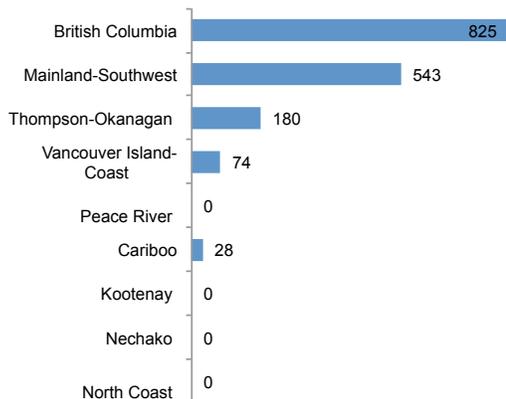
Total Area of Christmas Trees Grown for Sale (hectares)



Total Area of Nursery Products Grown for Sale (hectares)



Total Area of Sod Under Cultivation (hectares)



Total Area of Berries, Grapes, Tree Fruits and Nuts (hectares)

	British Columbia	Nechako	Cariboo	Kootenay	Lower Mainland-Southwest	North Coast	Peace River	Thompson-Okanagan	Vancouver Island-Coast
Total	24,493	9	32	356	13,312	7	18	9,598	1161
Strawberries	363	1	1	12	254	0	2	34	59
Raspberries	1,746	4	3	10	1,603	1	3	33	89
Grapes	3,711	x	x	50	107	x	-	3,331	223
Blueberries	8,442	1	6	7	8,192	1	0	30	205
Cranberries	2,634	x	x	0	2,553	0	x	x	81
Other berries	876	1	15	22	439	x	x	178	221
Apples	3,902	1	5	48	79	x	x	3,567	202
Pears	260	x	x	6	31	0	0	197	26
Plums	190	x	0	6	22	x	0	134	28
Cherries (sweet)	1,690	0	x	186	21	x	x	1,463	20
Cherries (sour)	37	x	0	x	4	0	0	31	2
Peaches	504	0	x	x	5	0	0	494	5
Apricots	92	0	x	x	1	0	0	90	1

Total Vegetables Grown for Harvest (hectares)

	British Columbia	Nechako	Cariboo	Kootenay	Lower Mainland-Southwest	North Coast	Peace River	Thompson-Okanagan	Vancouver Island-Coast
Total	6,952	21	90	157	4,711	11	16	886	700
Asparagus	71	x	x	x	5	x	x	50	16
Beets	158	1	2	5	106	0	1	21	22
Broccoli	332	1	1	2	305	0	0	6	17
Brussels Sprouts	309	0	x	x	299	x	x	3	7
Cabbage	271	1	4	2	212	0	0	6	46
Carrots	296	1	11	9	189	1	1	37	47
Cauliflower	71	0	1	2	53	0	0	4	11
Celery	8	x	0	x	3	x	x	2	3
Chinese Cabbage	157	x	0	x	154	x	x	1	2
Cucumbers	103	0	2	3	61	0	1	23	13
Dry Onions	123	1	1	4	8	0	0	92	17
Green Onions and Shallots	53	0	0	x	32	x	0	14	7
Green Beans	748	0	2	2	704	0	0	16	24
Green Peas	312	1	3	3	272	2	6	10	15
Lettuce	238	2	2	3	184	0	0	9	38
Peppers	148	x	x	4	59	0	x	74	11
Pumpkins	368	x	1	x	263	x	x	53	51
Radishes	41	0	0	x	33	x	0	4	4
Spinach	68	0	1	2	51	x	x	6	8
Squash & Zucchini	413	1	2	6	288	1	0	63	52
Sweet Corn	1,258	0	x	14	947	x	1	147	149
Tomatoes	135	1	2	4	16	1	0	88	23
Turnips and Rutabagas	117	4	1	2	102	x	x	3	5
Other Vegetables	687	6	9	37	366	2	2	153	112

The Beginning

BC's Recorded Agriculture Industry

Fur traders introduced agriculture to British Columbia in the first quarter of the 19th century in order to reduce their dependence on distant and costly sources of food. Grain, vegetables and fruit crops were grown, and dairy cattle and horses were kept at many trading posts. Demand for agricultural products increased considerably with the influx of gold seekers. Commercial farming and interior cattle ranching began during the mining booms. Activity expanded with the settlement of lands opened by the railways. Irrigation projects in the Okanagan and Kootenays, and land reclamation programs in the Lower Fraser Valley and at Creston, provided rich new productive land. After the turn of the century settlers planted grain and seed crops in the Peace River North East region.

All of this activity, needed some structure, therefore in 1873, a portfolio for agriculture was included with that of the Minister of Finance. But it was not until 18 years later, in 1891, that the government appointed its first permanent official to an agricultural position. The "First Annual Report" of the Department of Agriculture (for 1891) was printed in 1892.

In 1891, the Census for Canada placed the total population of British Columbia at 98,173, with an estimated farm population of 22,000 located on 6,500 farms. Although these farms were scattered over various areas, most were located on Vancouver Island, the Lower Mainland and in the Okanagan and Kootenay Valleys. Today, there are about 19,759 census farms in BC, generating over \$2.9 billion in revenues.

As districts became organized farmers came together with The Farmer's Institute movement. The Department of Agriculture used a number

of prominent local people to deliver addresses on important subjects. This was the beginning of agricultural extension—an advisory service for farmers.

Today the government operates a Ministry of Agriculture and Lands, with about 34 legislative acts and about 360 employees. It supports the industry on the production, marketing and processing of BC products.



Nutrition

Ideas for Educators, Dietitians, Nutritionists and Food Service Professionals

- Talk and write about the availability and advantages of local foods.
- Incorporate local foods into menus and vending machines at workplaces, schools, day cares, and other places where food is served.
- Serve BC foods at meetings and conferences.
- Use examples of BC foods in counselling advice and nutrition education materials.
- Feature BC foods in posters and presentations.
- Explore options of community supported agriculture, food co-ops and buying clubs that promote BC foods.
- Encourage local restaurants to use local foods.
- Develop policies that support local food supply.
- Work with suppliers to

ensure the availability of BC foods.

- Have a seasonal menu, allowing for flexibility in substitutions of foods in season.
- When seasonal foods are limited, choose frozen, canned or dried BC food products.
- Advocate for more farmer's markets and community gardens.
- Support the agricultural land reserve and other policies the promote, support and protect the local food supply.

Ideas for Consumers

- Ask grocery managers to stock local BC foods.
 - Talk to grocers about posting signs that identify where the food is from. Tell them that you want to buy BC foods.
 - Instead of imported foods, choose BC foods.
 - Explore the taste of BC foods. For example, BC produces many varieties of pears, apples and potatoes.
- Look for:

- BC Kiwi fruit as an alternative to citrus fruits.
- BC Apples and Pears as an alternative to imported apples and pears.
- BC Peaches/Tree fruits as an alternative to bananas
- BC Hazelnuts as an alternative to almonds
- BC Apple, Cranberry or Blueberry Juice as an alternative to orange juice.

BC produces products within each of the four major food groups recognized by Canada's Food Guide for Healthy Eating.

Choose from a variety of food groups every day.



Vegetables and Fruit

VEGETABLES

Asparagus
Beans
Beets
Broccoli
Brussels sprouts
Cabbage
Carrots
Cauliflower
Celery
Chinese vegetables
 Bok choy
 Gai lan
 Lo bok
 Snow peas
 Sui choy
Cilantro
Corn
Cucumber
Eggplant
Fennel
Green onions
Leeks
Lettuce
Mushrooms
Onions
Parsley
Parsnips
Peas
Peppers
Potatoes
Rutabagas
Spinach
Sprouts
 Alfalfa
 Bean
 Radish
Squash
Summer

Winter
Pumpkin
Tomatoes
Watercress

FRUIT

Apples
Apricots
Berries
Cherries
Cantaloupes and other
muskmelons
Grapes
Kiwis
Nectarines
Peaches
Pears
Plums
Prunes
Rhubarb
Watermelons



Milk Products

MILK

Skim
1%
2%
Homogenized
Goat milk
Lactose reduced milk
Skim milk powder

CHEESE

Cheddar
Colby
Edam

Feta
Farmer's
Goat milk cheese
Cheddar
Feta
Gouda
Mozzarella
Gouda
Monterey jack
Mozzarella
Parmesan
Sheep milk cheese
Brie
Feta
Unripened cheese
Cottage cheese
Quark
Ricotta

CULTURED PRODUCTS

Acidophilus milk
Buttermilk
Yogurt

FROZEN DESSERTS

Frozen yogurt
Ice cream
Ice milk



Meat and Alternatives

LEGUMES

Lentils
Split peas

FISH

Cod
Halibut
Ling cod
Perch
Rockfish
Salmon
Snapper
Sole
Trout

SEAFOOD

Clams
Crabs
Oysters
Prawns
Shrimp

POULTRY

Chicken
Duck
Goose
Turkey

MEAT

Beef
Lamb
Pork
Rabbit
Veal

FARMED GAME

Bison
Deer
Reindeer

EGGS

NUTS

Filberts/Hazelnuts



Grain Products

FLOUR

Corn
Graham
Oat
Roti
Rye
Triticale
Wheat
Whole wheat

BREAD

Bagels
Buns
Pita
Rolls

FLAT BREAD

Crackers
Crispbread
Roti/Chapati
Tortillas

PASTA

Lasagna
Macaroni
Noodles
Spaghetti

OTHER GRAIN PRODUCTS

Barley
Cornmeal
Muffins
Oatmeal

Food Safety and Quality on the Farm

Is our food safe to eat?

The farmers in British Columbia are subject to both federal and provincial laws that require them to produce raw food products (of animal and plant origin) that are of the highest quality and are safe for human consumption.

Are there on farm controls to ensure safe food?

The food we eat is subject to rigorous Canadian inspection standards for food safety. Governments, both federal and provincial, through their legislation and activities ensure that food remains safe to eat. Through regular programs, foods are monitored for chemical (i.e. pesticides and antibiotics), physical (ie. glass) and biological (i.e. bacterial) hazards. In the dairy industry for example, every farm is inspected and certified to meet food safety standards before milk can be produced for sale.

Farmers recognize that they must meet the highest production standards—for both safety and quality—to meet public demand. For that reason, Canadian farmer associations, in close collaboration with government and local farmer associations, are dedicated to developing national quality assurance programs using standards created under the HACCP (Hazard Analysis Critical Control Point) model. To be part of a HACCP program, farmers, food processors, transporters (everyone handling food) and their practices will be regularly monitored to meet recognized standards and guidelines.

Who is involved in keeping food safe and of high quality?

- Farmers who produce the food—anyone who harvests crops or feeds animals.
- Service people that support every aspect of

the farming, processing and retail industry. In the farming community that would include: veterinarians, equipment suppliers, nutritionists (animal and human), feed and fertilizer service representatives, researchers, auditors, etc.

- Drivers who transport the food from the farm to the processors, brokers, and stores.
- Processing plant workers who manufacture the raw food components into such things as bagged salad, pizza, chocolate milk or hamburger patties.
- Retailers and restaurant workers who cook and serve food.
- Consumers who keep food safe by practicing proper hygiene whenever preparing and serving food.

How can consumers be part of keeping food safe and of high quality?

Once food is purchased it is up to consumers to continue with the safe food handling practices already followed by the industry.

Keep foods cold.

- Chill or refrigerate food promptly. All meat, milk products and perishables should be stored in the refrigerator.
- Avoid leaving perishables exposed to warm temperatures or sunlight.
- Refrigeration temperatures should be below 4°C.

Cleanliness and food handling.

- Thoroughly wash hands, utensils, cutting boards and work surfaces before, during and after handling raw meat, fish or poultry.
- Thoroughly wash fresh produce (fruits and

vegetables) under running water to remove dirt and residue.

- Scrub produce that has firm surfaces such as oranges, melons, potatoes and carrots.
- Cut away any damaged or bruised areas on produce as bacteria can thrive in these places.

Additional Information

- Canadian Partnership For Consumer Food Safety Education
<http://www.canfightbac.org/english/indexe.shtml>
- Agriculture in the Classroom links across Canada, <http://www.aipc.ca/>

Careers

There are many careers connected to on-farm food safety with the following representing only a sample:

- Farm manager/owner/herds person/worker
- Quality control officer/supervisor
/manager/advisor
- Quality Assurance Program/trainer
- Safety/Quality Auditor/Inspector
- On-Farm Food Quality Commodity Program Coordinator (provincial and national level)
- Veterinarian
- Plant/Animal/Food scientist
- Nutritionist (animal and human)
- Laboratory technician

What is Agriculture



Agriculture is another word for farming.

What is farming?

Farming is using land or water to grow crops and raise animals, birds or fish for food and other products.

What are crops?

When food plants are grown in large amounts they are called crops. Food plants can be raised to feed the animals on the farm or they can be raised to make into food for us to eat.

- Examples of food plants for animals are corn and grass.
- Examples of food crops for people are strawberries, carrots and cucumbers.



What animals, birds and fish give us food and other products?

Some types of cows are raised to give us milk—these are called dairy cows.

Some types of cows are raised to give us meat and leather—these are called beef cows.

Chickens can be raised for eggs or meat.

Sheep can be raised for their wool or their meat.

What is a farm?

Farming takes place on large areas of land or water called farms. Farms on land will have fields for crops and large buildings called barns to house the animals or birds. Farms on water will have large pens to hold the fish.

What is the agriculture industry?

When you put together all of the people in all of the businesses that work to bring us safe food to eat then you have the agriculture industry.



Created by: BC Agriculture in the Classroom Foundation 

The Commodities

The following section gives interesting facts about each of the major commodities or groups of commodities produced in British Columbia. This is only a partial list of all the commodities grown in BC. It was grouped in this way simply for space considerations. For more details on each, contact the agencies noted.



Animal

Meat

Dairy

Poultry



Fish

Fish Farming

Shellfish

Commercial Fishing



Plant

Fruits

Vegetables

Nuts

Flowers

Grains