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# Careers in Agriculture and Food

Agriculture offers countless career opportunities. The agri-food industry encompasses production, processing and distribution systems; a whole network of industries that produce supplies for agricultural production, financial agencies, researchers, inspectors, regulators and advisors; and a whole range of marketers. Each of the commodity profiles in this handbook list a number of occupations under the heading, “Who’s involved in producing it?”. The following list is not comprehensive, but does give an indication of the great variety of jobs that are involved between the farmer’s field or barn and the consumer.

## **Suppliers**

Agriculture pilot (aerial applicator)  
Artificial inseminator  
Bank manager  
Boat builder  
Building supplies sales representative  
Carpenter (construction)  
Custom applicator (fertilizer, pesticide)  
Farm accountant  
Farm equipment and supplies sales representative  
Farm machinery mechanic  
Farrier (horseshoer)  
Feed laboratory technician  
Feed miller  
Feed transporter  
Fertilizer/chemical sales representative  
Fish net manufacturer  
Heating and ventilation equipment sales representative  
Hydroponics technician  
Irrigator  
Lab technician (seed tester)  
Land appraiser/assessor

Loans officer/credit officer  
Management consultant

## **Researchers, Advisors**

Agricultural economist  
Agricultural engineer  
Agricultural land use planner  
Agronomist/plant scientist  
Anatomist  
Animal health technologist  
Animal scientist  
Animal standards coordinator  
Architect/draftsperson (building and landscape)  
Bacteriologist  
Biochemist  
Biologist  
Bio meteorologist  
Botanist  
Cell biologist  
Chemist  
Climatologist  
Clinical or community dietician  
Crop specialist  
Dairy herd improvement consultant  
District Agriculturist/horticulturist  
Ecologist  
Entomologist  
Environmental biologist  
Environmental lawyer  
Environmental planning analyst  
First nations resource expert  
Food or flavour chemist  
Food scientist  
Geneticist  
Habitat restoration expert  
Health and wellness consultant  
Horticulturalist

Human or animal nutritional scientist  
Hydrologist  
Interior designer  
International agriculture officer  
International trade manager  
Landscape designer  
Marine biologist  
Medicinal plant specialist  
Microbiologist  
Parasitologist  
Plant biotechnologist  
Research and development brewmaster  
Resource-based tourism manager  
Resource economist  
Rural sociologist  
Soil scientist  
Statistician  
Surveyor  
Teacher  
Toxicologist  
Veterinarian

### **Producers**

Agribusiness manager  
Athletic Turf specialist  
Arborist (tree expert)  
Aquaculture manager  
Beekeeper (apiarist)  
Breeder (hogs or horses)  
Broiler producer  
Christmas tree farm operator  
Commercial fisher  
Commercial forage producer  
Cow-calf operator  
Dairy farmer  
Egg producer  
Feedlot operator  
Field worker  
Fish farmer  
Floriculturist  
Forage seed producer  
Fruit farmer  
Game farmer  
Ginseng grower  
Grain and oilseed farmer  
Greenhouse production officer  
Horse trainer  
Mushroom producer

Nursery operator  
Nut producer  
Orchardist  
Pedigree seed grower  
Picker (fruit, vegetable and flower)  
Pork producer  
Poultry producer  
Rancher  
Sheep and goat farmer  
Shellfish operator  
Sod farmer  
Vegetable farmer  
Vineyard manager  
Viticulturalist

### **Inspectors, Regulatory Agents**

Animal health inspector  
Brand inspector  
Dairy inspector  
Environmental conservation officer  
Fisheries licensor and inspector  
Fruit and vegetable inspector  
Grain inspector  
Health inspector  
Honey grader/inspector  
Meat grader/inspector  
Plant product inspector  
Poultry inspector

### **Processors, Distributors**

Accountant  
Auctioneer  
Baker  
Brewer  
Canning and freezing plant manager  
Container manufacturer  
Dock worker  
Environmental planner  
Fashion merchandizer  
Feed laboratory technician  
Fish processor  
Flavour technician  
Flour miller  
Floral designer  
Food product development manager  
Food microbiologist  
Grain elevator manager  
Home economist

Landscape gardener  
Livestock buyer (slaughterhouse)  
Meat packing plant butcher and packager  
Mechanic  
Milk processing plant operator  
Packinghouse employee  
Quality assurance scientist  
Seed cleaning technician  
Seed packing plant operator  
Sheep shearer  
Ship crew member  
Textile technician or designer  
Trucker/transporter  
Vintner

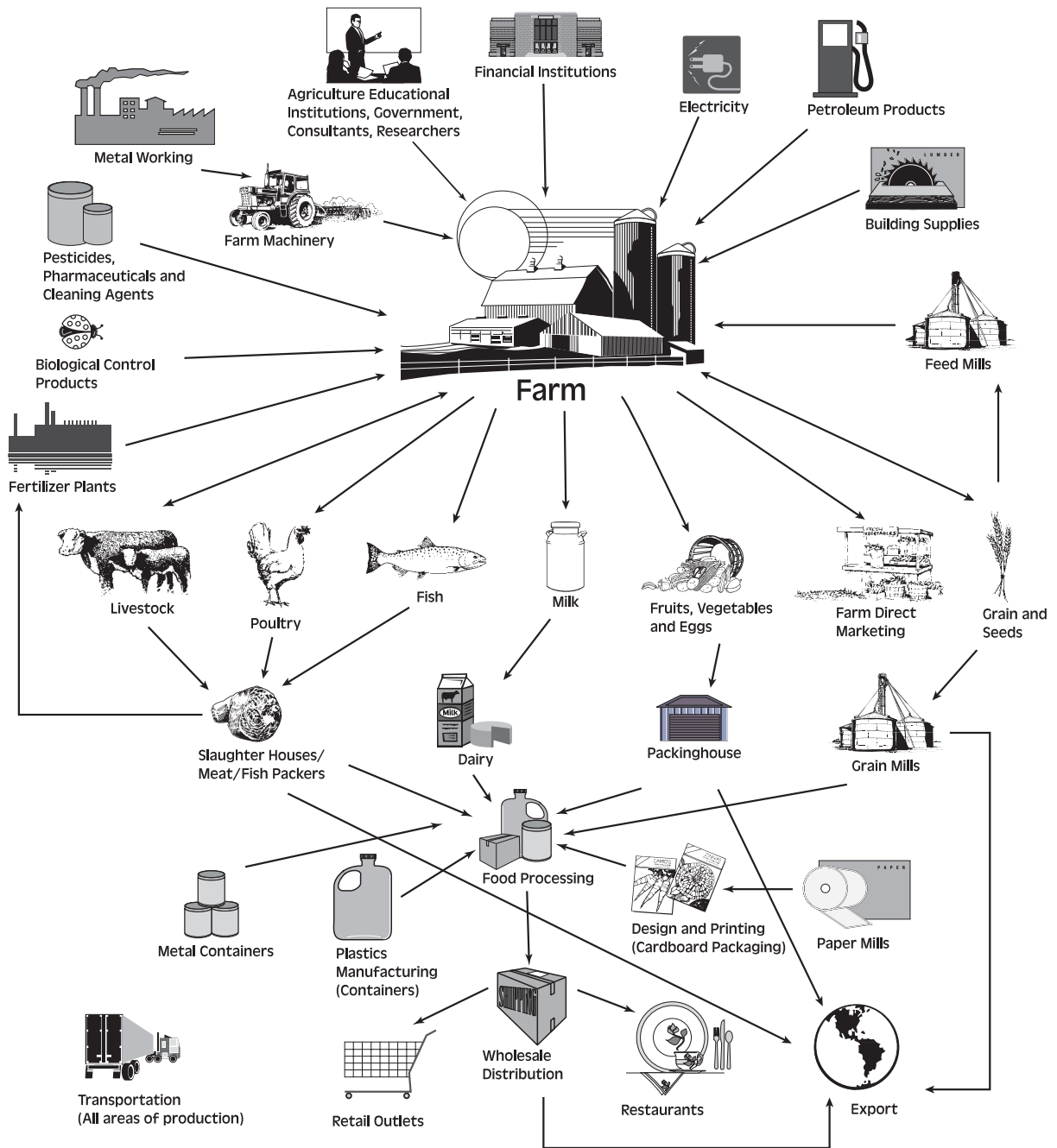
**Marketing/Retail**


Advertising sales agent  
Auctioneer  
Export manager  
Farmers' market manager  
Farm reporter (media)  
Food critic  
Food editor  
Food stylist  
Food marketing coordination  
Food marketing manager  
Graphic designer  
Greenhouse operator  
Hotel, restaurant and institution trade (chef)  
Information officer  
Instructor/teacher  
Market researcher

## The Farm Connection

Modern agriculture is much more than farming. It is a multi-faceted industry that is intricately connected with many other sectors of the economy. A great number of career possibilities are therefore associated with agriculture.

The following flow chart gives a visual impression of the interaction of the food industry with other industries. On the input side of the farm are industries that supply such items as farm machinery and fertilizer; on the output side are the food-processing industries. Connecting these various activities is a system of transportation and distribution.



Created by BC Agriculture in the Classroom Foundation 

## ***Educational Institutions***

The following table gives a list of most of the educational institutions in BC that offer courses or programs in an agriculture, fish or food-related area. This may help individuals interested in developing a career in this area.

<b>Institution</b>	<b>Programs</b>	<b>Location</b>	
British Columbia Institute of Technology (BCIT)	Fish Harvesting & Processing Technology Biotechnology Food Technology	Vancouver	<a href="http://www.bcit.ca">www.bcit.ca</a>
Camosun College	Horticulture	Victoria	<a href="http://www.camosun.bc.ca">www.camosun.bc.ca</a>
Capilano College	Landscape Horticulture Fish Culture Technician	Vancouver	<a href="http://www.capcollege.bc.ca">www.capcollege.bc.ca</a>
College of the Rockies (EKCC)	Horticulture	Cranbrook	<a href="http://www.cotr.bc.ca">www.cotr.bc.ca</a>
Kwantlen College	Turf Management Greenhouse Management Commercial Floristry Nursery Equine Studies	Vancouver	<a href="http://www.kwantlen.bc.ca">www.kwantlen.bc.ca</a>
Malaspina College	Horticulture Aquaculture & Fisheries Technician Culinary Arts	Nanaimo	<a href="http://www.mala.bc.ca">www.mala.bc.ca</a>
North Island College	Aquaculture and Fisheries Technician	Courtenay	<a href="http://www.nic.bc.ca">www.nic.bc.ca</a>
Simon Fraser University	Pest Management Aquaculture Resource Management Agriculture degrees	Vancouver	<a href="http://www.sfu.ca">www.sfu.ca</a>
University College of the Fraser Valley	Horticulture/Ornamental Integrated Pest Management Milker Training Livestock Production	Chilliwack/Abbotsford	<a href="http://www.ucfc.bc.ca">www.ucfc.bc.ca</a>
University of British Columbia	B.Sc. (Agroecology) B.Sc. (Food, Nutrition & Health) B.Sc. (Global Resource Systems) B.E.D. (Environmental Design)	Vancouver	<a href="http://www.ubc.ca">www.ubc.ca</a>
University of Northern British Columbia	Biology Natural Resource Management	Prince George	<a href="http://www.unbc.ca">www.unbc.ca</a>
University of Victoria	Biology	Victoria	<a href="http://www.uvic.ca">www.uvic.ca</a>
Thompson Rivers University Animal Health Technology	Animal Biology Environmental Chemistry Natural Resource Sciences Ecology & Environmental Biology	Kanloops	<a href="http://www.tru.ca">www.tru.ca</a>

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# Technology

Agriculture, fish and food production are complex businesses. Advanced technology is common throughout the agri-food business, from the farm to the consumer.

Farmers, processors, wholesalers and retailers today use modern equipment and systems, including leading edge computer technology in fields, barns, greenhouses, nurseries, fish operations, fish boats, processing plants and retail food stores. For example in many greenhouses computers control temperature, irrigation and CO<sub>2</sub> levels to optimize plant growth. On dairy farms many cows have computerized identification tags. Sophisticated technology is as important to the agri-food business as it is to any other business in society.

Information and its use is vital in the agri-food business. Communication through electronic and computer technology is a normal part of business for farmers. Management decisions are made based on quick access to markets, prices and production information.

Technological advances in production have dramatically improved the turnaround time of certain products from the research table to the consumer. Biotechnology has created more exact methods for breeding better livestock and crop varieties that are more disease-resistant and better quality. Biotechnology has improved foods, feeds, fertilizers, disease vaccines and pest control products. Biotechnology, which has been around for thousands of years, uses biological processes to produce substances that help agri-food production, the environment, industry and medicine. Some traditional methods include yeast to make bread and enzymes to make cheese.

Some modern examples of biotechnology at work

in agriculture are:

- Tomatoes that ripen more quickly on the vine and maintain flavour and texture for several weeks, allowing time for transport, retail display and storage at home.
- Potato plants genetically bred to resist key diseases and thus provide an environmentally sound alternative to chemical control.
- Plants developed through genetics that are more nutritious when cooked.
- Animal feeds and vaccines developed using micro-organisms.
- Animals bred for resistance to disease and for leaner meat.
- Bacteria is used that takes nitrogen from the air more effectively to legume plants, and therefore, helps reduce the amount of nitrogen fertilizers needed.
- Certain crops bred with fewer undesirable components, i.e. Canola.

Modern transportation and storage systems make products from across the world available within hours. Health inspectors ensure that products are free of impurities and disease, before they reach the consumer.

Scientists work with farmers, processors and retailers in developing and demonstrating new techniques. This is expensive and often time consuming, but results in better quality products for consumers.

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# Conservation

## ***BC Farmers and Fishers Work Toward A Clean Environment for Quality Food***

BC farmers are faced with the challenges of producing high quality food at a reasonable prices while preserving the environment and meeting consumer's ever changing demands. BC farms produce over 280 commodities as a result of the province's diverse climate condition and landscape, abundant supply of water and fertile soils. Farmers are the first to acknowledge the need to not only maintain, but enhance water and soil quality by using effective conservation practices to control soil erosion and avoid water contamination (balanced with the need to increase productivity). Many farmers are working with researchers from agencies, industry, organizations and universities to develop and integrate farming practices that maintain and enhance soil and water quality.

Some examples of methods that promote soil and water conservation are:

- use of cover crops
- use of crop rotation
- use of strip cropping
- zero till
- use of grass waterways
- use of beneficial insects

BC is recognized as a leader in North America in the development and use of creative technology that reduces pesticides use in food and ornamental crop production. Rigid inspection at processing facilities insures consumers get the highest quality and safest possible animal and fish products from BC processors.

## ***Integrated Pest Management on Crops***

BC is a North American leader in Integrated Pest Management (IPM). BC has led the way in

adopting IPM in its food production systems. IPM involves a balance of biological controls, cultural practices, resistant crops and pesticides, to control rather than totally eliminate pests. The result is maximum control with no detrimental impact on the environment. Virtually all of BC's greenhouse sector, and much of its vegetable, berry and tree fruit industries, use IPM technology. This assures consumers that BC food products are high quality and wholesome.

## ***Soil and Water—Our Basic Resources***

Farmers across the province, especially grain and forage producers, are trying new practices such as "zero-till". This means farmers seed the new crop directly into uncultivated land that was previously cropped. This reduces potential damage to the soil by eliminating one step in the planting process. Zero-till seeding offers reduced wind and water erosion of soil. Results of these tests show that the yield and cost of producing the crop is similar to the conventional method, but with less soil loss. This system may not work for all farms, but is being used successfully in some areas.

As a result of increased urbanization, especially in the lower Fraser Delta region, important wildlife habitat is being lost. Many agencies and organizations are working along with the farming community in the Lower Mainland region and other regions on wildlife management projects. They are working on solutions to provide habitat for wildlife i.e. migratory birds, herons, wildflowers... that are practical and economically viable for farmers.

BC farmers are encouraged to follow defined codes of agricultural practices i.e. Waste Management Act, The Pesticide Control Act, Health Act, Fish Protection Act, and Farm Practices

Protection Act, to insure they are farming in an environmentally responsible way to maintain a healthy, compatible relationship with all of their neighbours both rural and urban.

Courtenay Access Centre  
2500 Cliffe Avenue  
Courtenay, BC, V9N 5M6  
250-897-7540  
Fax: 250-334-1410

### ***Fish Farming – A New Resource***

The fish industry is a major contributor to the BC economy. Highly valuable fish products are shipped to local and off-shore markets.

Aquaculture farms are sited along BC's vast, highly suited coastline, according to sophisticated biophysical criteria that take environmental concerns into account.

### ***Fish Waste Handling***

Over 100,000 tonnes of salmon are harvested from the wild and from aquaculture operations. However, the waste by-products from fish farms and processing plants must be handled in an environmentally acceptable way. The Ministry, along with the Federal Government, the fisheries industry and the University of BC are cooperating in a multi-year project to reduce the volume of these by-products in landfills.

The project will develop and refine the commercial viability of a cost-efficient process that converts fish waste into a high quality soil enhancer.

### ***For more information:***

For more information on programs and technology related to pest management, soil and water conservation, and fish production, contact:

Resource Management Branch of the  
BC Ministry of Agriculture and Lands  
1767 Angus Campbell Road  
Abbotsford, BC  
604-556-3001

Aquaculture and Commercial Fisheries Branch  
Ministry of Fisheries  
780 Blanshard Street  
Victoria, BC, V8W 9B3

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# Products of BC

## **British Columbia's Commodities**

British Columbia's agriculture, fisheries and food industry produces many things for consumers, many more things than most people realize. Here is a list of over 280 primary agriculture and fish commodities produced by BC farmers and fishers.

### ***Agriculture Crops***

#### **Floriculture**

- Bedding plants
- Dried flowers
- Fieldgrown cut flowers
- Foliage plants
- Greenhouse cut flowers
- Potted plants
- Vegetable transplants

#### **Nursery**

- Broadleaf evergreens
- Bulbs
- Christmas trees
- Deciduous shrubs
- Shade trees
- Flowering trees
- Fruit trees
- Ornamental cut foliage (holly, etc.)
- Herbaceous perennials
- Sod
- Spreading evergreens
- Upright evergreens

#### **Berries, Grapes and Nuts**

- Black currants
- Blackberries
- Blueberries
- Boysenberries
- Cranberries

- Gooseberries
- Hazelnuts
- Kiwifruit
- Loganberries
- Raspberries
- Red currants
- Saskatoons
- Strawberries
- Table grapes
- Wine grapes (many varieties)

#### **Vegetables**

- Asparagus
- Baby carrots
- Baby corn
- Beans, green
- Beans, wax
- Beets
- Bok choy
- Broad beans
- Broccoli
- Brussels sprouts
- Cabbage, Chinese
- Cabbage, green
- Cabbage, red
- Cabbage, savoy
- Cantaloupe
- Carrots
- Cauliflower
- Celeriac
- Celery
- Chili peppers
- Collards
- Corn
- Cucumber, pickling
- Cucumber, slicing
- Eggplant

Endive (chicory)  
Fennel  
Garlic  
Kale  
Kohlrabi  
Leeks  
Lettuce, Boston  
Lettuce, butter  
Lettuce, green leaf  
Lettuce, iceberg  
Lettuce, red leaf  
Lettuce, romaine  
Lo bak  
Marrow  
Onions, green  
Onions, red  
Onions, silverskins  
Onions, white  
Onions, yellow  
Parsley  
Parsnips  
Peas, pod  
Peas, shelled  
Peppers  
Potatoes, seed  
Potatoes, table  
Pumpkins  
Radicchio  
Radishes  
Rhubarb  
Runner beans  
Rutabagas  
Shallots  
Spinach  
Squash (several varieties)  
Suey choy  
Tomatoes, field  
Tomatoes, cherry  
Turnips  
Watercress  
Watermelons  
Zucchini

### **Greenhouse Vegetables**

Cucumbers  
Lettuce  
Peppers

Tomatoes

### **Mushrooms**

Agrarius (button)  
Morel  
Pine  
Shitake

### **Tree Fruit**

Apples (over 20 varieties)  
Apricots  
Crabapples  
Nectarines  
Peaches  
Pears  
Plums  
Prunes  
Sour cherries  
Sweet cherries

### **Grains and Oilseeds**

Barley  
Buckwheat  
Canola  
Caraway seed  
Corn (grain)  
Dry field beans  
Dry field peas  
Flaxseed  
Grass and legume seed (many varieties)  
Oats  
Rye  
Soybeans  
Triticale  
Wheat  
Yellow mustard

### **Livestock**

#### **Dairy Cattle Products**

Dairy breeding stock  
Dairy cattle  
Embryos  
Cow's milk

#### **Beef Cattle Products**

Beef breeding stock

Bull semen  
Feeder cattle  
Slaughter cattle

### **Calves**

Feeder calves  
Veal

### **Hogs**

Market hogs  
Suckling hogs

### **Poultry**

Capon  
Cornish game hen  
Duck  
Fowl  
Frying chicken  
Goose  
Guinea fowl  
Partridge  
Pheasant  
Squab  
Quail  
Roasting chicken  
Silkies  
Turkey

### **Eggs**

Chicken eggs  
Hatching eggs  
Quail eggs  
Duck eggs

### **Apiculture**

Bee pollen  
Bees  
Beeswax  
Honey  
Royal jelly

### **Miscellaneous Livestock and Associated Products**

Bison  
Chinchilla  
Deer antler  
Emu

Fallow deer  
Fox  
Goats  
Goat's milk  
Horses  
Lambs  
Manure  
Mink  
Ostrich  
Ponies  
Rabbits  
Reindeer  
Sheep  
Wild boar  
Wool

### **Miscellaneous Agricultural Products**

Biological control agents\*  
Corn for silage  
Edible flowers  
Flower and vegetable seeds  
Forest products  
Ginseng root  
Ginseng seed  
Hay and clover  
Herbs\*  
Hops  
Organic fruits and vegetables

\*Biological control agents include: ladybugs, spider mite predator, whitefly parasites, aphid predator, insect parasitic nematode, manure fly parasites and thrips predator.

\*Herbs include: anise, arugula, basil, chamomile, chervil, chicory, chili, chrysanthemum, cilantro, dill, ginger, lavender, lemongrass, mint, oregano, rosemary, saffron, savory, tamarind, tarragon, thyme and watercress.

### **Fisheries**

#### **Fish**

Anchovy  
Arctic charr  
Dogfish  
Eulachons  
Flounder

Cod, Pacific  
Cod, ling  
Hagfish  
Hake  
Halibut  
Herring, bait  
Herring, food  
Idiotfish  
Mackerel  
Perch, Pacific Ocean  
Perch, silver  
Pollock  
Rainbow trout, farmed  
Red snapper  
Sablefish  
Salmon, Atlantic, farmed  
Salmon, chinook, farmed  
Salmon, chinook, wild  
Salmon, chum, farmed  
Salmon, chum, wild  
Salmon, coho, farmed  
Salmon, coho, wild  
Salmon, pink, wild  
Salmon, sockeye, farmed  
Salmon, sockeye, wild  
Shark, six-gill  
Skate  
Smelt  
Sole, butter  
Sole, dover  
Sole, English  
Sole, petrale  
Sole, rex  
Sole, rock  
Steelhead, farmed  
Steelhead, wild  
Sturgeon  
Tuna  
Turbot  
Yellow mouth  
Yellow tail

#### **Roe**

Cod, Pacific  
Herring  
Pollock  
Sea urchin, red

Salmon, farmed  
Salmon, wild

#### **Shellfish**

Crabs  
Crayfish  
Krill  
Prawns  
Shrimp

#### **Molluscs**

Abalone  
Clams, butter  
Clams, geoducks  
Clams, horse  
Clams, little neck  
Clams, manila  
Clams, razor  
Gooseneck barnacles  
Mussel, blue  
Octopus  
Oysters, European, farmed  
Oysters, Pacific, farmed  
Scallops, Japanese  
Scallops, pink  
Scallops, spiny  
Snails  
Squid

#### **Miscellaneous Seafood**

Dulse  
Kelp  
Roe on kelp  
Sea asparagus  
Sea urchins, green  
Sea urchins, purple  
Sea urchins, red  
Sea cucumbers

199 agricultural commodities and 83 fisheries commodities.

Source:  
Statistics Unit, Public Affairs Branch, BC Ministry of Agriculture and Lands.

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# Glossary

**Acidic soil** - refers to a soil with a pH below 7

**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

**Aggregate fruit** - a clustered fruit composed of numerous fruitlets each with its own seed

**Agri-business** - the group of industries dealing with the produce of, and services to, agriculture

**Apiarist** - a beekeeper

**Artificial insemination (AI)** - the injection of semen into the vagina or uterus by instrumental means

**Avian** - of or relating to birds

**BC's Farm Practices (Right to Farm) Act** - protects farmers who use normal farming practices, creates a process to resolve complaints and encourages local governments to support farming

**Beta-carotene** - a plant form of vitamin A

**Biodiversity** - biological diversity-the variety of plants, animals and other organisms in an ecosystem

**Biodynamic farming** - involves restoring the soil to a balanced living condition through the application and use of stabilized humus (well rotted organic matter)

**Biotechnology** - the application of science and engineering in the direct or indirect use of living

organisms, or parts or products of living organisms, in their natural or modified forms. Bio-(biology - the science of living things) Technology-(the tools and processes used to make products). Biotechnology is using biology to make new products.

**Brassica** - cruciferous plants with tap roots and erect branched stems, including cabbage, Brussels sprouts, mustard, rape, cauliflower and kale

**Breeder operation** - an operation in which poultry is bred to produce fertilized eggs

**Brooder** - a heated house for chicks, piglets, etc.

**Castrated animal** - an animal that has had its testicles removed

**Cellulose** - a carbohydrate that is the main constituent of plant-cell walls

**Colostrum** - the first secretion from the mammary glands after giving birth. This thick, yellow milk contains antibodies that are passed on to the young.

**Compost** - a combination of organic matter, soil, nutrients, moisture and lime in a state of partial and continuing decay used as a soil conditioner and/or fertilizer

**Conservation** - management of natural resources for present and future uses

**Cover Crop** - a crop grown to cover the soil and protect it from wind and water erosion

**Cross pollinate** - the passing of pollen from the

male part of one plant to the female part of another

**Cruciferous** - plants that have flowers with four petals arranged in the shape of a cross

**Cud** - a mouthful of previously swallowed food regurgitated from the first stomach of ruminants to the mouth where it is chewed slowly a second time

**Culti-pack** - a field preparation operation, often the last before seeding, which breaks up clods of dirt and firms and levels the soil surface

**Cultivar** - a plant variety produced by cultivation

**Cultural practices** - techniques used in growing a plant that include planting resistant varieties, rotating crops, spacing and pruning methods, providing good drainage and irrigation

**Curing** - to preserve meat, fruit or skins by salting, drying, etc.

**Cutting** - any part that can be severed from a plant and is capable of regeneration

**Desiccate** - remove the moisture from

**Dioecious** - having male and female organs on separate plants

**Direct Marketing Board** - an organization that controls the supply of a particular product (ie milk or eggs) by setting the prices for the product and by managing the sales of the product

**Dressed weight** - the weight of a meat cut after slaughter, defeathering or skinning and evisceration

**Dwarfing rootstock** - a root stock that limits the mature size of the plant that is grafted onto it

**Ecology** - the study of relationships between organisms and the environment

**Entomologist** - a specialist in the study of the forms and behaviour of insects

**Estrus** - a recurring period of sexual receptivity in many female animals; heat

**Eviscerate** - remove internal contents

**Farm gate value** - the cash value of a product when it leaves the farm

**Feed-conversion rate** - the rate at which feed is converted into weight gain

**Fertile** - a) of soil - capable of producing an abundance of crops, b) of animals and plants - able to reproduce

**Fertilizer** - a substance added to the soil to make it more fertile

**Fertilization** - the joining of male and female cells to produce offspring

**Flora and Fauna** - plant and animal life

**Free Trade** - international trade left to its natural course without tariffs, quotas or other restrictions

**Free Trade Agreement** - an agreement between countries of a particular region to allow certain goods and services to be traded among them without tariffs, quotas or other restrictions

**Fructose** - a simple sugar found in honey and fruits

**Fungicide** - a fungus destroying substance

**Genetic modification** (genetic engineering, genetic manipulation) - a series of techniques used to transfer genes from one organism to another or to alter the expression of an organism's genes.

**Gestation period** - the period between conception and birth

**Gizzard** - the second part of a bird's stomach used for grinding food, often with grit

**Grafting** - is a method of plant propagation

(reproduction) in which a scion (a bud or stem containing several buds) of one plant is inserted into the stock (root, stem or branch) of another plant so that they unite and grow as one plant

**Green Manure** - a growing crop plowed under and mixed with the soil to enrich it with organic matter

**Grit** - hard particles such as stone or sand

**Habitat** - a place where the needs for food, water and shelter of an organism are met

**Harden off** - acclimatize a plant to a change in its environment by gradual increase of its exposure to the new environment

**Harrow** - a heavy frame of iron teeth which is dragged over a field to break up clods of soil and to level freshly plowed farm land

**Hatchery** - a place for hatching eggs, especially of fish or poultry

**Heat** - the receptive period of the sexual cycle, especially in female animals

**Herbaceous perennial** - soft stemmed plants that live from year to year and which die down at the end of each growing season

**Herbicide** - a substance that kills unwanted plants

**Horticulture** - the science and art of growing fruits, vegetables, ornamental trees, shrubs and flowers

**Hydro-cool** - immerse in ice water to chill

**Hydroponics** - the technique of growing plants in a medium other than soil, using a feeding mixture of essential plant nutrients dissolved in water

**Incubator** - an apparatus used to provide a suitable temperature and environment to hatch eggs

**Integrated Pest Management (IPM)** - involves a balance of cultural, biological, chemical and

other methods to control rather than eliminate pest populations with minimum impact on the environment

**Insecticide** - a substance that kills insects, bugs and larvae

**Leaflets** - any division of a compound leaf

**Legume** - a member of the pea family that has the ability to transform nitrogen from the air into a form that can be utilized by plants

**Litter** - (a) straw, hay, wood shavings or other materials used as bedding for animals, (b) the young born at one time by an animal that normally produces several young at birth

**Maggot** - larva of a fly

**Mulch** - a layer of material spread over the surface of soil to protect it and plant roots from erosion, crusting, drying and freezing

**NAFTA** - a trade agreement signed in November 1993 between the United States, Canada, and Mexico to establish free-trade guidelines between the three countries.

**Pasteurized** - subject to the process of partial sterilization by heating

**Pathologist** - a specialist who deals with the nature of disease, especially the structural and functional changes caused by disease

**Pectin** - a soluble fibre found in ripe fruit and used as a setting agent in jams and jellies

**Perennial** - a plant that lives from year to year

**Pesticides** - an insecticide, herbicide or fungicide. A substance, usually synthetic, which kills a selected type of living thing.

**Pheromones** - a chemical secreted and released by an animal for detection and response by another

**Physiologist** - an expert who deals with the function and vital processes of living organisms

**Pollinate** - the transfer of the pollen from one flower to the stigma of another flower, which is the first step in producing fruit

**Pome fruit** - a firm-fleshed fruit in which multiple seeds are protected by a central core

**Profit margin** - the profit remaining in a business after all expenses have been deducted

**Pulse crop** - the plant producing the edible seeds of various legume, e.g., chickpeas, lentils and beans

**Quota** - rules set on how much of a commodity a particular producer can produce

**Refractometer** - a hand-held instrument used to determine the level of sugar in fruit

**Retail value** - the cash value of a product sold to the final consumer, often in small volumes and sold through a retail outlet

**Riparian area** - the area that borders a stream, a lake or a wetland area.

**Rootstock** - the underground part of a plant including a short portion of a trunk onto which a cultivar can be grafted

**Ruminant** - a group of four-footed, hoofed, even-toed, cud-chewing mammals

**Stone fruit** - a fruit with a fleshy pulp that encloses a single seed in a hard shell

**Strip Cropping** - a soil conservation technique-alternating rows of grain/forage crops like rye or clover with cash crops like corn

**Subsidy** - a sum of money granted by the government or a public body to assist a business or an industry in keeping the price of a commodity or service low enough to remain competitive

**Supply management** - a distribution system in which the total quantity of a product produced in an industry is controlled, often through quota. This maintains a level of financial return to farmers.

**Sustainability** - a system that works in a healthy state indefinitely

**Taproot** - a tapering root that grows vertically downward in which a plant stores food

**Tariff** - a tax or duty to be paid on a particular class of imports or exports

**Tuber** - a fleshy, food-storing swelling of an underground stem

**U-pick** - a pick-your-own operation in which customers go to the producer's farm and pick their own produce

**Variegated** - leaves with two or more colours

**Vegetative propagation** - to cause to generate or multiply plants by asexual means such as layering, cutting or grafting

**Watershed** - the entire land surface from which water ultimately drains into a particular stream or river system.

**Wean** - accustom a young mammal to food other than its mother's milk

**Whorled leaves** - a ring of leaves round the stem of a plant

**Wildlife** - non-domesticated plants and animals

**Windbreak** - vegetation barriers used to protect crops from desiccation and breakage and soil from wind erosion

**Windrowed** - placing the crop into rows to dry before it is collected

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# Resources and Contacts

For more information and resource materials both from inside and outside BC, please contact the following agencies directly. Although this not a complete list of every agency in BC related to the agri-food industry, it represents the key agencies, which could offer help to educators.

Some may have educational materials, while most do not. However, they may help with other contacts or general information.

Often, the marketing board, if one exists, or the marketing agency for a particular commodity is the better source of information, while the producer group is generally an administrative membership office.

## Animal

BC Bison Association  
21845 Hwy 97S  
Prince George BC V2N 6A3  
[www.bcbuffalo.ca](http://www.bcbuffalo.ca)

BC Broiler Hatching Egg Commission  
180 - 32160 S. Fraser Way  
Abbotsford BC V2T 1W5  
604-850-1854  
[www.bcbhec.com](http://www.bcbhec.com)

BC Cattlemen's' Association  
#4-10145 Dallas Dr.  
Kamloops BC V2C 6T4  
250-573-3611  
[www.cattlemen.bc.ca](http://www.cattlemen.bc.ca)

BC Chicken Grower's Association  
PO Box 581 Abbotsford BC  
V2T 6Z8 604-859-9332  
[www.bcchicken.ca](http://www.bcchicken.ca)

BC Chicken Marketing Board  
101 - 32450 Simon Ave  
Abbotsford BC V2T 4J2  
604-859-2868  
[www.bcchicken.ca](http://www.bcchicken.ca)

BC Dairy Council  
5805 Wales Street  
Vancouver BC V5R 3N5  
604-434-2434  
[www.bcdairycouncil.ca](http://www.bcdairycouncil.ca)

BC Dairy Foundation  
3236 Beta Ave  
Burnaby BC V5G 4K4  
1-800-242-MILK  
[www.bcdairyfoundation.ca](http://www.bcdairyfoundation.ca)

BC Egg Marketing Board  
#150 32160 South Fraser Way  
Abbotsford BC V2T 1W5  
604-556-  
[www.bcegg.com](http://www.bcegg.com)

BC Fallow Deer Association  
28481 Starr Rd  
Abbotsford BC V4X 2C5

BC Goat Breeders Association  
41690 No. 3 Road  
Chilliwack BC V2R 5G1  
604-823-7144

BC Goat Milk Producers Association  
3421 Boundary Rd  
Abbotsford BC V3G 2N1  
Ph/Fax 604-823-0186

BC Hog Marketing Commission  
2010 Abbotsford Way  
Abbotsford BC V2S 6X8  
604-864-9096  
[www.bcpork.ca](http://www.bcpork.ca)

BC Livestock Producers Cooperative Association  
#1 - 10145 Dallas Dr  
Kamloops BC V2C 6T4  
250-573-3939  
[www.bclivestock.bc.ca](http://www.bclivestock.bc.ca)

BC Llama & Alpaca Association  
[www.bclaa.com](http://www.bclaa.com)

BC Milk Marketing Board  
200 - 32160 S. Fraser Way  
Abbotsford BC V2T 1W5  
604-556-3444  
[www.milk-bc.com](http://www.milk-bc.com)

BC Milk Producers Association  
3236 Beta Ave  
Burnaby BC V5G 4K4  
1-877-462-2672  
[www.bcmilkproducers.ca](http://www.bcmilkproducers.ca)

BC Pork Producers Association  
2010 Abbotsford Way  
Abbotsford BC V2S 6X8  
604-853-9461

BC Purebred Sheep Breeders' Association  
[www.bcsheep.com](http://www.bcsheep.com)

BC Specialty Birds  
Association  
32351 Huntington Rd.  
Abbotsford BC V2T 5Y8  
604-854-6776

BC Stock Dog Association  
PO Box 635 100 Mile House  
V0K 2E0 250-395-4785

BC Sustainable Poultry  
Farming Group  
4582 Bell Rd Clayburn BC  
V3G 2M1 604-556-7781  
www.sustainablepoultry.ca

BC Turkey Marketing Board  
#106 - 19329 Enterprise  
Way  
Surrey BC V3S 6J8  
604-534-5644  
www.bcturkey.com

Canadian Ostrich Association  
www.ostrich.ca

Cattle Industry Development  
Council  
#4-10145 Dallas Dr  
Kamloops BC V2C 6T4  
250-573-3611  
www.cattlefund.net

Horse Council of BC  
27336 Fraser Hwy,  
Aldergrove BC V4W 3N5  
1-800-345-  
www.hcbc.ca

## Fish

BC Salmon Farmers  
Association  
#302-871 Island Highway  
Campbell River BC V9W 2C2  
1-800-661-7256  
www.salmonfarmers.org

BC Salmon Marketing  
Council  
Ste. 1100 - 1200 W. 73rd.  
Ave Vancouver BC V6P 6G5  
604-267-3030  
www.bcsalmon.ca

BC Shellfish Growers  
Association  
Unit F - 2002 Comox Ave  
Comox BC V9M 3M6  
250-890-7561

Freshwater Aquaculture  
Association of BC  
3104 Cardinal Dr.  
Burnaby BC V5A 2T6  
604-626-6747  
www.aquaculturebc.com

Positive Aquaculture  
Awareness  
Box 952 Campbell River BC  
V9W 6Y4  
www.farmfreshsalmon.org

## Plant

Associated Ginseng Growers  
of British Columbia  
Box 241 Vernon BC V1T  
6M2  
250-545-4737

BC Asparagus Growers  
Association  
2651 Camp Road  
Winfield BC V4V 1K4

BC Blueberry Council  
Box 8000-730  
Abbotsford BC V2S 6H1  
604-864-2117  
www.bcblueberry.com

BC Certified Seed Potato  
Growers Association  
4119 - 40th St Ladner BC  
V4K 3N2  
Ph/Fax 604-940-2024

BC Cranberry Growers  
Association  
#130 - 32160 South Fraser  
Way  
Abbotsford BC V2T 1W5  
604-854-4499  
www.bccranberrygrowers.  
com

BC Cranberry Marketing  
Commission  
#71 - 4001 Old Clayburn Rd  
Abbotsford, BC V3G 1C5  
604-852-8585  
bccranberries.com

BC Forage Council  
www.farmwest.com

BC Fruit Growers'  
Association  
1473 Water Street  
Kelowna BC V1Y 1J6  
250-762-5226

BC Grain Producers  
Association  
Box 16 Dawson Creek BC  
V1G 4H3  
866-716-7170  
250-782-7170  
www.bcgrain.com

BC Grape Growers  
Association  
Box 2462, Stn R  
Kelowna BC V1X 6A5  
www.grapegrowers.bc.ca

BC Greenhouse Growers'  
Association  
#108-7565 132nd St  
Surrey BC V3W 1K5  
604-591-5480  
www.bcgreenhouse.ca

BC Hazelnut Association  
6320 Wilson Road  
Agassiz BC V0M1A1  
604-796-1066

BC Herb Growers  
Association  
4020 Casorso Rd  
Kelowna BC V1W 4N6  
Ph/Fax 250-764-1263

BC Landscape & Nursery  
Association  
102 - 5783 176A St  
Surrey BC V3S 6S6  
604-574-7772  
www.bclna.com

BC Potato & Vegetable  
Growers Association  
Box 18565 Delta BC  
V4K 4V7  
Ph/Fax 604-940-2024

BC Raspberry Industry  
Development Council  
#130-32160 South Fraser  
Way, Abbotsford BC V2T  
1W5 604-854-8010  
www.bcraspberries.com

BC Tree Fruits Limited  
1473 Water Street  
Kelowna BC V1Y 1J6  
250-470-4200  
www.bctree.com

BC Vegetable Marketing  
Commission  
#207 - 15252 32nd Ave  
Surrey, BC V3S 0R7  
604-542-9734  
www.bcveg.com

BC Wine Institute  
Suite 107 – 1726 Dolphin  
Ave  
Kelowna BC V1Y 9R9  
1-800-661-2294  
www.winebc.com

Canadian Grain Commission  
Western Regional Office  
300 – 333 Seymour Street  
Vancouver BC V6B 5A6  
www.grainscanada.gc.ca

Canadian Seed Growers  
Association BC Branch  
c/o BC Ministry of  
Agriculture & Lands  
4th Floor 1201 103rd Ave,  
Dawson Creek BC V1G 4J2

Canola Council of Canada  
400-167 Lombard Ave.  
Winnipeg MN R3B 0T6  
204-982-2100  
www.canola-council.org

Certified Organic  
Associations of BC  
3402 - 32nd Ave Vernon  
BC V1T 2N1 250-260-4429  
www.certifiedorganic.bc.ca

Flowers Canada  
929 5<sup>th</sup> Avenue Suite 305  
Ottawa ON K1S 5P5  
www.flowerscanada.org

Fraser Valley Bush Bean  
Growers Association  
2194 Westham Island Rd  
Delta BC V4K 3N2  
604-946-7493

Fraser Valley Cole Crop  
Growers Association  
100-32160 S. Fraser Way  
Abbotsford BC V2T 1W5  
604-864-0565

Fraser Valley Corn Growers  
Association  
38900-#4 Rd Abbotsford  
BC  
V3G 2G2 604-852-4009

Fraser Valley Pea Growers  
Association  
6545 - 60th Ave  
Delta BC V4K 4E2  
604-946-2643

Fraser Valley Strawberry  
Growers Association  
Suite 100-32160 South  
Fraser Way  
Abbotsford BC V2T 1W5  
604-864-0565  
www.bcstrawberries.com

Grasslands Conservation  
Council  
of BC  
954 A Laval Crescent  
Kamloops BC V2C 5P5  
250-374-5787  
www.bcgrasslands.org

Invasive Plant Council  
#104 - 197 N. 2nd Ave.,  
Williams Lake BC V2G 1Z5  
www.invasiveplantcouncilbc.  
ca

Kiwifruit Association of BC  
1485 Newton Heights Rd  
Saanichton BC V8M 1T6  
250-652-3745

Mushroom Industry  
Development Council  
PO Box 356 151-32500  
South Fraser Way  
Abbotsford BC V2T 4W1  
604-850-6670  
www.bcmushrooms.org

United Flower Growers'  
Co-operative Association  
4085 Marine Way Burnaby  
BC V5J 5E2 604-430-2211  
www.ufgca.com

Western Canada Turfgrass  
Association  
22097 Isaac Crescent  
Maple Ridge BC VX 0V9  
www.wctaturf.com

## Agriculture

BC Honey Producers  
Association  
2810 Fairfield St.  
Duncan BC V9L 6B9  
www.bcbeekeepers.com

## Education

BC Agriculture in the  
Classroom Foundation  
Abbotsford Agri. Centre  
1767 Angus Campbell Rd  
Abbotsford BC V3G 2M3  
604-556-3088  
www.aitc.ca/bc

Other AITC groups across  
Canada  
www.aitc.ca

BC 4-H Foundation  
Box 490 #1-904 Maud St,  
Enderby BC V0E 1V0  
1-866-776-0373 www.bc4h.  
bc.ca

BC Ministry of Education  
Curriculum Development  
Science and Technology  
620 Superior St  
PO Box 9152 Stn. Prov.  
Gov't. Victoria, BC  
V8W 9H1  
www.gov.bc.ca

## Other

Agriculture and Agri-Food  
Canada  
www.agr.gc.ca

Agriculture Environment  
Initiatives  
#102 - 1482 Springfield Rd  
Kelowna BC V1Y 5V3  
250-763-9790

Agricultural Labour Pool  
#106-2669 Langdon St.  
Abbotsford BC V2T 3L3  
604-855-7281  
www.agrilabourpool.com

Agriculture Research &  
Development Corporation  
(ARDCOPR)  
#140-32160 South Fraser  
Way Abbotsford BC  
V2T 1W5 604-854-4483

BC Agriculture Council 102 - 1482 Springfield Rd Kelowna BC V1Y 5V3 250-763-9790 www.bcac.bc.ca	BC Ministry of Agriculture and Lands PO Box 9043, Stn Prov Gov't Victoria BC V8W 9B4 www.gov.bc.ca/al	Fisheries and Oceans Canada www.dfo-mpo.gc.ca	Smart Growth BB 314 - 402 West Pender St Vancouver BC V6B1T6 604-915-5234 www.smartgrowth.bc.ca
BC Association of Agricultural Fairs & Exhibitions 944 Brooks Place, Courtenay BC V9N 9E3 Ph/Fax 250-898-8582 www.bcfaairs.ca	BC Veterinary Medical Association Suite 107-828 Harbourside Dr North Vancouver BC V7P 3R9 604-929-7090 www.bcvma.org	Fraser Basin Council 1 <sup>st</sup> Floor 470 Granville Street Vancouver BC V6C 1V5 604-488-5350 www.fraserbasin.bc.ca	Western Canadian Farriers Association 10373 - 272nd St Maple Ridge BC V2W 1R1 604-462-8572 www.WCFA.ca
BC Association of Farmers Markets 21845 Highway 97S Prince George BC V2N 6A3 250-330-4465 www.bcfarmersmarket.org	Delta Farmland & Wildlife Trust #205 - 4882 Delta Street Delta BC V4K 2T8 604-940-3392 www.deltafarmland.ca	Fraser Valley Farm Direct Marketing Association Box 327, #800-15355 24th Ave White Rock BC V4A 2H9 604-535-5282 www.bcfarmfresh.com	Western Canadian Functional Foods Network Rm 218, Food, Nutrition & Health Building 2205 East Mall UBC Vancouver BC V6T 1Z4 604-822-6920 www.bcfm2.com
BC Farm Fresh www.bcfarmfresh.com	Ducks Unlimited Canada BC Western Region Unit 511, 11370 - 78 Ave Surrey BC V3W 0H6 604-592-0987 www.ducks.ca	InfoBasket www.infobasket.gov.bc.ca	Westgen (Western Canada's Genetics Centre) Box 40 Milner BC VOX 1T0 604-530-1141 /800-563-5603 www.westgen.com
BC Farm Writers Association Box 338 Chilliwack BC V2P 6J4 604-858-9193	Farm & Ranch Safety & Health Association (FARSHA) Suite 311-9440 202nd St Langley BC V1M 4A6 1-877-533-1789 www.farsha.bc.ca	Investment Agriculture Foundation PO Box 8248 Victoria BC V8W 3R9 250-356-1662 www.iafbc.ca	
BC Food Processors Association Suite 204 2929 Commercial Drive Vancouver BC V5N 4C8 604-871-0190 www.bcfpa.ca		Irrigation Industry Association of BC 2330 Woodstock Dr Abbotsford BC V3G 2E5 604-859-8222 www.irrigationbc.com	
BC Institute of Agrologists #205 - 733 Johnson St Victoria BC V8N 3C7 250-380-9292 www.bcia.com	Farm Folk/City Folk Society 1937 West 2nd Ave Vancouver BC V6J 1J2 604-730-0450 www.farmfolkcityfolk.ca	Pacific Agri-Food Research Centre Agassiz Site 6947 No. 7 Highway/ P.O. Box 1000 Agassiz BC V0M 1A0 604-796-2221	