Student Name _____ ***Date Submitted*** _____

SUSTAINABLE RESOURCES: AGRICULTURE 12 (v2)

Section 1.0 Send-In Assignment

Complete this send-in as part of your course enrollment. This will be your first mark entered for the course.

This send-in consists of:

- SR: Agriculture 12 Course Planner _____/ 5 marks
- Activity 1A (1) _____/ 12 marks
- Activity 1A (2) _____/ 10 marks
- Activity 1B (1) _____/ 5 marks
- Activity 1B (2) _____/ 5 marks

TOTAL: _____/ 37 marks _____%

Mail:

1) This **Cover Sheet**
2) **Return Address** (page 2 or Comment Sheet) – Fill out with your complete name and address.
3) **Send-In Assignments** – as listed above

*Be sure to put proper **postage** on the envelope (if necessary) and add your **return address**.*

Note: Any textbook materials referred to can be found in the **Resource Section** at the end of this assignment.

Name: _____

___ / 5 marks

Sustainable Resources: Agriculture 12 Course Planner

Complete <u>all</u> the following contact information that applies to you and check the one that is the best way to contact you during the day:

❑ Home Phone: _____ ❑ Work Phone: _____ ❑ Cell: _____

❑ Email: _____

❑ other way to contact you (explain) _____

When is the best time for your teacher or tutor/marker to contact you? ___:_____ AM PM

Check your Grade: ❑ Grade 10 ❑ Grade 11 ❑ Grade 12 ❑ Graduated ❑ Adult Learner

Timetable Options/Course Plan

One of the keys to being successful in anything that you do is to take the time to plan carefully. The objective of this section is to help you create a timetable for managing your schoolwork and enable you to set goals for finishing all of your courses by your desired completion date. **Most full-time students complete 3 to 5 assignments each week.**

The flexibility of our distributed learning program offers you many choices but a plan for completion is essential to success. Most full-time students complete 8 courses in a school year (10 months). The most common timetables are 'semestered" (4 courses at a time) or "linear" (8 courses at a time).

What is your planned schedule? ❑ Semester System (22 weeks) ❑ Linear System (44 weeks)

❑ other: *(explain)* _____

What is your intended **start** date for this course? ❑ Now ❑ Other date: _____

What is your intended **completion** date for this course? _____ (month) _____ (year)

How many courses are you taking with us this year? ____ How many with other schools/programs? _____

Sustainable Resources 12 consists of **21** more send-in assignments and **4** tests. How many assignments/tests per week must you do to complete this course as planned? _____

- *Mark target submission dates on a calendar.*
- *Add this same information from other courses to help you create a schedule for completion.*
- *Record the actual dates you submit work so you can track your progress.*

Delivery Method

Sustainable Resources 12 is offered as a print course only. You will receive workbooks in print form and will be submitting your assignments through the regular mail.

If you have access to the internet, you will find some great online resources to support your learning by searching for key words in the assignments. Add "animation" or "gizmo", etc. to your search to see if there are some online labs available.

Module Choices

SR: Agriculture 12 consists of 4 modules. All students are required to complete Modules 1 and 2 and then choose any two of Modules 3, 4, 5, 6, and 7. Please make your choice below.

- ❑ **Module 3: Bacon and Eggs**
- ❑ **Module 4: Grazers**
- ❑ **Module 5: Cereal Crops and Forage**
- ❑ **Module 6: Horticulture**
- ❑ **Module 7: The 4H Connection**

(students must make their own arrangements with a 4H club

Anything else?

Is there anything else you would like us to know about you or your education plans that will help us provide you with better service?

You are REQUIRED to fill out your return address on this page if you DOWNLOADED this Assignment. [If the Assignment was mailed to you, please fill out the back of the white page of the 3 part District Education Comment Sheet.]

Please Print Clearly

NAME	
ADDRESS	
CITY / TOWN	
PROVINCE / COUNTRY	
POSTAL CODE	

Complete your MAILING address.

Is this a change of address? ☐ **Yes** ☐ **No**

SUSTAINABLE RESOURCES: AGRICULTURE 12 (v2)

Section Assignment #1.0

Resource Pages

Attached are the pages from the Agriculture 12 Resources that you need to complete this Send-In Assignment.

SECTION 1

AGRICULTURE: A VARIETY OF ACTIVITIES

Agriculture is the general term to describe the various activities associated with growing plants and raising animals.

The main purpose of agriculture has always been to supply food for people to eat. How we farm and ranch, however, and what we consider as suitable food, has changed over the centuries.

In this section we'll look at some different types of agriculture, past and present. We'll also hypothesize about the future.

Section 1 Lesson A

AGRICULTURE AND YOU

How's your Agriculture IQ?

A few generations ago most Canadians knew a fair bit about agriculture. Up to World War II, more than half the population lived and worked on farms and ranches. Even most city-dwellers kept a vegetable garden and a few chickens. The economy was so linked to farming that storekeepers and doctors alike were aware of the effect of a bad spring on farm crops, or the devastation caused by the outbreak of disease in cattle. If it was a bad year, milk, eggs, or grain would be in short supply and more expensive.

Today, however, many of us pop out to the grocery store for pre-packaged, pre-mixed, pre-cooked, and artfully presented food products. Even if we're buying fresh produce, such as broccoli, we don't have to wait for it to come into season in our area—it's either shipped in from other regions or available in the freezer section. We don't need to know how to grow.

Self-Marking Activity 1 A (1) is a quick way for you to find out what you do and don't know about agriculture. It will also help you make sure you understand how the self-marking activities work in this course.

Activity 1 A (1)

The *Thought for Food* Agriculture Quiz

1.	The ***growing season*** is largely based on the number of frost-free days in a year.	T	F
2.	A ***feedlot*** is where ranchers buy grain for their cattle.	T	F
3.	Mushrooms are one of the most important cash crops in B.C.	T	F
4.	***Hydroponics*** is an increasingly popular method of raising fish.	T	F
5.	***Horticulture*** is the branch of agriculture that deals with growing grain.	T	F
6.	Approximately 80% of B.C.'s tomatoes and cucumbers are grown in open fields in the Fraser Valley.	T	F
7.	Experts predict that international free trade will increase tariffs on imported products.	T	F
8.	First Nations people didn't know anything about agriculture until European settlers arrived.	T	F
9.	***Pasteurization*** is the part of milk processing that destroys bacteria.	T	F
10.	Cattle and sheep both do well grazing on rangeland.	T	F
11.	The first thing you should do at the scene of a farm accident is ensure that the victim is breathing.	T	F
12.	***Oilseeds*** are an important crop for ranchers.	T	F

Research

How'd you do in the *Agriculture Quiz?*

If you're like most students, you got some answers correct, but also found that you have some things to learn. If you're curious about the true answers to the false statements, stay tuned—they'll all be revealed in the lessons.

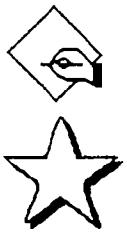
In this course, you won't always get the information you need from the lessons. Many of the activities in Agriculture 11 ask you to ***research*** a topic. For example, you might be asked to find out about dangerous weeds in your region, interview a local farmer, find out how eggs are marketed, or collect information to support your opinion on a topic.

Why are we doing this? What does research have to do with agriculture?

Plenty. Here are some typical research scenes in agriculture:

- A new rancher has coffee with an old-timer. The experienced rancher explains why canary reed grass will never grow in their region.
- A worker at a garden centre uses a plant key to help identify a plant a customer is asking for.
- A dairy farmer uses an electronic information network to get the current price of grain so that he knows which is the cheapest way to mix his feed.
- A greenhouse worker reads up on pesticides to determine the most effective and least-harmful choice for the new crop.
- A grape grower asks a government agency if the satellite imagery data it has shows areas on her land that are more subject to frost than the rest.

Whether you are finding out things for yourself, or collecting information from others, research is how we find out what we know, and how we make sure we keep up to date.



Activity 1 A (2)

In this activity you'll have a chance to review basic research skills, and to get started doing some research you'll need to complete Send-In Activity 1.

A. Learn About Researching

Begin by reading the **Help Yourself** article *Find Out!* The following questions will help you check that you understand the main points.

1. In the planning stage, you should:

   (a) make an outline of all the keywords that you plan to research.
   (b) make certain you know what your topic is and how the results of the research will be presented. ( )

2. Recent information is often not available in published books. This means:

   (a) there is no point in doing research at the library.
   (b) you might want to write, telephone, or visit an organization or government branch that collects the type of information you want. ( )

3. *Keywords* are:

   (a) clues to help you find other sources of information.
   (b) the terms you must define in your presentation. ( )

4. In Agriculture 12

   (a) you may use sources of information not provided with the course.
   (b) your research must be limited to source file articles or information included in the lessons. ( )

5. The best way to ensure that you obtain accurate information is to:

   (a) spend time finding the best source of information.
   (b) compare information from two or more different sources. ( )

6. When you are sorting information:

   (a) keywords might be a helpful way to set up a framework.
   (b) you must be certain to use keywords to set up a framework. ( )

B. Find Out Where to Get Information

Now look at the contacts and sources of information listed in the **Help Yourself** article *Who's Who.*

1. What are the four general categories for sources of information in *Who's Who?* (4 marks)

   _____

   _____

C. Plan Ahead

It might take some time to find out what research resources are available to you.

Send-In Activity 1 asks you to describe the research resources that are available to you. This is actually doing research on doing research!

Here are some ideas that may help.

1. You could start by making a list of possibilities, based on the information in *Who's Who.*

2. Then you might confirm which resources are definitely available, and how you would get in touch.

   For example, you may have a home or school computer, but have never used the Farm Business Management Information Network (FBMInet). In this case, you should log onto the computer and dial up the FBMInet just to check that you can get on.

   Or, you might decide that most of your information will have to come by mail. You might want to send a letter to a regional specialist or district agriculturist to check that someone will be willing to help you with your questions.

3. Finally, you'd be wise to make a folder for your research information. This would be a good place to keep such things as:

   - the phone number of a woman you know who is poultry producer
   - a list of books you have found useful at the library, and their call numbers
   - useful BBS addresses that you have found on the Internet
   - the name of the regional field crop specialist

If you have a computer, you might want to put this information in an on-line file. You may even have a program that is designed to keep track of names and addresses.

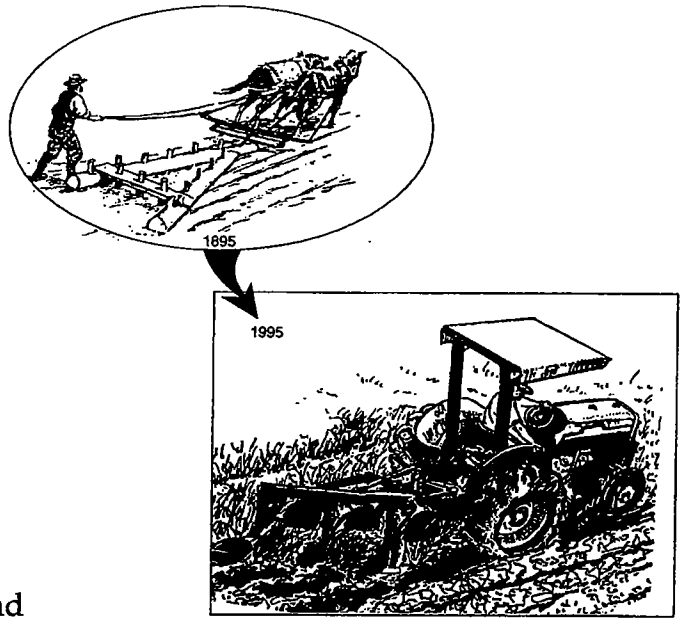
_____ **marks out of a possible 10**

Section 1 Lesson B

ROOTS IN THE PAST

> *We have taken our vegetables out of the ground; we have forty-one bushels of potatoes, the produce of one bushel planted last spring. Our turnips, barley, etc., have also produced well.*
>
> *Daniel Harmon, Fur Trader, Fraser Lake B.C., 1811*

In this lesson we'll start learning about agriculture by reading a source file article that explains how and why things have changed in Canada over the past several hundred years.



From There To Here

Becoming Familiar With the Source File

Many self-marking and send-in activities in Agriculture 11 will ask you to read articles in a ***source file***. Source files are separate booklets, each containing articles and information on the topics discussed in one unit of the course.

Just to make sure you know what we're talking about, take out the **Unit 1 Source File** and find the article *Roots in the Past*. Keep it handy—you'll need it for Activity 1 B (1).

Here's one way to go about completing activities that are based on source file articles.

- First, read the questions to get an idea of what the activity is all about.
- Next, read the article from beginning to end.
- If you have a dictionary, keep it handy. Some source file articles may contain words that are unfamiliar to you.
- Finally, answer the questions, referring back to the article as often as you need.

Ready to give it a try? Go on to Activity 1 B (1).

Read the **Unit 1 Source File** article *Roots in the Past.*

Roots in the Past contains a lot of information about agriculture in Canada over the past several hundred years. When you have a detailed article like this, it's useful to summarize the main points.

In this activity we're interested in understanding the different ***eras*** in agricultural development in Canada. An era is a period of time with certain characteristics that make it different from the time before and the time after. By describing each era in sequence, we can see how things have changed over time.

A ***timeline*** is a good way of presenting information on how things have changed over time.

Complete the timeline on the next page.

Question

Here is a timeline and a description of five eras. Put the letter describing the era next to the correct date on the timeline.

Eras

(a) Science, technology, and economics define our agricultural practices, with increased emphasis on specialization and larger operations.

(b) First Nations people mainly hunt and gather for food. One important exception are the Algonquin-speaking peoples of Eastern Canada.

(c) Industrialized agriculture gets going. Mechanization, electrification, improved seeds, and better transportation systems bring about many changes in agricultural practices.

(d) Agricultural enterprises are established all across Canada. Agricultural products begin to be transported for sale in other areas.

(e) The first signs that agriculture may be successful in Canada. Settlers are mainly concerned with feeding their own families.

Timeline

1500 _____
1550 _____
1600 _____
1650 _____
1700 _____
1750 _____
1800 _____
1850 _____
1900 _____
1950 _____

_____ **marks out of a possible 5**

Agricultural Arithmetic

In the source file article *Roots in the Past* there are some facts and figures about agriculture. For example, the size of Canada's first farm is described in ***acres*** and the amount of produce grown at various times is described in ***bushels.***

In Canada today we use metric (International System) equivalents for these measurements. All the information in Agriculture 11 will usually include metric figures, and you will be expected to provide information using metric measures.

When you do research for your Agriculture 11 projects, however, you are likely to come across information presented in non-metric forms. This may be because the information is published in a country that does not use the International System, or because it is old information published in Canada before we converted to the International System.

To do some projects you'll also want to talk to farmers and ranchers about their work. You may find that many people in Canada have still not *gone metric.*

Knowing your basic conversions also has a real-life value. If you get a chance to work in agriculture, you may be asked to mix, measure, or estimate using information in either measurement system. If you get your ounces and millilitres mixed up, you could end up poisoning the soil with an overdose of herbicide!

> ***Math phobia?***
>
> *Don't be tempted to skip the calculations! There are only five questions. And you will be asked to do some simple conversions in the Unit 1 Test.*

With a simple calculator and a couple of conversion charts, it's pretty easy to convert from one to the other. You may already be quite good at this. Just in case you need a hand, Activity 1 B (2) will give you a chance to practise.

Activity 1 B (2)

You'll need your **calculator** for this activity.

The **Help Yourself** article *Peter Piper Picked 9.093 hL of Pickled Peppers* tells you how to do metric conversions. Use the information in the article to help you do these conversions.

1. Louis Hébert's farm was 12 acres in size.

   (a) In exact calculations, how many hectares is that?

   _____

   (b) In a rough estimate, how many hectares is that?

   _____

2. In 1928 Saskatchewan harvested 174 million bushels of wheat. Roughly how many hectolitres is that?

   _____

3. The instructions on the herbicide suggest you use 10 fluid ounces per acre.

   (a) What is the best metric unit to convert to?

   _____

   (b) How much is that per hectare?

   _____

_____ **marks out of a possible 5**

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Sustainable Resources 12 (v2)

Section Assignment #1.0

Resource Pages

Attached are the pages from the Sustainable Resources 12 Resources that you need to complete this Send-In Assignment.

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FIND OUT!

Many of the activities in Agriculture 11 ask you to research a topic. For example, you might be asked to find out specific agricultural information for your region, look up more recent versions of statistics, or collect information to support your opinion on a topic.

The Research Process

The *research process* includes:

1. Planning
2. Finding Sources of Information
3. Sorting Information
4. Organizing Information for Presentation

This article gives you some pointers on the first three stages of the research process. The **Help Yourself** articles *Facts and Opinions, Graphs: Get the Point?, Planning an Educational Display,* and *Elements of Design* talk about ways to organize information for presentation.

1. Planning

In the planning stage, you should:

- decide on a topic
- decide how to present the results of your research
- identify possible sources of information
- determine who the audience will be

In many of the activities in Agriculture 11, the planning stage is done for you. To make certain that you know what is expected of you, it is a good idea to quickly check that all four points mentioned here are described in the activity.

If you have problems understanding a unit project, be certain to ask your instructor for further information before you do the project. If you have a problem with a send-in or self-marking activity, do your best with the activity, but describe your problem to the instructor.
When you are doing research to complete an activity, it is also a good

idea to review the information the activity gives you on how the instructor will mark your work. This will help you check that you have researched the main points.

2. Finding Information

Where To Look

Often, the activity will tell you exactly where to look for information. This will usually be in the source file for the unit.

Sometimes, the activity will ask you to look for additional information in other sources. Here are some ways you might find information:

- Write or phone one of organizations listed in the **Help Yourself** article *Who's Who?*
- Visit your local library.
- Hook up to the Internet or Farm Business Management Information Network (described in the **Help Yourself** article *Who's Who?*).
- Look through the newspapers, books, magazines that you have in your home.
- Make a connection to information in other courses you are taking.
- Look through other parts of Agriculture 11.
- Discuss the subject with a friend or family member who knows something about the topic.
- Look for relevant television, radio, or video programs.
- Visit a local agriculture-related businesses.

You may use information from any additional sources to do any send-in activities—even when it's not required. Just remember to say where you got your information.

Easy Answers and Lucky Breaks

If you're just checking a few facts, you'll sometimes be able to find the information you need with a phone call or a quick look in a reference book.

This isn't all luck. The more research you do, the easier it becomes. You'll get more familiar with possible sources of information, and handier at guessing the best place to start.

Hint:

- Even if the first place you look seems to have exactly the right information, it's a good idea to check at least one other source.

Really Getting Into It

Often, finding information is like detective work. You have to look for clues that suggest the government department, book, or encyclopedia entry might include facts and ideas that relate to your topic.

For larger projects, you might want to start by reading one fairly simple article that is an introduction to your topic. In this first article, look for ***keywords*** that might suggest other things that you should look up. You can often spot a keyword because it will name something that you are not completely familiar with—something that requires further research.

For example, imagine that your topic is *Describe and Explain What Silage Is and How it is Made.* In a reference book, you've found this entry:

> *Silage:*
> *A green fodder for farm animals, preserved and stored in a silo; ensilage.*

This doesn't tell you exactly what silage is or how it is made, but it's a good place to start. Here are the clues for further research that you can get from this entry.

- You now know that silage is sometimes also called *ensilage.* Another reference book might have the information you want under the heading *ensilage.*
- *Fodder* is a keyword. If you don't know what it is, you'll have to look up the meaning in a dictionary or other reference work. You'll also need to find out the difference between *green fodder* and other types.
- You'll also want to find out more about *silos.*

These keywords aren't guaranteed to get you the right information—that depends on the sources of information you have available. Each is worth a try, however.

Hints:

- Keep a dictionary handy. This is sometimes the quickest way to get an explanation of a keyword.
- Don't forget yourself as a source of information! Before you start your research, make some notes about what you already know about the topic. Even if your research shows you that some of your ideas were wrong, it will help to do some advance thinking.

3. Sorting Information

Here's the tricky part. You're sitting in front of a source file article, two pages from the *Encyclopedia Britannica,* and a fact sheet a Regional Agriculturist sent you. Where do you start to sort out the information that you will use in your presentation?

Different people have different ways of sorting information. Here are two methods you could try.

- *Skim First, Ask Questions Later*

  You can quickly skim through all your material, noting down interesting points as you go. You can then sort these points into useful categories.

- *Make a Framework*

  Start by reading one longer, general article from beginning to end, making note of the key points. (If you are comparing two points of view, you'll have to read one article from each point of view.)

As you read the rest of your sources, check to make certain that the new information you read agrees with the first list of key points. If there is a disagreement, note that down. If an important piece of information comes up, add it to the list.

Hints:

- Whatever method you use (and you may have one of your own), the best time to note the source of your information is *now.* Although activities in Agriculture 11 do not ask you for footnotes or bibliographies, you should be able to give the source of any facts or examples you use in your work. You'll also find you often need to refer back to a point in the original material—it's irritating not to be able to find it.
- Be careful that you don't base too much of your information on a source that has a strong one-sided opinion. If a fact seems outrageous to you, too good to be true, or simply peculiar, be certain to check it with a second source—people sometimes twist facts to suit their needs!
- If you find two sources that don't agree on a key fact or statistic, try to find a third source for comparison. Also look at the source of the information and its date—one of your sources may be more up-to-date than the other.
- If you can't decide which piece of information is correct, explain both in your report and note the discrepancies and any theories you have to explain them.

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WHO'S WHO

Many of the activities in Agriculture 11 ask you to research a topic. This article tells you who to contact for different types of information. If you're not sure exactly who to contact, make your best guess and ask to be redirected if the person you're speaking to can't help you.

Local Resources

Local resources available to you will depend on the amount and type of agricultural activity in your community. The following are three helpful organizations that may or may not have chapters or groups in your area.

B.C. Farm Women's Network
Linda Cherry
National Representative
5055 Mt. Lehman Rd.
Abbotsford, B.C. V4X 1Y3
Phone: 604-856-6363 Fax: 604-856-0155

Farmers' Institute
(No province-wide contact.)

4-H Organizations
Manager, Youth Development Programs
(4-H Program)
Ministry of Agriculture, Fisheries and Food
4607 23rd St.
Vernon, B.C. V1T 4K7
Phone: 250-260-3000
E-mail: gbryant@galaxy.gov.bc.ca

BC 4-H Provincial Council
Executive Director, Colleen Lepik
844 Windbreak St.
Kamloops, B.C. V2B 5P1
Phone: 250-376-0373
E-mail: bcfourh@mail.netshop.net

Government Agencies

Both the federal and provincial governments offer programs that support many areas of agriculture, including research, marketing, production standards, and employment.

Agriculture and Agri-Food Canada Research Stations

Research stations conduct investigations into crop, poultry, and livestock production and management. The federal stations often work with provincial experts and local farmers or ranchers to conduct experiments that produce results relevant to British Columbia. Key research stations include: the Pacific Aggasiz Research Station, Abbotsford Horticulture Substation, Kamloops Range Station, Summerland Research Station, and the Vancouver Research Station.

If you're having trouble finding local information, contact:

Pacific Agassiz Research Station
Box 1000, 6947 No. 7 Hwy.
Agassiz, B.C.
V0M 1A0
Phone: 604-796-2221

B.C. Ministry of Agriculture, Fisheries and Food: General

The Ministry of Agriculture, Fisheries and Food is a large and complex organization with offices in many parts of the province. It may take you several tries to get to the right branch or department. Here are some of the specialized departments they have:

- Farm Management (financial aspects of farming)
- Resource Management (environmental and technical aspects)
- Animal Health
- Crop Protection (dealing with weeds and pests)
- Regional Specialists (expertise in crops in a particular area)
- District Agriculturists (expertise in livestock management in a particular area)
- Extension Systems (information and programs for students)

The best place to start is by looking in the blue pages of your phone book to see what is available locally. If all else fails, you can contact:

B.C. Ministry of Agriculture, Fisheries and Food
Head Office
808 Douglas St.
Victoria, B.C. V8W 2Z7
Phone: 250-356-7060

mailing address:
P.O. 9139
Station Provincial Government
Victoria, B.C. V8W 9B5

The Agriculture Workforce Policy Board

These are the people to contact for information on what skills are needed in agriculture, where to get the education you need to work in the agriculture industry, and scholarship or bursary information.

The Agriculture Workforce Policy Board
2795 Grafton Ave.
Qualicum Beach, B.C. V9K 1W 8
Phone: 250-752-1564

Agricultural Land Commission

The Agricultural Land Commission handles matters concerning the appropriate use of agricultural land in B.C.

Agricultural Land Commission
Room 133, 4940 Canada Way
Burnaby, B.C. V5G 4K6
Phone: 604-660-7000

Workplace Standards and Safety

The provincial government has a toll-free number for enquiries regarding employment standards issues such as minimum wage and overtime:

1-800-663-3316

The Workers' Compensation Board toll-free number is:

1-800-680-4264

The federal government also has a toll-free number to answer enquiries regarding workplace health and safety:

1-800-263-8466

Producer Groups

A ***producer group*** is an organization created by the producers of a particular commodity.

Some producer groups, such as the Milk Marketing Board, are province-wide and have regulatory, marketing, and producer-support functions. Others may be local groups that focus on producer support, such as information sharing and common marketing.

This section provides a sample of the province-wide groups most relevant to Agriculture 11 topics. These organizations are typically happy to promote their products and willingly give you information.

B.C. Artificial Insemination Centre
Box 40
Milner, B.C. V0X 1T0
Phone: 604-530-1141

B.C. Cattlemen's Association
#4 - 10145 Durango Rd.
Kamloops, B.C. V2C 6T4
Phone: 250-573-3611

B.C. Chicken Growers Association
Box 581
Abbotsford, B.C. V2S 6R7
Phone: 604-859-9332
Fax: 604-853-4808

B.C. Egg Producers' Association
307 - 34252 Marshall Rd.
Abbotsford, B.C. V2S 1L9
Phone: 604-853-7471

B.C. Forage Council
c/o AgCanada
3015 Ord Rd.
Kamloops, B.C. V2B 8A9
Phone: 250-554-5206

B.C. Fruit Growers' Association
1473 Water St.
Kelowna, B.C. V1Y 1J6
Phone: 250-762-5226

B.C. Grain Producers' Association
Joann Anderson, Secretary
Box 161
Dawson Creek, B.C. V1G 4H3

B.C. Hog Marketing Commission
2010 Abbotsford Way
Abbotsford, B.C. V2S 6X8
Phone: 604-853-9461

Dairymen's Associations
There are various dairymen's groups throughout the province. One of the larger groups is:

The Mainland Dairymen's Association
7754 Jensen Place
Burnaby, B.C. V5A 2A8
Phone: 604-420-1217

Horse Council
5746B 176A St.
Cloverdale, B.C. V3S 4C7
Phone: 1-800-345-8055
E-mail: lwood@uniserve.com

Marketing Boards

There are marketing boards for a variety of products, including mushrooms, milk, cranberries, and tree fruits. The main contact is:

The Council of Marketing Boards of B.C.
846 Broughton St.
Victoria, B.C. V8W 1E4
Phone: 250-383-7171

Vegetables and Fruits: General

There is a variety of organizations meeting the special needs of different vegetable and fruit growers throughout the province, including bush beans, corn, peas, blueberries, strawberries, and greenhouse growers. It's best to contact the B.C. Federation of Agriculture for specific information (see *Keep Up-to-Date* at the end of this article).

Electronic Information Networks

If you have a computer and a modem, you can get information on agriculture from a variety of electronic information providers.

The Community Learning Network

The *Community Learning Network* (CLN) is one agency that Agriculture 11 students may use to access a variety of electronic information sources, including the World Wide Web. Contact your instructor or regional school for information on the CLN.

Farm Business Management Information Network

The FBMInet is a joint project of the Canadian Farm Business Management Council and B.C. Ministry of Agriculture, Fisheries and Food. It provides a wide range of information of interest to farmers and ranchers, including:

- current prices of grain
- B.C. weekly events calendar
- software for agriculture
- important agriculture-related news articles of the day

There are also many different user discussion groups on topics as varied as ostrich farm management to raising orphan mules. There is a special user area for 4-H members to discuss their projects with each other.

To access the FBMInet, you need a computer and modem. You don't need to go through an agency such as CLN. Connect up your modem and dial this toll-free number: 1-800-661-4353.

Keep Up-to-Date

The addresses and phone numbers in this article were correct when the course was written. For more recent information, or for information on an organization not listed here, try the closest B.C. Ministry of Agriculture, Fisheries and Food office, or:

The British Columbia Federation of Agriculture
846 Broughton St.
Victoria, B.C. V8W 1E4
Phone: 250-383-7171

Your List

Here's some space to record names, numbers, postal addresses, and e-mail addresses of useful people or organizations that you have located.

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ROOTS IN THE PAST

For the most part, our ideas about agriculture came to Canada with European settlers. Most First Nations peoples were *hunter-gatherers.* That is, they took what they needed to eat from what naturally occurred in the region. This often meant moving from place to place in search of food, or moving to take advantage of seasonal bounties. This is different from *agriculture,* which involves staying in one place and raising or growing the food you want to eat.

One important exception, however, were the Algonquin-speaking nations of Eastern Canada. They used simple stone tools to plant corn, beans, pumpkin, and tobacco.

It was seeing fields of Algonquin corn that caused Jacques Cartier, one of the first Europeans to reach Canada, to believe that settlement was possible in the area. He brought wheat, cabbage, turnip, and lettuce seeds to North America shortly after 1534.

Survival

There were various attempts to establish farming communities in Canada over the next hundred years. The early settlers mainly came from France and settled in the areas of the St. Lawrence River in Québec and the St. John River in New Brunswick. The Hébert family goes on record as being Canada's first successful farmers. Louis Hébert was a druggist from Paris whose family farmed 12 acres in Québec in the 1620s.

The settlers struggled to adapt to the unfamiliar climate and soils. In addition to the native crops, they grew wheat, oats, and flax. They also began raising cattle, sheep, goats, horses, and poultry from breeds brought from Europe. The whole family was involved in breaking the soil, sowing crops, harvesting, and caring for the animals. The goal for most was to produce enough to last through the winter. Many didn't make it.

B.C.'s First Farms

B.C.'s first farmers were actually sailors. In 1786, Captain James Strange landed at Nootka Sound on the West Coast of Vancouver Island while on a fur trading mission. To provide a change of diet for his sailors who were suffering from scurvy, he put them to work clearing land and sowing seeds brought with them on the ship. The land was seized by Spaniards the next year, who later raised cattle, swine, goats, and poultry.

Other early farms were established by fur traders working for the Hudson's Bay Company. We know that a pear tree was one of the first things planted at the Hudson's Bay Company farm near Fort Langley in the 1840s. Soon, small farms were cropping up in such diverse parts of the province as Fraser Lake, Fort George, Fort Kamloops, and Fort Langley. With the mining boom of 1850, ranchers started moving livestock herds along the river valleys all through the province.

Selling the Surplus

By 1850, there were farming and ranching communities established in every major area of Canada. As prosperity grew, the emphasis shifted from sheer survival to hopes of having a surplus to sell.

The shift from survival farming to agriculture as a business requires more than good soils and the right amount of rain. To make money at agriculture, you must know what people want to buy, have a means of getting the product to the buyer, and know whether or not you can produce enough of the product at a price the buyer will pay. All this requires organization.

The government very quickly became involved in regulating and promoting agriculture. Land boards, agricultural boards and societies, and the first agriculture school all existed by Confederation in 1867. The whole thing was tied together by the Canadian Pacific Railway moving products to market and people to employment.

By the end of the 19th century, Canada was well on its way to becoming one of the world's great food producers and was exporting grain, butter, and cheese to Britain.

Industrialized Agriculture

The beginning of the 20th century saw the steady application of science to farming.

Farmers had the market, not only in the expanding population in the towns and cities springing up across the country, but also in the urgent demand for high-quality wheat, barley, and feed grains from other parts of the world. The single most important goal for every farmer was to increase yield with the minimum increase in cost.

Methods of growing and harvesting changed. Government experimental farms researched breeding and growing conditions, resulting in new and better seeds to suit Canadian soils and weather conditions. Horses replaced oxen and later were themselves replaced by gasoline-powered tractors. Machines were invented to do labour-intensive activities such as threshing (separating the grains of wheat from the stalks).

New technologies were also developed to aid in the transportation of products. Hundreds of grain elevators sprouted up in the prairies and new railway lines linked the farming areas to the cities and ports of the country. By 1901, refrigerated railway cars were available on many lines and government bonuses encouraged the construction of 500 creameries with cold-storage facilities.

The government role became increasingly important. For example, the *Fruit Marks Act* of 1901 made grading compulsory for commercial apples. This protected consumers and encouraged apple-growers to improve quality. The beef and dairy industries also came under increased supervision. Cow-testing stations were established to help farmers improve their herds, and the government began inspecting all livestock heading for slaughter.

The Great Depression

By the mid-1920s, wheat was king in the western provinces. Demand was high world-wide and growing, transporting, and marketing wheat became the backbone of the economy of the western provinces. The government encouraged farmers to specialize in this one crop because it was good for international trade. In 1928, Saskatchewan alone harvested 174 million bushels of wheat at $1.18 a bushel. It was a great time to be a farmer—but not for long.

By 1933, the world economy had collapsed and other nations could not afford to buy wheat at the rate they once had. The price of a bushel of wheat dropped to $0.38. In an effort to make enough money, farmers planted and tried to sell more wheat. This just increased surpluses and caused prices to drop even further.

Nature also began to fight back against the farmer. Natural prairie grasslands are able to withstand seasons of little rain. Even though the grasses might die back, the network of roots will hold the soil in place until the rains come again. Farming, however, requires that the natural grasses be removed and the soil cultivated. When drought came to the prairies in the 1930s the cultivated topsoil dried out and blew away.

Between 1931 and 1941 a quarter of a million people left the prairies in search of work. But things weren't much better in the rest of Canada. It took a war to get the country going again.

World War II

World War II put the Canadian economy back on its feet. The demand for food was heavy and Canadian farmers moved into production. Many men were away at war, which meant looking for mechanical ways of replacing farm labour.

The war brought about increased cooperation between governments and farmers. Together, they decided how much land would be devoted to each crop and animal, and developed a system of planned production, price subsidies, and agriculture contracts that limited the amount and type of agricultural activity that each farmer could undertake. One of the most important promises made by the government was that it would not let livestock and crop prices collapse again as they had in the thirties. A $200 million fund was set up to make sure they could keep the promise.

Monocultures and Agribusiness

As the war ended, industrialized agriculture grew by leaps and bounds. ***Pesticides*** to kill unwanted bugs, ***herbicides*** to kill unwanted plants, and ***fertilizers*** to add nutrients to the soil led to higher yields. By 1960, world-wide food production was 2.6 times what it had been the decade before.

Small family farms with a mix of crops and livestock were increasingly unable to compete against larger ***monocultures***—operations specializing in one commodity. The result was a steady decrease in the number of farms and a steady increase in the size—although the family farm survived better in Canada than it did in the United States.

Year	No. of Farms in Canada	No. of People on Farms as % Population	Average Size of Canadian Farms
1941	700 000	27.4%	95 hectares
1971	366 000	6.9%	185 hectares
1976	338 000	4.6%	200 hectares

A network of industries developed to support the basic job of growing crops and raising livestock. Equipment manufacturers, transportation companies, research centres, and packaging companies are just some of the industries that became linked in the ***agribusiness*** network.

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PETER PIPER PICKED 0.09 HL OF PICKLED PEPPERS

There was a time when we would have said Peter Piper picked a *peck* of pickled peppers. A *peck* is the ***imperial*** measure of dry volume for agricultural products such as fruit or grain. It is one-quarter of a *bushel.* In Canada today, we officially measure distance, area, and liquid and dry volumes in *litres.* More specifically, grain and other commodities are typically measured in *hectolitres* (one hundred litres). These are ***metric*** measurements, also called ***Système international d'unités*** (SI).

Unofficially, however, may farmers prefer to use the imperial system. Imperial measurements have the advantage of being originally based on agricultural activities. Metric measurements for many agricultural activities often result in numbers that are 10 or 100 times too big or too small to be meaningful in daily use. If you're doing quick calculations in your head, for example, *one peck* is easier to work with than 0.09 hL.

If you are working or researching in the field of agriculture, you need to understand both systems and be able to do conversions. You also need to be aware of the differences between American and Imperial measurements—which use the same terms for different volumes. An American *gallon,* for example, is smaller than an imperial gallon.

METRIC CONVERSION

Imperial Units	Approximate Conversion Factor	Results
Linear		
inch	x 25	millimetre (mm)
foot	x 30	centimetre (cm)
yard	x 0.9	metre (m)
mile	x 1.6	kilometre (km)
Area		
square inch	x 6.5	square centimetre (cm^2)
square foot	x 0.09	square metre (m^2)
acre	x 0.40	hectare (ha)
Volume		
cubic inch	x 16	cubic centimetre (cm^3)
cubic foot	x 28	cubic decimetre (dm^3)
cubic yard	x 0.8	cubic metre (m^3)
fluid ounce	x 28	millilitre (mL)
pint	x 0.57	litre (L)
quart	x 1.1	litre (L)
gallon	x 4.5	litre (L)
bushel	x 0.36	hectolitre (hL)
Weight		
ounce	x 28	gram (g)
pound	x 0.45	kilogram (kg)
short ton (2000 lb)	x 0.9	tonne (t)
Temperature		
degree Fahrenheit	(°F -32) x 0.56	degree Celcius (°C)
Pressure		
pounds per square inch	x 6.9	kilopascal (kPa)
Power		
horsepower	x 746	watt (W)
	x 0.75	kilowatt (kW)
Speed		
feet per second	x 0.30	metres per second (m/s)
miles per hour	x 1.6	kilometres per hour (km/h)
Agriculture		
bushel per acre	x 0.90	hectolitres per hectare (hL/ha)
gallons per acre	x 11.23	litres per hectare (L/ha)
quarts per acre	x 2.8	litres per hectare (L/ha)
pints per acre	x 1.4	litres per hectare (L/ha)
fluid ounces per acre	x 70	millilitres per hectare (mL/ha)
tons per acre	x 2.24	tonnes per hectare (t/ha)
pounds per acre	x 1.12	kilograms per hectare (kg/ha)
ounces per acre	x 70	grams per hectare (g/ha)
plants per acre	x 2.47	plants per hectare (plants/ha)

Examples: • 2 miles x 1.6 = 3.2 km • 15 bu/ac x 0.90 = 13.5 hL/ha