



# Presentation Manual

**Thank you** for volunteering your time and expertise to the Classroom Agriculture Program. Your commitment to teach students and teachers the importance of agriculture is greatly appreciated. **Each CAP presentation has significant educational value and is endorsed by Alberta Education and Alberta Agriculture and Rural Development.**

To the experienced volunteers, welcome back and to the new volunteer, a very special welcome – we are confident you will find this volunteer experience both rewarding and enjoyable.

**As you plan for your CAP presentations please incorporate the following five objectives:**

- 1. Use at least one example of ‘Where Food Comes From’ – explaining the path the food product takes from farm to table**
  - Idea: Show the Video “It All Starts on the Farm”
- 2. Emphasize that every day is Earth Day for Alberta farmers and ranchers and it is important for them to protect the environment for future generations**
  - Idea: Slice of Soil Demonstration (*Page 6*)
- 3. Use at least one example that relates Alberta’s agricultural industry to Grade 4 curriculum (*Pages 10-12*)**
  - Ideas: Pioneers, Partners, Economy, Balanced Diets or Plant Growth
- 4. Use visual aids and hands-on materials whenever possible**
  - Ideas: Bring in samples of different crops grown in Alberta, or have students dress up in different costumes related to careers in agriculture
- 5. Adapt the above information to your own operation and experiences, as well as agriculture in general, remembering that personalizing it is what makes the program unique and exciting!**

**Promote a greater understanding and an appreciation of agriculture and encourage students to continue learning about agriculture.** 2

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## CAP 2010 Members and Partners

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| <ul style="list-style-type: none"> <li>- <i>Alberta Barley Commission</i></li> <li>- <i>Alberta Beef Producers</i></li> <li>- <i>Alberta Canola Producers Commission</i></li> <li>- <i>Alberta Chicken Producers</i></li> <li>- <i>Alberta Egg Producers</i></li> </ul> | <ul style="list-style-type: none"> <li>- <i>Alberta Pulse Growers Commission</i></li> <li>- <i>Alberta Veterinary Medical Association</i></li> <li>- <i>Eastern Irrigation District</i></li> <li>- <i>Olds College</i></li> </ul> | <ul style="list-style-type: none"> <li>- <i>Potato Growers of Alberta</i></li> <li>- <i>Canadian Wheat Board</i></li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|

## **Presentation Suggestions:**

The key to a good experience is student involvement. Reading a prepared speech involves only the reader and not the students. The time and energy put into the preparation of your presentation will directly influence your success. Although the farm economy is currently challenging, classroom presenters really need to resist the urge to whine about 'how tough things are'. Your presentation should be positive and not provide a narrow or isolated view of farming.

You are encouraged to develop your own program using your personal knowledge and experiences of agriculture, as well as some of the information supplied in this Presentation Manual.

Relate the students to the partners involved in the industry and how you fit. Teachers emphasize the importance of hands-on and visual aides.

### **Here are some suggestions:**

1. Before beginning, ask some questions to find out their knowledge level, e.g. "What do you think of when you hear the word 'farm'?"
2. Keep agricultural terminology or scientific terms to a minimum so students are not overwhelmed or lost in what they can understand and relate to.
3. Smile and relax.
4. Use nametags for students. Ask teachers to have nametags ready, or bring some in. This makes presentation/discipline easier if you can identify students. Also, students like to be called by name.
5. Wear the UFA nametag available from your Zone Coordinator so that students can call you by name.
6. If a question is raised and you are not sure of the answer, do not be afraid to say you do not know but will find out and let them know - and do so.
7. Some issues that might come up and that you should prepare for:
  - environment e.g. global warming, world hunger, destruction of the rainforest
  - animal welfare
  - food vs. fuel e.g. why are you using crops for fuel rather than feeding those who are hungry? food safety (steroids, antibiotics, pesticides )
8. If possible, set up in the library, gym or lunch room and have the classes come to you.
9. Remember you are to teach, inform and provide experiences for the students that they might not otherwise receive. You are the expert in this area but you must plan ahead and be prepared.

## **Visual Aids:**

1. Use the CAP video - **It All Starts At The Farm**, which is available from your Zone Coordinator.
2. For visual presence, you might create a poster with pictures for each concept you talk about; this would also act as a guideline for you. This works well only if the students are around you while you are teaching. When students are in their desks, the pictures would be too small to use as teaching tools but would add interest as displays.
3. A “Multi-Media Library Catalogue” which lists all video productions geared specifically to students is available from the Alberta Agriculture and Rural Development Film library.
4. Set up a display using Alberta-produced food either pictorially or actual.
5. Some presenters have made their own videos with great success.
6. Ask to borrow the Canola By-Products Tupperware kit from your Zone Coordinator.
7. Demonstrate “Food Recipe.” (See pages 4 and 5 for ideas.)
8. Bring in samples or by-products. (See pages 8 and 9 for details.)

## **Food Recipes:**

### *Dirt for Dessert*

**Before taking this to class, contact the teacher for possible peanut or other allergies. Substitute chocolate wafers for peanuts if there are allergies.**

- glass bowl
- graham wafers (rocks and sand)
- 2 packages instant chocolate pudding
- jellybeans (rocks)
- 2 - 250 mL containers milk (rain)
- gummy worms (worms)
- multi-colored chipits (fungi and bacteria)
- peanuts (beetles)
- crushed Oreo cookies (dry topsoil)
- yellow colored coconut (straw)
- whipped cream or marshmallows (snow)

Tell the class, “Today we are going to make dirt.”

Package, label and seal small quantities of graham wafers, jellybeans, milk, gummy worms, peanuts, chipits, crushed Oreo cookies and coconut. Hand these packages out to various children and tell them not to let the worms, bacteria, etc., escape.

When the earth was a lot younger than it is now, in fact over 10,000 years ago, there was what was called an ice age. Just one of many, but the last one we had was around then. There were huge blocks of ice that fell down into where we live and as this ice and water tumbled along and crushed the gravel and rocks, it made sand. Later more erosion was caused by wind, heat, cold and water. The rocks were worn down forming minerals, sand, silt and clay. Grass grew and dried, tree leaves fell forming organic matter. They didn't do this all by themselves. They had help from worms, beetles, fungi and bacteria. As the leaves and grass go through worms, etc., they go through changes and come out as enriched soil - the organic matter.

So first we have rocks and sand - graham crackers and jelly beans.

We also have to have air and rain (we are using milk today) to make the plants grow. Have child holding milk come to front and add to pudding.

Put chocolate pudding on top of crumbs (organic matter). Have other children come to front and add ingredients one at a time.

There is always dry soil on top (crushed Oreo cookies). Last but not least we have straw on the grain fields or grass on the pasture lands. Here we will use coconut. This straw helps the farmer keep his soil at home and not blown away or lost to water erosion. When the worms etc., work over winter it is turned into more organic matter. In winter, we have a snow cover to help produce more moisture and helps keep the soil warmer (whipped cream). Put aside to decompose.

The farmer and his partners are concerned caretakers of the environment and value its natural resource. Every day is earth day for a farmer or rancher because his/her living depends on it.

The grand finale: Everyone gets to eat the dirt! This recipe will feed approximately 30 students.

### ***Other Food Ideas***

1. Grind your own wheat, and then make buns using the resulting flour
2. Provide muffins using ingredients from Alberta
3. Provide gum and marshmallows as by-products (See pages 8 and 9)

### **Demonstration: A Slice of Soil**

**Supplies:**

A large apple and a paring knife OR a large orange and instead of cutting through whole orange, section off skin and peel in front of class

**Introduction:**

One of the most important natural resources that covers much of the earth's land surface is soil. All living things depend on it as a source of food, either directly or indirectly.

Our food producing land remains the same and yet the world population continues to grow. Consequently, each person's food portion becomes smaller and smaller. It is the responsibility of this generation to use the soil wisely to ensure the future. The following demonstration will show how little of the earth's surface is actually used for food production as compared to growing population.

**Steps:**

1. Cut the apple into four equal parts. Three parts represent the oceans of the world. The fourth part represents the land area.
2. Cut the land section in half lengthwise. Now you have two  $\frac{1}{8}$  pieces. One section represents land such as deserts, swamps, Antarctic, Arctic and mountain regions. The other one-eighth section represents land where man can live and may or may not be able to grow food.
3. Slice this one-eighth section lengthwise into four equal parts. Three of these  $\frac{1}{32}$  sections represent the areas of the world which are too rocky, too wet, too hot, or where soils are too poor for production, as well as areas developed by man.
4. Carefully peel the last  $\frac{1}{32}$  section. This small bit of peeling represents the soil of our earth on which mankind depends on for food production.

**Questions for class discussions:**

- What if this valuable topsoil which Man depends upon should suddenly disappear? What then?
- What will happen if the world's population continues to grow while our earth's topsoil remains the same?
- What ways can you and your family help conserve precious soil in your own backyard?

**Games:***Name That Tool*

A popular way of introducing something new to students is to present them with some "Mystery Objects". Bring farm tools, safety equipment, and/or small components of farm machines to the

classroom. Encourage small groups to brainstorm about how the tools might be used. From what type of farm did they come? Do they relate to any of the other tools? Could they be used for something else? Questions like these can help students develop observation and problem-solving skills. Despite the title above, the actual name of the object is rarely important, although it may give some insight into how a tool is used.

A single tool can also be put on display, with students invited to submit suggestions as to use. Students can also be encouraged to provide items to stump their friends.

A classroom version of “Bluff” allows students to invent possible uses for a tool and present each of them to the class, along with the correct use. Class members vote for the most convincing explanation.

### **Partner Suggestions:**

“Partner” would be defined as those people with occupations other than farmers or ranchers.

1. Choose the partners you want to talk about and relate them to a student’s family, i.e. banker’s son, chef’s daughter etc.
2. Give each student a card with an occupation on it, i.e. truck driver, veterinarian, bank manager, etc. Then say “Who am I?” and read out a job description. The student with the appropriate card holds up their hand, i.e. “What size of loan do you think you’d need to buy a new swather Jim?” Answer: bank manager.
3. Role playing: Cut out pictures of people, let student pick one, and have them act out occupation for the rest of the class to guess. Or, put occupations on pieces of paper; have students draw one, and then act it out or give visual hints.
4. Day in the life of a farmer and spouse. Dress the part.
5. Make a poster showing a day in the life of a producer during the busiest time of year or, make your entire presentation around a day in your life, using opportunities to bring in partners.
6. Make a poster, or timeline showing the partners involved when getting the animals from pasture to plate or crops from seed to grocery store product. Emphasize that animals grown for food are NOT pets.
7. Dress up as each partner discussed, using a hat or prop to illustrate the occupation.

## Samples and By-Products

Most of the following list of sample items can be found at farm equipment or supply stores. As you purchase or borrow a tool, get a full description of how it is used.

### Sample Items:

- |                                    |                 |                |
|------------------------------------|-----------------|----------------|
| • fence insulator                  | • wrenches      | • curry comb   |
| • moisture tester                  | • chick waterer | • draw bar pin |
| • ear protectors (noise reduction) | • rain gauge    | • hoola hoop   |
| • teat dip                         | • rubber gloves |                |
| • hoof pick                        | • salt lick     |                |
|                                    | • SMV sign      |                |

### *Beef By-Products:*

By-products are a hit. These are things that come from a beef animal, other than the meat, and are used in our daily lives. Make a poster or bring in as much of the following beef by-products as you can:

**Inedible by-products** are used in all sorts of mechanical items. Chemical manufacturers use numerous fatty acids from inedible beef fats and proteins for all sorts of lubricants and fluids.

- |                 |                            |                               |
|-----------------|----------------------------|-------------------------------|
| • animal feed   | • fertilizers              | • lubricants                  |
| • cement blocks | • high gloss for magazines | • molds for plastics          |
| • bone china    | • leather sporting goods   | • asphalt                     |
| • leather boots | • luggage                  | • car polishes and waxes      |
| • toothpaste    | • paints and glue          | • hydraulic brake fluid       |
| • candles       | • violin strings           | • rubber tires                |
| • cosmetics     | • photographic film        | • textiles for car upholstery |
| • crayons       | • plastics                 | • deodorants                  |
| • shampoo       | • detergents               | • shaving cream               |
| • doggie chews  | • soaps                    | • fabric softeners            |

**Edible by-products** include the following:

- |               |                |                   |
|---------------|----------------|-------------------|
| • candies     | • apple juice  | • mayonnaise      |
| • chewing gum | • jello        | • sausage casings |
| • ice cream   | • marshmallows | • yogurt          |

**Pharmaceutical by-products** are used in the medical world. These products have ingredients that came from a beef animal:

- Sodium levothyroxine
- Heparin
- Chymotrypsin
- Corticotrophin
- Deoxyribonuclease
- Fibrinolysin
- Parathyroid hormone
- Thrombin
- Thyroid
- Glucagon
- Insulin for Diabetes (not as common any more)

### ***Canola By-Products:***

The Canola By-Products Tupperware Kit can be borrowed from your Zone Coordinator. These could include the following items:

- plastic tubing
- lip balm
- bath oil
- soap
- hand cream
- oil lubricant
- fertilizer sample in sealed container
- dust suppressant in barns & on roads
- plastic food wrap
- biodiesel additive
- biodiesel

### ***Egg By-products include:***

- Some vaccines
- Some shampoos and other health/beauty products

### ***Barley By-Products include:***

- Those listed in the activity booklet.

## Curriculum Connections:

With direct reference to the Alberta Education's Program of Studies, this information has been edited and prepared to assist you in connecting your presentation specifically to the grade four curriculum content. The classroom teacher should be able to give you further assistance with curriculum connections if you need additional help.

### *Social Studies*

#### **Alberta: A Sense of the Land**

- natural resources (this topic should be discussed)
- importance of soil and water
- diversity of agriculture
- importance of agriculture in people's daily lives
- economic importance
- capital and technology intensive
- production, processing, marketing, and diversity
- natural resource conservation
- independence as related to access to natural resources
- partners in agriculture
- producer, processor, distributor, marketers and consumer/user
- conservation – natural resources
- geographic regions/the environment – the affect on people re: agricultural initiatives

#### **The Stories, Histories and Peoples of Alberta**

- farm life of a pioneer
- factors that influenced settlement in Alberta, including natural resources

#### **Alberta: Celebrations and Challenges**

Discussion of seasonal celebrations, farmers markets and local food

### *Science*

#### **Waste and Our World**

Plant and animal waste and how the agricultural industry recycles them

Example: Identify plant and animal wastes, and describe how they are recycled in nature. For example, plant leaves serve as a source of food for soil insects, worms and other creatures. The wastes of these animals may then be further broken down by molds, fungi and bacteria.

#### **Wheels and Leavers**

Basic components of simple machines: how they are assembled, how they operate, how they are used. using farm equipment as an example, demonstrate pulley systems, gear systems, wheel-to-wheel contact, a belt or elastic, a chain, cogs or gears. This could involve “Farm Safety” concept.

### **Plant Growth and Changes**

- different plants and their uses
- importance of plants to us and the natural environment
- research leads to changes in lifestyle and industry
- adaptation and modification of the environment in food production
- intensive nature of agriculture
- partners in agriculture
- producer, processor, distributor, marketers and consumer/user

### *Health*

#### **Wellness Choices**

Analyze the need for variety and moderation in a balanced **diet** (e.g. **role of proteins, fats, carbohydrates, minerals, water and vitamins**)

### *Math*

- |                                                                                                                                                     |                                                                                                                                                                                                              |                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <b>estimating</b></li> <li>• <b>grids</b></li> <li>• <b>metric</b></li> <li>• <b>predicting</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>tables</b></li> <li>• <b>rounding off</b></li> <li>• <b>directions (N.E., etc.)</b></li> <li>• <b>measurement (length, volume, height, perimeter)</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>numeral writing, e.g. 90 hectares, etc.</b></li> <li>• <b>money</b></li> <li>• <b>graphs</b></li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|

### *Language Arts*

- |                                                                                                                                |                                                                                                                |                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <b>record keeping</b></li> <li>• <b>story writing, reading and telling</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>oral and written reports</b></li> <li>• <b>research</b></li> </ul> | <ul style="list-style-type: none"> <li>• <b>song/poetry writing</b></li> <li>• <b>chart writing and reading</b></li> </ul> |
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The following Questions and Issues can lead to a discussion relating to the grade four curriculum. The focus will be on farming, ranching and agriculture.

### *Agriculture Questions:*

1. How do Albertans make use of their natural resources (in agriculture)?
2. What is the effect of technology on the location, development and use of natural resources?

3. Do the natural resources in Alberta supply all our needs?
4. How does our way of using natural resources affect/influence our environment?
5. Are we conserving our resources for future generations?

### ***Agriculture Issues:***

1. Should people make major changes in their physical environment to meet their needs?
2. Should resource development be allowed regardless of location or previous designation of land use, e.g., provincial park, agricultural land, historical site, wildlife sanctuary?
3. How should we use natural resources in ways that best benefit Albertans and others?
4. Should we use our natural resources without limitations?

### **Classroom Management Suggestions:**

For some people, the very thought of facing kids in a classroom can make them feel uncomfortable. However most classes are pretty excited about having someone different come into the classroom. Children being the perceptive critters they are, realize instantly when someone enters the room confidently. Generally speaking, grade four is a very cooperative age, so your experience should be great!

Here are a few suggestions you might find helpful.

1. **Make sure the teacher stays in the room** not only for discipline reasons, but you will have more chances to follow-up.
2. Bring kids to the front of the room around you. This makes for better contact with students; you sit on a chair and students on the floor. **RULES** are: (should be stated first) hands must be kept to themselves, sit on the floor; if they don't cooperate they will be asked to go and sit at their desk.
3. State attention rule: You will clap once to gain attention. Class to respond by clapping twice. Room to remain quiet after clapping to attention.
4. Before starting, remind them to raise their hand and wait their turn; however if hands go up while you are talking and you find it distracting, do not be afraid to ask them to put their hands down until you are finished.
5. These kids are used to various visual aids. Do not let that scare you. Little bits of trivia related to your topic or an occasional joke or sensational fact will keep their attention.

6. If you find you are getting off the topic with questions, do not be afraid to say “we are getting off the topic and we have a time limit”.
7. Take only one classroom at a time. Any more than 30 students at one time can cause discipline problems, plus it is more of a problem showing visual aids.
8. Some students may test you - do not let them throw you. You are the adult so you must remain in control, be firm and stay positive

## CAP Presentation Examples

### *Example: Lindsey Metheral, Marketer*

*This presentation is aimed at an URBAN classroom with little exposure to agriculture*

- Introduction: Hi my name is...
- Have any of you ever been to a farm? What did you see?
- Have any of you participated in agriculture today? (usually they look puzzled) Then, ask them if they ate breakfast and will they eat lunch today? Because the food we eat is a part of agriculture – they are the ‘consumer’
- Show the VIDEO: “It all Starts on the Farm”
- Since the 1800’s farmers have been providing food for people in Alberta.
- Dissect my lunch: Where did these French fries come from (Potato Growers), Where did this Chocolate Milk come from (Dairy Cow, then I tell them chocolate milk does not come from a brown cow and I show them a picture of a Holstein). Where did the Beef Pattie come from (Beef cow picture and tell them there is a difference between beef and dairy cows. There are 33 beef breeds and 5 dairy breeds of cattle raised in Canada). Where did the cheese come from (Show Holstein picture again), where did the bun come from (pass around a sample of wheat).
- So wheat can be turned into bread and pastas. What about these two crops. What are they? Show samples of Barley and Corn (I used pop corn seeds). Barley is made into beer, beef barley soup, bread...Corn is made into pop-corn, normal canned corn, corn bread...Then tell them all three (wheat, barley and corn) are also cattle feed. But, people get the high quality crops and cattle are fed the crops that are too coarse for people to eat. Americans usually feed corn to cattle so a steak would have yellow fat; whereas, Albertans feed Barley to cattle so a steak would have nice ~~white~~ fat and it would be tender and yummy.
- What is your favourite beef dish? Hamburgers, steaks, roast beef, ribs... Did you know beef is healthy for you! There are 14 essential nutrients. The key ones are ZIP. Zinc, Iron and Protein. (I made them repeat after me).

- But, what else comes from a beef animal? We also get by-products, which are products other than meat that come from the animal. Hand out a bunch of by-products (leather, jello, gummi-bears, lipstick, rubber tire (one from a toy), nail file, shampoo, soap, medicine container (empty)). Once all the kids have one ask those who think their product came from a cow to stand up. (Whisper to a couple to stand up: Jello, Rubber, Leather and any medicine bottle). Then briefly explain we use over 95% of the animal. Jello has gelatine, rubber has stearic acid, over 100 medicines come from cattle like insulin for diabetics, leather comes from the hide. Then have all the kids stand up b/c they all have products that came from a cow! Go around the circle and have them tell what product they have.
- Guess how many hamburgers could come from one beef animal? One beef animal, 1250 lbs, could make 2,000 quarter pounder hamburgers! How long does it take you to eat a hamburger? (Kids say around 2 minutes) You then say, it takes 2 years to raise that animal and get it to the grocery store for you to buy!
- Pasture to Plate: There are close to 30,000 beef producers in Alberta and 5.5 million beef cattle (cows, heifers, bulls, calves). Farmer raises calf until around 6-7 months old. Make them name the difference between a calf, cow, bull and cattle (plural) pictures.
- **Guessing Game:** Pass around a CCIA ear tag and ask the students to guess what it is and how it is used in agriculture. Questions like these can help students develop observation and problem-solving skills. After the discussion, explain that each beef animal in Alberta has an ear tag and can be tracked to where it was born.
- Continue story...cattle are typically sold in an Auction Market (describe), a Feedlot buys them and feeds them a balanced diet until the animal is ready to be processed. A meat cutter cuts the beef into desirable sizes for you to buy.
- **Role Playing:** Along the path from pasture to plate there are many people involved. Play a game where six students dress up as different partners in agriculture and everyone has to guess who they are.  
 Example: Vet (Long plastic gloves (the ones you pull a calf with) and lab coat), Banker (Monopoly Money and Tie), Rancher (Cowboy hat and buckle), Animal Researcher (lab coat and pen/notepad), Chef (chef hat, spoon/bowl and apron) and Truck Driver (farmer coat and cap). I wrote a little description for the kid role-playing to read to his/her classmates  
  
 (Here is one description and everyone else has to guess who they are: My name is \_\_\_\_\_ . I am very good at math. I help producers with their money and make sure it is safe in a bank. What partner am I? \_\_\_\_\_ )  
  
 There are lots of other jobs related to agriculture...ask the kids if they can you think of any? Environmentalist, Politician, Feedlot Pen Checker, Auctioneer ect.
- Ranchers are known as 'Stewards of the Land'. They protect their land so future generations can continue making food. What are things farmers have to take care of? Animals. Crops. Soil. Water.

- **Slice of Soil** Demonstration (Page 4)
- Discuss ways to save the soil from blowing away in the wind, or being carried away in the rain – shelter belts, stubble ect.
- Q&A for prizes.

### *Example: John Portail*

1. My approach is to introduce the students to the crops and livestock produced in the Wheatland County.
2. I also explain the responsibilities of Alberta Agriculture and Rural Development specialists and how they strive to help rural clients help themselves in their every day activities.
3. I've collected numerous specimens over my years as a DA and use them to illustrate my talk. This fosters class participation as I encourage questions throughout my talk.
4. **Soils** - Bag a shovel slice of soil from a stubble field, and soil from native range - compare the root development, the organic matter levels. Illustrate impact of erosion by removing the stubble, which leaves bare soil prone to blowing. Also illustrate the thin layer of organic matter on the soil surface. Can also illustrate sandy vs clay soils by putting them in different jars and pouring water on them to watch different rate of moisture penetration. Irrigation, salinity can be discussed here as well.
5. **Crops** - Bag (1 lb) seed of the major crops - wheat, barley, oats, canola, rye, triticale, flax, lentils, mustard, etc. Compare them. Match them with their plant form. Plants can easily be dried by inserting a sample in a file folder and placing it under a couple of heavy books. The sample will dry without losing its color and the leaves will show their configuration if care has been taken to flatten a couple of leaves out in file folder. The dried plant specimen is then ready to insert in a labeled plastic bag for showing to your CAP class for years to come. It is helpful to show plants in flower for further student recognition in the field.
6. **Canola and Triticale** - These are two examples of agricultural research achievements. This is a good introduction to the importance of supporting agriculture research. Also illustrates importance of education. I ask the class "Where do scientists come from?" The answer of course is from schools, grade four students will eventually become scientists, lawyers, politicians, environmentalists, consumers, farmers and ranchers. They all affect agriculture; therefore it is important that they are informed about the impact of their actions on the future of the farm, and of the food supply.
7. **Fertilizers** - Examples can illustrate N P K, the three main crop nutrients. Manure can also be mentioned. This is also a place for green manure, and alfalfa as inoculated legumes fix nitrogen in the soil.

8. **Pest Control** - This follows naturally. I have numerous specimens of weeds, insects and diseased plants that raise much interest. Particular “hits” include a tomato hornworm, bertha armyworm, diamond back insects, cutworms, black widow spider, rusty grain beetles, giant water bugs, boxelder bugs, strawberry root weevils, grasshoppers, crickets. Canola taken from a field infested by army worms illustrates their negative impact.

In the weeds, its easy to show the significance of wild oats, green foxtail, Canada thistle, toadflax, quackgrass, kochia, to name a few. Among the crop diseases, it is possible to find specimen of cereals affected by root rot, smutty or ergoty seed, crops deficient in nitrogen, canola affected by stem rot. I also discuss the impact of hail destruction, by showing a hailed crop specimen. This is where I also discuss the various pest control methods and it gives the class an opportunity to consider the pros and cons of chemicals. We usually have a short discussion about this.

9. **The Unusual Attracts - Rat Specimen** - I have a specimen of a Norway Rat that I have presented in a jar for many years. I find that it is a hit with my classes and a useful way to end my presentation. It’s an opportunity to address this major pest and our good fortune that Alberta is rat free. I also show a preserved salamander, which enables a short discussion about amphibians. Teachers are most cooperative in my presentations. They enable me to encourage the class to form a horseshoe around my work table where they can have a closer look at the samples that I show them.
10. **Farm Machinery** - Pictures of farm equipment can be shown throughout the talk as appropriate. They can be found at machinery dealers, in farm magazines, calendars, etc. I strive to give credit to my suppliers where I show their pictures. Machinery also leads to the numerous skills that a farmer must have to be successful. It can be expanded upon in the livestock sector.
11. **Livestock** - I have poster sized pictures of the various beef breeds, and a poster of a dairy farm, a ewe and her lamb, and a sow in a farrowing crate. Livestock associations were helpful in securing these pictures. Agricultural calendars are another source. Generally agri-businesses are very cooperative in putting together materials for a CAP talk. Materials to illustrate items made from beef and other livestock by products are easy to find around the house.
12. **Feeds** - Feed cost is a major cost of livestock production. Samples of prepared feeds and their ingredient tags can be obtained from feed mills. One can also bag rolled barley, alfalfa hay, grass hay, silage, native range (explain the various plants and their significance in feed value and growth persistence). I have a sample of a large round bale of barley greenfeed which had been baled too wet and heated. There is a striking difference in the parts taken from the outside, the middle and the central core of the bale. While the outside is yellow, the center is chocolate brown and smells like tobacco. One can also talk about the importance of balanced rations and the ingredients which go into them.
13. **Marketing** - This is an important topic, but more difficult to illustrate. One can relate the various occupations involved in the marketing process, i.e. the auctioneer, the trucker, showing related pictures. One can also mention the export destination of various agriculture products. A brief discussion of economics of farming can be done keeping in mind the level of student understanding.

## ***Example: Rich Smith, Environmental Engineer***

### **Partners**

To make a connection between agriculture and people involved, I wear multiple layers of clothing. On the bottom, I have jeans and a plaid shirt, clothes I often wear at work. The next layer is a suit to represent lawyers, bankers, accountants and producers at meetings. On top of the suit, I wear a lab coat for veterinarians and scientists. The top layer consists of the coveralls and rubber boots worn by people working in livestock facilities or processing plants. The children really enjoy the strip tease aspect of this illustration, especially when I get to the end and tell them not to let me take any more clothes off because I don't have anything underneath.

### **Land**

For the land segment, I created a Superman-like character called Super Soil. Super Soil is a heroic version of Sam Soil, a person who fights the evil force that would destroy our soils. I tell the children that I spend most of my time as Rich Smith, an agricultural engineer, but when I talk about soils; I slip into the nearest phone booth (or behind a portable blackboard in a classroom) and quickly change into Super Soil. My costume is very simple; a brown turtleneck, a black cape, a piece of paper with SS on it pinned to the shirt and a cap with soil conservation on it. I mention that my costume is in soil colors rather than the flashy red and blue of Superman. I cover most of the land material as Super Soil, talking about Wendy Water as my Lois Lane, pollution as my Lex Luthor and manure as one of my favorite foods. I always get quite a reaction to the last comment. I am fairly bald and can use my own head to show the effects of erosion on soil (nothing grows).

### **Visual Aids**

Since I move around a lot myself, I don't use a large number of visual aids. I have found the Alberta Agriculture Conservation Farming and Water Management posters to be very helpful in explaining farming operations. I have a few pieces of toy farm equipment that I show the children and I also pass around bagged samples of grains and oilseeds. My silage sample sparked a lot of interest because the bag could not contain the smell.

I like to have a portable blackboard so I can put the posters on one side and write down the children's ideas on the other side. Turning the board around adds movement to the presentation. I have a few lame jokes about cows that my son told me when he was in grade two or three - the kids groan, but enjoy the break. Last year, I added a "rap" about agriculture to my presentation. When I got to the end of the clothes removal and the children had all agreed that I looked like someone involved in agriculture, I told them that they were wrong. I was actually a rap star: M. C. Agriculture, the CAP rapper.

## **Quick Facts about Alberta's Agricultural Industry:**

### ***Barley***

#### **Fun Facts**

- One of the earliest grains used for food, barley was a favorite grain of the ancient Egyptians, seafaring Vikings, and Roman Gladiators. Christopher Columbus brought barley to North America from Europe in 1493, and it has been grown here ever since.
- In 2005, the United States Food and Drug Administration approved a health claim stating barley reduces the risk of coronary disease. Research has shown that barley also contains natural antioxidants and, due to its low glycemic index, can help regulate glucose levels in people with Type II Diabetes.
- Barley is a whole grain with a rich nutty taste – and due to its water retaining capability, barley holds more liquid than other flours, helping baked goods stay moist and fresher for longer.
- For human food, barley is milled into flour (breads, cookies, muffins), polished or pearled to make pot and pearl barley (stews, salads, casseroles, puddings), used as malt (beer, distilled liquor, flavoring), and flaked to be used as an ingredient (cereals, baked goods).
- Human consumption of Alberta barley is less than 1% of what is grown; about 80% of Alberta's crop is used for livestock feed.

#### **Environmental Aspects**

Current research is helping develop varieties that:

- adapt to environmental factors (e.g. drought, frost),
- are more resistant to pests and diseases,
- have increased yields,
- have higher feed quality for livestock, and
- have greater nutritional benefits, improved processing, and better cooking traits for human food.

#### **Production**

Each year Alberta's 17,000 barley farmers grow more than five million tonnes of barley, over half of Canada's annual crop of 10 million tonnes. Canadian production of barley ranks second in the world.

#### **Rural Connections**

As barley is one of the main feed grains in Alberta, it contributes to the success of our livestock industry - barley fed beef and pork are prized exports. Partners include researchers, agronomists, cattle and hog producers, seed cleaning plants and seed companies, feedlots, mills, and crop protection companies, to name a few.

**For more information go to:** [www.albertabarley.com](http://www.albertabarley.com)

## ***Beef Cattle***

### **Fun Facts**

- Ranchers have been producing beef in Alberta since the 1874. In 1969 an organization was formed to represent their collective interests and today it is known as Alberta Beef Producers.
- Beef production contributed \$25 billion to Canada's economy in 2007.
- A cow spends six hours eating and eight hours chewing its cud each day. The average cow has more than 40,000 jaw movements per day.
- There are 33 beef breeds and 5 dairy breeds raised in Canada.
- Beef has 14 nutrients and is part of a healthy diet. To remember the key nutrients say, 'Beef has ZIP!' Zinc, Iron and Protein!
- Lean/extra lean ground beef and many cuts of beef, trimmed of visible fat (except short ribs) are part of Health Check™.
- Cows aren't just for beef! We use over 95% of the animal. What isn't used for meat is turned in to by-products, such as chewing gum, car tires and leather boots (*See page 8 and 9*).

### **Environmental Aspects**

The beef cattle industry may have the closest connection to the environment of any livestock sector. The foundation of the Alberta beef industry is our vast area of grassland where grazing cattle convert forage into meat. Maintaining the health of these grasslands and protecting the water that flows through them are very important environmental issues for our industry. Moreover, cattle eat grass on the land not suitable for crops and produce meat we can eat. Our confined feeding operations require secure water supplies for the cattle to drink and for irrigation of the forage that the cattle eat. Producers recognize that the manure produced by these operations provides a good opportunity to recycle plant nutrients and organic matter into the soil, but also know that the manure must be managed carefully to protect the environment around these sites. The beef industry and our producers are well aware of the importance of protecting and enhancing our environment. We are involved in many initiatives designed to promote good stewardship of our air, soil, and water resources.

### **Production (2008)**

There are close to 30,000 beef cattle producers in Alberta. There are more beef cattle in Alberta than human beings with a human population estimated at just over three million and a beef cattle population of close to 5.4 million. (Canada has close to 12.5 million beef cattle). Alberta finishes 66% of the total Canadian fed cattle production.

### **Rural Connections**

Veterinarians, auctioneers, butchers, grain producers, truck drivers

**For more information go to:** [www.albertabeef.org](http://www.albertabeef.org) or [www.raisedright.ca](http://www.raisedright.ca)

## *Canola*

### **Fun Facts**

In some Mexico City grocery stores, small canola plants are sold in bunches to consumers, as treats for their pet finches or canaries.

Canola oil can now be made into bio-degradable plastics at the University of Alberta.

Cows fed canola meal (what is left over after crushing the oil from the seed) produce more milk than those fed other animal feeds.

### **Environmental Aspects**

Farmers use thermometers to check the temperature of the soil so that the canola seeds can be planted in soil that is not 'too cold'. When seeds are cold they do not grow well, and sometimes, they do not grow at all.

Each spring, many canola farmers plant the canola seeds directly into the stubble (leftover dried plant stems from the previous year) to prevent the loss of the land's healthy top soil.

### **Production**

Hoola Hoops can be a great farming tool – by placing a hoola hoop on the ground, the farmer can count the number of plants inside the hoop and know whether there will be enough plants that in growing they will be able to protect themselves from weeds, and to protect the soil from blowing away.

Bright, yellow pans are sometimes placed in the fields to attract the bugs that like to eat canola plants. The more bugs in the yellow pan, the more danger that there is for the canola plants.

### **Rural Connections**

Canola provides the bright canola fields that color the Alberta countryside and make visitors go 'Ah!' when they travel during the summer months.

Alberta grows about 30% of the canola planted in Canada.

Farmers can sell their canola to three crushing plants in Alberta – one in Lloydminster, another in Fort Saskatchewan, and another in Lethbridge. These plants will crush the canola seed to make canola oil.

Farmers can also sell their seed to companies that will then sell it to companies in Japan, Mexico, the United States, China or Pakistan.

### **For more information go to:**

[www.canola.ab.ca](http://www.canola.ab.ca)

[www.canolalearningcentre.com](http://www.canolalearningcentre.com)

[www.canola-council.org](http://www.canola-council.org)

[www.canolainfo.org](http://www.canolainfo.org)

## *Chickens*

### **Fun Facts**

- chicken raised for meat are not the same type of chicken that produce table eggs;
- all Alberta producers follow the On-Farm Food Safety Assurance Program to ensure a safe, wholesome and nutritious product;
- fertilized eggs are shipped to hatcheries where the eggs are incubated and hatched into chicks;
- chicks are sold and transported to poultry farms within 24 hours of being removed from their incubators;
- poultry barns are specially designed and controlled for ventilation, light and temperature;
- birds are carefully watched and kept warm during the first few weeks. As the birds grow feathers, the heat is gradually decreased in the barn;
- birds are allowed to move freely throughout the barn – cages are not used;
- birds can eat and drink at will. The poultry diet consists of cereal grains, protein and vitamin supplements. The use of growth hormones is strictly prohibited;
- mature birds are transported to a processing plant in specially equipped trucks to ensure swift and human transportation;
- after each flock of birds, the barn is totally cleaned and disinfected to prevent the spread of disease from one flock to another;
- the majority of Alberta chicken are processed at a processing plant in Edmonton, Calgary, Lethbridge, and Wembley;
- every bird is inspected for health and wholesomeness by a federal inspector;
- 80% of chicken is sold fresh (not frozen);

### **Environmental Aspects**

- Environmental Farm Plan

### **Production**

- there are 273 certified chicken farms (2005)
- the average farm produces 189,000 chickens/year (2005)
- approximately 115 million kilograms of chicken is produced/year (2005)
- chicken broilers are chickens weighing an average of 2.21 kg
- roasters are larger chickens weighing an average of 3.16 kg

### **Rural Connections**

Industry partners include breeders, catchers, poultry specialists, feed companies, farm suppliers, veterinarians, processors, government inspectors, stores, restaurants, hotels, foodservice customers, and hatcheries.

**For more information go to:** [www.chicken.ab.ca](http://www.chicken.ab.ca)

## *Careers in Agriculture*

### **Fun Facts**

- Olds college has over 1,300 students studying in the areas of agriculture, horticulture, land and environment, trades and technology, animal sciences and fashion;
- The College was founded by the Alberta Government in 1913. Its purpose was to help farmers learn how to use their land in the most effective way.
- Classrooms at Olds College are often found outside of a building!
  - The college is located on over 2000 acres, many of which we farm grain on;
  - We have a working farm with cows, horses, sheep and goats;
  - Each year students camp out in the barns during lambing season. They get experience helping ewes give birth to baby lambs at all hours of the day and night;
  - The college has outdoor gardens which are used to grow experimental types of flowers, vegetables and grasses;
  - Students who study horticulture and grass varieties make their own golf green as practice
- Students at Olds College can participate in the sport of Rodeo! We have our own team which practices and enters competitions throughout the year.

### **Environmental Connections**

- Olds College is currently doing research that allows us to turn old vegetable oil from restaurant deep fryers into a bi-product that we add to diesel gasoline. This biofuel turns waste product into usable energy. School buses in our district use this special bio-fuel.
- We conduct research at our own composting facility. The towns surrounding our college send us their compost which we turn into fertile soil. This helps us have a greener community!
- Students can take Land and Water Resource programs that teach them how to restore damaged lands and protect habitat.

### **Rural Connections**

Many people think that agriculture means you drive a tractor and own cattle. The field of agriculture is far more diverse than this!

If you consider medical doctors, there are hundreds of different specialties they work in; some work with eyes, others with diseases, some do research in laboratories and others only work with babies. The jobs people do related to agriculture are just as diverse. Here are a few examples of jobs Olds College graduates do:

- Teachers who teach others about specialized areas of agriculture in colleges and universities
- Consultants who work to restore damaged land. Their offices range from high rises to half-ton trucks
- Animal Health Technologists who assist in the care of your pets in their office or at your home
- Sable owners who train, and breed horses or coach kids just like you about the art of horsemanship

**For more information go to:** [www.oldscollege.ca](http://www.oldscollege.ca)

**Grow with Agriculture**

## *Dairy Cattle*

### **Fun Facts**

- Holstein cows, typically black and white, make up 91% of the Canadian dairy herd and originate in Holland.
- Based on 305 milking days, an average dairy cow produces over 9,000 litres of milk in a year—about 30 litres a day.
- Milk naturally contains 87% water.
- A cow drinks about 100 litres (about a bathtub full) of fresh water a day. Albertans drink almost 100 litres of milk per year.
- Cows eat food that is very high in fibre. Partially-chewed food forms balls of cud the size of tennis balls. Cows chew their cud for about 8 hours a day.
- Cows have four compartments to their stomachs: the rumen, reticulum, omasum and abomasums.
- It takes about 50 – 70 hours for cows to turn grass into milk.
- There is one dairy cow for every 22 Canadians. (That's over one million dairy cows.)
- There are 640 dairy producers and approximately 84,000 dairy cows in Alberta.

### **Animal Care**

Responsible animal care is the number one priority of the dairy farmer. It's in the farmer's best interest to ensure that the cows are comfortable. Cows that are well cared for grow better, are healthier and produce more milk. The proper care of a dairy cow includes feeding, watering, providing shelter and monitoring their health and safety. In Alberta, the Alberta Farm Animal Care (AFAC) ensures that livestock industries work together for the responsible care of animals.

### **Production**

In order for a cow to make milk, she must first give birth to a calf. A heifer is a young cow that has not yet had a calf. When she is about 18 months old, the dairy farmer will breed her so that she will have a calf and then start to produce milk. All cows are bred so they have a calf once a year. Most dairy cows are bred using artificial insemination (AI). AI has been used since the mid-1950's to improve the overall health and milk production of the cow. It is not stressful for the cow. A cow is pregnant for approximately 280 days (nine months). Birth is a natural process and in most cases unaided by the dairy farmer. In rare cases, farmers assist the cow if she is having difficulty. When the cow's udder is full, it is time for milking. On most farms, cows are milked twice a day. Raw milk is picked up and transported by a milk truck to the dairy processing plant every two days.

### **Rural Connections**

Some 3,000 people are employed directly by dairy producers. Dairy producers are dependent on veterinarians, auctioneers, feed companies, dairy processors, farm suppliers, animal nutritionists, grocery stores and restaurants, researchers.

**For more information go to:** [www.moo2you.ca](http://www.moo2you.ca) and [www.albertamilk.com](http://www.albertamilk.com)

## *Eggs*

### **Fun Facts**

- The average Canadian eats over 15 dozen (185) eggs a year. With many health professionals now saying “an egg a day is okay” for most people, many can “get cracking” more often!
- Two eggs make up one serving in the “meat and alternatives” category of Canada’s Food Guide to Healthy Eating.
- Eggs are a healthy, nutritious food. They’re low in calories (70/egg), low in fat (5 grams/egg), high in protein and a good source of 14 essential nutrients.
- You can tell what a hen eats by the colour of the yolk. A lemon-yellow yolk means wheat was the main grain in the hen’s diet, while a darker yellow/orange yolk means corn was the main grain.
- Each egg shell has between 6,000–8,000 tiny pores. These allow air and flavours to pass through—a good reason for keeping eggs in their original egg carton in the fridge (to prevent any strong smells from cheeses, meats, onions, etc. from affecting the taste of the eggs)!
- The difference between white and brown eggs is just the breed of hen they’re from. Generally, white eggs are from white-feathered breeds, while brown eggs come from brown-feathered breeds.

### **Production**

- Alberta has 167 registered egg producers who care for approximately 1.7 million hens. In turn, these hens lay over 40 million dozens (or about 480 million) eggs a year.
- Today’s breeds of hens naturally lay an egg every 1½ days on average.
- Almost all eggs produced in Alberta are enjoyed by Albertans, with some even imported to Alberta to meet consumer demand.
- Eggs in the grocery store are fresh. Most eggs get from hen to store within a week.
- Egg producers do all they can to be sure the hens in their care are well looked after, since happy hens really do lay more eggs. Regardless of the system used, the care provided by the farmer is what makes the system work. A cage or conventional system of housing is popular with farmers for food safety and animal care reasons. Keeping hens in close quarters meets hens’ natural instinct to be very close to one another so as to feel safe and secure. At the same time, this form of housing allows the producer to quickly collect eggs (to get them into refrigeration) as well as keep a better eye on the hens to ensure their good health and well-being.

### **Environmental Aspects**

Eggs are environmentally friendly. You can eat the egg and compost the eggshell. Egg cartons can be recycled or reused for everything from crafts and containers for growing plant seedlings.

### **Rural Connections**

Alberta’s egg industry helps ensure a strong rural Alberta by providing jobs—directly and indirectly—as well as by reinvesting in communities and the rural economy.

**For more information go to:** [www.eggs.ab.ca](http://www.eggs.ab.ca)



## *Irrigation*

### **Fun Facts**

Only about 4 % of Alberta farmland is irrigated yet this irrigated land provides close to 20 % of the province's agricultural production.

The Eastern Irrigation District is the largest private landowner in Alberta.

The Eastern Irrigation District is larger than the province of Prince Edward Island by almost 10%.

The district has a close working relationship with Ducks Unlimited Canada providing water and land for over 14,000 hectares of wetlands within the EID.

Before the introduction of irrigation water there was no natural permanent water found within the boundaries of what is now the Eastern Irrigation District.

The Partners in Habitat Development (PHD) program was initiated in the EID in 1998 with over 250,000 trees and shrubs planted for wildlife habitat within the district since that time.

### **Environmental Aspects**

There are 600,000 hectares of land within the boundaries of the district, of which 113,000 hectares are irrigated. The remainder of the lands are grasslands used for grazing and some dryland cultivation.

The EID's water is diverted into the district from the Bow River and delivered to the farmers through a system that includes 3800 kilometers of canals, pipelines and drainage ditches and 13 internal storage reservoirs.

### **Production**

\$300 million annual primary agricultural production from irrigated farmland translates into \$1.35 billion in regional economic impact generated within the Eastern Irrigation District

Close to \$8 million is injected into the local economy annually from recreational use of the land and water resources found within the EID.

The EID is one of thirteen irrigation districts in Alberta and accounts for approximately 20 % of the irrigated land found within the province.

### **Rural Connections**

District farmers and ranchers.

All related agricultural industries.

Wildlife habitat partners include; Brooks Fish and Game, Pheasants Forever, Ducks Unlimited, County of Newell and both the provincial and federal governments.

**For more information go to:** [www.eid.ab.ca](http://www.eid.ab.ca)

## *Potatoes*

### **Fun Facts**

- 2008 has been designated as the International Year of the Potato.
- For more information on potatoes go to <http://www.potato2008.org>
- Potatoes are the most popular vegetable grown. One potato provides 45% of our daily needs of Vitamin C plus they are high in Potassium, Magnesium, Vitamin B6 and Niacin.
- Marie Antoinette wife of Louis xv was known to wear potato blossoms in her hair as decoration.
- French Fries were invented in the early 1800's when they were served to US President Thomas Jefferson while he was in President of the USA.
- In 1995 the potato was the first vegetable to be grown in space when NASA and the Univ. of Wisconsin partnered to create technology with the goal of feeding astronauts on long space voyages.
- In 1535 Spanish Conquistadors conquered Peru and brought the potato to Europe.
- In Ireland the potato was a major food source. In 1845 the potato crop was destroyed by a disease and the potato crop was wiped out causing the disaster of the Irish Potato Famine.
- The first potato patches in North America most likely were planted in New Hampshire around 1719.
- During the Alaskan Gold Rush (1897-1898) potatoes were practically worth their weight in gold. Because of their Vitamin C content the miners traded gold for potatoes.

### **Production**

- 2008 49,477 acres/20023 hectares
- Number of potato farms in Alberta over 5 acres: 135 farms
- Farm Gate Value: \$160 million+
- Employment: 2500+ people on farms and processing
- Trade: Frozen potato products, potato chips, flakes, table stock and seed potatoes

### **Environmental Aspects**

Potatoes are a 4 year rotation crop to keep spread of disease low. They need a regular supply of water to grow which makes them a good fit for Southern Alberta where we have irrigation systems to bring water down from the mountains each spring through an irrigation system of lakes and canals. Our high altitude and low humidity along with cool nights are very helpful in keeping all of our potato plants healthy.

### **Rural Connections**

Processing potatoes are mostly grown in Southern Alberta and seed potatoes are mostly grown in the Lacombe and Edmonton areas. Fresh market table potatoes are grown on smaller farms spread out through-out the province. Potatoes have been grown in Alberta since the early 1900's and were always a staple food for most families. They were cheap to buy and very nutritious. Even today they are promoted as a low fat, healthy food choice.

**For more information go to:** [www.albertapotatoes.ca](http://www.albertapotatoes.ca)

## ***Pulses (Peas, Lentils, Drybeans, Fababeans, and Chickpeas)***

### **Fun Facts**

- Pulse is a Latin word meaning the dried edible seeds of legumes.
- When farmers seed pulse crops, they use less fertilizer because pulses can fix nitrogen from the air (great for eliminating greenhouse gases).
- Pulses leave extra nitrogen for the following crops. This leads to better quality, yields of rotational crops.
- Pulses help build the quality and productivity of the soil.
- 75% of peas is marketed as livestock feed (majority of this is exported)
- 25% of peas is marketed as human food (largest export market is India)
- ½ of the pigs in Alberta are fed peas
- all lentils and dry beans are exported as human food
- Pulses have high fibre and are low in fat content. They are very healthy for you, as well as, for diabetics and people with heart conditions. Pulses also provide an alternative for people with wheat allergies.

### **Environmental Aspects**

- Pulses play a key role in improving soil quality.
- Pulses enhance and improve the soil bio-diversity.
- Pulses reduce the dependency on chemical fertilizers.

### **Production**

- It is estimated that pulse production returns approximately \$125 million farm-gate to agriculture in Alberta.
- Approximately 750,000 acres
- Alberta producers - approximately 4,500
- Numerous private and coop grain buyers, traders, and processors.

### **Rural Connections**

Manitoba Pulse Growers Association, Saskatchewan Pulse Crop Development Board, Ontario Bean Producers, Canadian Special Crops Association

**For more information go to:** [www.pulse.ab.ca](http://www.pulse.ab.ca)

## *Veterinarians*

### **Fun Facts**

Veterinarians ensure that animals are healthy and happy. There are close to 1,350 veterinarians working in over 410 veterinary hospitals in Alberta. Over 157 of those hospitals are directly involved with livestock agriculture.

### **Environmental Aspects**

Veterinarians provide a comprehensive range of services that prevent problems with the health of livestock which in turn keeps the environment safe of disease and contamination. Many serious diseases can be prevented with an optimum disease prevention program. Each herd's requirements are unique, and require a customized program that a veterinarian can help to develop. Internal and external parasites including the irritation of face and horn flies pose significant problems in cattle herds. The parasites vary from area to area and control programs are customized by veterinarians for individual situations.

Laboratory services are provided by veterinarians to help diagnose medical problems quickly and efficiently. A post mortem is carried out by veterinarians to determine the cause of death, and allow the producer to determine if the death could have been prevented, or if it poses a disease threat to the rest of the herd and perhaps contamination of the environment. Veterinarians are responsible for the appropriate disposal of dead animals so as not to contaminate the environment.

### **Production**

Recent studies show that animals that are treated humanely are better producers. Veterinarians are active in animal welfare, participating in organizations such as the Animal Farm Animal Care Association (AFAC) and the Alberta Society for the Prevention of Cruelty to Animals (ASPCA).

Managing the overall health of a herd can often be the difference between a marginal operation and a highly successful one. Veterinarians offer comprehensive management services and advice about: Early Pregnancy Diagnosis, Bull Evaluations, Calf Scours Prevention, Nutrition, Herd Record Keeping and Data Analysis, Disease Prevention, Implant Programs, Parasite and Pest Control, and Selection Assistance with the purchasing of animals.

### **Rural Connections**

Alberta veterinary hospitals provide 24-hour service for all patients. When an emergency occurs, the farmer will receive a quick response and an accurate diagnosis will be provided when he or she has a regular working relationship established with a veterinarian. Many people living and working in the rural areas of Alberta have close connections with their veterinarian.

**For more information go to: [www.abvma.ca](http://www.abvma.ca)**

## *Wheat*

### **Fun Facts**

Wheat is a grain. Grains are part of the grass family and contain a kernel. Other types of grain include barley, oats, and rye.

Wheat grown on the Canadian Prairies can be found in doughnuts in Japan, pasta in Italy, bread in Mexico and noodles in China.

### **Environmental Aspects**

Wheat grown in Western Canada is considered one of the safest foods in the world.

Due to Canada's cold winter climate, the need for chemicals to control insects in crops is far less than other countries.

Most Prairie grain is planted in early May. Harvest usually begins in mid-August.

### **Production**

Farmers use high-tech equipment and machines to plant, grow and harvest wheat.

Wheat is harvested using a combine. It is called a 'combine' because it combines several separate tasks.

This machine pulls the wheat stalk from the ground, collects the kernels and leaves the rest as straw.

### **Rural Connections**

Farms are big in western Canada. A typical Saskatchewan farm covers 1,300 acres, compared to 230 acres for the average Ontario farm.

About 75,000 farmers grow wheat, durum and barley on the Canadian Prairies. More than 70 countries buy their grain.

An acre of Prairie farmland can grow enough wheat each season to make 1,650 loaves of bread.

**For more information go to:**

[www.prairiewheat.ca](http://www.prairiewheat.ca)

[www.grainsessential.ca](http://www.grainsessential.ca)

[www.cwb.ca](http://www.cwb.ca)

### *Who to Call About Agriculture?*

TOPIC	AGENCY	CONTACT INFORMATION
Agriculture in General	Alberta Agriculture and Rural Development	1-866-822-7677 <a href="http://www.agric.gov.ab.ca">www.agric.gov.ab.ca</a>
Barley	Alberta Barley Commission	(800) 265-9111 <a href="http://www.albertabarley.com">www.albertabarley.com</a>
Beef Cattle	Alberta Beef Producers	(403) 275-4400 <a href="http://www.albertabeef.org">www.albertabeef.org</a>
Chickens	Alberta Chicken Producers	(780) 488-2125 <a href="http://www.chicken.ab.ca">www.chicken.ab.ca</a>
Canola	Alberta Canola Producers	(780) 454-0844 or (800) 551-6652 <a href="http://www.canola.ab.ca">www.canola.ab.ca</a>
Dairy Cattle	Alberta Milk	(780) 453-5942 or (877) 361-1231 <a href="http://www.albertamilk.com">www.albertamilk.com</a>
Deer, Elk & Bison	AB White-tail and Mule Deer Assoc.	(403) 746-5151 <a href="http://www.albertadeer.com">www.albertadeer.com</a>
	Alberta Elk Commission	(780) 980-7582 <a href="http://www.albertaelk.com">www.albertaelk.com</a>
	The Bison Centre	(780) 986-4100 <a href="http://www.bisoncentre.com">www.bisoncentre.com</a>
Eggs	Alberta Egg Producers	(403) 250-1197 or (877) 302-2344 <a href="http://www.eggs.ab.ca">www.eggs.ab.ca</a>
Education	Olds College	1-800-661-6537 <a href="http://www.oldscollege.ca">www.oldscollege.ca</a>
Farm Animal Care	Alberta Farm Animal Care	(403) 932-8050 <a href="http://www.afac.ab.ca">www.afac.ab.ca</a>
Farm Safety	Alberta Farm Safety Centre	403-752-4585 <a href="http://www.abfarmsafety.com">www.abfarmsafety.com</a>
Food Safety	Food Safety Network	(866) 503-7638 <a href="http://www.foodsafetynetwork.ca">www.foodsafetynetwork.ca</a>
Goats	Alberta Goat Breeders Association	(780) 878-3814 <a href="http://www.albertagoatbreeders.ca">www.albertagoatbreeders.ca</a>
Horses	Horse Industry Association of Alberta	(403) 948-8521 <a href="http://www.albertahorseindustry.ca">www.albertahorseindustry.ca</a>
Irrigation	Eastern Irrigation District	(403) 362- 1400 <a href="http://www.eid.ab.ca">www.eid.ab.ca</a>
Pesticides & Environment	AGCare	(519) 837-1326 <a href="http://www.agcare.org">www.agcare.org</a>
Pigs	Alberta Pork	(780) 474-8288 <a href="http://www.albertapork.com">www.albertapork.com</a>
Potato	Potato Growers of Alberta	(403) 223- 2262 <a href="http://www.albertapotatoes.ca">www.albertapotatoes.ca</a>
Pulse (Legumes)	Alberta Pulse Growers	(780) 986-9398 <a href="http://www.pusle.ab.ca">www.pusle.ab.ca</a>
Sheep	Alberta Sheep and Wool Commission	(403) 948-8533 <a href="http://www.absheep.com">www.absheep.com</a>
Turkey	Alberta Turkey	(780) 465-5755 <a href="http://www.albertaturkey.com">www.albertaturkey.com</a>
Veterinarians	Alberta Veterinary Medical Association	(780) 489- 5007 <a href="http://www.abvma.ca">www.abvma.ca</a>
Wheat	Canadian Wheat Board	(800) 275-4292 <a href="http://www.cwb.ca">www.cwb.ca</a>