# **TIPS·FOR·TOURS**

## Ranch Tour Tips For PRODUCERS







This document has been compiled by the British Columbia Agriculture in the Classroom Foundation

1767 Angus Campbell Road Abbotsford, BC V3G 2M3 www.bcaitc.ca

in cooperation with:

BC Cattlemen's Association

British Columbia Investment Agriculture and British Columbia Ministry of Agriculture

#### Copyright 2000, 2018

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

### **Table of Contents**

How to Market Your Farm	4
Direct	
Indirect	
Knowing Your Audience	5
New BC Curriculum Connections	6
Safety First	8
Safety	
Insurance Needs and Liability	
Food Safety	
<b>Preparing for the Visit</b> Your Ranch, Your Industry	10
Information Sharing Form	12
Develop Activity Stations	13
Meeting the Group at the Bus	17
Evaluation Form	18
Let's Talk About It Glossary	19

### How to Market Your Ranch for Tours!

In order to come they have to first know who you are and what you have to offer them in terms of their curriculum. Information about your ranch can be shared in a:

- brochure;
- flyer;
- newsletter;
- farm website;
- social media.

**Direct** For school tours, tourists, or other institutions, the method of notification will vary:

- make direct contact in September with schools;
- mail-out (Only consider schools within a 1 hour travel radius.)
- visit school principal with information package. Offer to visit the school on career days.
- In-direct Provide advertising brochures, flyers, newsletters to those groups who may receive queries on available ranches for tours. Encourage them to visit your ranch on their own or during a tour. Sources of potential referrals are:
  - producer association, farm women's network, education support groups, BC Cattlemen's Association;
  - work with Agriculture in the Classroom;
  - local Chamber of Commerce.

#### **Knowing Your Audience**

**TIP : DURING THE VISIT** Class supervision is necessary during the entire visit. Don't be afraid to make rules for their safety around equipment and structures.

Knowing what to expect will help you to plan your tour accordingly in terms of:

- time at each activity or area
- depth and breadth of information.

To do this requires some help from the teacher in terms of what they are focusing on in class and the skill levels of the class. To provide you some preliminary assistance:

GRADES	STUDENT BEHAVIOUR	MATERIALS/ACTIVITIES
GRADES 1-2	Warm, receptive, excitable, shifting attention	Visuals important, puzzling objects grab interest
GRADES 3-4	Attentive, keen, more able to focus on the topic, able to sit and attend for longer periods	Short speeches OK puzzles/ problem solving or riddles possible
GRADES 5-7	Independent learners, outgoing, can be opinionated, limited social graces, argumentative, practical, ask questions	Able to think beyond themselves- more emphasis on global thinking, hands-on activities
GRADES 7-9	Teenagers, sometimes lively, social not inclined to ask question. More teacher participation. Students likely to bring pre-prepared questions	Informal or structured activities, cooperation activities possible
GRADES IO-I2	Young adults. More likely to ask questions and likely to come with prepared questions. Questions will be more sophisticated and pointed to an issue	Problem solving, extrapolation of ideas, more complex structures and their implications possible

### New BC Curriculum Connections

GRADE	SUBJECT	CONTENT CONNECTION
KINDER	Science	<ul> <li>Basic needs of plants</li> <li>Living things make changes to accommodate daily and seasonal changes</li> </ul>
	Social Studies	- Relationship between the community and environment
GRADE 1	Science	<ul> <li>Names of local plants</li> <li>Behavioural adaptations in the local environment</li> </ul>
	Social Studies	- Relationship between the community and environment
GRADE 2	Science	<ul> <li>Similarities and differences between offspring and parent</li> <li>Water sources including local watersheds</li> <li>Water conservation and the water cycle</li> </ul>
	Social Studies	<ul> <li>Diverse features of the environment</li> <li>Relationship between the community and environment</li> <li>Aspects of life shared across cultures (family, holidays, food, etc.)</li> </ul>
GRADE 3	Science	- Biodiversity in the local environment
	Careers	- Connections to the community
GRADE 4	Science	- Sensing and responding to humans, environment,
GRADE 5	Science	<ul> <li>Basic structures and functions of body systems</li> <li>Interconnectedness with the environment</li> </ul>
GRADE 6	Science	- Basic structures and functions of body systems
	Physical and Health Education (PHE)	- Practices to promote health and well-being; influences on food choices
	Social Studies	<ul> <li>Urbanization and migration of people</li> <li>Economic policies and resource management</li> <li>Globalization and trade</li> </ul>
GRADE 7	Science	<ul> <li>Organisms have evolved over time</li> <li>Survival needs</li> </ul>
	Social Studies	- Human responses to particular geographic challenges and opportunities
	Careers	<ul> <li>Local and global needs and opportunities</li> <li>Life and career planning</li> </ul>

### New BC Curriculum Connections

GRADE	SUBJECT	CONTENT CONNECTION
GRADE 8	Science	<ul> <li>Characteristics of life</li> <li>Relationship of microorganisms with living things</li> </ul>
	Social Studies	- Human responses to particular geographic challenges and opportunities, including climate, landforms and natural resources
	Applied Design, Skills and Technologies (ADST)	<ul> <li>Food Studies → social factors that influence food choices; variety of eating practices; local food systems</li> <li>Entrepreneurship/Marketing → role of entrepreneurship in designing and making products/services (branding, pricing, record keeping); difference between consumer wants and needs</li> </ul>
GRADE 9	Science	<ul> <li>Sexual reproduction</li> <li>Matter cycles within biotic and abiotic components of ecosystems</li> </ul>
	Applied Design, Skills and Technologies (ADST)	<ul> <li>Food Studies → ethical issues related to food systems</li> <li>Entrepreneurship/Marketing → flow of goods and services from producer to consumer; identification of a good/service</li> </ul>
	Careers	- Factors affecting types of jobs in the community
GRADE 10	Sciences	<ul> <li>DNA structure and function</li> <li>Patterns of inheritance</li> <li>Applied genetics and ethical considerations</li> </ul>
	Applied Design, Skills and Technologies (ADST)	<ul> <li>Food Studies → simple and complex global food systems; causes and consequences of food contamination outbreaks</li> <li>Culinary Arts → locally available food products</li> </ul>
GRADE 11	Sciences	<ul> <li>Human actions and their impact on ecosystem integrity</li> <li>Resource stewardship</li> <li>Water distribution has a major influence on weather and climate</li> <li>Levels of biotic diversity</li> </ul>
	Social Studies	<ul> <li>Global agriculture practices</li> <li>Demographic patterns of growth, decline and movement</li> </ul>
	Applied Design, Skills and Technologies (ADST)	<ul> <li>Food Studies → issues involved with food security; factors involved in the creation of food guides/labelling</li> <li>Culinary Arts → BC agriculture practices</li> </ul>
GRADE 12	Sciences	<ul> <li>Organ systems structure and function/interdependence</li> <li>DNA/ gene expression</li> <li>Land use, degradation and management</li> <li>Conservation of water</li> </ul>
	Social Studies	- Global agricultural practices

### Safety First

#### Safety

TIP: Check with your direct farm marketing association for tour liability insurance

#### Insurance Needs and Liability

Keep in mind that the ranch is home to you but is unfamiliar territory to be discovered by urban children or their teachers. They are likely not to be fully aware of any of the potential dangers.

To prepare the ranch for visitors, both for safety and good image, the following efforts are some examples of safety tips to insure a successful and safe visit:

- time visits so as not to happen during muddy season;
- keep all areas safe and unobstructed. Where possible install railings-watch for too many kids sitting on rail fence;
- check for nails, loose railings, syringes, sharp tools, loose tin/ siding, etc.-tie down anything that may fall or remove it;
- · keep sick or dangerous animals out of the way;
- remove access to the dog(s);
- rope off areas where you don't want them to go. But don't rely on the rope to keep them out. Choose spotters and/or clearly inform the teachers, supervisors that these areas are unsafe or inaccessible;
- · inform your staff of the visitors;
- never leave any toxic products (sanitizers, pesticides) open and accessible;
- shut off all machinery or if can't, avoid areas where machinery is in operation. Remove all keys from ignitions;
- do not encourage children to have direct interaction with animals. If any interaction is allowed be certain they are gentle animals housed in a way that controls their movement.
- include any biosecurity measures you have in place foot baths, boot covers and explain the reasons for these measures.

It is critical that you check your liability coverage with your insurance company prior to the visit. Most farm/ranch policies do NOT cover tours or consumer farm days. Be prepared to go over your tour plan and potential risks that are possible. Be clear on what monetary charges, if any, that may be applied to the visit and if any food or products will be dispensed. Keep your agent informed of any changes machinery or equipment used and the frequency of visits.

#### **Safety First**

#### **Food Safety**

It is a much appreciated bonus if your ranch is capable of providing a snack, particularly if it is a product that originates from your ranch. However to insure no food borne illnesses result there are some precautions that should be taken.

- Provide a facility that all children can wash their hands (soap and warm water and paper towels).
- Serve only processed, packaged products. The benefits are many:
  - 1. it demonstrates the processing aspect of the product and allows for product recognition off the farm;
  - 2. it reduces the risk of potential food safety issues;
  - 3. provides an opportunity to talk about your industry's food safety and quality controls.
- Serve plain products-children's tastes are simpler than adults. Fancy flavours, spices or appearances may result in a negative response.
- It is the responsibility of the teacher not the producer to know his/her students' medical needs (i.e.: allergies to nuts, hay, or bees).



### **Preparing for the Visit**



Knowing beforehand, both the teacher and yourself, what sequence of stops and the points addressed at each stop will help in providing a successful tour. Plan in advance:

- where will they go;
- what will they do;
- what will they see
- how will you address their questions;
- how will you assure supervision and safety throughout the time of their visit.

Base your plan on your ranch layout, taking advantage of any science info spots, and natural collection areas. Consider the size of the areas, age of the children, experience of the supervisors and the degree of risk and/or complexity of any tasks. Create Activity Stations.

TIP: KEEP IT SIMPLE
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes too easy to fall into the trap of telling
It's sometimes that students can understand, for example:
It's too work to the telling
It's too work to telling</l

#### **Preparing for the Visit**

#### Your Ranch, Your Industry

TIP: Relate words such as hay. rations, forage, heifer, to their everyday activities. School children are future consumers. Making a positive impression about ranching has the potential to shift future consumption trends. You, as a ranch producer play an important part in communicating key messages about agriculture and the food produced for everyone. You are an expert at taking care of detailed business decisions, cows and crops, land stewardship, etc, but may not be trained in public speaking and public relations. Doing some homework ahead of time can help you say and do the right things. Fact sheets are available from *Canada Beef*, the *BC Agriculture Council*, and the *Canadian Cattlemen's Association*.

Food is not created at the super market, yet many school children believe that this is where their food comes from. The challenge for ranch tour guides is to change this misconception. You can in fact inspire consumer confidence and spur on beef consumption. To ensure the paradigm is changed positively requires several things:

- Facilities that are maintained in a manner that represents a clean, healthy environment that is both comfortable and healthy for the workers.
- The ranch represents the "norm" of the industry and dispels the "Old MacDonald's Farm" myth. Don't be afraid to show that yours is a professional operation that provides employment and food.
- Avoid circumstances that would reflect negativity on ranchers or the industry in general e.g. dead calf left out in the open. The visit is a window into the entire industry.
- Always, present beef as a wholesome food with high nutrient value.

Always remember the only animal most people relate to is their pet. The environment and people involved with their pet will be their own home or friends, the small animal veterinarian and the local pet store. Either way it is a singular unit, treated as one of the family members and potentially pampered in a very human- like manner.

The level of smell, "dirt" and size of the ranching operation will seem foreign. Images of ranching may have come from story books or television and as a result ideas of ranching may be dated or ill conceived. How you present yourself and your ranch can change this and encourage them to think in a better more positive light.

## Information Sharing Form



	Before the Tour
	Pre-Visit the farm and go over tour plan if possible
	<ul> <li>Provide list of participants</li> <li>Arrangement of specific activities or achievement of specific goals</li> </ul>
	Things the Farmer Needs to Know
	Teachers name
	School name
	Contact number
	Age level of the group
	Number of children and supervisors (does not include one teacher per class)
	Children Supervisors
	Recommended ratios of children to adults:
	Primary (K-Grade 3): 6 children to 1 adult
	Intermediate (Grade 4-7): 10 children to 1 adult
	Secondary (Grade 8-12): supervisors if any children with special needs or behaviour challenges
	If there are any special needs children (eg. wheel chair accessibility) or children with allergies (eg. hay allergies)
<u> </u>	What are the hours, days or months that the visit is preferred
, <u> </u>	
F	Farmer to Teacher - for the farmer to fill out.
	Things the teacher needs to know
	•
	Name of farm
	Name of farmContact name
	Name of farm
	Name of farm
	Name of farm
	Name of farm   Contact name   Contact number   Type of farm   What specific limitations are there (eg. they must be gone by 2 pm end of shift)
	Name of farm   Contact name   Contact number   Type of farm   What specific limitations are there (eg. they must be gone by 2 pm end of shift) Appropriate clothing (eg. closed tow shoes, no flip flops, no heals, etc.)
	Name of farm   Contact name   Contact number   Type of farm   What specific limitations are there (eg. they must be gone by 2 pm end of shift) Appropriate clothing (eg. closed tow shoes, no flip flops, no heals, etc.) Restriction on group sizes. If they will need to be divided into supervised smaller groups
	Name of farm   Contact name   Contact number   Type of farm   What specific limitations are there (eg. they must be gone by 2 pm end of shift) Appropriate clothing (eg. closed tow shoes, no flip flops, no heals, etc.) Restriction on group sizes. If they will need to be divided into supervised smaller groups Any monetary charges for visit or for snacks
	Name of farm   Contact name   Contact number   Type of farm   What specific limitations are there (eg. they must be gone by 2 pm end of shift) Appropriate clothing (eg. closed tow shoes, no flip flops, no heals, etc.) Restriction on group sizes. If they will need to be divided into supervised smaller groups Any monetary charges for visit or for snacks Contract required: Yes No No
	Name of farm   Contact name   Contact number   Type of farm   What specific limitations are there (eg. they must be gone by 2 pm end of shift) Appropriate clothing (eg. closed tow shoes, no flip flops, no heals, etc.) Restriction on group sizes. If they will need to be divided into supervised smaller groups Any monetary charges for visit or for snacks Contract required: Yes \overline No \overline Location of the farm
	Name of farm

### **Develop Activity Stations**

	Developing "activity stations" is a great way to focus school age children and their energies as well as provide them some tremendous hands-on experiences. All learners, children and adults, like a break from listening to actually doing something. Challenging their skills and observations helps to consolidate what they've learned. Always keep in mind safety, and complexity as it relates to the age of the child and group size.
Activities	The following offers some example activities. Discuss your plans with the teacher before the visit.
	Hay wagon ride to tour fields
	<ol> <li>Grass Silage- grows to a height of 1m; when chopped up is placed in bags to ferment (preserve) for future feeding.</li> </ol>
	2. Hay-Round Bales vs Square Bales.
TID. Remember safety	<ol> <li>Handle soil-if possible show different types of soil; tell that it provides nutrients to plants, valuable resource and needs to be protected.</li> </ol>
features - tenceu features - tenceu wagon, bales to sit on, steps in place to on, steps in place to	<ul> <li>Separate off an area with rope, garden hose or tape and have smaller, more gentle animals in small pens accessible for petting or feeding. Always supervise-both for sake of child and animal.</li> </ul>
ensure easy union Consider bad weather	<ul> <li>Viewing area of all ranch structures-note the different designs and their purpose.</li> </ul>
options.	<ul> <li>"Teachable moments"- take advantage of events that can occur, e.g.: birthing process, breeding, tagging, etc. Be prepared to answer questions though! Discuss these potential topics with teacher beforehand to determine if appropriate.</li> </ul>
	<ul> <li>Have price tag on items-e.g. tractor, barn, cow.</li> </ul>
	<ul> <li>Show how the animal waste is spread on fields to make grass grow.</li> </ul>

- Show how you are environmentally friendly (cows kept out of creeks, waterers etc.)
- Work with other agri groups-someone may be able to bring lamb/honey etc.

#### **Develop "Activity Stations"**

# Activities continued

#### Role play

Using props have them guess how many career roles are on a ranch, e.g.:

- wrench = mechanic;
- grain ration = nutritionist;
- syringe (minus the needle) = vet;
- saddle = cowboy
- Using items from around the ranch help students discover their use. Keep safety in mind when selecting tools. Some examples of appropriate tools are:
  - 1. taggers/tag;
  - 2. cow magnet;
  - 3. balling gun;
  - 4. chemical gloves;
  - 5. feed bag;
  - 6. slow moving vehicle sign;
  - 7. hoof trimming-show part of hoof and explain it is like our nails and does not hurt to trim.
- Dress-up. In a large box place a collection of ranch "uniform" /clothing (steel-toed boots, overalls, caps, quilted jackets, gloves).
  - 1. Dress the teacher or a student to be a rancher.
  - 2. Have them say why the ranchers wear special clothing outline safety issues.
- Test their knowledge with a game of ranch trivia pursuit, e.g.:
  - 1. how do cows keep warm;
  - 2. how many stomachs does a cow have (4).
- Challenge their observations!



### **Develop "Activity Stations"**

# Activities continued

 Soil -get each child to pick up a scoop of soil from the field. Get the children to think about the world and how much of that scoop of soil represents agriculture.

- 1. Drop  $\frac{3}{4}$  of the handful = amount of world covered in water.
- 2. Drop ½ of remainder = amount of the land not suitable for agriculture.
- 3. Drop  $\frac{1}{3}$  of remainder = amount of land lost to urbanization.
- 4. Remainder = agri land. Ask for some forecasts about food production in the future.
- Form a food chain-start off with two children, one the producer and one the consumer (eating a hamburger) - get the children to form a chain. To get in the chain each child has to mention someone who works between the producer and the hamburger. Have the producer leave the chain and ask them what happens to all those in the chain.

#### • Identify all the types of feed.

- 1. On a large clean surface (e.g. concrete pad) place some feed samples.
- 2. Have them point out the different piles of feed types identify them with their help.
- 3. Divide them into grain versus forage smell, taste the different grains.
- 4. Discuss how much a cow eats in a day in terms of weight, buckets.
- 5. Older children could identify the percentage of each feed type.
- Compare modern ranching to ranching in the past:
  - 1. Let students try out old (antique) hand tools and explain how they were used in the past;
  - 3. Compare antique tools with the tools used in modern ranching;
  - 4. Compare the number of people required to run a modern ranch vs a ranch long ago.



### **Develop "Activity Stations"**

# Activities continued

#### • Explain how livestock and wildlife have learned to coexist.

#### • Walk about with small groups in the fields:

- 1. Identity invaders (weeds);
- 2. Explain how they spread-seeds, people, animals;
- 3. Discuss good grazing practices.

#### • Have a dog/horse safety demo:

- 1. Show a rancher's gear and discuss why it is worn;
- 2. Show a horse's gear and why it is worn;
- 3. Discuss how horses help a rancher;
- 4. Discuss how dogs help a rancher.

#### Above All - Have FUN !



# Meeting the Group at the Bus





Summary and Evaluation of Tour

Keep your discussion brief. Remember the children may have been on the bus for a while and will be anxious. Take them right to the first station and do your introductions there. Divide the students into manageable groups (refer to Information Sharing Form) with an adult supervisor.

- Introduce yourself and your business.
- Let them know this is your place of work and your home.
- State your rules and your expectations. Adults are to listen carefully and be a part of the tour.
- Remember to speak clearly for everyone to hear.
- Have yourself and your staff attired in clean clothes.
- Remind them that loud noises and sudden movements will frighten the livestock and potentially create dangers for them and impair production outputs for you.
- Always be on the lookout for potential hazards. Remember, what may seem obvious to you as a danger, may not be to them.
- Students or teacher/supervisors may want to collect memories, for example they may:
  - 1. Take pictures for school displays. If you want some pictures, drawings or stories written by the children ask-they are usually happy to comply;
  - 2. Group photo-choose an appropriate place, taking into consideration background and the resulting image;
  - 3. Record audio/video; must have permission to film ranch premises.
  - 4. Take samples of feed, hay.

Maintaining your clients and ensuring positive word of mouth references, requires continual improvements. To evaluate the success of the tour and where you could improve ask the group before they leave:

- · what they remember and what they learned;
- what they liked and did not like;
- invite them to write a story, letter or draw a picture about your farm and the visit.

#### **Evaluation Form**



Please fill out this evaluati Send completed form to: _	on for the farn	n tour you par	ticipated in to	day. Thank you.
This program increased my st	udents understa	inding and appr	eciation of agric	culture and farming.
Strongly Disagree 🔲	Disagree 🔲	Neutral 🔲	Agree 🔲	Strongly Agree 🔲
This program helped my stud standing of how food is produ	ents understanc uced.	l where their foo	od comes from a	nd/or gain an under-
Strongly Disagree 🔲	Disagree 🔲	Neutral 🔲	Agree 🔲	Strongly Agree 🔲
This program is a valuable cur	ricular-linked lea	arning experien	ce for my stude	nts.
Strongly Disagree 🔲	Disagree 🗋	Neutral 🔲	Agree 🔲	Strongly Agree 🔲
I will use the resources provid	ed to me from tl	he tour.		
Strongly Disagree 🛛	Disagree 🗋	Neutral 🔲	Agree	Strongly Agree 🔲
I would recommend this tour	to another scho	ol/teacher.		
Strongly Disagree 🔲	Disagree 🔲	Neutral 🔲	Agree 🗖	Strongly Agree 🔲
I would consider taking part in	n another farm t	our in the future	е.	
Strongly Disagree 🔲	Disagree 🗋	Neutral 🔲	Agree 🔲	Strongly Agree 🔲

Please provide feedback on the tour, presenter, resources, or other elements you have identified that you would like to see AITC address for the future:

School Name:	Farm Name:
Teacher Name:	Farm Contact:
Number/Grade of students:	Type of tour
	(dairy, ranch, greenhouse):

Most people now are at least 2 and 3 generations removed from their farming roots. Concepts about agriculture rely on stories that may be years old, myths or from the news media. Awareness of how ranches function will be a mixture of new and old and issue oriented. To minimize confusion, be frank, brief and clear when answering questions.

The following touches on some of the areas and the types of information that will be of interest. Depth and specific topics will vary with your own comfort level and with the age of the children and the class subject matter. Discuss this with the teacher before they arrive to allow you some time to prepare.

Cows	<ul> <li>Are mammals. (are warm-blooded, have hair, give birth to their young and nurse their young)</li> </ul>
	<ul> <li>Are herbivores. (have flat teeth, eat plants and have their eyes at the sides of their head to watch for predators)</li> </ul>
	Dairy cows differ from beef cows
	Different types of beef cows
VAV N	<ul> <li>Are a ruminant, have 4 stomachs, chew cud</li> </ul>
	Difference between calf (baby), heifer (teenager), cow (adult)
	<ul> <li>How you identify them - name, number, ear tag, etc.</li> </ul>
<b>Cow Nutrition</b>	<ul> <li>What they eat and how food is delivered to the cows</li> </ul>
	Importance of water and minerals
	Care they require.
<b>Cow Reproduction</b>	First calf at 2 years of age
	Requires a cow to have a calf to make milk
	• Lactation cycle 5-8 months and then rest (dry) until calving time again
	<ul> <li>During that time a new baby calf is forming, who at birth will be 70-120 pounds.</li> </ul>
Role of Support	Producer organizations
Organizations	<ul> <li>Feedlots, sale vards, livestock haulers</li> </ul>
(Older Children)	Processors
	· Agri business (feed equipment etc.)
	• Agn-business (reed, equipment, etc.)
	Veterinarians
	Research

Manure Storage	<ul> <li>Waste-good and bad/soil conditioner and pollutant - how the rancher makes it work</li> </ul>
	<ul> <li>Waste Act-impacts on manure applications and how the rancher has to deal with this</li> </ul>
	<ul> <li>Nutrient cycle of manure in the soil - what does it do?</li> </ul>
	<ul> <li>Compare to human waste recycling programs.</li> </ul>
Environment	Land conservation/stewardship
	Water resources/quality
	Pollution - manure/odours
Animal Care	Understanding animal needs
	<ul> <li>Based on sound and humane management practices</li> </ul>
	<ul> <li>Cow comfort - freedom, shelter, types of bedding, pasture, winter feedlots or grounds</li> </ul>
Farming as a	Labour issues
Business	<ul> <li>"Manufacturing" ranching - corporate ranching vs family ranching/small ranch vs large ranch</li> </ul>
	<ul> <li>Source of many jobs both direct and indirect - types of jobs both on and off the ranch</li> </ul>
	How to get into ranching
Safety	• Food
	1. Growth implants used or not
	2. Genetically modified organisms
	3. Organic vs nonorganic
	4. Bacterial contamination- give a copy of Fight BAC
	• Human
	1. Farm accidents
	2. Labour related

#### Science & Technology

#### Computers - business (accounting), feed, breeding, production records, etc.

- Genetics plant and animal related
- Equipment
- Ecological network delicate balance of nature soil, water, air body and environment interactions land stewardships
- Biology life and reproductive cycle of cow/crops

#### Nutrition

Society— Urban/Rural, Global and Cultural Issues

- Beef meeting daily food requirements available at ThinkBeef.ca
- Effect of food trends on ranching-e.g. vegetarianism, low fat, need for iron, vitamin B, and immigration
- Rural meets urban-expectations, conflicts
- Global marketplace-e.g. GATT/USMCA/WTO or their removal



Amino Acids	Nitrogen containing compounds that are the building blocks from which proteins are made.
Antibiotics	A class of drug usually produced by living organisms (moulds, bacteria or green plants), which can inhibit or kill undesirable bacteria. Example: penicillin.
Available protein	The portion of the crude protein that can be used by the animal.
Average Daily Gain (ADG)	The average daily live weight increase of a growing animal, usually expressed in kg, g or lb. /day.
Bacteria	Microscopic unicellular organisms found almost everywhere.
Balanced ration	A 24 hour feed allowance that provides an animal with appropriate amounts and proportions of all nutrients required for a given level of performance.
Barn	Place where animals, feed and/or machinery may be housed.
Breed	Variety of animals within a species. To produce offspring
Bull	Adult male. Potentially a very strong, dangerous animal needed to be treated with respect and distance.
By-product	Produced as a result of industrial manufacturing, plant or animal processing. Examples: distillers grains, beet pulp, meat and bone meal, fish meal, leather, medicine, marshmallows, stearic acid.
Calf	Young cattle that are between 0 and 6 months of age.





Carbohydrates	Major energy providing substrates including starches, sugars, cellulose and hemicellulose. All carbohydrates contain carbon, hydrogen and oxygen, and are usually divided into two fractions: structural (fiber) and non- structural (sugars and starches).
Chaff	Husks or other seed coverings and other plant parts separated from seed during harvest or processing.
Chute	Narrow fenced walkway used to restrain cattle.
Colostrum	The milk secreted by female mammals for the first few days after giving birth. It is particularly rich in nutrients and antibodies essential for newborn survival.
Complete Feed	A thoroughly blended mixture of different feed ingredients formulated to meet specific nutrient requirements.
Concentrate	A mixture of different grains fed to the cows in order to meet the animal's nutrient requirements for growth, pregnancy and maintenance.
Corral	Fenced area used to confine cattle.
Cow	Mature female cattle that are over 24 months of age and have given birth.
Dam	Adult female cow. Used only when referring to her calf (e.g. the mother of the calf is the Dam).
Digestion	The changes that occur to a feed within the animal's digestive tract to prepare it for absorption and use.
Dry Matter	Feed residue left after all moisture has been removed by drying (100% dry matter).

Energy	A nutrient essential for maintenance, growth, production and reproduction. Energy is required in larger amounts than any other nutrient except water, and is often the limiting factor in livestock production.
Escherichia coli (E. coli)	E. Coli is of the coliform group, which are organisms associated with the intestinal tract flora. Presence of coliforms is usually an indication of unsanitary handling or processing procedures.
Fat (nutrient)	A term used in a general sense to refer to both fats and oils. Fat supplies 2.25 times as much energy as carbohydrates. Both fats and oils share the same general structure and chemical properties, but have different physical properties, i.e., oil is a liquid at room temperature, while fat is a solid.
Feed additive	Products added to basic feed mixes to improve the rate and/or efficiency of gain, prevent certain diseases, or preserve feeds.
Feed lot	A place where cattle are housed together and fed a special diet. Most go to slaughter but some go back to the ranch.
Feed processing	Physical or chemical changes made to feed to make it more nutritious, store easier or make more palatable, e.g. pelleted grain, flattened grain, chopped hay, cubed hay, silage.
Food-borne illness	The sickness resulting from eating food contaminated with either bacterial toxins or by certain bacteria in the food which can be caused by improper storage, handling or preparation, often resulting in vomiting and/ or diarrhea. Information on food safety can be found at thinkbeef.ca.



Forage	Plants or plant parts fed to, or grazed by, domestic animals. Forage may be fresh, dry or fermented (pasture, green chop, hay, haylage or silage). Term is often used interchangeably with roughage.
Grain	Any of the common cereal seeds e.g. oats, barley, wheat.
Нау	Dried, cut forage packaged in the form of bales that can be small square bales weighing around 35 kg to large 1 tonne round or square bales.
Heifer	A young cow between the ages of 6 months and 24 months that has not had a calf.
Metabolism	All of the chemical changes nutrients undergo following absorption from the digestive tract.
Micronutrient	Any ingredient, such as minerals, or vitamins, added in very small amounts to a ration.
Microorganism	Any microscopic animal or plant-like organism including bacteria, yeasts, viruses and single-celled algae.
Milk replacer	A substitute for fresh whole milk, fortified with vitamins, minerals and sometimes antibiotics; used as a nutrient source for young animals.
Macro (or major) minerals	Minerals required in relatively large amounts by livestock. Includes calcium (Ca), phosphorus (P), magnesium (Mg), potassium (K), chlorine (CI), sulphur (S) and sodium (Na).
Micro (or trace) minerals	Minor mineral elements required in very small amounts in the ration of animals. Includes manganese (Mn), copper (Cu), zinc (Zn), selenium (Se), iron (Fe), cobalt (Co), iodine (I) and fluorine (F).
Minerals	Inorganic feed elements essential for life.

Mineral supplement	A rich source of one or more mineral elements.
Monogastric	An animal having a single or simple stomach system. Example: swine.
Nutrient	Feed components required for the maintenance, production and health of animals (water, carbohydrates, lipids, proteins, minerals and vitamins).
Nutrient requirements	The minimal amounts of nutrients (energy, protein, minerals and vitamins) necessary to meet an animal's minimal needs for maintenance, growth, reproduction, lactation or work.
Palatability	The appeal and acceptability of feedstuffs. Affected by the taste, odour, texture and temperature of the feed.
Pathogen	Any microorganism that can cause disease. Salmonella is always considered a pathogenic microorganism. E. Coli is considered an opportunistic pathogen. It is not always pathogenic, but given the opportunity, it can cause foodborne illness.
рН	A measure of acidity or alkalinity. Values range from 0 (most acidic) to 14 (most alkaline or basic). A pH value of 7.0 is neutral (neither acidic nor alkaline).
Pasture	A fenced grass field.
Protein	Naturally occurring compounds containing nitrogen, carbon, hydrogen and oxygen, and sometimes sulphur or phosphorus. Proteins are made up of complex combinations of amino acids and are essential for animal growth, production and reproduction.
Range	Large tracts of grasslands used for grazing.

Glossary

Ration

animal.



Roughage	A term used to describe a feed high in fibre (greater than 18% crude fibre). Roughage tends to be bulky, coarse, and low in energy. Example: straw.
Ruminant	A cud-chewing animal having four stomach compartments. The rumen (first stomach), is a major site of microbial fermentation of feeds permitting breakdown of fibre. Examples of ruminants: cattle, sheep, goats.
Salmonella	A group of organisms named after a U.S. veterinarian, D.E. Salmon. There are over 2,000 species within the genus Salmonella that will infect man. These rod shaped bacteria cause various diseases in man and animals, including typhoid fever and food poisoning.
Saturated fat	A completely hydrogenated fat. Saturated fats are solid at room temperature. Example: animal tallow.
Screenings	Small, imperfect kernels, broken grains, hulls, weed seeds and other foreign material obtained from the cleaning of grain.
Silage	Feed preserved by an anaerobic (no oxygen) fermentation process. Examples: corn silage, haylage, high moisture corn.
Silage additive	Substances added during the ensiling process to enhance the correct and rapid fermentation of the feed.
Silo	Structure used to store forage. Stores it in a manner that prevents spoilage over long periods of time.
Sire	Adult male. Only used when referring to a calf's father.

A diet that may include grains, minerals, vitamins, salt,

forages. The 24 hour feed allowance for an individual



Steer	A castrated bull.
Sweet feed	A commercial feed sweetened with molasses to improve palatability.
Teats	Nipples on the udder. The baby calf nurses by instinct.
Tie stalls	Stalls or beds where an animal is designated to and cannot roam free.
Total mixed ration (TMR)	All ration ingredients, including roughages, mixed mechanically to provide one homogenous mixture. TMRs are used in large dairy or beef feedlot operations.
Udder	The part of the cow that produces milk (mammary gland).
Unsaturated fat	Any fat that is not completely hydrogenated. Unsaturated fats are liquid at room temperature. Examples: corn oil, vegetable oil.
Vitamins	Organic compounds that function as parts of enzyme systems essential for many metabolic functions.