Introduction

There are over 800 recognized cattle breeds in the world today. How many can you name? There are two main species of cattle, *Bos indicus* and *Bos taurus*. The cooler climate animals of Canada are *Bos taurus*. If you want to care for and show a beef animal, then you have found the right project series.

This guide will help you learn about caring for cattle by handling them with respect, feeding them properly, and keeping them healthy. We will also examine the different breeds of cattle and how to choose the best animal for your 4-H project.

More Cowbell!

This More Cowbell! box will appear throughout the manual. Check out the great website link ideas wherever you see More Cowbell!. These links will lead you to fun online content to help you with your 4-H project.

Meet Bobby!

Bobby is ready to discover 4-H beef along with you! Bobby will share neat and important information throughout your manual.

Learning is 3D!

To help you get the most out of your learning, each project meeting has the following parts:

**Dream it!** Plan for success

**Do it!** Hands on learning

**Dig it!** What did you learn?
What Skills Will You Learn?

Each section or Skill Builder (or Builder) in this project has activities that will help your project group learn to do by doing while learning new skills and having fun!

To complete this project, you must:

- Complete the activities in each Builder OR a similar activity that focuses on the same skills, as you and your leader may plan other activities.
- Plan and complete the Showcase Challenge.
- Complete the Portfolio Page.
- Participate in your club’s Achievement (See the inside back cover for more information about 4-H Achievements).

### Members will be able to...

<table>
<thead>
<tr>
<th>Skill Builder</th>
<th>Activities</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breeds and Behaviour</td>
<td>Rate the Trait</td>
<td>3</td>
</tr>
</tbody>
</table>
| Ana
lyze breeds for different traits | Can You Handle It? | 4 |
| Understand low stress handling techniques | Watch Out | 4 |
| Recognize signs of aggression | |
| Market Animal | Characteristic Pick | 6 |
| Select a 4-H calf and CCIA tag it | ADG Bee | 7 |
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| Use Pearson’s Square Ration tool | Hatchin’ Rations | 18 |
| Create a balanced ration | |
| Periodically review the ration | |
| Health | Healthy Habits | 20 |
| Understand how to keep cattle healthy | Parasite Fight | 21 |
| Recognize basic parasites | Pin the Syringe | 21 |
| Record vaccinations | Vaccination Station | 22 |

When you successfully complete your builders, you will showcase what you have learned.

<table>
<thead>
<tr>
<th>Showcase &amp; Portfolio</th>
<th>Activities</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain success in using the skills listed above</td>
<td>Showcase Challenge</td>
<td>23</td>
</tr>
<tr>
<td>My Portfolio Page</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>
**Dream it!**

Do you prefer purebred or crossbred cattle? Why?
________________________________________________________________________
________________________________________________________________________

When you work with your cattle, do you stress them out? How do you know? Can there be effects on the meat or milk if cattle become stressed?
________________________________________________________________________
________________________________________________________________________

**Do it!**

**Rate the Trait**

Choose three breeds that you would like to learn more about and do some research to fill in the table below.

<table>
<thead>
<tr>
<th>Trait</th>
<th>#1:</th>
<th>#2:</th>
<th>#3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperament</td>
<td></td>
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<td></td>
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<tr>
<td>Birth Weight</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mature Weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcass Quality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milk Production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardiness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finishing Age</td>
<td></td>
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</tr>
</tbody>
</table>

I think ______________ is the best of the three because ________________________________
Can You Handle It?

Cattle behave differently than humans for a few reasons. Cattle have wide angle vision but cannot see directly behind them. To protect this area, cattle may kick if worried. Cattle have poor depth perception and take time to adjust to changes in lighting and shadows. Cattle also have very sensitive hearing, so loud noises can be frightening. Dr. Temple Grandin was one of the first researchers to use low stress livestock handling to reduce the amount of stress on animals when they are being handled. She found that beef cattle had better rates of gain when they were handled in a calm, relaxed manner.

Draw arrows on the diagram to show which way the animals would move when the person moves.

Watch Out

There are several signs of aggression that cattle will display before they attack. See if you can unscramble the mixed up words in each line.

Quick, erratic __ __ __ __ __ __ __ __ __ (SEVENTMOM)
__ __ __ __ __ __, flicking tail (DIARES)
__ __ __ __ __ __ the ground (WAGPIN)
Raised __ __ __ __ (SEAR)
__ __ __ __ __ __ (TORNISING)

If you see any of the above, get to a safe place as soon as possible. Never work with cattle alone and be especially cautious of bulls and new moms with calves. Avoid the use of quick movements and loud noises. Respect the size of each animal and their flight zones. Always have an escape route planned.
More Cowbell!

Bud Williams and Temple Grandin are two people who teach Low Stress Livestock Handling. Their websites are:
www.stockmanship.com/index.htm
www.grandin.com

Dig it!

Compare your research in Rate the Trait with the other members. What do you think the ideal crossbreed would be? Why?

_______________________________________________________
_______________________________________________________
_______________________________________________________

Bobby Fun Facts!

Barbequing beef is one of the most popular ways to cook it. Cowboys on cattle drive used to barbeque poorer cuts for hours to tenderize them. The most traditional side dishes served with barbeque are potato salad and baked beans.

Watch the Work Smarter, Not Harder Livestock Handling Video DVD. Take some notes below that will help you in your future interactions with cattle.

What’s Next?

Skill Builder 2 is all about the Market Animal Project. Skill Builder 3 is about the Heifer and Continuation Heifer Project. You will have to complete the activities for each project you take. Even if you don’t have all three there are some activities you can do to learn for the future.
Skill Builder 2: Market Animal

SKILLS CHECKLIST
- Select a 4-H calf and CCIA tag it
- Know how to calculate Average Daily Gain
- Understand the importance of records

Dream it!
What is an appropriate goal for a market animal?

Can you remember from previous 4-H beef experience what these acronyms stand for? What do they mean?

ADG:
CCIA:
RFID:

Do it!

Characteristic Pick
Evaluate three different animals in the same pen. Rank the animals in the following areas to help you make your decision.

<table>
<thead>
<tr>
<th>Trait</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Size</td>
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<td></td>
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<tr>
<td>Length, Width, Height</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Muscling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trimness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genetic Background</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I choose _______________________ for my 4-H Market Animal.

Bobby Says....
Your market animal can be a steer or a heifer but a steer tends to put on more weight in a shorter time period.

Important Words
Watch for these important words throughout this builder: ADG, CCIA, RFID, Frame Size, Muscling, Genetic Background.
In Record Time

Fill out the table to the right with the information about your market animal for the year.

**Market Animal**

<table>
<thead>
<tr>
<th>A) Target Weight</th>
<th>B) Starting Weight</th>
<th>C) Total Gain (A — B)</th>
<th>D) Days on Feed</th>
<th>E) ADG (C/D)</th>
</tr>
</thead>
</table>

**Bobby Says…**

Lighter weight calves are more sensitive to changes in outside temperature than heavier weight calves. These changes can impact your calves’ ability to put on weight and reach their ADG.

**Dig It**

The next page is for you to include a picture of your Market Animal. Make sure to include the animal’s CCIA tag number. Since September 1st, 2006, all cattle need a Canadian Cattle Identification Agency Radio Frequency Identification Tag in order to be sold. Once your achievement is over, you may add in your results on these pages too.

**What’s Next?**

Skill Builder 3 looks at the female projects you can have: a heifer and a continuation heifer. Selecting a heifer will be looked at. If you choose to have a continuation heifer, your will use your heifer from last year and bring her back with her new calf.
From Farming History…

The cow is protected in India and even has a “Cow Holiday.” Cows have been revered as the source of life in India as they provide milk, curds, butter, urine, and dung. The dung is mainly used for household energy.

Picture This!

In this picture ______________________________________________________________

I want you to notice: _________________________________________________________

My Beef Animal

CCIA Number: ______________________

Achievement Results:
Skill Builder 3: Females

Bobby Says....
You can take two types of females: one without a calf and one with a calf. The first you will need to pick and the second will be your heifer from last year and her new baby calf.

Dream it!

What are good goals for raising heifers?

What are good goals for raising cow/calf pairs?

Do it!

Ladies Choice

When picking a heifer, there are several things to consider. Some of these points are the same as when picking a steer, like volume and muscling. Some factors are unique to females though, for example, udder and legs. Put three heifers in a pen and rank them according to each trait. You can use their tag number to record which one is the best, the middle, and the worst for each trait.

<table>
<thead>
<tr>
<th>Trait</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length, Width, Height</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trimness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Udder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genetic Background</td>
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<td></td>
</tr>
</tbody>
</table>

After filling out the chart, I choose ________________________ for my heifer this year.
ADG Repeat

A heifer should reach 65% of her mature weight before being bred. Ask your leader what the mature weight of a heifer might be. A cow should be close to her mature weight at the end of the project. The cow’s ADG might be much lower than you expect. This is because she will have produced a calf who weighs a couple hundred pounds.

Heifer

| A) Target Weight   | _________ |
| B) Starting Weight | _________ |
| C) Total Gain (A — B) | _________ |
| D) Mature Weight   | _________ |
| E) Breeding Weight (D * 0.65) | _________ |
| F) Breeding Date   | _________ |
| G) Days on Feed    | _________ |
| H) ADG (C/G)       | _________ |

In Record Time II

Fill out the table with your information about your female project animals. You may have to fill some blanks in as the year progresses.

<table>
<thead>
<tr>
<th>Project Animal</th>
<th>Heifer</th>
<th>Continuation Heifer</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCIA Number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birth Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breed of Sire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breed of Dam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tattoos/Brand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birth Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Start Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Finish Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breeding Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Breeding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sire</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

<table>
<thead>
<tr>
<th>Preg. Check Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Date</td>
</tr>
<tr>
<td>Calf Birth Weight</td>
</tr>
<tr>
<td>Calving Ease</td>
</tr>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>Tag/Tattoos/Brand</td>
</tr>
</tbody>
</table>

Bobby’s Fun Facts!

The optimum temperature for cows to grow at is between 5 and 15 degrees Celsius.
Dig it!

Picture This! II

Insert a picture of your heifer on this page and cow/calf on the next page. Make sure to include the CCIA numbers and achievement results.

My Heifer

CCIA Number: _______________________

Achievement Results:

In this picture: ______________________________________________________________

I want you to notice: _________________________________________________________
What's next?

Feeding your animals is important to help the calves reach their weight goals. There are certain nutrients that cattle need to be healthy. The next builder will help you make the best meat possible.
Skill Builder 4: Nutrition

Bobby Says....
When cows are fed properly, they will be healthy and able to reach their ideal weight. Steers are sold by the pound so you want to balance your steer putting on the pounds to win it’s class and to make you the most money.

Dream it!

Feeding a calf can cost a lot of money when you do it properly. How much money do you think it costs to feed a market animal from weigh day to achievement? $___________

To compare this to what it costs you to eat over the same period:
1) Ask your parents how much money they spend on groceries every week. = $___________
2) Divide it by the number of people in your family to figure out your share of the cost= $_____
3) Divide by 7 to figure out the cost per day. = $________/day
4) Now multiply by the number of days in your feeding period (look back at the ADG chart if you can’t remember). = $________

Do it!

The Essentials

The five essential nutrients for cattle are water, energy, protein, vitamins, and minerals. Energy is expressed by %TDN or %Total Digestible Nutrients. Protein is denoted by %CP or %Crude Protein. Label each statement with the first letter of each nutrient it is describing:

1. Calcium, Phosphorus, Salt
2. Helps keep an animal warm
3. Extremely important for lactation and feed digestion.
4. Found in young, lush grass.
5. Can come from fat, sugar and protein
6. Can be found in alfalfa hay, canola meal, soybean meal and beef protein supplements
7. Found in grain such as oats and barley or in forages such as alfalfa and grass hay
8. It helps food move through the body and keeps joints lubricated
9. Important for growth of muscle, hair and reproduction
10. Necessary for growth and reproduction
11. Helps to build healthy teeth, bones and to develop muscles and nerves

More Cowbell!

For more info on nutrition check out: www.omafra.gov.on.ca/english/livestock/beef/facts/91-066.htm; http://oregonstate.edu/dept/EOARC/about/home/scientists/documents/DWB26.pdf or use a search engine.

Important Words

Watch for these important words in this builder: TDN, CP, Roughage, By-products
There are four main categories that cattle feed fits into: Roughage, Grain, Oilseed, and By-products. Place examples of each category into the bubbles.

Food Web
Fill in each of the circles with one of the following words: TDN, CP, Roughage, Fibre, Oilseeds, Energy, By-products, Water, Minerals, and Nutrition. If there is currently a line between the circles, you need to be able to explain the connection between the words. You will need to add in more bubbles and lines.
From Farming History...
Modern domestic cattle evolved from the aurochs. The aurochs were aggressive and large, being 6.5 feet tall and weighing about 2200 lbs. The aurochs have been extinct since 1627 but efforts to breed back today’s cattle were made and resulted in Heck cattle.

Dig it!

What do you feed your animal to ensure that it’s nutrient requirements are met?

<table>
<thead>
<tr>
<th>Water</th>
<th>Energy</th>
<th>Protein</th>
<th>Vitamins</th>
<th>Minerals</th>
</tr>
</thead>
</table>

Which of the four categories do each of your feeds fit into?

<table>
<thead>
<tr>
<th>Roughage</th>
<th>Grain</th>
<th>Oilseed</th>
<th>By-products</th>
</tr>
</thead>
</table>

Bobby’s Fun Facts!
When cattle are processed in a packing plant, by-products are produced. Some products that use these by-products are: marshmallows, gelatin, artificial skin for burn victims, chewing gum, antifreeze, cosmetics, paints, plastics, detergent, perfume, medicines, and deodorants.

What’s Next?
The next builder takes the information you learned in this builder and helps you formulate a ration with it. We will use Pearson’s Square to help create a balance ration.
In this builder, we create a balanced ration. What do you remember from the last builder about feeding cattle? Here's a quick quiz, see how many you can recall.

1. There are ____ essential nutrients. They are ___________________________________
_______________________________________________________________________
2. There are ____ food groups for cattle. They are ________________________________
_______________________________________________________________________

In order to design a ration, we need to know the quality of our feed. If your feed has not been tested, it can be done relatively inexpensive at a MAFRI office. If you do not wish to have this done, your leader has a list of average quality numbers for several types of feed that you can use to formulate your feed plan.

Your market animal, heifer, and continuation heifer will all eat about 3% of their body weight per day. Use the weight from weigh day and estimated final weight to figure out how much feed your animal should eat in the beginning and end.

<table>
<thead>
<tr>
<th>Animal</th>
<th>Beginning Weight</th>
<th>*0.03 = feed/day</th>
<th>Final Weight</th>
<th>*0.03 = feed/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steer</td>
<td></td>
<td></td>
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<tr>
<td>Heifer</td>
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</tr>
<tr>
<td>Cow</td>
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</tbody>
</table>
Pearson’s Square

Pearson’s Square is a tool used for balancing two types of feed. Follow the steps in order of number. To figure out the nutrient requirement of your animal, ask Bobby on page 16. Your leader or MAFRI office can help you determine the TDN and CP of each feed you are using.

1. Nutrient requirement for TDN or CP of animal

2. Feed ingredient A

3. Feed ingredient B

4. TDN or CP of ingredient A (%)

5. TDN or CP of ingredient B (%)

6. Subtract: find the absolute value of (#5 — #1)

7. Subtract: find the absolute value of (#4 — #1)

8. Add #6 and #7

9. Put the answer from #8 here

10. Put #8 here

11. Divide #6 by #9 to get % of ration

12. Divide #7 by #10

TOTAL:

More Cowbell!

To see the Pearson’s square step by step, visit: http://www.farmschool.com/smartfarm/tools/pearson.php

Cows will have a different nutrient requirement for the middle box. You may complete a Pearson Square for her below or you can use two different foods for your steer/heifer. You might also wish to try using CP this time if you used TDN in the activity above.
**Hatchin’ Rations**

In the Dream It! Section you calculated how much each animal needed to eat per day. Using the percentages from #11 and #12 of the Pearson’s Squares above, you can figure out how much of each type of feed you need to give your animal. Make the first row of each table for the beginning of your project and the second row for the ending of your project.

### Market Animal

<table>
<thead>
<tr>
<th>A) Required Feed/Day</th>
<th>B) #11</th>
<th>C) #12</th>
<th>A*B = Amount of Feed A</th>
<th>A*C = Amount of Feed B</th>
</tr>
</thead>
<tbody>
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</table>

### Heifer

<table>
<thead>
<tr>
<th>A) Required Feed/Day</th>
<th>B) #11</th>
<th>C) #12</th>
<th>A*B = Amount of Feed A</th>
<th>A*C = Amount of Feed B</th>
</tr>
</thead>
<tbody>
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</table>

### Continuation Heifer

<table>
<thead>
<tr>
<th>A) Required Feed/Day</th>
<th>B) #11</th>
<th>C) #12</th>
<th>A*B = Amount of Feed A</th>
<th>A*C = Amount of Feed B</th>
</tr>
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</table>

Fill out this chart for your Market Animal. For each row, the grain plus forage should equal your animals’ weight multiplied by 0.03. For Total Feed, multiply the number of days in each time period by the amount of feed in the grain, forage, and mineral column. You can figure out each start weight by multiplying your ADG by the number of days in the last time period and adding it to the previous start weight.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Start Weight</th>
<th>Weight * 0.03</th>
<th>Grain</th>
<th>Forage</th>
<th>Mineral/Salt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

It costs me $________________ to feed my market animal.

<table>
<thead>
<tr>
<th>A) Total Feed</th>
<th>B) Price</th>
<th>C) A * B = Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bobby’s Fun Facts!
Your animals should always have access to water, salt and the proper minerals. If your animal is eating a high grain diet or a diet that is high in cereal silage, they will need a 2:1 mineral. If your animal has a diet high in alfalfa, they can have a 1:1 mineral. Call a MAFRI specialist to have them suggest a mineral program.

Fill this chart out for your heifer or continuation heifer.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Start Weight</th>
<th>Weight * 0.03</th>
<th>Grain</th>
<th>Forage</th>
<th>Mineral/Salt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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It costs me $_________________ to feed my heifer or continuation heifer.

A) Total Feed
B) Price
C) A * B = Cost

Dig it!
Discuss with your group:
• What was easy or difficult about creating balanced rations?
• Why is it important to feed balanced rations to your 4-H animal?
• How will you know if you’ve been successful at feeding balanced rations?

After your achievement, fill in the following as appropriate:
Steer Final Weight: Actual ADG: Cost/Pound Gained:
Heifer Final Weight: Actual ADG: Cost/Pound Gained:
Cow Final Weight: Actual ADG: Calf Final Weight:

Reflect on these numbers — are you happy with them? Should anything be changed? What?

What’s next?
The last Builder is about keeping animals healthy through prevention and good record keeping.
**Skill Builder 6: Health**

**Bobby Says...**

For good health, animals need: 1) Good air, water and feed  
2) Safe housing and enough space 3) Daily checks for good health care 4) Sensible handling and 5) A safe comfortable environment.

**SKILLS CHECKLIST**

- Understand how to keep cattle healthy
- Recognize basic parasites
- Record vaccinations

**Dream it!**

What are some steps you can take to keep your animal healthy? Brainstorm at least 5 things.

1.  
2.  
3.  
4.  
5.  

**Do it!**

**Healthy Habits**

Fill out the table below as you vaccinate, dehorn, castrate, brand, etc. your animals.

<table>
<thead>
<tr>
<th>Date</th>
<th>Steer, Heifer, Cow/Calf</th>
<th>Procedure or Disease Prevented</th>
<th>Medication, Treatment, Vaccination</th>
<th>Dosage</th>
<th>Route</th>
<th>Site</th>
<th>Withdrawal Time</th>
<th>Cost</th>
</tr>
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</table>

**Important Words**

Look out for these important words in this builder: *isolated, parasite, topical, subcutaneous, intramuscular*
Parasite Fight

Research the symptoms, prevention, and treatment of these different parasites. You may wish to check out http://animalscience.tamu.edu/images/pdf/beef/beef-common-parasites.pdf or use a search engine to look up the name of each parasite. You may draw a picture in the symptoms box if you wish.

<table>
<thead>
<tr>
<th>Parasite</th>
<th>Symptoms</th>
<th>Prevention</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ring worm</td>
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<td></td>
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<tr>
<td>Coccidiosis</td>
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<td></td>
<td></td>
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<tr>
<td>Lungworm</td>
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<tr>
<td>Liver Fluke</td>
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<td>Eye Worm</td>
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<tr>
<td>Lice</td>
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<td></td>
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<tr>
<td>Mange Mites</td>
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<tr>
<td>Horn Flies</td>
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<td></td>
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<tr>
<td>Warble Flies</td>
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</tbody>
</table>

Bobby Says...

Vitamins A, D, and B complex are important in keeping animals healthy enough to fight off parasites. 80% of parasites live within 5 cm of the ground.

Pin the Syringe

Play pin the syringe with your fellow members. Draw on this picture the correct area to give a vaccination.
**Vaccination Station**

- Follow withdrawal periods.
- Keep records identifying what each animal has been given.
- To ensure that the meat quality of the animal will not be damaged, give all injections in the neck.
- Use clean needles – change the needle every 10 – 15 animals.

- Dispose of needles in proper packaging so that those who handle garbage will not be injured by them.
- Be sure injection site is clean.
- Give no more than 10ml (cc) in one injection site and leave a several inch space between sites.

When vaccinating your family’s herd, ask if you can give a couple of each type of needle. Record what vaccine you gave for each method. Paste a picture below of you vaccinating a calf.

<table>
<thead>
<tr>
<th>Subcutaneous</th>
<th>Intramuscular</th>
</tr>
</thead>
</table>

**Dig it!**

Ask your leader or parents what type of diseases commonly occur in your area. Are these preventable?

**What’s next?**

Now that you have finished all the builders in this project it is time to think about and plan for the Showcase Challenge. On your portfolio page you can make sure your Discovering Beef Project Skills Chart is complete. There will also be space for you to write down some thoughts and reflections on the project (what you liked, didn’t like, etc.).
Now that you have finished this project, it is time to think about how you will share your experiences and knowledge with others. You may put your new skills to work by helping at a community event or at your club Achievement or teaching others about your topic. The goal of the Showcase Challenge is to help highlight your new skills and help you understand how you can use them. It can be an opportunity to receive feedback from others on your project. So go back through your manual and find some highlights of your learning (what you are proud of) and think about how you will “showcase” it.

**Showcase Challenge**

*Bringing it all together!*

Here are some Showcase Challenge Suggestions:

- Demonstrate something you made or learned about
- Make a poster or display
- Make a pamphlet
- Make a computer presentation (e.g. PowerPoint)
- Give a speech
- Write a report
- Use your new skills to help with the Club Achievement plans
- Or come up with your own idea. It is up to you and your leader!

**Dream It!**

My Showcase Challenge Plan

My showcase idea: __________________________________________________________
________________________________________________________________________
________________________________________________________________________

What materials and resources do I need? _________________________________________
________________________________________________________________________
________________________________________________________________________

Who do I need to help me? ___________________________________________________
________________________________________________________________________
________________________________________________________________________

When do I need to have things done by? _________________________________________
________________________________________________________________________
________________________________________________________________________
**Do It!**

Insert or attach your finished product or a photo of you sharing your skills in your Showcase Challenge.

---

**Dig It!**

Now that you have showcased your project skills;

- How did your Showcase Challenge go?

- What would you do differently next time?

- How will you use your new skills in the future? *(in different situations?)*
**Discovering Beef 2: Leading the Charge! Project Skills Chart**
To be completed by the leader and the member based on observations and conversations throughout the project.

<table>
<thead>
<tr>
<th>Skill Builder</th>
<th>Members will be able to…</th>
<th>We know this because…</th>
</tr>
</thead>
</table>
| 1             | • Analyze breeds for different traits  
• Understand low stress handling techniques  
• Recognize signs of aggression | Identify activities completed and record observations and information from discussions about activities. |
| 2             | • Select a 4-H calf and CCIA tag it  
• Know how to calculate Average Daily Gain  
• Understand the importance of records | |
| 3             | • Select a heifer and consider a cow/calf pair  
• Calculate Average Daily Gain  
• Keep complete and up to date records | |
| 4             | • Understand what cattle need to eat  
• Explain what types of feed provide the essential nutrients | |
| 5             | • Use Pearson’s Square Ration tool  
• Create a balanced ration  
• Periodically review the ration | |
| 6             | • Understand how to keep cattle healthy  
• Recognize basic parasites  
• Record vaccinations | |

Additional Comments/Activities:

---

**Leader Point of Praise!**

I am most impressed by…

I acknowledge that the member has completed the 4-H project requirements.

Leader’s Signature: _______________________________
**Above and Beyond!**

In addition to project skills, 4-H also increases skills in meeting management, communications, leadership, community involvement through participation in club, area, or provincial 4-H events or activities. List below any activities you participated in this year in 4-H.

(Some examples include Executive Positions Held, Workshops, Communication, Community Service, Rally, Bonspiels, Conferences, Judging, Camps, Trips, Awards, Representation to Area or Provincial Councils, etc)

_____________________________  ________________________________
_____________________________  ________________________________
_____________________________  ________________________________
_____________________________  ________________________________
_____________________________  ________________________________
_____________________________  ________________________________

**Feel Free to add additional pages that include awards, certificates, new clippings, photos or other items that describe your 4-H involvement.**

---

**Member Point of Pride!**

What I learned…

What I need to improve on…

What I want others to notice…

Member’s Signature: ________________________________

---

**Point of Praise! Another’s perspective on your achievements in 4-H.**

(community professionals, MAFRI staff, 4-H club head leaders, 4-H Ambassadors, friends of 4-H)

I am most impressed by…

I believe that you have learned…

In the future I encourage you to…

Signature: ________________________________
4-H Achievement

4-H Achievement is... a 4-H club celebration when members have completed their projects. Achievements are planned by the club to give recognition to members and leaders for their accomplishments in their 4-H projects and club activities.

A 4-H Achievement can take many different formats: from choosing a theme, to member project displays, to members using their new skills for the event (entertainment, food, decorating, photographer, etc.), to members presenting their project to the whole group, the options are endless and open to the creativity of the members and leaders in each club!

Clubs may also plan their Achievement to promote 4-H to the community or to recognize sponsors and others who have helped the club.

Members and leaders - be sure to check your project books for the project completion requirements, so you will be ready for your club’s Achievement celebration!

If you have any questions, comments or suggestions for this or other 4-H projects contact:

Manitoba 4-H Projects
Manitoba Agriculture Food and Rural Initiatives
1129 Queens Avenue
Brandon, MB R7A 1L9

Email: 4h@gov.mb.ca
Phone: 204-726-6613
Fax: 204-726-6260

For more information about 4-H and the many 4-H opportunities available please visit

http://www.gov.mb.ca/agriculture/4-h/
What is 4-H?

4-H is an international youth organization involving more than 7 million members in 80 countries around the world.

In Canada, 4-H began in 1913 in Roland, Manitoba as a community-based organization dedicated to growth and development of rural youth. Today's 4-H program reaches both farm and non-farm youth across Canada. The motto of “Learn to Do by Doing” is embodied in the program, as 4-H focuses on skill development as well as personal development of life skills such as communications, leadership and citizenship.

4-H Motto

“Learn To Do by Doing”

4-H Pledge

I pledge,
My HEAD to clearer thinking,
My HEART to greater loyalty,
My HANDS to greater service,
My HEALTH to better living,
For my club, my community, and my country.

4-H Quality Equation Principles

Quality People

• Promote responsibility, respect, trust, honesty, fairness, sportsmanship, citizenship, teamwork and caring.

Quality Experiences

• Provide members with personal development and skill development experiences.

Quality Projects

• Promote and value quality effort.
• Promote high quality, safe food production within industry standards.

Manitoba 4-H project material is developed by
Manitoba Agriculture, Food and Rural Initiatives (MAFRI)