4-H Dairy Project

Unit I
Leader’s Guide

This Leader’s Guide belongs to ____________________________ of the ______________________________ 4-H Club
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 larger service
My HEALTH to better living
For my club, my community and my country.

4-H Grace
(Tune of Auld Lang Syne)

We thank thee, Lord, for blessings great
On this our own fair land
Teach us to serve thee joyfully
With head, heart, health and hand.
4-H Dairy Project Welcome
Welcome
Welcome 4-H Dairy Leader! Please read through this Dairy Guide carefully, as it contains information and suggestions that are important for your project. Dairy leaders can obtain project books and other resources from the 4-H Office. Hopefully you, will help members “Learn to do by Doing” through hands-on activities that will encourage learning and enjoyment.

4-H Year Completion for Members:
You complete a project by:
- completing the project Achievement Day requirements
- completing a communication project
- completing a community project
- completing an agriculture awareness project
- taking part in achievement day

Achievement Day Requirements:
Conformation 20
Showmanship 20
Judging 20
One calf inspection (by 4-H Leader)
(Unit 1 Members only)
Special Project (All units except 1) 20
Fitting & Clipping Clinic 20
100

What age of calf can you show?
Members 9-10 years of age:
heifer born December 1-February 28 (Intermediate heifer)
and/or a heifer born March 1-May 14 (Junior heifer calf).

Members 11-21 years of age: Select up to 3 heifers (from different classes)
March 1-May 14: Junior calf
December 1-February 28: Intermediate calf
September 1-November 30: Senior heifer
June 1-August 31: Summer yearling
March 1– May 31: Junior yearling

Showmanship Classes
The age of the member is taken as of January 1st of the 4-H year.
Junior - for members aged 9 - 11 years
Intermediate - for members aged 12 - 14 years
Senior - for members aged 15 - 21 years

You must complete all of the listed aspects in order to show at Fairs and Exhibitions.
An animal must be shown at Achievement day in order to show at Fairs and Exhibitions.

IF USING THREE HEIFERS, ONE MUST BE A JUNIOR CALF.
Judging
As part of your members’ Dairy Project, they are required to judge a class of dairy animals. You, as a leader, will make the arrangements to have the class. In most competitions, four animals are needed; however, you can decide upon 3 or 4 animals for the class.

Members will have between 10 and 15 minutes for placing the class, on a piece of paper they may want to put down some reasons for their placings. Once they have placed the class and given their oral reasons to the official judge (this may or may not be the leader). The judge will then mark your score below.

Things to Remember:

LOCATION OF JUDGING

DATE

Fitting and Clipping Clinic
Also as part of the Dairy Project, members are required to participate in a fitting and clipping clinic. The leader and/or some senior members should make the arrangements for a session in which members of your club will learn how to prepare their own animals for showing. This will be worth 20 points towards each member’s achievement day requirements.

Things to Remember:

LOCATION OF CLINIC

DATE

4-H Dairy Calf Inspection
(Unit #1 Members Only)

This inspection is worth 20 points at your Achievement Day.

Dairy leaders are responsible for inspecting 4-H calves to see if they are properly identified. You, as the leader, should let members know when the inspection is to occur, so that members will be able to lead the calf for you. You can also ask questions such as are provided below.

NOTE: A calf cannot show at an exhibition if it is without an EZE-IR tag or tattoo.

Inspection Day Questions

1. When was your calf born?
2. What breed is it?
3. What is its ear tag number or tattoo?
4. How many stomachs do cattle have?
5. What is the difference between a grade and a registered calf?
6. What nutrients are found in raw milk?
7. Does your calf receive any grain?
8. What is the name used to describe the father of a calf? The mother?
9. What is the Animal Identification Form and when is the deadline for mailing it?
10. Point out the following parts on your calf: barrel, flank, pastern, poll.
1. Make a detailed (and labeled) site drawing of your farm or a neighboring farm, showing all wells, water lines, valves in water lines, pumps, watering bowls, power lines, power poles, panel boxes and yard lights.

2. Plant a section of windbreak at your farmstead or a nearby farmstead. Draw a detailed site plan of the farmstead, showing the location of buildings, other trees, etc. Keep track of materials used, costs and time involved in the project. Give reasons for types of trees used and spacings from buildings.

3. Study the manure handling system in your own farm or a local farm. Take pictures of the manure storage system and equipment that is used. Show in report form how the system works, what changes you would make and why and what the cost would be for these changes.

4. Do a complete projected budget for the management of a herd a 80 lactating cows. (You already have the quota required for this number of cows. Budget should include cost of veterinary and breeding services, machinery repairs, expansion of any type etc.

5. Develop and present a marketing strategy for breeding stock raised or bought/sold by your farm.

Marketing strategy should be on display at your Achievement Day.

Potential Resources...

http://www.mda.state.mi.us/kids/pictures/dairy/
http://www.dairyinfo.gc.ca/cdicfpfarms.htm
http://atn-riae.agr.ca/supply/4065_e.htm
http://www.dairyinfo.gc.ca/
http://www.dairygoodness.ca/en/
TradeAndIndustry/home.htm
http://www.organicconsumers.org/madcow/dairy1504.cfm

Videos & Books Available from the Provincial 4-H Office

The Milky Way, 15 Minutes
Dairy Cow Management: An Introduction, 18 Minutes
Hoof Care in Dairy Cattle, 40 Minutes
The Dairy Industry in Nova Scotia, 13 Minutes
Body Condition Scoring, 25 Minutes

Causes of Milk Fat Variations & Depressions, 23 Minutes
The Management of Calving, 30 Minutes
Mastitis Prevention and Control Part 1 & 2, 44 Minutes
Producing Milk of Good Quality and Flavour, 32 Minutes
Wholly Cow, 11 Minutes
Showmanship… Leading to Win, 13 Minutes
Clipping Dairy Cattle, 21 Minutes
Showing Dairy Cattle, 18 Minutes
Showing Dairy Cattle, Part 1, 16 Minutes
Fitting Dairy Cattle, Part 2, 17 Minutes
Practice Dairy Judging (heifers), 30 Minutes
You Be the Judge: Your Guide to Judging Dairy Cattle, 17 Minutes
Preparing to Lead, 21 Minutes
In this project you will notice that there are some optional activities at the back of this book. These can be used at project meetings. They do not need to be displayed or marked; however, your club’s Achievement Day provides your group with the opportunity to do so if you like.

Lesson 1

Date: _________________

SELECTING YOUR 4-H DAIRY CALF

Name one thing you like or don’t like about caring for your dairy project animal.
________________________________________________________________________

Choosing a calf for your 4-H Dairy Project or to raise one on your farm is a big decision. What makes one calf better than another calf? Is one breed better than another breed? What should you think about when you look in the calf pen and pick an animal? Here’s a list to get you started:

- breed
- size
- registered or grade
- production
- conformation
- health

BREEDS
In Canada the most popular dairy breeds are Holstein, Ayrshire, Guernsey, Jersey, Brown Swiss, and Milking Shorthorn; however, none of these breeds started out in Canada. They’re from other parts of the world.

SIZE
Different breeds are different sizes, as you just read. Think about the size your calf will be when you show it. Pick a calf whose size and age you can handle. This will make showing the calf more fun!

REGISTERED OR GRADE
What’s the difference between registered and grade? A registered calf has parents who are also registered. Registered cows have an official family tree. Each cow gets a birth certificate that says her name, birthday and parents. Registered animals are purebred. That means both parents are from the same breed.

PRODUCTION
Can you tell how much milk a young calf is going to produce? Do you need a crystal ball? No. Just take a look at the calf’s parents.
Selecting Your Dairy Calf

Conformation
Conformation is a rating of a cow’s body type. Does it have a good udder? How does it stand? These are some of the questions everyone needs to ask themselves about a calf’s conformation. Find out from your breed association what the ideal animal should look like. Calves inherit type from their parents, so check her parents.

Why do you need to think about these factors? Because choosing a 4-H calf is an investment! They take money to feed and time to train. They can be sold or become a great part of your herd. Choosing a 4-H project animal is a hard job.

Calves inherit pieces of their parents, just like a child gets his red hair from his mother or his blue eyes from his father. Calves get their ability to milk from their parents. When members are selecting a calf, they may need to sit down with an adult and check what her parents production records are.

Cows have records of their milk production. Bulls have records of how their daughters have produced. So, you add the production numbers from the calf’s dam (mother) and sire (father). Then divide the total by two. This gives a Parent Average (PA) for the calf. The Parent Average predicts what the calf will be like when it grows up.

How do you tell if a calf has a good Parent Average? That’s easy. Just look for lots of pluses (+) beside her numbers!

PARENT AVERAGE EXAMPLE

<table>
<thead>
<tr>
<th>Dam: Bossy</th>
<th>Milk</th>
<th>Butterfat</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+2162 kg.</td>
<td>+81 kgs</td>
<td>+78 kgs</td>
</tr>
<tr>
<td>Sire: Jackson</td>
<td>+1150 kgs</td>
<td>+69 kgs</td>
<td>+42 kgs</td>
</tr>
<tr>
<td>Total</td>
<td>+3312</td>
<td>+150</td>
<td>+120</td>
</tr>
</tbody>
</table>

\[ \frac{3312 + 150 + 120}{2} = \text{Parent Average} \]

For Bossy & Jackson’s calves

\[ +1656 + 75 = +60 = \text{Parent Average} \]
# The Judge’s Seat

## Dairy Cow Scorecard

<table>
<thead>
<tr>
<th>Dairy Character</th>
<th>Perfect</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>evidence of milking ability - prominent veins on udder and attachments, pliable texture apparent</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>clean cut head with large, bright eyes and ears carried alertly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>shows angularity &amp; well defined/flatness of bone throughout</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frame/Capacity</th>
<th>18</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>body includes barrel and heart girth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>barrel should be long and wide and deep in proportion to the animal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>strong, straight back and loin to support the large barrel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>large heart girth; long well-sprung fore ribs and a wide chest floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tall and upstanding in the front end</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feet and Legs</th>
<th>20</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>long and well rounded feet with deep heel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>flat and strong leg bones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>forelegs should be straight and wide apart with feet squarely placed underneath</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pins should be wide with the tailhead to pastern (side view)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rump</th>
<th>10</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>long and wide rump, blending cleanly with loin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hips should be wise and slightly higher than pin bones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tailhead level with backline and set slightly higher than pins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pins should be wide with the tailhead set neatly in between</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mammary System</th>
<th>40</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>mammary system includes udder, teats and milk veins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>well balanced and roomy udder with a soft and supple texture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fore udder well attached to body wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>uniform quarters, well veined</td>
<td></td>
<td></td>
</tr>
<tr>
<td>teats of moderate length and diameter, straight, barrel shaped and squarely placed under each quarter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>rear udder attached high, wide and strong</td>
<td></td>
<td></td>
</tr>
<tr>
<td>median suspensory ligament should be strong, showing definite division between halves</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total...........................................................................................................100
The factsheet consists of the "Parts of the Dairy Cow" and the "Dairy Scorecard"
Lesson 2

Health

Ask members to name one way that you stay healthy or get better when you are sick?

Signs of a Healthy Calf
Healthy calves are like healthy toddlers. They should eat and drink well, be active and look fit. Healthy calves have shiny, smooth hair, bright eyes, and normal manure and urine.

Have members take a look at a group of healthy calves. Watch how they act. Do they jump around? Stand or lie down? Quickly come to feed? If they know how healthy calves act, they should be able to pick out the sick calves faster.

A Healthy Calf’s Vital Signs
Another way to pick out a sick calf from a healthy calf is to take her temperature, respiration rate and heart rate. Respiration means breathing. The respiration rate is how many times the calf breathes in one minute. The heart rate (or pulse) is how many times the calf’s heart beats in one minute. These vital signs are like neon signs that point to healthy and sick animals.

<table>
<thead>
<tr>
<th>Vital Sign</th>
<th>Ideal</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>38.6 C</td>
<td>38.1 - 39.5 C</td>
</tr>
</tbody>
</table>

A healthy calf’s vital signs can be a range of values. They can change due to the time of day, the weather, the calf’s excitement and activity level and whether or not the calf has been out in the sun.

Make sure that when you take a calf’s vital signs, you wash your hands first. You can spread diseases from calf to calf by way of your hands.

Ways to Keep Calves Healthy

Preventing calves from getting sick is a good idea. It means fewer vet bills and less time spent caring for sick calves. It also means calves spend more time growing than fighting germs. There are five main ways to keep calves healthy.

- **Clean calving place.** Start out clean! The calf must be born in a clean calving place. A newly bedded maternity pen or a shady, grassy area away from other cows are good places.

- **Feed colostrum.** Colostrum is the first milk a cow gives after having a calf. This milk must be fed to the calf right away. She needs colostrum to fight germs.

- **Keep calf housing clean and dry.** Don’t let germs and dampness find a home in your calf housing. Make sure the pens are always dry and freshly bedded. Clean old calf pens with disinfectant. This will kill germs that could spread to the next calf.
• **Don’t crowd your calves.** Crowding calves, and people, makes it easy for germs to travel. If ten people are in an elevator and one person has a cold, everyone has a good chance of catching it. If the same ten people are spread out on a football field, they probably won’t catch the cold. Calves need 1.2 m x 2.4 m of space each.

• **Feed calves well.** Don’t over feed calves or give them bad feed. Also, keep the feeding pails and equipment clean and germ free. Nobody likes to eat off a dirty plate!

**Common Calf Diseases**

What’s a calf most likely to get sick from? Two problems top the list: scours, or calf diarrhea, and pneumonia. Calves do get other diseases, but these two diseases are not likely to cause signs that the calf is sick. When a calf has a disease where you can see signs of it being sick, it has a clinical disease.

**Calf Scours**

Calves get scours from a poor diet or from germs. For example, feeding young calves too much milk can give them scours.

**Symptoms** - Thin, watery manure, and manure-stained hindquarters are signs of scours. Calves with scours quickly become dehydrated. Dehydrated is a long word that means the calf loses water from her body. Losing too much water will kill a calf. So, you need to find calves with scours early. That way, you can quickly treat the calf.

**Treatment** - The first thing you need to do is re-hydrate the calf. This means putting fluids back into calf’s body. Get an electrolyte solution from the vet to feed the calf. Electrolytes are nutrients and sugar which give young animals energy and helps her replace the water she loses from having diarrhea. Feed electrolytes, then milk, then electrolytes in alternate feedings.

If the calf won’t drink, don’t wait! Call the vet! A calf can die quickly from scours.

**Pneumonia**

Pneumonia is an infection of the lungs. Calves that are weak, didn’t get enough colostrum, or have other illnesses are most likely to get pneumonia.

**Symptoms** - Pneumonia makes a calf’s lungs fill up with fluid. Calves with pneumonia are like people with the flu. They breathe faster than normal, and may have runny noses and a cough. They may also have a temperature and eat less.

**Treatment** - Call the vet. A calf with pneumonia needs to be given medicine. You must also keep the sick calf away from healthy ones. This keeps her germs from spreading. If many calves get pneumonia, you need to figure out why. Then, fix the problem.
Date:____________________

Calving

Find out from members if they have seen an animal born? If they have what is one word to describe the experience. If they haven’t seen an animal born, ask them to describe what they think it would be like.

One of the biggest events on any dairy farm is the birth of a calf. A farmer eagerly waits for a new calf to be born. The process of birth is familiar to any dairy farmer. Knowing the process is the key to making sure the calving goes well.

Before the Cow Calves
When a cow nears her calving date, move her to a clean, dry pen or stall with lots of bedding. That way you can keep a close eye on the cow. You can also make sure the calf is born in a clean, safe place. This helps keep the newborn calf, and cow, healthy.

How do you know when a cow will calve? Because, you wrote down when she was bred! From these breeding records, you can prepare for a calf’s birth. Cows carry their calves for 280 - 290 days. So, you’ll know when to be on the lookout for the signs of labour.

Stages of Calving
The birth of a cow happens in three stages. Once you know these stages, you can help the cow calve. You’ll also know when the calf will likely be born. That way, you can be there to start caring for the calf right away.

Labour
The birth process begins with labour. Labour means work. In stage one, the cow’s body works to get ready to calve. The signs of labour include:

- the cow stops eating
- restlessness
- the cow wants to be by herself
- the ligaments around the tailhead (top of the tail) and vulva relax
- clean vaginal fluid comes out of the vulva.

All of these signs tell you that the cow is in the first stage of calving. They mean get ready! Keep a close eye on the cow because the calf’s on its way.

Calving
After you’ve seen the signs of labour, you know the cow is ready to calve. It can take up to three hours for a heifer, a cow having her first calf, to give birth. Older cows take about two hours to give birth.

What happens in stage two? First the calf enters the birth canal. Then, the cow starts straining. Straining is another word for pushing. This straining means the cow is trying to push the calf out. Normally a calf is born on its stomach with its front legs stretched in front of it. The calf’s head rests on its legs. The front feet are born first. Next comes the head, then the chest. After the front half of the calf is out, the rest of the calf slips out easily.
The Placenta
The last stage of calving happens when the cow expels the placenta. The placenta is the sac that surrounded the calf when it was in its mother’s body. The placenta is called the afterbirth because the cow gets rid of it after the calf is born.

Normally, the cow gets rid of the placenta within 12 hours after the calf is born. If the cow doesn’t expel the placenta, call the vet. She could have a retained placenta. This will create health problems for her, such as infections.

After the Calf is Born
What’s next? Make sure the calf is happy and healthy by following these steps.

- Clean its nostrils of any fluid.
- Dry off the calf so it doesn’t get cold.
- Then dip the calf’s navel - its bellybutton - into iodine. The iodine kills any germs.
- Wash the cow’s udder and milk her. Feed the colostrum to the calf. Colostrum keeps the calf from getting sick.

The cow also needs some attention. Keep an eye on her to make sure she’s eating well and looking healthy. If she lies down and won’t get back up, she may be sick. Call the vet!

Birth Announcement
You may not announce to the world that a calf was born on your farm, but you still have to write a birth announcement for your own records. Write down the calf’s birth date and name. You wouldn’t want to forget which calf is which! Take or draw a picture of the calf. Finally, put some sort of marker on the calf, like a tattoo or an ear tag. This marker acts as a name tag. It’s like a sticker that says, Hello, My name is ......

Lesson 4

Date:___________________

Housing and Equipment
Name one feature of your perfect house.

Ask the members to think about what kind of house they live in. Is it big or small? Does it get hot in the summer, or does it have air conditioning? What about their bedroom? Do they share it or do they have their own?

The Perfect Calf House
If the members in your group could design the perfect house, what would it look like? Believe it or not, calves have perfect houses, too. A calf may not be able to tell you what her perfect house is, but she shows you in other ways by getting sick or staying healthy, growing slowly or quickly and being energetic or lazy.

The perfect calf house has a number of features:

- Easy to clean - A clean house lined with clean bedding stops calves from getting sick.
- **Low cost** - You don’t want to spend all your money on expensive housing. This is like buying the most expensive crib for a baby, then having no money left over to feed and take care of the baby.

- **Flexible** - Flexible means that the calf housing can change with the needs of a farm. For example, one year you may want to house more calves than another year.

- **Well-Ventilated** - This means the air should be fresh. The housing should not be damp or drafty.

- **Individual** - Calves under two months of age that are fed a liquid diet should be housed in separate pens. This is because calves that come into contact with each other spread disease. So give each calf her own ‘room’.

- **Dry** - Once a calf has her own room, make sure she’s dry! Wet calves become sick calves.

**Different Types of Calf Housing:** There are three main types of calf housing: calf hutches, pens, and stalls.

**Calf Hutches**

Hutches are made of plywood, plastic or fiberglass. They are usually 1.2 m x 2.4 m. Underneath a calf hutch, you must put a layer of sand, gravel, or crushed stone. Then, add one or two bales of straw to make a comfy bed.

Calf hutches are really three houses in one! Inside the calf hutch, it is dry and protected from the weather. Outside the calf hutch, the calf gets exercise and lots of sunlight, but is still safe from wind. A calf hutch is a playground, a bedroom and a porch all in one!

Calves can be tied to the hutch or they can have a fence holding them in.

Just remember, hutches can get very hot in the summer. Try to keep them under trees. An orchard is a great place for hutches. In the winter, make sure the calf doesn’t have snow blowing into her house. Also, face the hutch south to catch the most sunlight.
Calf Pens

Calves can also be housed calves in pens inside a building. The building should be well ventilated so that the air is dry and fresh and it must be separate from the adult cows.

Each calf pen should be 1.2 m x 2.4 m. Calf pens can be made of plywood. They should have three solid sides and an open front. The open front gets fresh air to the calf and makes her easier to feed. These pens can be taken apart when they’re not needed and stored. This also makes them easy to clean!

Calf Stalls

In heated barns, calf stalls are popular. Why? Calf stalls take up less floor space so you get more calves heated for the same amount of money. Calf stalls should be made with solid sides about 1.3 m high. Stalls need to be 0.9 m wide and 1.8 m long. The calves can be loose or tied in the stall.

Moving On Up

Young calves, up to two months old, must be kept in individual housing. But, older calves, two to four months old, can be housed in the same pen. By this age, calves are weaned. Weaning means the calf has stopped eating liquid feeds and is only eating dry feeds such as grain and hay.

Three to five calves can be in one pen as long as they’re not crowded. The calves should all be about the same age and size.

Lesson 5

Date:________________

Feeding

Have members name a food that keeps them healthy and helps them grow.

Keys to Feeding Calves

Healthy, well-fed calves should gain weight each day. They can gain up to 1 kg a day without getting fat! Farmers should aim to have their calves gain 0.6 kg (small breeds) or 0.75 kg (large breeds) a day! Calves need to gain weight so they’re big enough to have a calf by the time they’re two years old.
Getting calves to gain weight is an important goal for any calf feeding program. Here are a few things you can do to make your calves clear their plates!

**Regular Feeding**
Calves must have regular meal times. So, feed calves at the same time each day. That way, the calf won’t get too hungry. Calves that are too hungry eat too fast and can get an upset stomach.

**Different Day, Same Food**
Calves have a pretty boring diet. They eat the same thing day in and day out. But that’s OK! The should be fed the same quality and amount of food each day. Feed the food at the same temperature, too.

**Do the Dishes**
Always clean the feeding utensils, such as pails, bottles and feeders, after you use them. Cleaning the equipment kills germs that can spoil the feed and make the calf sick.

**Not too Much, Not too Little**
Too much feed or too little feed can cause problems. If you underfeed your calf, she will be too hungry for the next meal and eat too fast. She will also grow slowly. If you overfeed your calf, especially milk, you can cause health problems. For example, your calf could get scours or get too fat!

**Feeding Utensils**
Now that you know the keys to feeding your calf, you have to know what to feed it with. After all, calves don’t use knives and forks! You can feed a calf from a bottle or from a pail. When you feed a calf from a pail or bottle, you know exactly how much she eats. You measure the food yourself and you watch her eat.

Calves need to suck when they drink their milk. When calves are born, they have a four-room stomach, but only one room works. To get the milk into the working stomach, the calf needs to suck. Otherwise, the milk goes into the wrong stomach. Then, the calf gets gas and looks bloated.

Feeding a calf from a bottle is like feeding a baby from a bottle. But, if you use a pail to feed the calf, make sure she doesn’t gulp the milk. To teach the calf to drink from a pail, let her suck your fingers on top of the milk in the pail until she learns to drink properly.

**First Meals are Important Meals**
For the approximately the first three days after a calf is born, she will be fed her colostrum. Calves are born unprotected from diseases. Colostrum gives calves this protection, but only if you feed it to them right away. Calves need colostrum within two hours after birth.

But you should feed colostrum for the next few days for its other good qualities. Colostrum is different from other milk. Colostrum is thick, creamy and yellow. It has more vitamins and minerals than normal milk. And it has antibodies that fight germs.
Feeding

Colostrum also:

- cleans out the digestive tract
- has three times more Vitamin D than normal milk
- has 100 times more Vitamin A than normal milk

Feeding your calf colostrum is like giving it a giant booster shot, a body-building energy shake and a handful of vitamins. And that’s all in one drink!

Lesson 6

Date:___________________

Fitting and Showing Your Dairy Calf

Working with your Calf
Members should select a calf that will be a suitable size for them to work with and show. They should also begin training as soon as possible. Training is not something that can be done in a couple of days.

Calves can be trained by tying them up with a halter for 20 - 30 minutes at a time for a few days until they get used to the halter. Do not leave calves alone! Stay with the calf so it will be calm and comfortable.

Use a quick release knot to tie your calf. You can release the knot easily and quickly by pulling, even when it’s under tension.

Leading
When you train your calf to lead, keep the following tips in mind.

- Take the calf out frequently for short leading practice
- If the calf balks, pull her to one side or step behind the calf and urge her to go forward
- If the calf turns to run, pull her in a circle

<table>
<thead>
<tr>
<th>Total Solids</th>
<th>24%</th>
<th>13%</th>
</tr>
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<tbody>
<tr>
<td>(percent not water)</td>
<td></td>
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</table>
If the calf tries to break away, let her go if you or the calf could be injured.

**Training for the Show**
Training a calf for the show can be hard but the process can be easier if these guidelines are used:

- Start the calf moving with a slow walk. Continue with slow, short steps.
- Walk backward slowly, while holding the calf’s halter in your left hand.
- Teach the calf to walk beside you with her head slightly lifted.
- Pause frequently to stand the calf and teach your calf to place her feet in the correct position.
- Use a slight tug on the halter, or pressure on the shoulder, if the position of the feet must be changed.
- If the calf is high over the topline, pinch her gently in the loin region.
- If your calf’s loin is weak, you can try to correct this by applying slight upward pressure on the underline behind the front legs.

Let other people approach and handle your calf so that she gets used to being handled by strangers. Walk your calf inside and outside the barn. Get her used to unusual noises such as loud equipment, other animals, cars and so on.

**Standing the Calf**
When showing a calf, members need to know how she should stand.
In the ideal standing position, the calf has her:
- head raised
- front feet even, directly under her shoulders, about 10 - 15 cm apart
- one hind foot slightly ahead of the other (20 - 25 cm). The hind foot closest to the judge should be the farthest back.

From the judge’s side, the foot placement looks like this.
Members could have someone hold their calf while they stand back and observe her posture and learn how to minimize her faults.

**Fitting Your Calf**
A number of things should be done to prepare a calf for a show, from trimming hooves to clipping the calf. Continually working with the calf, including washing and clipping, will make it more comfortable and less stressed by these activities.

**Trimming Hooves**
Hoof and foot care are often overlooked. Proper maintenance and trimming has a lasting influence on the animal’s mobility and longevity. Well trimmed feet will help any calf stand correctly and walk with more style. Trimming should be done about six weeks before the show.

A professional hoof trimmer provides a good service in preventative medicine. His tools include:
- 2-inch chisel with T-bar
- hoof knife
- 1-inch chisel
- a rubber mallet or hammer
- Grinder & wheel

**Washing**
Keep pens well-bedded to prevent manure tags and stains from developing on your calf. When the time does come to wash your calf, tie her securely using a plastic or nylon halter. Don’t use a jute
halter because it swells when wet and always use a quick release knot.

To Wash the Calf:
- Wet the calf down. Be careful that you don’t get water in her ears or they will hang limp for several days.
- Use a wash brush dipped in animal soap to scrub your calf thoroughly.
- Use a damp cloth to clean the inside of the calf’s ears.
- Rinse all the soap off the calf’s hair, or it will be sticky, harsh and dull, and the calf will have dandruff.
- Dry the calf by squeezing excess water from her hair through brushing. Depending on the temperature, you may want to put a blanket on the calf to prevent her from catching a chill.
- Wash your calf often enough to remove all stains from her coat. Do the last wash the day of the show. Be sure to start early in the day so the calf is dry before she steps into the show ring.

Clipping
Clipping is an art which requires a great deal of practice. Become familiar with the correct dairy type and study your calf’s conformation before clipping. In fact, before clipping your calf, practice on other dairy cattle which will not be shown.

To clip your calf, you need to have:
- clippers with regular blades & plucker blades
- black and clear magic
- scissors/fine clippers
- hot air blower
- lubricating oil
- topline brush

When you’re clipping, try to correct faults and highlight good points. There isn’t a standard order for clipping areas of a calf. Clip in order that works best for you and your calf.

To clip your calf, wash her first. Then, clip your calf’s hair to give it a neat and clean-cut look. Use regular blades to clip the calf’s tail, head and neck. Use plucker blades on most of the rest of the calf’s body. Leave hair on the topline, which should be blown up straight with a blow dryer and trimmed with the fine clippers. This will straighten the look of the topline. Remember, it takes skill and practice to learn how to blend these areas.

Do the first clipping at least three weeks before the show and the fine trimming three to seven days before the show. If you have plucker blades, you might clip several times before the show, with a final trim the day before. It’s a good idea to clip your calf earlier in the summer to introduce her to clippers and give you some clipping practice. If you’ve never clipped a calf before, ask for guidance from an experienced clipper such as an older member, a club leader, or a neighbour.

Grooming
Brushing your calf has several advantages such as:
- removes dandruff and old hair
- brings out natural oil
- stimulates circulation

Several minutes of daily brushing and combing will condition the coat and improve the hair. Brush with the grain of the hair, not against it. Brush the hair on the topline of the calf forward.
Showing Your Calf
After all the preparation, it's time for the show! Use the following guidelines to help you prepare for the big day.

Transportation
- Arrange for transportation to the show well in advance.
- Be careful loading, transporting and unloading your calf.
- Make sure the truck is well-bedded.

On Show Day
Make sure you have a wooden or plastic box that is large enough to hold your equipment, but not too heavy to carry. You should bring the following equipment:

- leather show halter
- good quality hay
- beet pulp
- small quantity of grain
- water pail
- fork for bedding and cleaning stall
- straw
- washing equipment - plastic or nylon halter, pail, animal shampoo, brushes, hose, nozzle, blanket, wash suit
- work clothes and a clean set of white show clothes and work boots

At the Show
When showing your calf, wear a white shirt and pants with a dark colored belt that are clean and neat. Clean, steel toed work boots or cowboy boots are the safest choice for your feet. Hard-soled shoes may look better, but they don’t offer any protection. To prepare for the show, follow these guidelines.

- Arrive early
- Make sure your calf is securely tied using a quick release knot.
- Remain with your calf so that she stays calm and comfortable.
- Don’t fuss with the calf. Let her rest after the ride to the show.
- Pick up your stall card and fill it out if not already.
- Register at the registration desk during the specified times (refer to the day’s agenda) and pick up your show harness.
- Know the time schedule for the day.
- If possible, wash the calf early in the day.
- Bed the calf.
- Feed hay and water.
- Have someone with the calf at all times to remove manure.
- About 1 hour before the show, feed your calf the beet pulp that you brought and add some grain if the calf refuses to eat the beet pulp.
- Ask for help and advice from leaders and older 4-H members.
- Be friendly and courteous to show visitors.
- Assist other 4-H members.
- Be a good sport at all times.
Final Preparation
- There are a few last minute things you should think about before the show:
  - Blow the hair up on the topline. Set and trim it to give it a straight stylish appearance.
  - Brush the calf's head, neck and sides with a soft brush.
  - Apply a shiny product to the dark areas of the heifer’s coat with a sponge or rag, i.e. purple oil, final mist
  - Apply fly spray
  - Comb or brush the tail

Rating Dairy Showmanship
Your personal poise, alertness and neatness are important in the show ring. Keep an eye on your animal and be aware of the position of the judge at all times. Don’t be distracted in the ring. Respond quickly to requests from the judge. Be courteous and a good sport at all times. Show the animal, not yourself. Keep showing until the entire class is placed, reasons given and the class is out of the ring.

The judge follows the Dairy Showmanship Scorecard:

1. Appearance of animal .......................................................... 40%
   - condition
   - grooming
   - clipping
   - cleanliness

2. Appearance of exhibitor ................................................... 10%
   - clothes and person neat and clean
   - white outfit preferred

3. Showing the animal in the ring ........................................ 50%
   - leading
   - standing
   - showing animal to best advantage
   - poise, alertness, attitude

Total.............................................................................................. 100%
# Dairy Cow Scorecard

**Dairy Character**
- evidence of milking ability - prominent veins on udder and attachments, pliable texture apparent
- clean cut head with large, bright eyes and ears carried alertly
- shows angularity & well defined/flatness of bone throughout

**Frame/Capacity**
- body includes barrel and heart girth
- barrel should be long and wide and deep in proportion to the animal
- strong, straight back and loin to support the large barrel
- large heart girth; long well-sprung fore ribs and a wide chest floor
- tall and upstanding in the front end

**Feet and Legs**
- long and well rounded feet with deep heel
- flat and strong leg bones
- forelegs should be straight and wide apart with feet squarely placed underneath
- pins should be wide with the tailhead to pastern (side view)

**Rump**
- long and wide rump, blending cleanly with loin
- hips should be wise and slightly higher than pin bones
- tailhead level with backline and set slightly higher than pins
- pins should be wide with the tailhead set neatly in between

**Mammary System**
- mammary system includes udder, teats and milk veins
- well balanced and roomy udder with a soft and supple texture
- fore udder well attached to body wall
- uniform quarters, well veined
- teats of moderate length and diameter, straight, barrel shaped and squarely placed under each quarter
- rear udder attached high, wide and strong
- median suspensory ligament should be strong, showing definite division between halves

Total .......................................................... 100
**Inspection Day Questions**

As a Dairy leader for Unit 1 members you will be conducting a calf inspection. You will be able to ask questions about the member’s calf and about information you have covered at project meetings. To help members prepare for the quiz, there are sample questions listed below that could be asked. The project leader may ask them all or only select a few, it is up to him/her.

1. When was your calf born?
2. What breed is it?
3. What is its ear tag number or tattoo?
4. How many stomachs do cattle have?
5. What is the difference between a grade and a registered calf?
6. What nutrients are found in raw milk?
7. Does your calf receive any grain?
8. What is the name used to describe the father of a calf? the mother?
9. What is the Animal Identification Form and when is the deadline for mailing it in?
10. Point out the following parts on your calf: barrel, flank, pastern, poll.

**NOTE:** A calf cannot show at an exhibition if it is without an EZE-IR tag or tattoo.

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<th>Club</th>
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<th>Evidence of Care &amp; Interest</th>
<th>Score</th>
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</tr>
<tr>
<td>- grooming</td>
<td>15</td>
<td>_____</td>
</tr>
<tr>
<td>- lack of health problems</td>
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<tr>
<td>(warts, mange, lice)</td>
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<tr>
<td>- presence of salt &amp; mineral for calf</td>
<td>5</td>
<td>_____</td>
</tr>
<tr>
<td>- persence of shelter &amp; shade</td>
<td>5</td>
<td>_____</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>_____</td>
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Average (20) ________

Member can make improvements by: ____________________________________________________
______________________________________________________________________________

Inspector's Signature: ______________________________________________________________
Holstein-Friesian

**Origin:** The Holstein-Friesian breed was developed in the province of Friesland in the Netherlands. Their history dates back nearly 2,000 years to Roman times. The cattle first arrived in Canada with the United Empire Loyalists, but no imports occurred until 1881. At that time, Archibald Wright brought the first purebreds to Fort Garry, Manitoba. Other imports began soon after this.

**Size:** Largest of the dairy breeds. Cows weigh from 500 to 725 kg (1100 to 1595 lbs) and bulls from 800 to 1200 kg (1760 to 2640 lbs).

**Color:** Holsteins have clear, black and white or red and white markings, with black and white being the most common.

**Milk Production:** Holsteins produce more milk than any other breeds but the butterfat content is the lowest (3.7%). The protein content of Holstein milk is 3.22%.

**General:** The Holstein breed is the most popular breed in Canada. 80% of the dairy farms in Canada have Holsteins.

Ayrshire

**Origin:** The Ayrshire was developed in the County of Ayr in Southwestern Scotland. It was recognized as a breed as early at 1814, but was further improved by breeding the native Scottish cattle with Dutch, West Highland and Channel Island cattle. The breed was brought into Canada with the first Scottish settlers in the early 1800s.

**Size:** Second largest of our common dairy breeds. Cows weigh from 408 to 567 kg (900 to 1250 lbs) and bulls from 635 to 907 kg (1400 to 2000 lbs).

**Color:** Ayrshires may have distinctive red and white markings but also may shade through to brown.

**Milk Production:** Ayrshires produce on average 6,428 kg of milk with butterfat and protein tests at 4.0% and 3.4% respectively. It is not uncommon to see Ayrshires producing over 10,000 kg of milk per lactation or 80,000 kg or more in a lifetime.

**General:** The body conformation of the Ayrshire is sharp and angular. They are noted for large, uniform and strongly attached udders. The Ayrshires are very hardy, good grazers and will generally rustle forage better than other breeds.

Guernsey

**Origin:** The Guernsey was developed on the Islands of Sark, Alderney and Guernsey in the Channel Islands (between England and France). The original animals were brought to Canada in 1878 by the Minister of Agriculture, Sir John Abbott. Although they were popular across the country at one time, most animals are now found in Ontario.

**Size:** The Guernsey is also a smaller breed with cows weighing around 450 to 600 kg (1000 to 1300 lbs) and bull from 590 to 907 kg (1300 to 2000 lbs.)

**Color:** The color of this breed varies but is mostly fawn or red with white patches.

**Milk Production:** Guernseys are medium milk producers and is best known for the quality of its milk. The amount of milk produced is in between the Ayrshire and the Jersey with butterfat tests of over 5% and protein content of 3.6%.
General: The breed is earlier maturing than the Holstein and Ayrshire. Guernseys are best suited to areas where pasture is plentiful. The Guernsey breed is noted for its docile disposition which makes them easy to handle.

Jersey
Origin: The Jersey cattle were developed on the Island of Jersey, a small island in the Channel Islands (between Britain and France). The first Jersey cattle were brought to Canada from the Royal herd at Windsor in 1868 by R.H. Stephans of Montreal.

Size: Smallest of the dairy breeds, with cows weighing 400 to 500 kg (900 to 1100 lbs) and bulls from 499 to 726 kg (1100 to 1600 lbs).

Color: This breed is usually a fawn brown color but the color may range from a silver through grey, dark fawn, brown and black. A light ring around the muzzle is a breed characteristic.

Milk Production: Jersey s are also medium milk producers with a high butterfat content (5-6% and protein 3.96%).

General: The Jersey is the most refined of the dairy breeds. They are a stylish, small dairy animal with a dished face, large eyes and dark muzzle. The breed is known for its early maturity. This allows heifers to be bred for the first time when they are young compared to other breeds. The first calving usually occurs between 22 and 26 months.

Brown Swiss
Origin: The Brown Swiss is one of the oldest recognized breeds of dairy cattle. The breed originated in Switzerland and it was developed from 12 different strains of cattle into a uniform breed. Brown Swiss were brought into eastern Canada in 1888.

Size: Brown Swiss are one of the larger of the dairy breeds with cows ranging from 590 to 817 kg (1300 to 1800 lbs) and bulls maturing at 817 to 1180 kg (1800 to 2600 lbs).

Color: These cows are a shade of brown varying from silver to dark and usually have dark tips on the nose, ears and tail.

Milk Production: They are medium milk producers and have about 4% butterfat content and 3.5% protein.

General: Although the breed is considered dual purpose in Europe, breeders here select stock for their milk producing abilities. The milk has the highest protein (casein) to fat ration of any of the breeds. This makes it very good for cheese production. Early records in Europe recorded the pounds of cheese per lactation rather than the milk yield. Breeding stock was selected using cheese production. The popularity of the breed has increased recently because of its beef qualities providing producers with better prices for cull heifers and calves than what is normally received for dairy carcasses.
Milking Shorthorns

*Origin:* The Shorthorn breed was developed in the countries of Durham, Northumberland and York in England. The breed type evolved around 1780. The first importations listed in Canada were four bulls brought to New Brunswick in about 1825.

*Size:* Mature cows weigh 586 to 772 kg (1300 to 1700 lbs) and mature bulls weigh 818 to 1045 kg (1800 to 2300 lbs).

*Color:* Shorthorn colors are red, white and roan.

*Milk Production:* A mature Shorthorn cow will produce slightly less milk than a Jersey with a butterfat content of 3.8% and a protein content about 3.3%.

*General:* The Dairy Shorthorn is a Dual Purpose breed of cattle that supplies a liberal amount of both milk and beef. While it was one of the most popular milking breeds early in the century, it is not common now.

**Lesson 1: Selecting Your Dairy Calf**

**Before the Next Meeting:**

On the following page, write a list of the reasons why you chose your dairy project animal. For example:

- It was the right size for me
- The calf came right up to me when I walked in the pen
- She has good genetics behind her.

OR

Compare how your past 4-H dairy calf performed at the show to how well she milked on your farm. Were her parent averages a good predictor of her outcome?

**Lesson 2: Health**

**Before the Next Meeting:**

Observe a group of calves around feeding time. How do the healthy calves act? Are there any sick calves? How do they act? Record your observations on paper and share them at the next meeting.

**Lesson 3: Calving**

**Before the Next Meeting**

Draw a picture or take a photograph of your 4-H dairy calf for your own records and tape or glue to the following page.

OR

Find the records of your 4-H dairy calf’s birth and include them on the following page.

**Lesson 4: Housing & Equipment**

**Before Next Meeting**

Draw a picture of calf housing on your own or a neighbour’s farm. Share it at the next meeting.

OR

Find and read an article about calf housing and equipment in a breed magazine. Share it at the next meeting.
Lesson 5: Feeding
Before the Next Meeting:
Help someone on your own farm or a neighbour’s farm feed the calves and do a brief write-up about it on the following page.

OR
Explore the calf feeding program on your own or a neighbour’s farm. What liquid feed do you use and why? Write your findings on the following page.

Lesson 6: Fitting and Showing Your Dairy Calf
What did you learn when you were working with your calf? When does it lead well? Explain to your group.

Animal Identification Deadline...

Don’t miss the Animal Identification Deadline for May 15th. If the 15th falls on a week-end or holiday then the Identification forms are due on the Friday before. Livestock not entered by the May 15th deadline will not be allowed to show at the 4-H shows during the summer.

If any member needs a copy of the form call the 4-H Office at 368-4833 or log onto the 4-H website at: http://www.pei4h.pe.ca/forms.html

Scotiabank Entry Forms:
The form to apply to the Scotiabank Classic selection class are also due May 15th.