

Unit Five**Feeds For Beef**

Roll Call

Name a feed ingredient which is used in a ration.

Welcome to the level two section of feeds for beef. There is so much to learn about this topic. Talk to some of these people to find out more: district agriculturalists, local farmers, parents, feed company representatives, 4-H leaders and senior 4-H members.

Feed Intake

There are many factors which can affect how much feed your animal can eat. You need to know about these because they will affect the types and amounts of feeds and ingredients your animal will eat.

Factors Affecting Forage Intake

- Stage of maturity

The fibre content of forages increases as the forage matures. Higher levels of fibre in forage will reduce feed intake.

- Weathering

Mould growth will reduce intake.

- Forage Species

Cattle will consume greater amounts of legumes than grasses.

- Physical Form

Grinding will increase forage intake.

- Grain Feeding

Grain feeding will depress feed intake, especially if grain is fed before forage.

- Fermentation

Consumption of silage, on a dry matter basis, will be less than if the same quality and dry matter of hay is fed.

Factors Affecting Dry Matter Intake

- Cattle Status

Thin cattle will consume more than cattle in normal condition. Older and more fleshy cattle will consume less than younger, leaner cattle. Lactating cows will eat 40 to 60 % more than dry cows.

- Weather

Cold weather will cause feed intake to increase. Warm weather will cause intake to decrease.

- Nutrients

An animal which has a nutrient deficiency will have a decreased intake of dry matter.

What does all this mean?

You can use this information to decide how to adjust your animal's diet when you must change the feed ingredients. For example, if you are into some better quality hay, you can decrease the amount you need to feed.

You can also use this information when deciding how to feed. For example, you will need to feed a group of thinner cows more than a group of older, more fleshy cows.

If the weather becomes colder, you will need to increase the feed available for your animals.

Dry Matter/ Moisture Free

Suppose your hay had 13% moisture. Then, it would have 87% dry matter (DM). The results you receive on your feeds may be calculated on a dry matter, a moisture-free or an as-fed basis. It is important that you are able to convert them to the format you require.

Keep these formulae in mind:

$$\%DM = \frac{(100 - \%moisture)}{100}$$

Nutrient Concentration (As Fed) = Nutrient Concentration X %DM (Moisture Free)

Feed Processing

Roller Mill

The roller mill crushes the grain to a flat, flake like structure. There will be fewer fine particles in the feed.

Hammermill

The grain is bashed around in the roller mill until it is small enough to fall through the screens. The holes in the screens can be varied from 1/8 to 1/2 inch in diameter. Feed companies use the hammermill to prepare feeds for pelleting.

Pelleting

Fats and, or molasses are added to the feed ingredients during mixing. They help the pellet hold its shape as it hardens, and reduce dustiness. Vitamin and mineral supplements are spread evenly through the feed during pelleting.

Step 3 - Formulate the ration.

- Decide on the approximate amounts of each feed to give your animal.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- Determine the amount of feed needed to supply the animal's digestible energy (DE) requirements.

DE required

Feed	Amount fed (kg)		Amount of DE in 1 kg (Mcal)	Total DE supplied (Mcal)
		X		
		X		
		X		
		X		
		X		
		X		
Total				

- Can the animal consume this amount of feed?

Animal's Body Weight

Feed	Amount fed (kg)		Amount of DM in 1 kg	Total DM per day
		X		
		X		
		X		
		X		
		X		
		X		
Total				

$$\text{Amount of DM fed as \% of body weight} = \frac{\text{Total Amount Fed}}{\text{Body Weight}} \times 100$$

Would your animal consume this amount?

An animal can consume feed daily at the rate of two to four percent of body weight in dry matter.

- Calculate the amount of protein supplied by this feed.

DE required

Feed	Amount fed (kg)		Amount of protein in 1 kg	Total protein supplied (kg)
		X		
		X		
		X		
		X		
		X		
		X		
Total				

- If the protein supplied is not enough to meet the animal's minimum requirement, you will need to supply a protein supplement or try again using a higher protein feed.

Protein supplement required

- If you made significant changes to adjust for protein, check again to make sure the energy level is still adequate.
- Calculate the amounts of calcium and phosphorus supplied by the total ration.

Phosphorus required

Feed	Amount fed (kg)		Amount of phosphorus in 1 kg	Total phosphorus supplied (kg)
		X		
		X		
		X		
		X		
		X		
		X		
Total				

Calcium required

Feed	Amount fed (kg)		Amount of calcium in 1 kg	Total calcium supplied (kg)
		X		
		X		
		X		
		X		
		X		
		X		
Total				

- Add the needed amounts of Vitamin A, fortified or trace mineralized salt, and other trace minerals as required.

- Check to make sure the ration is practical for your situation.
- Calculate the cost of the ration. Keep in mind that cattle tend to waste some feed. This has not been accounted for in your calculations. Therefore, the actual amount of feed you offer should be slightly higher than what you have calculated.

Feed	Amount fed (kg)		Cost /kg (\$/kg)	Total cost (\$)
		X		
		X		
		X		
		X		
		X		
		X		
Total cost				



Activity:

Each of the following affects the beef animal by either making it increase or decrease its feed intake.

In the blank, put an "I" if the event makes the animal increase its feed intake.

Put a "D" if the event makes the animal decrease its feed intake.

- _____ The animal is now lactating.
- _____ The weather has turned much colder.
- _____ You have used up all of the poorer quality hay and are now into some very good hay.
- _____ You are into a bit of mouldy silage.
- _____ You have switched to feeding grain before the roughage.
- _____ You are now feeding legume hay instead of grass hay.
- _____ Your animal is very thin compared to what she was two months ago.
- _____ You suspect that there is a nutrient missing in your animals' diet.

There are other things which might affect the feed intake of your animals. Describe some of these.

Unit Six

Parasites Of Beef Cattle

Roll Call

Name a parasite.

Using roll call answers from club members, fill in these blanks.

Internal Parasites

External Parasites

Welcome to the intermediate section of Parasites of Beef Cattle. There are many parasites which can affect beef cattle. In this unit we will cover some of the more common ones and discuss their life cycles and how to identify and prevent them.

Parasites and Hosts

When an animal has a parasite, that animal becomes a host. Being a host is something livestock cannot afford to do. Being a healthy and efficient producer is difficult enough without having to feed and nourish parasites.

Internal Parasites

Animals infected with internal parasites may show some of these symptoms:

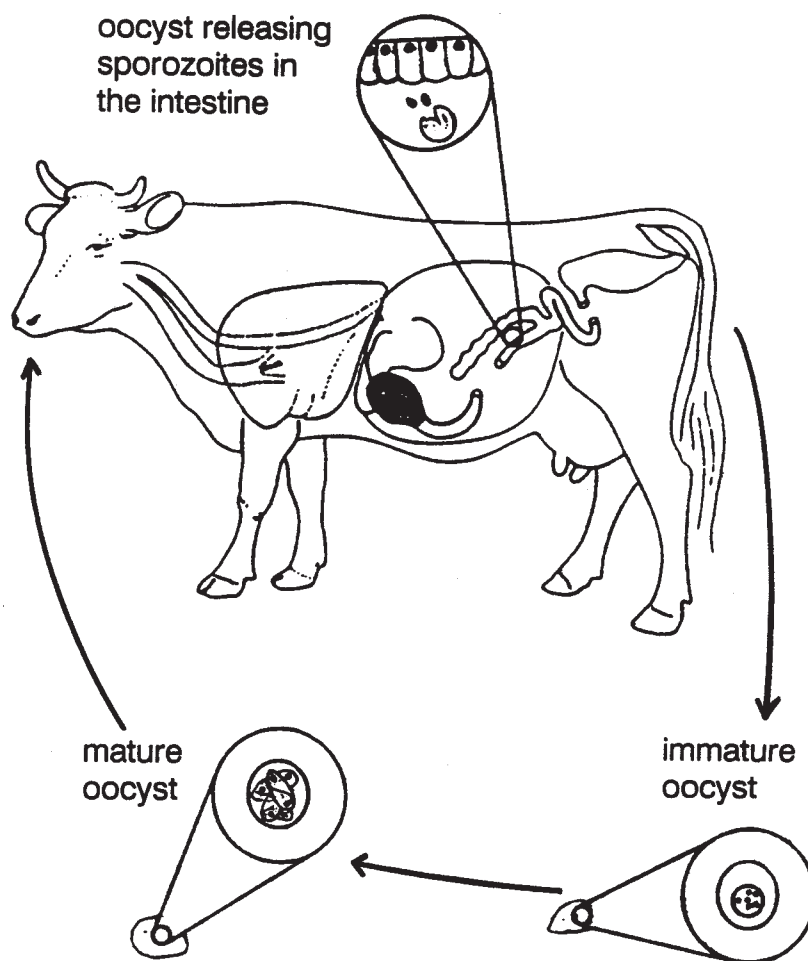
- anemia
- weakness
- low milk production
- poor hair growth
- depressed appetite
- scours

Roundworms

The roundworm is the most common internal parasite affecting beef cattle. For more information on the roundworm, consult level one, unit six on Parasites of Beef Cattle.

Coccidiosis

Coccidiosis is a common disease of cattle caused by a protozoa. It develops most often when weaned calves aged six to 12 months are crowded together. Calves often become infected in the winter months when placed on pastures or lots contaminated by older cattle or other infected calves.



Coccidiosis has both internal and external stages. A microscopic egg called a oocyst is passed out in the manure of animals with coccidiosis. With ideal temperature, moisture and oxygen conditions, the oocyst matures and develops eight bodies called sporozoite. Each of these is able to enter a cell in the animal's intestine after being eaten.

When the sporozoite enter the cells, they divide many times, moving into and damaging intestinal cells. When the male cell fertilizes the female cell, an oocyst is produced. This oocyst ruptures the cell and passes out of the animal in the manure.

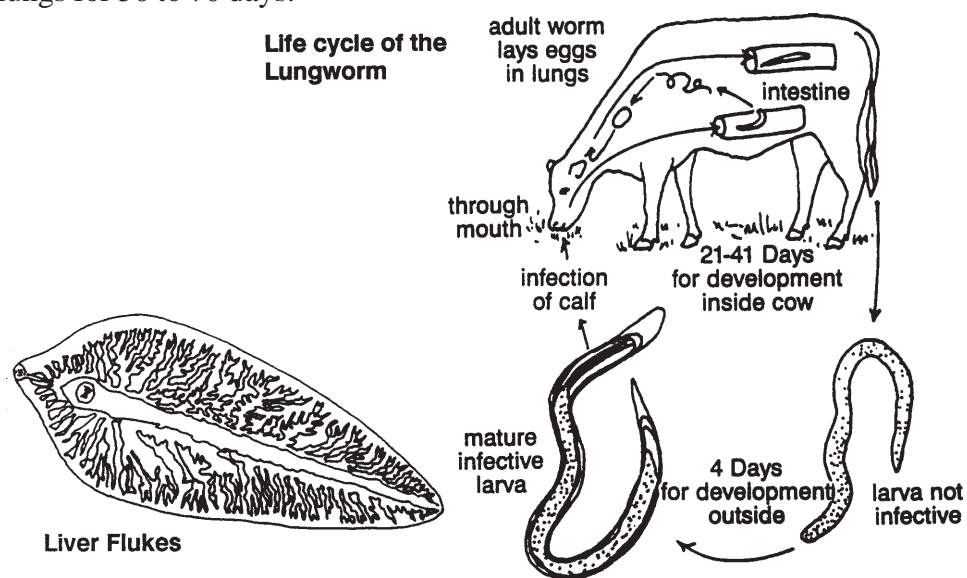
The first sign of coccidiosis is diarrhea, which may be just watery or containing blood. Dehydration, weight loss, depression and loss of appetite may occur. When severe, death will result. Older cattle who recover from coccidiosis may be immune but will continue to pass oocyst in their manure, infecting other animals.

Prevent coccidiosis in your herd by making sure feedlot drinking water and feed cannot be contaminated with manure. Don't feed cattle on the ground. Keep the pens dry and well bedded and isolate infected animals.

Lungworms

Bovine parasitic bronchitis or lungworm disease is caused by another roundworm. Heavily infected calves will have difficulty breathing and may die. The irritation caused by the lungworms causes the lungs to produce large quantities of mucus. This mucus becomes foamy and blocks the air passages when the calf tries to breathe. The adult worms can actually block the air passages themselves. Other symptoms include coughing, rough hair coats and lower weight gains.

The adult worms are white thread-like 10 cm long that live in the trachea and bronchi, the air passages leading to the lungs. In heavily infected animals, there may be hundreds of worms. The adult females lay eggs which hatch in the lungs releasing tiny worm-like larvae. These larvae are coughed up and swallowed, then carried through the intestine and out of the animal in the manure. In three to seven days, the larvae mature, passing through several stages until they can contaminate pasture, water and feed. Once swallowed, the larvae move through the wall of the intestine and are carried to the lungs in the blood. Once they reach the lungs, they leave the blood and develop into adults in approximately seven days. These adults can live in the lungs for 50 to 70 days.



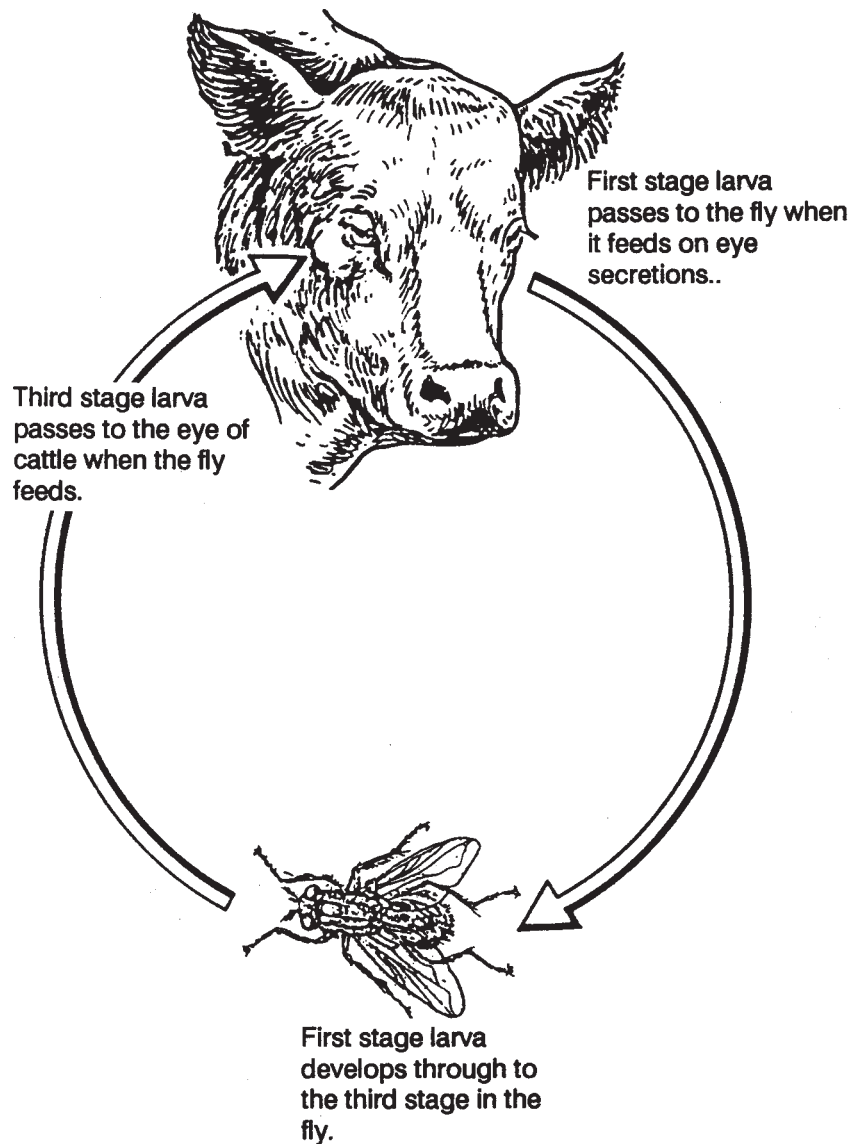
Liver Flukes

Liver flukes are found in cattle inhabiting low lying areas where fresh water snails can be found. Cattle with liver flukes have lower weight gains, decreased milk production and poor feed efficiency. However, they are difficult to identify before the animal is slaughtered.

The adult liver fluke is about 2.5 cm long and 1 cm wide, and lives in the bile ducts of cattle livers. The female lays eggs which pass in the manure. The eggs hatch and the flukes move into the snail. Four to seven weeks later, larvae leave the snail and attach to the grass. Cattle eat the grass, taking in the larvae. The larvae burrow through the intestine and move to the liver. The life cycle takes four to six months, but flukes can live up to eleven years.

Eyeworms

Eyeworms are found most often in two to seven year old animals. Two hosts are needed to complete the life cycle - flies and the eyes of cattle.



Adult worms develop in the eyes and the lacrimal or tear ducts of cattle. Female worms produce eggs. These eggs hatch releasing first stage larvae which move into the tears. Face flies become infected with these larvae when they feed on the tears. These larvae enter the gut of the fly and develop into a second, then third stage larvae. This larvae moves to the cattle from the fly, when the fly feeds on the tears.

Disease of the eye may occur. It begins with a mild inflammation of the inner eye membrane. The cornea becomes cloudy and the animal produces lots of tears. When very severe, the infected eye may become swollen and covered with pus.

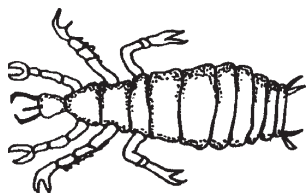
Infections are found most often in the summer months. Positive diagnosis is made by examining tears under the microscope and finding the first stage larvae.

External Parasites

Animals infected with external parasite may show some of these symptoms:

- uncomfortable
- scratching or rubbing on fences or walls
- greasy, dirty, rough hair coat
- irritable
- difficult to handle

Lice



There are two types of lice - sucking and biting.

Sucking lice are slate blue in colour and feed on the blood of the animal. There are two types of sucking lice - the short-nosed cattle louse and the long-nosed cattle louse. They are usually attached with their heads partly buried in the skin. The adult female is about 3 mm long. The eggs or nits are cream coloured and are attached to the hairs near the skin.

Biting lice feed on the hair, loose and dead skin and other debris on the skin of the animal. The biting louse is about 1.5 mm long and has a red head and light cream or yellowish body.

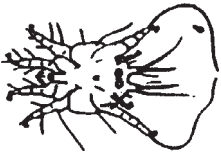
Eggs of the sucking lice hatch 11 to 20 days after they are laid. Young lice mature within seven to 14 days. Biting lice eggs hatch and mature more quickly. The total life cycle of biting lice is about 15 to 22 days, compared to 18 to 34 days for the sucking lice. Cattle lice must remain on the animal continuously to feed and can survive for only one to two days if removed from the animal.

Control of lice in your herd is economically important. Infested cattle have a poor appearance, and a reduced market value. Heavy uncontrolled infestations may lead to an increase in abortions, and reduce the birth weights and weaning weights of calves. In breeding bulls, heavy infestations can cause reduced success in breeding.

It is important to control lice. Your objective should be to keep a louse-free herd through regular inspection and quarantine practices. Follow these practices to reduce and eliminate lice in your herd:

- Keep pens, stalls, feed lots and barn yards clean and dry.
- Thoroughly clean and disinfect areas which have been used for confining lousy cattle.
- Inspect all cattle in late spring. Isolate, delouse and reinspect lousy animals before returning them to the herd.
- Inspect cattle in early fall before they are moved to winter range or confined. If you find infections, treat all animals immediately to avoid later infections.
- If possible keep animals new to your herd in isolation for four weeks to ensure you are not bringing new infestations into your herd.

Mange



Mange is caused by tiny mites which feed on the animals. There are three types of mange which affect cattle in Canada.

Demodectic mange is the least serious type of mange. Chorioptic mange is most common. It is caused by mites which live on the surface of the skin. Sarcoptic mange or barn itch can be very damaging to your cattle. It must be reported to Agriculture Canada when diagnosed in your herd.

Mange is confirmed only by examinations of skin scrapings by microscope. The mites are very tiny, as small as 250 micrometres in length. You should suspect mange if your cattle are uncomfortable and constantly rubbing on posts, fences or trees, and have scabs developing on rough hair coats. Contact your veterinarian if you suspect mange.

Infection of mange occurs by direct contact. Grooming tools and bedding can also transfer the mites. Make sure you disinfect your tools and clean and disinfect the housing area of animals infected with mange.

There are many products available to treat parasites such as those causing mange. Treat your infected animals only after consulting with your veterinarian.



Activity:

Parasite Match 'Em Up

Draw a line to match the parasite on the left with the corresponding information on the right. Go ahead - match 'em up!

roundworm	*	*	caused by a protozoa
coccidiosis	*	*	difficult to diagnose before slaughter
eyeworms	*	*	most common internal parasite
lungworms	*	*	biting or sucking
liver flukes	*	*	caused by tiny mites
lice	*	*	bovine parasitic bronchitis
mange	*	*	two hosts - cattle and flies

Unit Seven**Beef Herd Health**

Roll Call

Name one sign a beef animal shows when it is not healthy.

**Taking Your
Animal's
Temperature**

When an animal looks like it is not feeling well, you may want to take its temperature. Thermometers can be purchased at most livestock supply outlets. The most common thermometer is a blunt-nosed mercury loaded type.

Follow these steps when taking the temperature of your beef animal:

- Tie a piece of string around the end of the thermometer so you can easily pull it out.
- Moisten the thermometer with mineral oil or vaseline. This will make it easier to insert into the rectum of the animal.
- Shake the thermometer so that the mercury falls below the lowest level likely to be recorded.
- Lift the tail and insert about 3/4 the length of the thermometer into the rectum. Leave the thermometer in the animal for at least two minutes.
- Remove the thermometer and find the top of the mercury line. This will be the temperature of your animal. The normal, healthy animal has a temperature of 38.0 degrees Celsius.

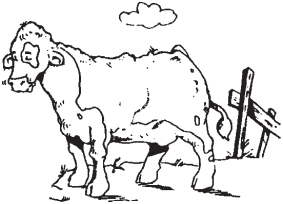
Variations from the normal temperature are not always caused by sickness. Higher temperatures may also be caused by:

- age - young animals usually have higher temperatures than older animals
- excitement
- digestion after a heavy feeding
- high environmental temperatures
- time of the day - an animal's temperature is usually higher in the evening than in the morning
- exercise
- pregnancy

Scours

Scours is the second leading cause of calf deaths. You will recognize scours by the thin, watery manure, and the manure stained hind quarters of the animal. Calf scours usually occur in the first month of life.

Causes	Symptoms
<ul style="list-style-type: none"> • bacteria, virus or protozoa • calf becomes more susceptible when stressed • sudden changes in diet • nutritional deficiencies • wet environment • overcrowding • poor weather 	<ul style="list-style-type: none"> • diarrhea • dehydration • fever • weak and depressed • no appetite



Calves with scours can die quickly. If you find scours in your herd:

- Isolate the sick calves.
- Avoid carrying infection from sick to healthy calves. Wash pails and equipment. Change your coveralls and wash your boots.
- Feed electrolytes. These will help to rehydrate your calf and replace the fluids and minerals lost.
- Consult your veterinarian as soon as possible.

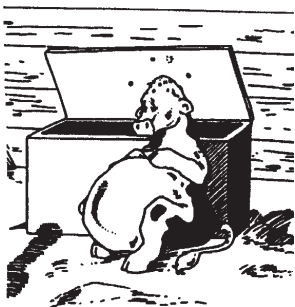
Good management is the first step to preventing calf scours.

- Start your scours prevention before the calf is born. Make sure your pregnant cows get proper treatment.
- Crowding causes stress on cows and calves and increases the contamination on the ground. Provide 65 square metres of calving space per cow.
- Disease resistance of heifers is not as good as that of cows. Winter your cows and heifers separately to avoid exposing heifers.
- Avoid overfeeding or underfeeding calves. Make your changes to the diet gradually.

Bloat

Bloat occurs when gas is produced in the rumen faster than the animal can get rid of it. There are two types of bloat:

- Free Gas Bloat - Gas collects in the upper part of the rumen.
- Frothy Bloat - Gas is trapped in foam in the rumen.



Causes of Free Gas Bloat	Symptoms of Bloat
<ul style="list-style-type: none"> • some functional defect prevents the animal from burping to get rid of gas • hardware, liver abscesses, tumours or obstructions 	<ul style="list-style-type: none"> • swelling on left side of abdomen • uneasy and anxious • shallow grunting • uncomfortable • rapid breathing • urinates often • passes manure
Causes of Frothy Bloat	
<ul style="list-style-type: none"> • caused by the diet • fermentation occurs too quickly causing gas to be trapped as foam • grazing legume forages, finely chopped roughages or finely ground grain 	

An animal with bloat may die very quickly. It is important to relieve the pressure as soon as possible by:

- walking the animal
- drenching with mineral oil
- using a stomach tube to allow gas to escape
- puncture the rumen

You can prevent bloat:

- Change feeds very slowly.
- Don't feed finely ground grains. Fine particles ferment more quickly than larger particles.
- Rotate your pasture for better feed use and feed quality. Avoid pastures with young legumes.
- When you first put your cattle out on pasture, feed them hay first. They will be less hungry and less likely to graze too much.

Navel Ill

Immediately after birth, the navel of the calf is an open wound. It is tender and susceptible to disease and bacteria.

Causes	Symptoms
<ul style="list-style-type: none"> • bacteria entering the calf through the navel 	<ul style="list-style-type: none"> • navel will be hot and swollen • fever • depressed • may quit nursing

Once the bacteria enters the body, the infection may spread quickly, causing painful, swollen joints. The calf may not want to stand up.

Pneumonia

Several viruses may be involved in an outbreak of viral pneumonia in calves. Complications caused by the bacteria are common.

Causes	Symptoms
<ul style="list-style-type: none"> • bacteria or virus • cold or wet bedding • overcrowding • changes in feed • castration • dehorning • branding • parasites • rapid weather changes 	<ul style="list-style-type: none"> • fever • rapid breathing • listless • no appetite • cough • droopy ears • runny eyes and, or nose

Good management is important in controlling viral pneumonia. Avoid overcrowding, provide adequate shelter and good nutrition. Make sure that newborn calves receive enough colostrum. They should have at least two litres in the first two hours of life and two more litres in the next six to eight hours.



Activities:

“Doctor - I’m Sick”

In this unit, we talked about some of the diseases which can affect calves. Let’s review. Each of the calves below show symptoms of some disease. Fill in the blank with the disease you think might be the cause of the problem.

1. Buster has a high temperature. He is hanging his head and has droopy ears. His nose is runny. It has been unusually cold and rainy for the last week. Buster might have

2. You put Flora out on fresh alfalfa-orchard grass pasture this morning. Now she doesn’t look so good. She’s breathing shallow and has a strange bulge on her left side. Flora might have

3. You have been busy and haven’t had time to clean out the calving pens for a few weeks. James was born six days ago. This morning his navel area is very red and swollen. He also has a temperature. James must have

4. You go out to the barn to do the chores and see that you forgot to bolt the feed bin door shut. Lester has had a great feast of grain. He is very upset and the left side of his abdomen is very swollen. Lester is likely suffering from

5. Binky's manure is thin and watery. She has very dirty hindquarters. She looks very depressed and is not eating. Binky's problem is

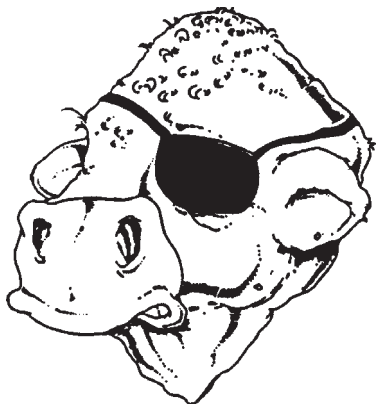


Activity:

Know The Symptoms

Recognizing symptoms is an important part of beef herd health. Draw a line to match up the symptoms on the right with the sickness on the left. The symptoms may be for more than one sickness.

- | | | |
|-----------|---|--------------------------|
| Scours | * | * fever |
| | | * diarrhea |
| | | * no appetite |
| | | * depressed |
| | | * dehydrated |
| Bloat | * | * uncomfortable |
| | | * urinates often |
| | | * swelling on abdomen |
| Navel 111 | * | * rapid breathing |
| | | * cough |
| | | * hot and swollen navel |
| Pneumonia | * | * runny eyes and/or nose |
| | | * passes manure often |
| | | * grunting |



Unit Eight**Managing Your Market Steer**

Roll Call

What is the most important part of managing your market steer?

Welcome to the level two unit of Managing Your Market Steer. In this unit, we will cover a few topics which you will need to be familiar with in raising your market steer.

Dehorning

Horns on cattle can cause problems for the producer. Some of these problems are

- Damage to other cattle by bruising during transportation and stockyard handling.
- Aggressive animals use their horns to push others around.
- They need more space at the feeder.
- Horned animals may injure people.
- There is more damage to buildings and fences by horned animals.

The younger beef animals are dehorned, the better. Dehorning is easier, safer and less painful to younger animals because there is very little blood flow to the horns.

The method you choose for dehorning will depend on the age of the animal. For animals less than five months, chemical and electric dehorning work best.

Chemical Dehorning

A caustic potash stick or paste is used. Be careful when working with this as it is very corrosive to the skin. Use only on calves less than two weeks old.

Method:

- Clip the hair around the base of the horn.
- Smear vaseline or grease on the clipped area. This will make sure the caustic does not run and burn the skin.
- Rub the caustic paste on the horn. Make sure the paste goes all the way around the horn. This area should be no bigger than the size of a quarter.
- Keep the calf away from its mother until the paste is dry so her udder is not burned.

If you see burning on the side of the head during the next few days, wash the area with a mixture of one part vinegar and three parts water.

If there is risk of rain, do not dehorn using the paste. The paste will run when it gets wet, causing burns on the face and possible damage to the eye.

Electric Dehorning

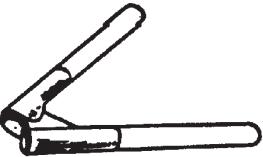


Electric hot iron dehorner

An electric dehorning iron is similar to an electric branding iron. The hot iron kills the horn producing cells at the base of the horn.

Use the electric dehorner on calves under five months of age.

Apply the iron to the horn for 15 to 20 seconds. Make sure that the circle completely surrounds the base of the horn. Don't burn too deeply. If properly done, the burnt area and horn bud will peel off in four to six weeks.



Barnes type dehorner

A cordless dehorner designed for use on calves under three weeks of age is now available at farm supply stores. This dehorner is more expensive and more convenient than the electric one. You can use it to dehorn about 15 calves before it needs recharging.

Gougers or Scoopers

Spoons, tubes, or knives can be used to gouge or scoop the horn bud from the head of the calf. This is not painful to calves with horns less than 3.5 cm or 1.5 inches in length. The gouge should include 3 mm, 1 cm deep around the horn.

Wire

A special cutting wire may be used to cut through the horns. This method takes longer than some of the others, but the cut can be made closer to the skull.

Saw

The saw can be used when the base of the horn is too wide for clippers, or the horn is growing abnormally. Use a local anesthetic before dehorning. This method causes more bleeding than others.

Clippers

Using clippers is a fast way to dehorn. It is dangerous because the horn may be crushed and splintered rather than cut.



Activity: Choose Your Method

For each of following animals, decide which method of dehorning you would use and why. The method you choose will depend on your preference and your facilities.

a two month old Hereford steer

a two day old Longhorn bull

15, one week old Simmental calves

60, two month old crossbred steers

Growth Stimulants

Improved genetics has changed the feed efficiency and growth rate of the beef animal. However, the potential of the beef animal is still limited by several factors:

- Not all animals grow at the same rate.
- Feed efficiency varies between animals.
- Steers and heifers grow at different rates.
- Animals grow according to their genetic makeup.

Beef producers are always looking for ways to increase the profitability of their animals. Growth stimulants, in the form of implants or feed additives, are available.

Implants

Implants are inserted under the skin of the animal. They slowly release substances which affect the feed efficiency and growth rate. There are several types available: Compudose, Steroid, Ralgro and Synovex.

Most implants change the levels of the hormones in the body and affect the internal organs. Feed efficiency increases because the body keeps more nitrogen and calcium. By feeding the same way as before, your animals can get 6-8% more out of the feed. This means you can save 40 to 55 kgs of feed for every 100 kgs of body weight gain. Because the animal is gaining at a faster rate, it will be ready for market earlier.

Feed Additives

Growth stimulants, such as Rumensin and MGA, can be fed to the steer in the ration. Rumensin affects the organisms in the rumen, slightly increasing feed efficiency.



NOTE:

When using growth stimulants, you **must** follow the instructions. Because substances are released into the animal, most of these products have withdrawal periods. This is the time period before slaughter when the stimulant must be removed. The body then has time to eliminate all the substance from its system before slaughter.



Activities:

Answer these questions to understand more about growth stimulants and how they work in your steer or heifer. You may have to make some phone calls or visit your farm supply shop to find the answers.

About Ralgro

Ralgro can be used on

Where do you implant?

Ralgro should not be used in breeding cattle. True False

About Synovex

Fill in the blanks. Use each of these only once.

heifers steers 0 (zero) 120 150

Synovex H is for _____ only.

Synovex S is for _____ only.

Implant with Synovex when animal weighs _____ kgs or more.

The withdrawal period for Synovex is _____ days. Synovex is effective for up to _____ days.

About Compudose

Circle the correct response.

Use compudose on (Steers or Heifers) only.

Compudose is effective up to (100 or 200) days.

Rumensin, MGA, or both?

_____ Use in feedlot heifers only.

_____ Use in steers or heifers.

_____ No withdrawal period.

_____ Withdraw at least 48 hours before slaughter.

_____ Increases feed efficiency by approximately 11%.

Unit Nine

Beef Cow And Heifer Management

Roll Call

Tell one thing you must remember when looking after your beef cows and heifers.

**Nutrients
for
Beef Cows
and Heifers**

Nutrients are those parts of the feeds which animals use in their body to produce and grow. Our beef cattle need nutrients for:

Maintenance

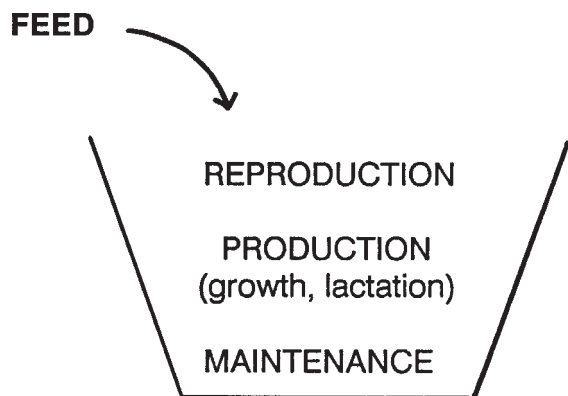
Beef cattle use feed nutrients to maintain or keep their body functioning. They use nutrients to stay warm, regulate heart activity and breathing, to replace worn out body tissues, to move about and to eat.

Production

Beef cattle use feed nutrients to produce milk and to produce body muscle or meat. Producing or lactating animals need more nutrients to meet their body's demands.

Reproduction

Beef cattle use feed nutrients to grow and develop the unborn calf and to keep their own body in good reproductive condition.



Picture the beef cow as a barrel into which we are pouring feed. Look at the relationship between maintenance, production and (growth, lactation) reproduction.

The bottom of the barrel must be filled first. This means that you must provide the nutrients the animal needs for maintenance, before your animal can begin to produce or reproduce.

The amount of nutrients the cow or heifer requires depends on her reproductive status. The cow or heifer can be:

- pregnant
- lactating
- lactating and pregnant
- not pregnant and not lactating.

Minimum Daily Nutrient Requirements of the Beef Cow

Cow (500 kg)	Protein (kg/day)	Energy (Mcal/day)	Calcium (g/day)
Early Pregnancy	0.59	19.2	20
Late Pregnancy	0.68	22.1	25
Lactating	1.27	32.2	46

(Source - The Beef Cow Calf Manual, 1989)

The most important information in the above chart is the difference between the requirements for animals at different stages. From the information in the chart, tell as much as you can about the nutrient requirements of the cow.

Replacement Heifers

Selecting

The most common method of replacing cows in your herd is to select replacement heifers from your heifer crop. When selecting replacement heifers

- Select heifers from cows which consistently calve without difficulty and produce healthy, strong calves.
- Select the largest heifers at weaning. These will be from the cows producing the most milk and having the best mothering ability.
- Select heifers with good conformation and which come from mothers with good conformation. The feet and legs should be structurally correct and sound.

Managing

Once you have selected your replacement heifers, you need to plan your breeding program. You must feed them to bring them to your desired weight and to puberty. The onset of puberty is affected by these factors

- **Age.** Puberty can occur when a heifer is from seven to 14 months old.
- **Breed.** The British breeds (Angus, Hereford and Shorthorn) mature early. They tend to reach puberty before the exotic breeds (Charolais, Limousin, Salers, etc.)

- **Weight.** The weight at puberty depends on the breed. Replacement heifers need to gain anywhere from 0.57 to 0.68 kg/day from weaning until breeding. British breed heifers should weigh between 295 and 318 kgs at the beginning of the breeding season. Larger breeds, such as Charolais, should weigh 340 to 352 kg.

If you can breed your heifers early to allow them to calve at the beginning of the calving season, you will be able to pay extra attention to them.

Heifers should continue to grow following breeding, gaining weight throughout their pregnancy. Heifers should weigh 80 to 85% of their mature weight at the time of their first calving.

By managing heifers to reach puberty at a young age, you can take advantage of these facts:

- Heifers reaching puberty early have been shown to be more productive than later maturing heifers.
- Heifers bred early will calve early the following season.
- For every 21 days earlier in the season a calf is born, it will be 13.6 to 18.1 kg heavier at weaning.

There is potential for increased production with good heifer management. The extra costs involved will be returned to you by the improved productivity.

Developing a Successful Culling Program

One way to improve the reproductive performance of your herd is by developing a successful culling program. Culling is removing an animal from the herd because of poor performance.

Why might you cull a cow or heifer from your herd?



Activity: “Would You Cull This Cow or Heifer?”

Culling is one of the most difficult decisions a cattle producer must make. It is important to cull using your head and not your heart. Suppose you are managing a cow-calf operation. Decide whether you would cull these cows or heifers from the herd. Give reasons for your decision.

	YES/NO	WHY/WHY NOT?
Your 4-year old cow has mastitis in two quarters of her udder.	_____	_____ _____
Your 3 year old cow has just weaned healthy twins.	_____	_____ _____
You discover your best cow, who is 8 years old, is not pregnant a month after the end of your breeding season.	_____	_____ _____
You notice that one of the heifers you selected as a replacement in your herd has structurally poor feet and legs.	_____	_____ _____
A 5 year old cow has given you a healthy calf every year. She is pregnant again this year.	_____	_____ _____