

Coffey County Bucket Calf Project

Handout Number 1

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Bucket Calf: A Beginning Beef Project

The Bucket Calf Project is a good place to start learning about cattle. The things you learn like; calf care, showing the calf to others, and learning how to raise cattle helps the 4-H member see what they can do in cattle projects in a few years. The bucket calf project starts in the spring and ends at the County Fair in July. You can buy a bucket calve at a sales barn or a farmer.

A bucket calf is one day to two weeks old. At this age the calf will weigh fifty (50) to eighty (80) pounds. The calf starts drinking milk from a bottle with a nipple. When they get older they are taught to drink from a bucket. The 4-H'er can work with the calf at this age because it is small. The small size of the calf is one reason of the bucket calf project is good for small kids.

A bucket calf pen should be no smaller than four feet by six feet. The pen should be out of the wind and cleaned everyday. The calf should always have drinking water. Feeding pans and buckets should be easily cleaned.

The purposes of the bucket calf project are:

1. To design a cattle project where the calf size is not too big for the younger youths to control.
2. To teach proper health care and food needs of young cattle.
3. To teach basic beef farming skills without a large amount of money.
4. To teach basic record-keeping skills.
5. To provide a better understanding of the cattle business.

Setting Goals

It is important that you have written goals for you bucket calf project. Why is it important? There are three good reasons to set goals. First, setting goals will give you direction in achieving the things you want to learn about the bucket calf project. Second, the end of the year report materials request project goals. Stating a goal and gathering information throughout the year makes the end of the year report much easier to complete. Third, the judges usually ask about your goals during the interview session.

Beginners should keep their goals simple. You might want to break each goal into small steps so you can see progress toward achieving the goal. Time deadlines are also a good way to keep interest in the goals.

Suggested Goal Setting Format

1. State a goal, 2. Break the goal into one or two smaller steps (sub goals),

3. Set a deadline to complete for each of the smaller steps. Keep notes on what you do to achieve each smaller step, and 4. Record the date you achieve each smaller step and when you complete the total goal.

Example

Completion Date

Goal: To understand what I feed my calf

June 1, 2007

Small Step One: Learn the needed nutrients for cattle

May 1, 2007

Small Step Two: Look for nutrient content of feed labels June 1, 2007

Bucket Calf: Judging and Scoring

The Bucket Calf project is rated by a judge. The judge looks at what the 4-H'er learned about caring for and raising the calf, health of the calf, and how well the 4-H'er leads the calf while showing it to others. The judge rating is: fifty (50) percent on what you know about caring for and raising the calf, twenty-five (25) percent on how well the calf looks, and twenty-five (25) percent on how well you show the calf to other.

How Much Water?

All animals require water for healthy lives. Knowing how much clean drinking water an animal requires each day will help members determine if they are able to provide for their animal's needs. Often, we overlook the importance that water plays in livestock production. A little effort on the part of beef producers in making water freely available will increase production, and therefore, income. Water is the basis of all life and is the most important part of an animal's diet. A beef animal can go without feed a lot longer than it can go without water. The average child drinks about six glasses of water per day. How much water do you think the average beef animal drinks each day? Is it more than what humans require? Or less? The answer depends on the size of the animal, but as you can imagine, livestock require much more water than people primarily because they are so much bigger. For example:

- A 350-pound calf needs between 1 and 5 gallons of drinking water a day. In this case, hauling a 5-gallon bucket of water out to your young animal twice a day might be okay, depending of course, on the weather. A calf needs more water in the summer when it is very hot outside. In the winter, water must be kept fresh so that it does not freeze.
- A 500-pound calf needs between 2 and 6 gallons of drinking water a day.

- A 750-pound steer needs 10 to 15 gallons per day of clean drinking water. At this level, you can easily see that hauling one bucket of water twice a day won't quite give the animal what it needs to be healthy.
- A steer weighing 1,000 pounds or more needs 20 gallons or more a day of cool, clean drinking water.

Feeding Your Calf

An important need in the health of the bucket calf is that it is fed colostrum (co-los-tre-um) within the first three days after it is born. Colostrum is the first milk a calf gets from its mother. Colostrum is a rich food and contains the mother cow's medicine to keep the calf from getting sick.

Get the calf started on milk replacer with at least 20% protein and 10% fat. When feeding milk replacer, follow the directions on the sack. You can feed the calf with one of three methods; 1. A nipple pail, 2. A bottle and nipple, or 3. An open pail. The advantage of the nipple method is they prevent the calf from gulping milk. An advantage of the open pail is that dry feeding can be stimulated by placing some calf starter in the pail just as the calf finishes drinking. Wash feeding equipment after each use. Feed milk at the temperature it comes from the cow; 100 degrees F.

Place calf starter and good quality hay before the calf during the first week. Allow the calf all the starter it will eat, up to five pounds a day. Don't feed too much at the very beginning. Milk is the most expensive source of feed for calves. You should be able to remove calves from milk in 4 to 6 weeks of age, dependent on how much dry feed they're eating. They should be eating at least 1 1/2 pounds of calf starter before weaning.

When starting the weaning process at first just give it one bottle of milk a day and put out more hay, corn, and a lot of water. Once the calf is eating grain and hay well stop giving it milk and start feeding a concentrate mixture of 8% corn (3 gallons), 40% cattle pellet (1 gallon), and a roughage of 17% alfalfa pellet (1 gallon) every two to three days. Give the calf all the hay and grass roughage it wants.

Name a concentrate - Grains (corn, wheat, barley, oats, milo), oilseed meals (soybean meal, linseed oil, cottonseed meal), fish meal, molasses, and dried milk products. Concentrates are low in fiber but are highly digestible (80 to 90 percent)

Name roughage - Typically leafy green plants such as alfalfa, and grasses, crop residues like straw from the production of grains and silages which are green leafy plant materials that have been chopped and stored wet. Roughage is high in fiber and is less digestible than concentrates.

SIX BASIC NUTRIENTS

Protein, Carbohydrates, Fat, Minerals, Vitamins, Water

Protein - Building block of the body. Required for muscle growth, maintenance of body tissues, and of milk production in lactating animals.

Carbohydrates - Major source of energy. Energy is necessary to maintain body temperature and for activity. Excess carbohydrates are stored in the body as fat.

Fat - Acts as energy. Only needed in small amounts. Fats provide 2 1/4 times as much energy as carbohydrates. Fats are stored for later use and fat provides protection to the internal organs.

Minerals - Only needed in small amounts. Necessary for bone and teeth growth and maintenance.

Vitamins - Involved in body functions, such as vision, blood clotting and bone development.

Water - Nutrient needed in the greatest amount. Acts as a body cleanser and a regulator of body temperature. Carries the other nutrients throughout the body

The Ruminant Digestive System

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The beef cow can produce about 500 pounds of protein in 12 to 14 months. This is a remarkable accomplishment. How does the beef cow convert grass and grain into meat we can eat? It processes the feed it eats through a highly complex digestive system to accomplish this wonderful feat. An understanding of this digestive system is a must for making intelligent feeding decisions.

STARTING THE DIGESTIVE PROCESS

Chewing is the first step in processing the feed. Then it passes down a tube called the esophagus into a large fermentation vat. Here digestion of feed goes on by 500,000 billion bacteria and 50 billion protozoa living and multiplying there. These small organisms have several unique characteristics which allow the cow to thrive in situations which would be impossible for other animals to live. They digest fiber found in hay, silage, and pasture for energy, make protein from nitrogen, and synthesize B vitamins for their host, the cow.

FORESTOMACH (RETICULORMEN)

This fermentation vat is composed of two areas called the reticulum and the rumen. The reticulum has a distinctive "honeycomb" appearance. It aids to help bring feed back up to the mouth for rechewing.

RUMEN

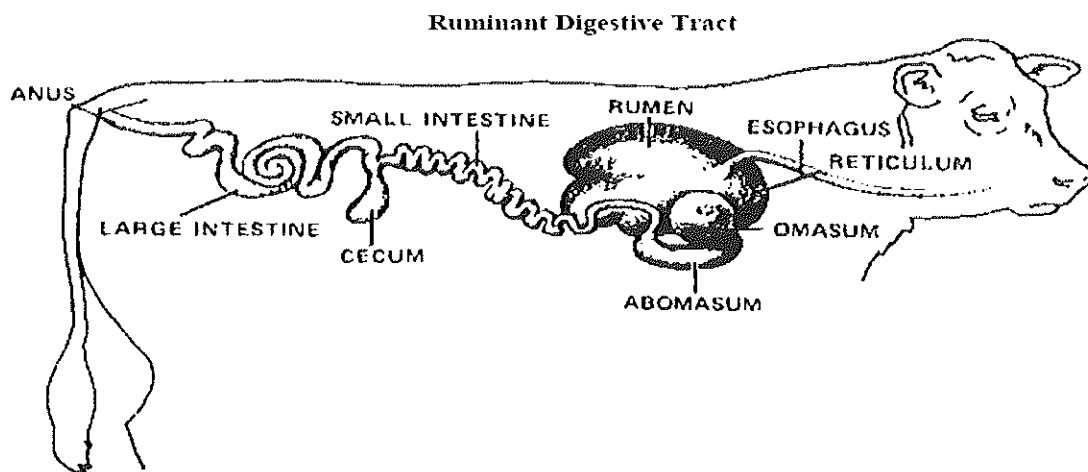
The rumen is, by far, the largest compartment. Its purpose is to store large quantities of feed, keep the feed mixing by strong contractions, and to provide a suitable environment for the bacteria and protozoa to live. Most of the waste products are volatile fatty acids. These volatile fatty acids are the primary sources of energy for the cow. They are absorbed by thousands of "finger-like" projections lining the bottom and sides of the rumen wall.

OMASUM

Once the feed has been reduced in size by chewing and digestion by the bacteria and protozoa, it can pass into a third compartment called the omasum. This area has been nicknamed the "many-plies" due to its unique structure. It has the appearance of an open book with three sides bound. The tissues within are likened to the pages of a book and are called leaves.

ABOMASUM

This fourth and last compartment which make up the cow's stomach is the abomasum or "true" stomach as it is called because it functions in a very similar way to the stomach of a man or pig. As in the omasum, the abomasum contains many folds to increase its surface area. These leaves enable the abomasum to be in contact with the large amounts of feed passing through it daily.



Is Your Calf Sick or Well?

How do you recognize a sick calf and how to tell if a calf looks healthy? To be able to care for your calf you must know its behavior so well, that you can tell when it isn't acting the way it normally acts. This means you must become very good at watching your animal and understanding what you see. We call this observing your animal. Healthy animals act differently than sick animals. Have you ever seen a sick animal? How does a sick animal look? It is important that you learn to recognize the different ways a healthy and a sick animal act. And since animals are unable to talk we must be very good observers. If your calf has any of these signs;

- droopy ears and head
- nose, dry, crusty, or snotty
- gaunt—gone off feed or water
- diarrhea, color and smell
- rapid or noisy breathing
- bloated—stomach protruding left side

You can check to be sure it is really sick by taking its temperature. We take the temperature of a calf with the uses of an animal thermometer. First, you need to restrain the calf. If your animal is used to your being around, tying it up may be all you need to do. If not, or if it is really big, you may need to use a squeeze chute to keep it from moving around. Gently lift the tail and insert the thermometer into the rectum about 2 inches. You need to hold it there about one minute. After a minute, remove the thermometer and wipe it off quickly with a paper towel or clean rag. Then read the temperature. You may need to have your parent or someone else help you do this. Write the temperature of your animal down on a piece of paper so you won't forget it. What is your temperature when you are well? 98.6°F! A calf's normal temperature is higher than yours. It is 101.5°F. If the calf's temperature is higher than 101.5°F, you will know for sure that it is sick.

Calf Disease – most common first problems

Bloat or stomach gas. What do you think might happen to a calf if it can't pass gas? The part of the stomach where gas builds up in cattle is called the rumen. You will know if this happens to your animal if its left side begins to swell, because that is where the rumen is located. If your calf bloats, try walking it to relieve the gas. You must find a way to get rid of this gas, or the animal may die.

Calf scours (diarrhea) is always a concern with young calves especially when being bucket or bottle fed. Scour in calves can be caused by any of several viruses, bacteria and protozoa. The common characteristic is a yellow runny stool.

All calves that get scour lose their body water and salts in the diarrhea. The scouring calf becomes dehydrated and suffers from electrolyte loss and acidosis. Treatment must be directed toward correction of dehydration, acidosis and electrolyte loss. Antibiotic treatment can be given with the treatment of dehydration. It is a good idea to get the newly purchased calf vaccinated. Another treatment for scours in the early stages is Baytril tablets that are available from your veterinarian. Calves with scours must be taken off milk or milk replacers. Milk in the intestinal tract is an ideal medium for bacteria growth which is one of the causes of scours. To replace fluids, and nourish the calf, electrolyte powders are available from your veterinarian. An electrolyte treatment provides a source of nutrients for a period of 24 to 48 hours. It may take two to three electrolyte treatments before the calf can be returned to a milk feeding.

Training Beef Animals for Show

The purpose of training a beef calf is to be able to show the animal to others. The calf must be willing to let the judge touch it. A judge will not favor an animal that will not stand still. It takes a lot of skill and patience to train a calf properly. The first few weeks of a beef project are the most important. The way the animal is started on feed and handled has a big effect on the success of the project. Regular care, hard work, doing the "right" things, and patience will accomplish more than tricks and short cuts. It is important to work around animals quietly, without quick movements or loud talking. Scratching and rubbing will help gentle the animal and help it become used to the feel of hands. Begin scratching animals on the back, not the head.

Halter Breaking

A small working chute will allow members to easily catch new animals to put halters on them. Crowding the animal into a small pen will also work. There are various types of halters. Some people prefer halters with chains, others rope halters. A halter with a padded nose band is recommended to prevent serious injury and scarring of the nose. After selecting the type of halter to use, place the halter on the calf and adjust the halter so that it fits properly. The halter should apply pressure over the nose, not behind the ears. For proper fit, the nose piece should be up on the nose just under the eyes. The halter should not be too loose so that it will come off or too tight so that sores will develop behind the ears.

Halter Breaking by Dragging the lead rope

After haltering the animal, pull on the lead rope a time or two and then let go. Let the animal drag the lead rope on the ground. As the calf walks, it will step on the lead rope and pull its head around. This will teach the calf to respond to

pressure. The animal may be allowed to wear the halter and drag the lead rope for several days.

Halter Breaking by Tying

A calf may be tied to a post to halter break the animal. As the calf pulls back, the halter tightens and as the calf comes forward, the halter releases pressure. The calf learns to stop the pressure on his head by coming forward. For several days, a calf may be tied in its stall between feeding, watering, and exercise periods. The length of the rope should be long enough for the calf to eat and lay down, but not so long as to get tangled up. As soon as the calf is gentle enough, it should be brushed. It is important to begin brushing the calf as soon as possible because brushing and petting will help gentle a calf.

Training to Lead

When you teach a calf to walk with you, we say you are training it to lead. When teaching to lead, pull on the lead rope and then give slack so the animal comes forward. Do not apply continual pressure. Always pull and then release the pressure as the calf responds. When the animal learns that the rope loosens when it walks, it will lead. Have someone walking behind the calf to make it move when it stops instead of pulling on its head constantly. This will help it learn quicker. Pulling slightly to the side instead of straight forward may help the calf lead. Reward the calf by petting when it does what you want. Some calves are more difficult. If a calf does not begin to lead after three or four days of pulling and then giving slack, get some help and lead the calf away from the pen. It may take two people on two ropes. Tie the animal and bring feed and water. That night, with some help, lead the calf back to the pen. Feed the animal and turn it loose for the night.

Recognizing Sex Differences in Cattle

We all recognize there is a difference between males and females in animals. In humans boys and men are males and girls and women are females. But sometimes it's difficult to tell what sex an animal is unless you know what you're looking for. We can use the reproductive organs of the animal to identify the sex. These are the parts of the body used in mating and having babies.

One of the first things a member who wants to raise cattle should learn is how to tell a heifer from a steer or a steer from a bull. Let's first talk about bulls and steers. These are the males in cattle. When a male calf is born, it is a bull. The main male organs are the testes that are located in the scrotum (a sack-like structure that hangs between his back legs), and the sheath located on the underside of his belly. The sheath contains the penis. But, members don't show bulls in a

market show. So, how does a bull become a steer? The steer has a scrotum, but it is smaller than the bull's scrotum. This is because the testes have been removed. This process is called castration and can be done a number of ways, but when the bull is castrated, he is then considered a steer.

Now, let's talk about the differences between a steer and a heifer. This has nothing to do with which one has horns. Either sex may have horns. Heifers are young female cattle. Most of a heifer's reproductive organs are on the inside of her body, so you can't see them. That is an easy way to tell the difference between the male and female. Also, remember, the steer has a sheath on the underside of his belly where urine leaves the body. But the heifer has no sheath. She urinates from her vulva which is located under her tail. This is also the opening to the reproductive organs located inside the heifer.

Another type of sex classification is the cow. Technically, it is wrong to call a bull a cow, although many people do. A cow is a female that is older than 2 years and has had a calf. Until you've had some practice it is hard to tell the difference between a heifer and a cow, but it can be done.

Equipment Needed for Your Bucket Calf

Water buckets—not the 5-gallon buckets, but instead, a bucket that a calf can get its head into all the way to the bottom

Feed pans—one for each calf

Rope halters—in case the one your animal is wearing breaks

Lead ropes—to hook on your calf's halter

Scotch comb—one for each exhibitor in your family—use them to groom your animal and carry it into the show ring in your pocket

Rice root brush—at least one, use it to groom your animal with a scotch comb

Wash brush—use it to get your animal clean when you wash it—be sure it is sturdy enough to get wet

Show halters—one for each calf and one spare in case another breaks

Show sticks—one for each exhibitor in your family because at some time, you may be in the same class and cannot share one show stick

QUICK RELEASE KNOT

The quick release knot (also known as the bowknot or the reefer's knot) is the standard knot used to tie an animal to a post or fair stall. Like the square knot, it is a good non-slip knot with which to tie ends of rope together. It has the added advantage, though, that it can be untied under tension—a most important feature of any knot used to restrain livestock. To tie a quick release knot, the steps are identical to those used in tying the square knot: a simple overhand knot, coming from right over left (A). Now, begin to tie the second overhand knot, coming from left to right, by laying the new left-hand strand over the new right-hand strand (B). Instead of inserting the running end of the new left-hand strand into the loop formed by the crossing strands, form a bight, or small loop, in the new left-hand strand and insert it into the loop (C). Grasp the bight with the thumb and index finger of your right hand and pull it part-way through the loop. Grasp the left-hand strand and left working end in your left hand and the right-hand strand in your right hand. Pull to shape and secure the knot. Be certain that the end of the bight is “trapped” in the center of the knot. Some animals have a habit of biting on the knots restraining them and freeing themselves. To prevent this with the quick release knot, insert the running end of the rope into the bight. In an emergency, the free end of the bight can be pulled sharply, immediately releasing the knot.

Quick Release Knot

