

Market Beef Knowledge Test Study Materials



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Animal Welfare

Facilities and Components of Living

When preparing to bring your beef project home, it is important to think about where you will keep your project. Beef projects require sufficient space for growth and development. Ideally, cattle need a covered area with fans for air circulation during the day (especially in the warm summer and fall months) and an outside run to be fed and watered overnight. There are several factors that need to be included to provide a sufficient facility for your beef project such as: electricity, adequate ceiling height and ventilation, flooring and bedding, tie-up/wash/dry area, storage, drainage, convenience and accessibility, and waste disposal.

Electricity

Electricity is important to have for lighting, fans, and blower connections. Outlets should be in a safe location - out of cattle's reach to eliminate the potential hazard of extension cords running across the ground.

Ceiling Height and Ventilation

Ideally, ceilings in an open-air barn should reach up to ten feet tall. Barns with lower ceilings will cause the barn to be a warmer temperature due to heat radiating from the ceiling. If you have an insulated barn, ideally, the ceiling should not be lower than eight feet tall. To further ventilate the facility, fans can be added and positioned so that they are blowing across the circulating air from prevailing winds to force hot air out. The temperature in the facilities should be 90°F or less throughout the barn with constant airflow to ensure your beef project is comfortable and has fresh air.

Flooring and Bedding Type

Try to avoid slick surfaces in the walkways or aisles of your facilities. If you have a slick surface, consider putting rubber mats down to provide a surface that is safe and provides more traction for your livestock. Ideal bedding in a tie-up pen could include: sand, cedar shaving, or wood chips. Bedding in your facilities is very dependent on your family's budget or preference, to ensure it stays clean and fresh, dispose of any waste and rotate/fluff bedding as needed. This will aid in creating a comfortable and clean living space for your beef project.

Tying/Washing/Drying Areas

It is helpful to have a concrete area with mats on it that is separate from the tie-up pen to tie cattle up when washing and drying. Having a good place to wash and dry cattle that has concrete flooring helps keep washed cattle from getting muddy while standing in the washing/drying areas.

Storage

It is important to consider having adequate dry storage space to put feed, equipment, and supplies. Feed and hay should ideally be kept in a separate secure area closed off from the rest of the barn to aid in keeping rodents away from the feed

and hay, preventing mold growth, and maintaining quality. To keep moisture out of an open bag of feed, it may be helpful to roll the top of the bag down to close it.

Drainage

Proper drainage is important so that water (whether it be from washing the cattle, cleaning the floors or mats, wetting down shavings, filling water tanks, or from rain) does not build up in and around the barn. Standing water in and around the barn promotes a favorable environment for pests and bacteria growth, which can be harmful to you and your beef project.

Convenience and Accessibility

It is important to think about the accessibility of loading and unloading your beef project into a trailer for various purposes. It may also be beneficial to think about if trucks and trailers are likely to get stuck trying to access your facilities in the case of transporting during or after significant weather.

Waste Disposal

Pens should be cleaned at least twice daily to decrease the amount of flies, disease, and odor (ammonia) to keep your beef project's living quarters clean and comfortable. Having a place to make a compost pile away from the livestock is key in the waste disposal. Manure is also a fly attractant which is why it is important to keep disposal a good distance from the living facilities of your livestock project.

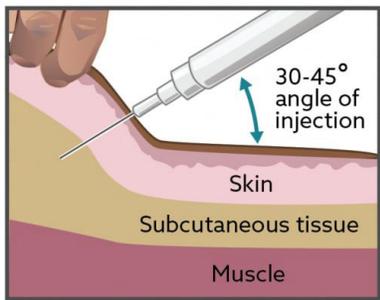
Fencing/Runs

Having an uncovered outdoor pen for cattle to stay overnight where their feed and water tanks are located is ideal to allow for the livestock space to stretch and run. Electric fences could make a great option for these runs as they prevent cattle from rubbing their hair off on the fence, but any sturdy fence would be adequate. Always beware of trees, holes, or any places cattle could get injured within the run.

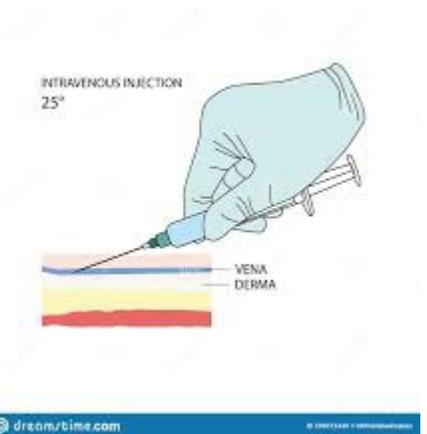
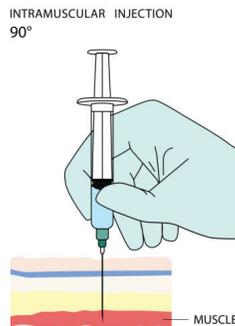
To ensure your projects stay healthy and happy, it may be beneficial to implement proper health care and management to prevent and treat if needed. For your beef project, it is important to have scheduled administrations of vaccines, lice pour-on treatments, deworming, and hoof trimming. When dealing with any medicine or medically treated feed, always follow the treatment recommendations on the bottle and consult with your veterinarian before treating. Always be aware of the withdrawal time on any medications given to your beef project to ensure a safe product for consumers after slaughter.

Vaccines:

When a vaccine is used correctly, it will increase an animal's resistance to disease. Always remember to read the vaccine label thoroughly prior to administration to ensure proper use of any medications. Vaccine injections should be given as described on the label. Injection sites include intramuscular (IM; in the muscle), subcutaneous (SQ; under the skin), and intravenous (IV; in the vein [only given by veterinarians or when instructed by veterinarian]). Injections should be given in the neck rather than over the hip of the animal.



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- 1) Freedom of Hunger and Thirst
 - a) By ready access to fresh water and diet to maintain full health and vigor
- 2) Freedom from Discomfort
 - a) By providing an appropriate environment including shelter and a comfortable resting area
- 3) Freedom from Pain, Injury, or Disease
 - a) By prevention or rapid diagnosis and treatment
- 4) Freedom to Express Normal Behavior
 - a) By providing sufficient space, proper facilities and company of the animal's own kind
- 5) Freedom from Fear and Distress
 - a) By ensuring conditions and treatment which avoid mental suffering

Modified from MSU Extension The Five Freedoms: A history lesson in animal care and welfare
Animal Health and Well-Being

The well-being of an animal is more than simply being healthy. Animal well-being is the ability of an animal to cope within its environment and living conditions. Well-being includes feelings of emotions, being able to behave naturally, and an animal's health and biological functions.

Three Circle Model of Animal Well-Being

1. Basic Health and Functioning

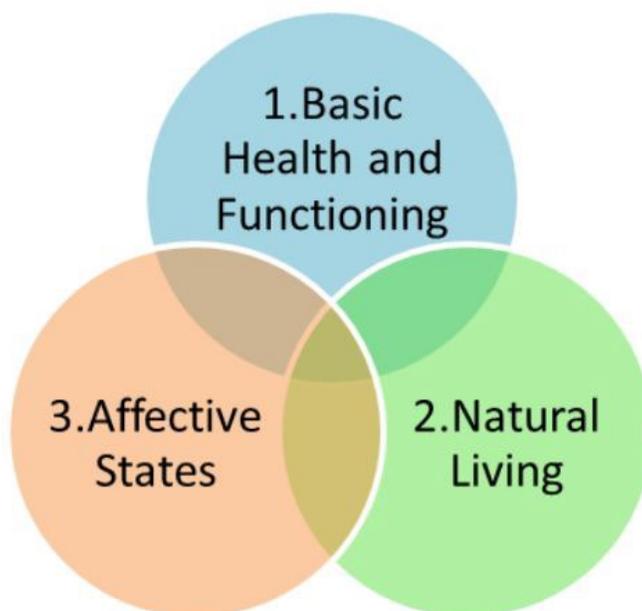
The basic health and functioning concept addresses the physical fitness of the animal. This includes good health, normal body function, and normal growth and development. Circle 1 relates closely to freedoms from hunger and thirst (Freedom 1); discomfort (Freedom 2); and pain, injury, and disease (Freedom 3).

2. Natural Living

The natural living circle emphasizes that animals should be able to lead reasonably natural lives. This includes the ability to perform important, natural behaviors and to have some natural elements in their environment. Circle 2 relates closely to the freedom to express normal behavior (Freedom 4).

3. Affective States

The affective states circle considers the emotional state of the animal. Animals should feel mentally well and not be subjected to excessive negative emotions that can cause unreasonable stress. Negative emotions may include pain, hunger, and distress. Animals should be able to experience positive emotions in the forms of pleasure or contentment through play or social contact. Circle 3 relates closely to the freedom from hunger and thirst (Freedom 1); pain, injury, and disease (Freedom 3); and fear and distress (Freedom 5).



Cattle that are sick or in pain may display an array of behaviors or signs that may include: inactivity; loud bellowing; reduced social interactions; reduced feeding and drinking; increased huddling, shivering, sleeping, or resting; reduced grooming behavior; dull, dirty coat; open-mouth breathing or panting; inability to get up from a lying position; discharge from the eyes, nose, or other areas; drooping ears; swollen, red, or discolored udder.

Causes of Poor Well-Being

Cattle are not in control of their environment and therefore are dependent on actions that are or are not taken by their caretakers. Humans can have a negative effect on cattle in many ways : neglect, cruelty or abuse, abandonment, and crowding.

Neglect: Failing to care for an animal. Not providing adequate food or water. Restraining the animal in a way that causes pain or endangers health. Ignoring illness, injury or disease, and not providing veterinary care.

Cruelty or abuse: Causing physical harm and/or pain to the animal , such as prolonged periods of thirst, hunger, or restraint and immobility.

Abandonment: Deserting cattle without providing means for long-term care.

Crowding: Not providing sufficient room, especially room to stretch and turn around fully.

Modified from Purdue Extension Animal Well-Being : Cattle and MSU Extension Animal welfare for youth:
Part 3 - Introducing the Three Circles Model to youth

Feeding and Feedstuffs

Importance of Water

Water is the single most essential nutrient your livestock project(s) require in their diet. If your project does not have access to water their body will be unable to maintain itself. It is very important that you supply your project with clean, fresh water at all times. Your beef project requires between 6-12% of its body weight in water everyday. It is important to consider how much water your animal will need when giving them a watering system in their living quarters. Your project may require more water depending on different influences including diet, temperature, climate, age, level of production, and even breed. In the hot summer months, it is important to remember to provide your beef project with fresh, cool water everyday to help them regulate their body temperature and stay cool in the hot temperatures.

Cattle are ruminant animals, meaning they have a four-compartment stomach (see pg. 15). Ruminant animals have an advantage because they are able to ferment forages at the beginning of the tract. This process of fermentation may cause problems if the animal is overfed diets that are high in starch (e.g., corn or other grains). Cattle rely heavily on forages, like hay, to get essential nutrients and to ensure a healthy rumen. If your beef project is fed too much too much grain and not enough forage, it could get acidotic and bloat (see pg. 17) Common components of a feed ration for your beef project may include but are not limited to: oats, corn, barley, soybean meal, cottonseed hulls, grass hays, alfalfa, and/or molasses.

When it comes to deciding on a feed for your beef project, there are a few nutrient requirements within the ration you should look for to supply your project with a good feed. These components include proteins, energy, vitamins and minerals, and water (see pg 8 for Importance of Water).

Proteins

Beef cattle require the consumption of proteins to utilize the amino acids they contain for synthesis of the muscles, blood proteins, and other body components. This process is an important function of the cells within your beef project. Examples of protein in your ration may include; fishmeal, meat and bone meal, soybean meal, sunflower meal, or cotton seed cake.

Energy

Your beef project needs to consume feedstuffs that will provide them with energy to go about their everyday lives. Energy is required to graze, traveling, temperature maintenance, digestion, and voiding of body wastes. Examples of energy in your ration may include; corn, sorghum, barley, wheat, soybean hulls, beet pulp, oilseeds, or animal and vegetable oils.

Vitamins and Minerals

Vitamins and minerals though make a small part of your beef projects' ration, are very important to your project. They provide your beef cattle with the nutritional needs they require for proper bone development, immune functions, nervous system function, and muscle contractions. Vitamins and minerals you may see in your ration include calcium, magnesium, phosphorus, potassium, sodium, chlorine, sulfur, copper, iodine, iron, manganese, nickel, selenium, and zinc. It may be necessary to supplement your beef project's feed with added vitamins and minerals by providing a salt or mineral block to their pen to consume at their will.

Modified from Texas 4-H Explore Book Series - Beef and OK State Extension E-974

Good Feedstuffs vs Bad Feedstuffs

The quality of feedstuffs you provide your beef project will heavily affect your projects' performance, disease resistance, and health. Low-quality feedstuffs can contain pathogens that may be extremely harmful to your beef project. These pathogens can easily be passed from your beef project to you, low-quality feedstuffs may also contain harmful components that may also cause harm to you. Not only is it important to provide your livestock with the necessary nutrients, it is important to select a feed that is of good quality for your project, you, and consumers.

Providing a quality feed is important to ensure your project is receiving all the essential nutrients from their feed as possible. Bad feed may be stale, moldy, contain too much moisture, or have an unappetizing taste to your animal. Good feed will be high in nutritional content, have good flavor, will be appetizing in appearance, and will smell fresh.

The quality of roughage you provide your beef project is another factor that will affect your project. Bad roughage may be dusty, moldy, contain thistles or large stems, contain a small amount of leafy bits, or be faded in color. Good roughage will be leafy, bright green, contain small stems, smell fresh, and be free of dust, mold, and foreign objects.

The difference between feeding good feedstuffs versus bad feedstuffs may be minimal sometimes, but it may also be drastic. Feeding low-quality feedstuffs can result in poor appetite, a higher feed conversion ratio, slow growth, and may even lead to death of your livestock. For these reasons, it is important to always trust in the feedstuffs you are feeding your project, and to know where the ingredients are being sourced from. If you plan to switch the feed your livestock is eating, it may be helpful to do some research to ensure it is a high quality feed that you can trust will be good for your project.

Nutrition is one of the most important things to have a successful 4-H livestock project. Understanding feed tags will help to make sure that your animals are getting the proper nutrition for the requirements that they need. The following list is the information that will be on a feed tag and a description of the item.

Product Name and Brand Name: This will always be on the label and generally has an unique name for it

Purpose Statement: This will explain which species and stage of production the feed is meant for. (Growing/Finisher Ration/Supplement)

Medicated Use Statement/Active Ingredient(s): This will not always appear in the feed tag. It will only appear if the word MEDICATED is below the name. Along with that it will state the purpose of the medication, list of active ingredients, and amount of medication within the feed.

Guaranteed Analysis: This will display the main ingredient percentages. Some of the more predominant percentages that will be present is minimum percent of crude protein, minimum percentage of crude fat (fat has an energy value around 2.25x the value of carbohydrates), maximum percentage of crude fiber (this is a measure of the indigestible or non-useful portion of a feed, a lower crude fiber is more desirable), minimum and maximum percentage of calcium, minimum percentage of phosphorus, minimum and maximum percentage of salt, and minimum vitamin A in International Units (IU) per pound.

Feed Ingredients: This is the list of ingredients used to make the feed. The list will always go in order of highest concentration/amount to lowest.

Directions for Use: Directs how the product should be fed.

Feeding and Management Instructions: This is a listing of how the product should be fed and how many feedings it will feed. The listing will reflect the amount that is to be fed to provide the full nutritional benefits of the product.

Precautionary Statements and Warnings: This will only be on the label if the feed is medicated.

Manufacturer/Distributor Information: This tells you the name of the company that is either making the feed or distributing it.

Net Weight: This tells you the weight of the feed in the bag.

Storage and Disposal: Instructions for storage, disposal, and container handling.

Feed efficiency is expressed as the amount of feed required per pound of gain or the ratio of Feed:Gain. The average FCR for beef cattle is between 4.5 and 7.5. It is ideal to have a lower FCR as that would mean it takes less feed for your beef project to put on one pound of weight. Feed efficiency/feed ratio of your livestock will be the driving factor of their Average Daily Gain(ADG). ADG is the amount of weight your livestock gains in a day's time. Beef cattle should average 2.5 - 4.0 pounds gained per day.

Average Daily Gain is calculated by dividing the weight gain by the number of days on feed.

Example Problem: A steer weighs 1,000lbs at 1 year of age. What is the steer's ADG?

$$AVD = 1,000\text{lbs} / 365 \text{ days}$$

$$AVD = 2.74 \text{ lbs per day}$$

The Feed Conversion Ratio(FCR) formula is: $FCR = \text{Feed Given} / \text{Animal Weight Gain}$.

Example Problem: You fed your market steer 60 lbs of feed and as a result, it gained 10 lbs of weight. What is the steer's FCR?

$$FCR = 60 \text{ lbs of feed} / 10 \text{ lbs of weight}$$

$$FCR = 6 \text{ or } 6 \text{ lbs of feed} : 1 \text{ lb of weight}$$

Some factors that could impact these numbers are genetics, age of the animal and quality of feed. Genetics can cause a difference as certain breeds have higher growth rates compared to other breeds. The age of the animal will have an impact as younger animals have a quicker growth rate compared to older animals. Quality of feed can determine a lot for your livestock project, if you have poor quality feed they will not gain weight and get the required nutrients that are needed for that animal.

Modified from Beef Magazine : Feed efficiency in beef cattle

Anatomy

Parts of the Animal

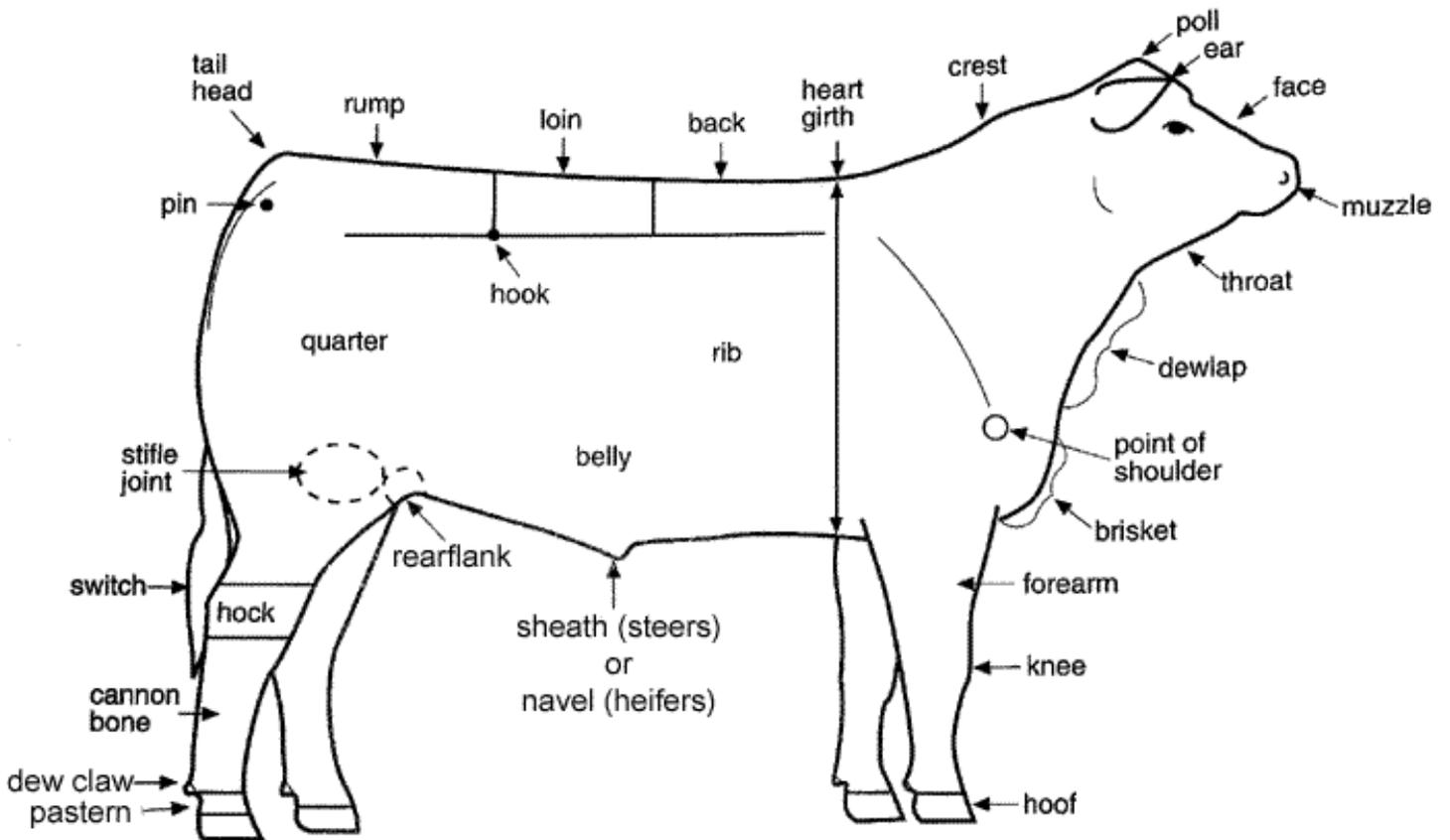


Image imported from Geauga County 4-H
Meat Cuts

Things to know about the meat product from livestock:

1. Dressing Percentage (DP) : determined by the quantity of carcass weight (HCW) divided by live weight (LW) multiplied by 100
 - a. Example: LW = 1250 lbs and HCW = 787 lbs What is the DP?
 $DP = (787/1250)*100 = 63\%$ (this is the average dressing percentage for cattle)
2. Calculating Ribeye Area : Ribeye Area is calculated by placing a grid over the surface of the cut and counting all the dots surrounded by the meat of the cut. This number is then divided by ten. The result of this calculation is the ribeye area in square inches.
 - a. Example: You counted 125 dots within the cut ribeye. What is the ribeye area in square inches? $125 \text{ dots} / 10 = 12.5 \text{ square inches}$ (the average ribeye area is 11-15 square inches)
3. Quality Grades: quality grades are determined by the degree of marbling or intramuscular fat and the maturity or age at time of slaughter. The beef quality grades include: Prime, Choice, Select, Standard, Commercial, Cutter, and Canner. The most common grade sold in stores is Choice.

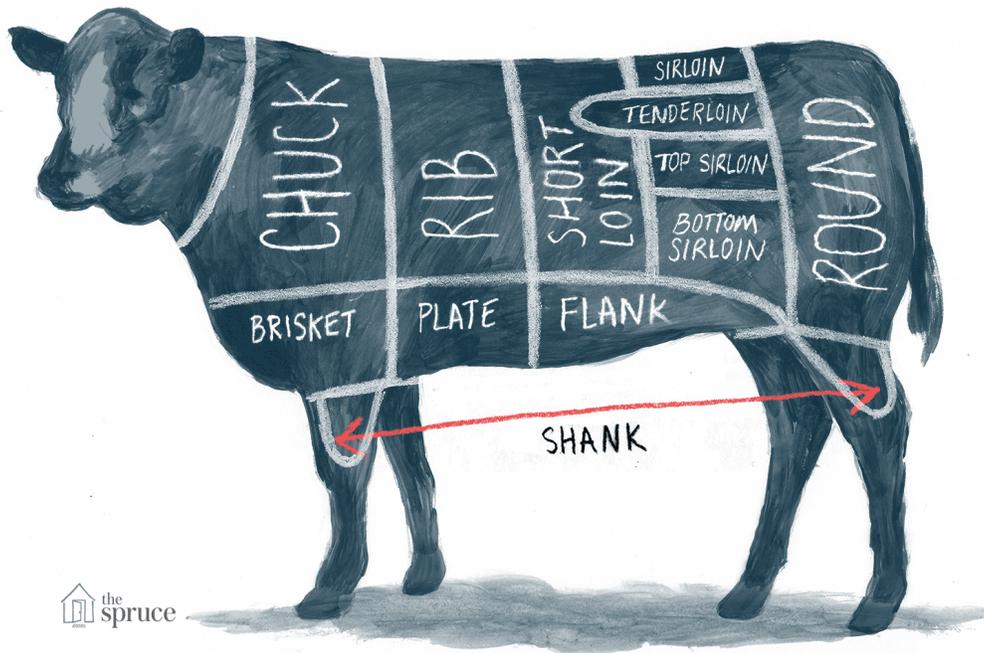
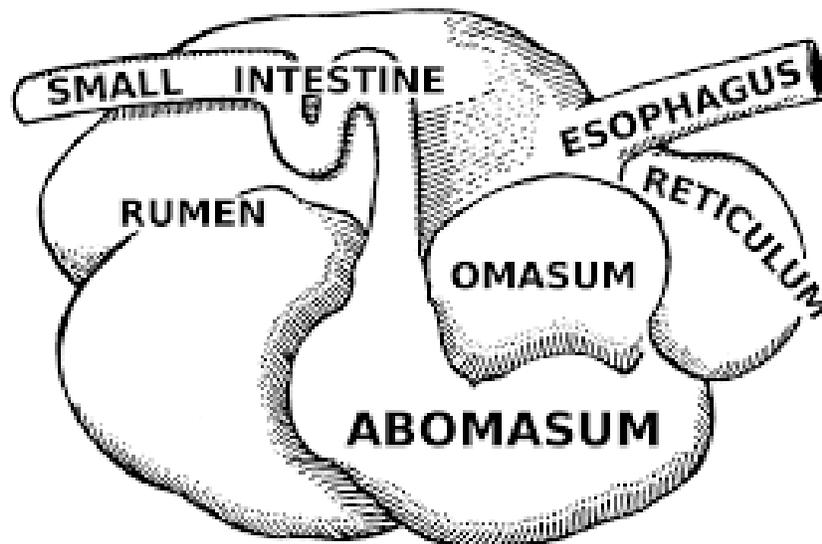


Image imported from The Spruce Eats

Interior Anatomy

Cattle are ruminant animals, meaning they have a four-compartment stomach. The four compartments are named: the rumen, the reticulum, the abomasum, and the omasum. In the process of digestion, contents will pass through the rumen first. The rumen is the largest compartment of the stomach and is where ingested feed is broken down or fermented by bacteria and fungi that live in the rumen (ruminal microbes). Fermentation results in the production of the primary energy source and the primary protein source for ruminant animals. Ruminant animals depend on the bacteria and fungi in the rumen to be able to survive on diets that contain large amounts of fibers like grass. The next compartment of the stomach is the reticulum. The reticulum catches and traps foreign objects that may have been ingested by the animal. The reticulum also plays a role in a process where feed is regurgitated (returned to the mouth), re-chewed (this substance is often referred to as cud), and re-swallowed. The third section, the omasum, is primarily involved in water absorption and nutrient absorption. The fourth and final compartment is the abomasum, commonly referred to as the “true stomach”. This compartment closely resembles the functions of a human stomach. Partially digested food will continue to be broken down and digested in the abomasum.



Modified from Texas 4-H Explore Book Series - Beef
Structure

If possible, it is beneficial to pick a project that is structurally sound. Soundness refers to having correct structure within the animal's skeleton or body. It is important to take notice and understand any feet or leg structural issues your beef project may have. In some instances, you may be able to mask the structural issues your project may have, but only if you recognize and understand the issue.

Knock kneed or splay footed: When viewed from the front of the animal, the knees will appear close together and the feet toe(point) out and away from each other.

Bowlegged or pigeon toed: When viewed from the front or rear of the animal, the knees are set too far out, which causes the toes to turn inward towards each other.

Cow hocked or splay footed: when viewing the hind legs from the rear of the animal, the hocks are turned inward or appear too close together, which causes the toes to turn outward away from each other.

Buck kneed: Full extension of the knee cannot occur resulting in the animal being "over at the knees". When viewing the front legs from the side of the animal, the legs appear slightly bent.

Calf kneed: This is the opposite of buck kneed, where the animal stands "back at the knees". When viewing the front legs from the side of the animal, the legs appear slightly hyperextended.

Sickle hocked:When viewing the rear legs from the side of the animal, the hock has too much angle, which causes the animal to stand too far underneath themselves.

Postlegged: The hock of the hind legs has too little angle. The animal is too straight through the joint in their hind legs, resulting in very restricted movement because they lack the flexibility within their legs.

Common Species Diseases

When caring for your beef project, it is important to familiarize yourself with some of the diseases that are common to your project. Livestock can often get sick and show little symptoms, so ensuring you look closely at your animal everyday could be the difference between being able to help your livestock versus losing your livestock. Being able to recognize/diagnose, know how to treat, and know the prevention of these diseases is an important skill to obtain to care for your beef project.

Bloat in Cattle: Bloat is a build up of gas in the rumen. Gas is produced as a normal part of the digestion process. Usually the gas is lost by belching. There are two types of bloat: gassy and frothy. Gassy bloats happen less often and are caused by an obstruction in the gullet(esophagus) or when the animal can't burp. Frothy bloats are more common and are a result of foam developing on top of the liquid in the rumen.

Signs/Symptoms: distended left abdomen, pain/discomfort, in some cases death.

Treatment: Gassy bloat - passing a stomach tube to release gas. Frothy bloat - provide antifoaming agents through a stomach tube.

Prevention: Management and planning of pasture use. Reduce the amount of roughage available to the animal.

Bovine Spongiform Encephalopathy (BSE): Commonly known as "mad cow disease". BSE is a fatal brain disease of cattle and affects the brain and spinal cord. There is no true known cause of BSE.

Signs/Symptoms: gradual lack of mental and physical ability, inability to stand or walk straight, death

Treatment: since there is no way to determine if live cattle have BSE, there is no treatment.

Prevention: there are no vaccinations or precautions to prevent BSE.

Coccidiosis: Cattle can become infected by a single-celled parasite known as coccidia when they are placed in contaminated environments. Poor hygiene, high stocking density, poor health and nutrition can contribute to a calf contracting coccidiosis.

Signs/Symptoms: diarrhea, depression, loss of appetite, weight loss, dysentery (blood in feces).

Treatment: Most cases do not require treatment. Treatment is better given to exposed animals who have not started showing signs.

Prevention: To control coccidia, good management and hygiene is key. Ensuring that pens are well drained and cleaned often will reduce the ability of the coccidia to thrive in the environment.

Foot Rot: An infection that originates from a lesion in the interdigital skin (between the toes). *Fusobacterium necrophorum* is the major cause for foot rot. This organism, along with others, are often passed to the animal through feces.

Signs/Symptoms: severe lameness, holds leg in air to relieve pressure, swelling of interdigital space, fever, anorexia. Hind feet are most often affected causing cattle to stand or walk on their toes.

Treatment: Parenteral(injection) antibiotics administered for three to five days or antiseptic and bandage applied after cleaning and trimming the foot.

Prevention: Remove sources for injuries and keep feet clean and dry.

Ringworm: One of the most common skin diseases in cattle. Ringworm is a transmissible infectious skin disease that is caused by a spore forming fungi called *Trichophyton verrucosum*. Ringworm is a zoonotic disease, meaning it can be passed between people and animals. Direct contact with infected beings is the most common method of spreading.

Signs/Symptoms: gray-white areas of skin with an ash like surface, usually circular in outline, most commonly found around eyes, ears, back, chest, and legs.

Treatment: ringworm can heal itself without treatment, but a topical treatment of medication applied directly to the lesion is advised.

Prevention: to prevent the spread of the infective fungi it is important to maintain a clean and disinfected environment.

Tetanus in Cattle: Although rare in cattle, outbreaks of tetanus can cause severe losses. Tetanus is caused by toxins produced by a bacterium called *Clostridium tetani*. The bacterium can be found in soil and guts of animals and humans. The bacteria produce toxins which spread along the nerves to the brain of the animal.

Signs/Symptoms: stiffness and reluctance to move, twitching and tremors of the muscles, lockjaw, prominent protruding third eyelid, unsteady paces while walking with stiff held out tail, anxious and easily excited by sudden movements or handling, bloat, collapsing, and death.

Treatment: Cattle treated for tetanus early respond to treatment better than most livestock. Antitoxin given in the early stages of infection has the best results.

Prevention: Performing surgical procedures properly, in a clean environment, with sterilized instruments and area can reduce the risk of tetanus. A three dose course of vaccination can offer protection from tetanus for over three years.

Parasites: Parasites can be an internal or external threat to the animal. Heavily stocked pastures and overgrazing can lead to increased exposure to infective parasite larvae. Internal parasites include: roundworms, nodular worms, whipworms, or lung worms. External parasites include: flies, ticks, lice, and mites.

Signs/Symptoms: fly strike (predominant fly bites on the skin), diarrhea, decreased appetite, rash, excessive itching, exhaustion, abdominal pain, or gas/bloating.

Treatment: to treat external parasites, the use of insecticides is the most reliable. For treatment of internal parasites, administering a dewormer can fight against many internal worm parasites.

Prevention: maintaining a clean environment can significantly reduce the liveliness of many common parasites. Spraying insecticides for pests and

parasites everyday can help lower the number of external parasites in your beef project's environment. It may be helpful to implement a worming protocol to help prevent the development of worms within your cattle.

Johne's Disease: A chronic inflammation of the small intestine of ruminants caused by a bacteria called *M. paratuberculosis*. The bacteria embeds itself in the wall of the ileum (lower part of the small intestine). The immune system of the infected animal responds by attempting to regenerate healthy tissue which leads to thickening of the intestines. As a result, nutrient absorption is prevented and the animal loses weight. The primary cause of Johne's disease is contact with contaminated bodily excretions (saliva, feces, milk) from an infected animal.

Signs/Symptoms: long-lasting diarrhea, weight loss, bottle jaw (fluid accumulation in the bottom jaw forming an abscess).

Treatment: there is no treatment for Johne's disease.

Prevention: blocking introducing Johne's disease into a herd/flock by avoiding purchasing animals infected. Culling infected animals or ensuring no young animals are exposed to their milk or manure are more preventative measures that can be taken.

Warts: Cattle warts are caused by an infection and contagious virus called bovine papilloma virus that can spread through contact.

Signs/Symptoms: warts are usually dry, white/tan colored growths that protrude from the skin and may have a horny surface.

Treatment: surgical removal of the warts is highly suggested when warts reach near their maximum size. Warts can also be crushed/removed at the first sign, but may need to continue until the immunity has been developed.

Prevention: isolating affected animals can help contain the spread of warts from animal to animal. A vaccine for warts can be given to help prevent the development of warts.

Rumen Acidosis: Occurs when the pH of the rumen falls to less than 5.5 (normal being 6.5-7.0). pH can fall for two reasons: the rumen stops moving, becoming atonic (sudden loss of muscle tone, limp) and a change in acidity changes the rumen flora with acid-producing bacteria taking over. Acidosis is caused by feeding a high level of rapidly digestible carbohydrates.

Signs/Symptoms: acute acidosis - liver abscesses, depression, decreased appetite, elevated heart rate, diarrhea, or death. Sub-acute acidosis - reduced feed intake, poor body condition and weight loss, diarrhea, temperature, pulse rate and respiratory rate may rise, lethargy.

Treatment: There is no treatment for ruminal acidosis, but secondary conditions may be treated as needed.

Prevention: Reduce the amount of readily fermentable carbohydrates (barley and other cereals) consumed at each meal.

Lead Poisoning: Lead is the most common cause of cattle poisoning. Lead causes anemia (not enough healthy red blood cells) when it comes in contact with red blood cells and bone marrow. It causes damage to the small blood vessels which causes bleeding and deprives the nerves and organs of oxygen. Lead

poisoning will severely damage the kidneys and liver of the animal. Cattle can ingest lead from greasy machinery, flaking lead paint, ash from fires that lead materials were burnt, chewing on lead plumbing or batteries, lead from these materials settle in the stomach, and stomach acids change the lead into poisonous salts.

Signs/Symptoms: depression, loss of appetite, diarrhea, blindness, frothing at mouth, muscle tremors, staggers, excitable, convulsions, or death.

Treatment: vitamin B1 injections can reduce effects on the central nervous system from lead poisoning. Magnesium sulfate (epsom salts) can be given by drenching to reduce absorption of lead in the reticulum. Treatment for lead poisoning has little effect, treatment can usually only lessen or stop the symptoms of clinical lead poisoning.

Prevention: checking your cattle's environment for any materials that could lead to the consumption of lead and removing anything that may cause a threat of lead contamination is the best way to prevent lead poisoning.

Abscess: A swollen area within the fleshy tissue that contains pus. Caused by bacteria implanting within the subcutaneous tissue following a flesh wound.

Signs/Symptoms: heat radiating from the infected area, pain, swelling, redness, reluctance to use, or foul smell.

Treatment: abscess should be drained of pus and allowed to heal. An oral antibiotic or injection antibiotic should be given to reduce chances of further infection while the wound is healing.

Prevention: although it may be hard to prevent all abscesses, removing potential injury causing hazards can reduce risk of wounds that will develop wounds. Ensuring you take a good look at your livestock everyday can help catch injuries before abscesses form.

Hardware Disease: Also called traumatic reticulitis. Hardware disease occurs when pieces of sharp metals are ingested and penetrate the reticulum wall. Infection spreads to the surrounding abdomen causing abscesses and adhesions. Some cases can lead to the sharp metal object penetrating the chest or infection can reach the outside of the heart.

Signs/Symptoms: reduced feed intake, abdominal pain, reluctance to move, shallow breathing, moaning, or fever.

Treatment: typical treatment courses can be surgical or medicinal. Surgery involves removing the objects and lancing the abscess on the reticulum. Antibiotics are administered at the time of the procedure. Minor cases can be treated with antibacterials to control the swelling of the lining of the abdomen and a magnet to prevent recurrence.

Prevention: removing sharp metal objects from your beef project's environment and passing feed over magnets to remove objects can significantly lower the chances of Hardware Disease.

Breeding and Breeding Cycles

Gestation

Gestation refers to the process or period of time of fetal development inside the womb between conception and birth. A cow's gestation period or pregnancy lasts about 9 months and 10 days or 283 days. There are many factors that can affect the length of gestation including: sex of the calf, number of calves, or a number of complications. Many producers will rely on planned impregnation to control birth times of their cattle. This is helpful to many producers as they know when to begin checking their cows and when to begin expecting signs of labor in their cows.



VITAFERM

GESTATION TABLE

BASED ON 283 DAYS

Date of Service	Calf Due										
Jan 1	Oct 10	Feb 1	Nov 10	Mar 1	Dec 8	Apr 1	Jan 8	May 1	Feb 7	Jun 1	Mar 10
Jan 2	Oct 11	Feb 2	Nov 11	Mar 2	Dec 9	Apr 2	Jan 9	May 2	Feb 8	Jun 2	Mar 11
Jan 3	Oct 12	Feb 3	Nov 12	Mar 3	Dec 10	Apr 3	Jan 10	May 3	Feb 9	Jun 3	Mar 12
Jan 4	Oct 13	Feb 4	Nov 13	Mar 4	Dec 11	Apr 4	Jan 11	May 4	Feb 10	Jun 4	Mar 13
Jan 5	Oct 14	Feb 5	Nov 14	Mar 5	Dec 12	Apr 5	Jan 12	May 5	Feb 11	Jun 5	Mar 14
Jan 6	Oct 15	Feb 6	Nov 15	Mar 6	Dec 13	Apr 6	Jan 13	May 6	Feb 12	Jun 6	Mar 15
Jan 7	Oct 16	Feb 7	Nov 16	Mar 7	Dec 14	Apr 7	Jan 14	May 7	Feb 13	Jun 7	Mar 16
Jan 8	Oct 17	Feb 8	Nov 17	Mar 8	Dec 15	Apr 8	Jan 15	May 8	Feb 14	Jun 8	Mar 17
Jan 9	Oct 18	Feb 9	Nov 18	Mar 9	Dec 16	Apr 9	Jan 16	May 9	Feb 15	Jun 9	Mar 18
Jan 10	Oct 19	Feb 10	Nov 19	Mar 10	Dec 17	Apr 10	Jan 17	May 10	Feb 16	Jun 10	Mar 19
Jan 11	Oct 20	Feb 11	Nov 20	Mar 11	Dec 18	Apr 11	Jan 18	May 11	Feb 17	Jun 11	Mar 20
Jan 12	Oct 21	Feb 12	Nov 21	Mar 12	Dec 19	Apr 12	Jan 19	May 12	Feb 18	Jun 12	Mar 21
Jan 13	Oct 22	Feb 13	Nov 22	Mar 13	Dec 20	Apr 13	Jan 20	May 13	Feb 19	Jun 13	Mar 22
Jan 14	Oct 23	Feb 14	Nov 23	Mar 14	Dec 21	Apr 14	Jan 21	May 14	Feb 20	Jun 14	Mar 23
Jan 15	Oct 24	Feb 15	Nov 24	Mar 15	Dec 22	Apr 15	Jan 22	May 15	Feb 21	Jun 15	Mar 24
Jan 16	Oct 25	Feb 16	Nov 25	Mar 16	Dec 23	Apr 16	Jan 23	May 16	Feb 22	Jun 16	Mar 25
Jan 17	Oct 26	Feb 17	Nov 26	Mar 17	Dec 24	Apr 17	Jan 24	May 17	Feb 23	Jun 17	Mar 26
Jan 18	Oct 27	Feb 18	Nov 27	Mar 18	Dec 25	Apr 18	Jan 25	May 18	Feb 24	Jun 18	Mar 27
Jan 19	Oct 28	Feb 19	Nov 28	Mar 19	Dec 26	Apr 19	Jan 26	May 19	Feb 25	Jun 19	Mar 28
Jan 20	Oct 29	Feb 20	Nov 29	Mar 20	Dec 27	Apr 20	Jan 27	May 20	Feb 26	Jun 20	Mar 29
Jan 21	Oct 30	Feb 21	Nov 30	Mar 21	Dec 28	Apr 21	Jan 28	May 21	Feb 27	Jun 21	Mar 30
Jan 22	Oct 31	Feb 22	Dec 1	Mar 22	Dec 29	Apr 22	Jan 29	May 22	Feb 28	Jun 22	Mar 31
Jan 23	Nov 1	Feb 23	Dec 2	Mar 23	Dec 30	Apr 23	Jan 30	May 23	Mar 1	Jun 23	Apr 1
Jan 24	Nov 2	Feb 24	Dec 3	Mar 24	Dec 31	Apr 24	Jan 31	May 24	Mar 2	Jun 24	Apr 2
Jan 25	Nov 3	Feb 25	Dec 4	Mar 25	Jan 1	Apr 25	Feb 1	May 25	Mar 3	Jun 25	Apr 3
Jan 26	Nov 4	Feb 26	Dec 5	Mar 26	Jan 2	Apr 26	Feb 2	May 26	Mar 4	Jun 26	Apr 4
Jan 27	Nov 5	Feb 27	Dec 6	Mar 27	Jan 3	Apr 27	Feb 3	May 27	Mar 5	Jun 27	Apr 5
Jan 28	Nov 6	Feb 28	Dec 7	Mar 28	Jan 4	Apr 28	Feb 4	May 28	Mar 6	Jun 28	Apr 6
Jan 29	Nov 7			Mar 29	Jan 5	Apr 29	Feb 5	May 29	Mar 7	Jun 29	Apr 7
Jan 30	Nov 8			Mar 30	Jan 6	Apr 30	Feb 6	May 30	Mar 8	Jun 30	Apr 8
Jan 31	Nov 9			Mar 31	Jan 7			May 31	Mar 9		

A gestation table like this one can be helpful to many producers as it provides a suspected due date for a cow determined by its service date or breeding date. This table is based on a 283 day gestation period.

Modified from Mocal : How Long are Cows Pregnant? // Image imported from VitaFerm

Estrus Cycle

Estrus or “heat” refers to the period of time when the female animals are signaling they are ready for mating or breeding. Estrus is the result of estrogen (female reproductive hormone) being produced within developing follicles on the ovary. Ovulation occurs shortly after the beginning of estrus. Cattle cycle into estrus continuously throughout the year, which is called polyestrous. The estrus cycle of cattle lasts 19-23 days while estrus itself will last for 6-30 hours, and ovulation will last 12 hours after the end of estrus.

As a producer it is important to be able to recognize the signs of estrus to increase conception rates for the herd or flock. The primary sign of heat in cattle is when a female stands immobile, often called “standing heat” allowing for breeding. Secondary signs may include: increased urination, isolation from the herd, nervousness, restlessness, and social behaviors such as laying her head on other animal’s backs. Looking for these signs is called heat detecting or heat checking. There are certain times when to heat check that would give you the best results when doing so. Generally it is checked twice a day and you want to do it at least 8-12 hours apart. Also heat checking during the cooler hours of the day is ideal.

Nutritional Needs

The nutritional needs of both the cow/heifer and the calf during gestation and after birth are very important to consider prior to breeding season in order to minimize complications related to breeding soundness and nutrition. In order to determine if a cow/heifer is ready for breeding, a quality check of livestock should be performed. A quality check should be conducted 2-6 weeks prior to breeding to ensure time to prepare the livestock for breeding season. While conducting a quality check, there are many factors to check in your livestock including: body condition score, up to date vaccinations, overall health, and weight.

Body condition scoring(BCS) is an important management practice that helps to optimize production, evaluate health, and assess nutritional status. By scoring body condition, you are evaluating the amount of body reserves an animal has. By using the 1-9 scale for beef body condition scoring, producers can accurately determine if their herd is in good condition to excel during the breeding season. Heifers should be at a BCS of 6.5-7.0 and cows at a BCS of 5.5-6.0 prior to calving.

Body Condition Scores for Beef Cattle

- Condition Score 1- Severely Emaciated
- Condition Score 2 - Very Thin
- Condition Score 3 - Thin
- Condition Score 4 - Slightly Thin
- Condition Score 5 - Moderate or Average
- Condition Score 6 - Slightly Fleshy
- Condition Score 7 - Fleshy
- Condition Score 8 - Fat (Obese)
- Condition Score 9 - Extremely Fat (Very Obese)

Not only is it important to continue to monitor the body condition score of the cow/heifer throughout the breeding season, it is also important to monitor their score after birth. There are many nutritional needs that need to be met after the birth of the calf. When cows/heifers enter breeding season in good condition, the production of colostrum and milk are generally not a problem, but if they do not have the ideal BCS, they may have a hard time producing colostrum and milk after calving. Colostrum is the “first milk” and is high in fat, energy, vitamins A and D, white blood cells, and growth factors. Since calves are born with little to no antibodies, colostrum is important to newborn calves as it provides them with immunoglobulin(antibodies that help fight off bacterias and viruses) rich nourishment. Ideally, calves should ingest about 2 quarts of colostrum by six hours of age, and another 2 quarts by 12 hours of age.

Artificial Breeding Methods

Although natural breeding has been proven to work effectively, many producers choose to use artificial breeding in their breeding programs for a number of reasons. Use of artificial breeding can: aid in genetic improvement, allow for access to many more genetic gene pools, and control specific mating pairs. Because of these reasons for artificial breeding, it can often make the cost of artificial breeding worth it in the long run. The two methods of artificial breeding used in cattle are artificial insemination (AI) and embryo transfer. AI is most commonly used in both stud and commercial herds, and embryo transfer is more commonly used in specifically stud herds. Stud refers to breeding stock or a herd that was established for selective breeding of livestock to maximize the success of the stock.

Artificial Insemination (AI): A process in which farm managers or employees insert semen from frozen straws into the cow/heifer for impregnation. This process allows for improvement of genetics within the herd, saves time observing traditional breeding, and can allow for more chances of pregnancy.

Embryo Transfer: A process in which cows receive a hormone treatment to produce more than one egg. Cows are then AI'd to impregnate the multiple eggs. Seven days after insemination a veterinarian recovers the embryos to be transferred to another cow or heifer. This process allows for superior genetic pairings to produce more than one offspring in a single breeding season.

Identification System

Importance of IDing

Animal identification is an important part of keeping accurate records of your beef project and herd. By having accurate identification, producers have easy access to important information and can easily and quickly identify an animal. Identification is also used to show ownership of a particular animal or to indicate where it came from. Being able to determine where an animal on your farm came from is important when it comes to pinpointing the origin of a particular disease that may have been exposed to your herd/flock after previously being on another farm. When it comes to the use of identification on your farm, it is important to maintain the same system to ensure accuracy of records.

Different Forms of ID

Although there are many forms of identification, not every form is entirely beneficial or efficient to every operation. When selecting a form of identification it is important to consider the needs of the operation and the effectiveness of each form of identification. In any case, two forms of identification can be used to ensure permanent identification. The different options for identifying cattle are: ear tags, freeze or hot branding, electronic ID, nose printing, paint branding, and tattooing.

Ear Tagging: Ear tags come in a variety of sizes and colors. Selection of a tag type depends on the size, age, and environment of the animal. Tags are pierced through the animal's ear, and allow for an animal to be identified from the front and rear. Information on each side of the tag can be identical or differ depending on operation preference. An ear tagger that corresponds with the type of tag should be used for application of the tag. Ear tags are a good identification option that is easy to use, inexpensive, durable to all kinds of weather, and easy to read. The downside to using ear tags is that they can be ripped from the animal's ear, can become too dirty to read, or can be worn to the point of being unreadable.

Branding: Freeze and hot branding is a permanent form of identification and can be seen from a greater distance than ear tags. Branding is a useful form of identification as it can be seen during any time of the year. Branding an ID on an animal involves the use of branding irons with letters and numbers. Where freeze and hot branding differ is in the temperature of the branding iron at the time of branding. Freeze branding chills the branding iron using liquid nitrogen(dry ice) and alcohol resulting in an identifying mark that will grow noticeable white hair. Hot branding heats the branding iron to the point of burning hair follicles and skin.

Electronic ID: There are many forms of electronic identification that can be used, but the most common include: electronic ear tags, microchips, and electric collars. Electric IDs work by scanning the identification's radio signal and interpreting that signal as a numerical code. This code is tied to a computer file for every particular animal. Electric ID can locate animal information and history quickly by the scanning of the electronic chip. Electronic identification systems can be fairly simple to use, and can be easily used in tandem with another form of ID. The use of electronic ID can easily give operation managers easy and quick access to all kinds of data.

Nose Printing: Nose Printing is a form of permanent identification that is most commonly used for sale or exhibition of cattle. Nose printing is a good form of identification because, like fingerprints, it cannot be changed. The lines and bumps of the nose create a unique pattern specific to each animal. Nose prints are created by placing a small amount of ink on the animal's dry nose and transferring it to an index card with sufficient support behind it by pushing the animal's nose to the index paper. Nose prints have to be clear and free from smears to be acceptable.

Paint Branding: This method of identification is a temporary form of identification. Paint branding is mainly used for separating animals into specific pens, when offspring need to be identified with their parents, in the sale barn to visibly see what animal you want to purchase and many more purposes. Generally the left side of the animal gets “painted” for consistency purposes. Make sure to apply the brand evenly with a slight rocking motion back and forth and perpendicular to the animal’s backbone. Also make sure that you do not have too much paint as it can run down the animal’s back and become illegible.

Tattooing: Tattooing is a permanent form of identification commonly used among many species. An identifying number and letter combination is imprinted into the skin of the animal using a type of ink that cannot be removed. The tattooing tool uses numbers and letters made of sharp, needle like structures that are secured on the application pliers. After the tattoo site heals, it will be more visible. The identifying tattoo can be placed in the ear of cattle so it does not interfere with the use of ear tags. The best time to tattoo cattle is when they are young calves. The disadvantage to tattooing is the animal must be restrained for application and to read the identifying tattoo and can be very hard to read against dark-colored ears. It may be beneficial to use tattooing in conjunction with another form of identification that is more visible.

Breeds

Brangus

This breed was developed in the southwestern United States by crossing Angus and Brahman cattle. Brangus cattle are black and are known for their resistance to heat and humidity. These cattle exhibit hardiness under stressful conditions, which means they have a good ability to endure difficult conditions. Brangus are typically good mothers and birth medium sized calves.



Angus

This breed originated in Scotland and originally presented with varied color markings and color patterns. The Angus cattle we see today have a smooth, black coat and are polled. Angus cattle are very maternal (motherly), have vigorous growth from birth to harvest, produce quality carcasses, and have maximized calving ease.



Red Angus

The Red Angus breed has the same background as Angus cattle do, their difference being red in color rather than black. Red Angus cattle have the Angus qualities of carcass quality, maternal characteristics, calving ease, and moderate size. Additionally, Red Angus also have qualities of uniformity, good disposition, and good appetite.



Charolais

The Charolais breed originated in west-central to southeastern France. This breed is white or creamy white in color. Charolais cattle are large framed and perform well under many environmental conditions. They are noted for their fast growth and lean carcasses.



Chianina

The Chianina breed is credited to being one of the oldest breeds of cattle in existence. Chianinas originated in the west central part of Italy. Purebred Chianina cattle have short hair that is a white to steel gray color with black pigmented skin. The cattle of this breed are the largest framed, heavily muscled, and have an outstanding growth rate.



Gelbvieh

This breed originated in southern Germany. Gelbvieh cattle are cream to reddish in color. Gelbvieh are known for their superior fertility, calving ease, maternal instinct, and growth rate in calves.



Hereford

This breed was developed in England. Herefords are known for their high yield of beef and efficiency of production. Herefords have a mostly red coat with noticeable white markings on the head, front of neck, brisket, underbelly, and switch. Today, herefords can be horned or polled.



Limousin

The Limousin breed originated in west-central France. Limousin cattle are golden-red in color and are a major contributor to a more efficient beef industry. The Limousin breed is the leader in muscle growth efficiency, has excellent feed efficiency, and produces outstanding carcasses.



Maine Anjou

This breed originated in the northwestern part of France. The Maine Anjou breed is a dual-purpose being both used for milk production and for their marketability. Maine Anjou cattle are very dark red in color with white markings on their head, underbelly, rear legs, and tail. It is not uncommon to see white markings on parts of the body as well.



Santa Gertrudis

The Santa Gertrudis breed was developed on the King Ranch in Texas. Santa Gertrudis cattle are 5/8 Shorthorn and 3/8 Brahman. Cattle of this breed are a deep cherry-red color and are known for their hardiness, growth rate, heat tolerance, and insect resistance.



Shorthorn

This breed originated on the northeastern coast of England. Shorthorn cattle are well known for their varied color combinations, they can be red, white, roan, or have a combination. Shorthorns have creditable milking ability, growth rate, and good disposition.



Simmental

This breed mainly originates from Switzerland. Simmental cattle are mostly red in color spotted with a white face. The Simmental breed is among the oldest and most widely distributed of cattle breeds. Simmental cattle are known for their rapid growth and milk production.



Modified from Oklahoma State U

- Cattle Breeds

Showmanship

Appearance

When entering the show ring, it is important to present yourself and your project to the judge in the correct manner. To do so, your animal should be clean, well-groomed, and possibly clipped if allowed and in a way that is acceptable for your particular sex or breed of beef cattle. The hair on your beef project should be trained and combed in an upward position as this shows good grooming habits of the exhibitor.

To present yourself along with your project, you should look neat and clean just as the calf looks well-groomed. It is highly recommended that an exhibitor wears the proper attire. Boots, jeans, belt, and a tucked-in sleeved shirt are the typical show attire for beef exhibitors. It is good to avoid jeans that may be faded and/or ripped and t-shirts (unless directed by the show coordinators). It is always good to check dress code for a show if you are uncertain in case of any specific clothing requirements. Along with your appearance, it is important to practice good posture and attitude in the ring as well. Be sure to stand with your back straight, trying to not lean back. It is very important to stay calm and have a good attitude in the show ring, by being upset and nervous you can make your calf upset and nervous as well.

Before entering the ring, it is important that you are prepared and have all the tools necessary to exhibit your animal. When entering the ring you should have a scotch comb, showstick, show halter, and exhibitor number.

The scotch comb should be placed in your right back pocket, or in a scotch comb sheath, with the teeth towards you. The comb is used to comb hair on your calf that may be out of place after the judge handles your animal, or any other time hair may not be laying in the correct direction.

The showstick should be carried in your left hand when not in use, and used in your right hand to scratch your beef animal or to move feet into the correct positions. Showsticks should never be carried with the handle down and point up.

A show halter is recommended to be worn in the show ring while exhibiting your beef animal. Show halters can be adjusted to fit around your animal's head, and strap length should not drag on the ground. If a show halter is not an option, a solid, neutral color of rope halter would be the next best option.

The final thing you need in the show ring is your exhibitor number. Exhibitor numbers are needed to identify exhibitors in classes and ensure the correct animals are in the ring when necessary. Exhibitor numbers can be attached to the exhibitor in a number of ways. Many cattle exhibitors will choose to wear an exhibitor number harness or exhibitor number clip holder. Safety pins can also be used to attach the number to the back of the exhibitor's shirt.

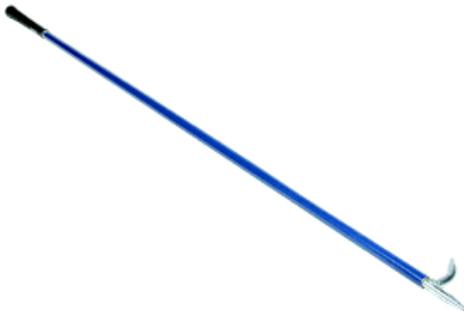
Rope Halter



Show Halter



Show Stick



Exhibitor number



Modified from Oklahoma State University Extension : Beef Showmanship
Training Your Animal

It is important to keep in mind that showmanship should not start at the fair or day of show. In order to have the best chance of your animal behaving while in the ring it is important to work and train your animal months prior to the fair or show. To excel in showmanship working on your calf by walking, standing, washing, brushing/combing, blowing, and using the showstick prior to entering the ring is recommended.

Halter-breaking and leading should be taught to your beef project very early on to ensure that they are comfortable with the halter and you leading them. Rope halters are the most common to use to break a calf. When first halter-breaking, calves should be in a smaller pen to reduce the likelihood of them escaping you when attempting to handle them. It may be beneficial to place a rope halter on your animal and let them drag it around for a few days to get used to the feel of the rope. After allowing the calf to drag the halter for a few days, you can start tying them up for short times. Calves should be tied with their head slightly elevated, but not too much to make them uncomfortable. While your calf is standing tied up for 15-20 minutes at a time, you can brush the calf with a rubber wash brush (using a softer type of brush is important until they are used to the more heavier duty types of combs) and allow them to get used to you, do not leave the calf alone while it is tied up. The next step in halter-breaking is beginning to walk your calf. The first few times of leading, you should be leading them to something they want to go, such as their feed or water. Do not pull on your calf to get them to move, instead allow them a slight leeway on the halter when they move in the direction you are wishing to go. Once your calf is comfortable with the halter and leading, you can begin to tie your animal up for longer amounts of time and go on longer walks.

Grooming your calf before the fair/show helps your animal create a positive connotation to the common practices of washing, combing, and blowing and will help them feel more comfortable in a new environment. Upkeep of grooming habits will also help train and grow your calf's hair in preparation for clipping and show day.

When your beef project is used to the halter and leading, you can begin to work with the showstick. It is important to remember to make smooth, slow movements when first beginning with the showstick. To first introduce the showstick to your calf, you can start by scratching your animal with the showstick on its belly and/or brisket. Never "saw" at your animal with the showstick as this may spook them rather than calm them. It is important to create a positive relationship between your calf and the use of the show stick as it is going to be used to move their feet. After you have created a positive connection, you can begin to start moving their feet. Pressing your showstick into the soft tissue where the hoof splits will encourage the calf to move the foot backwards, while pulling forward on the dew claw will encourage the calf to move the foot forwards. While pressing(back) or pulling(forward) on the foot, you can also apply slight pressure on the halter in the direction you wish the foot to move. To continue a positive connection between showstick use and your calf, continue to scratch the animal in between each attempt at moving a foot.

Once you have established all of these habits with your calf, you can practice a mock show. Remember, when in the show ring standing side by side, your calf's feet should be placed on all four corners, and when you are standing head to tail, the non showside(the animals left side, your right when facing the animal) back leg should be placed slightly in front of the other back leg, approximately no more than a 1/4 step length. When practicing for the show ring, don't forget to be aware of all your surroundings. It is important to know where the judge is in the ring at all times, to be aware of your animal and other animals, and to recognize how the ring is set up for particular shows.

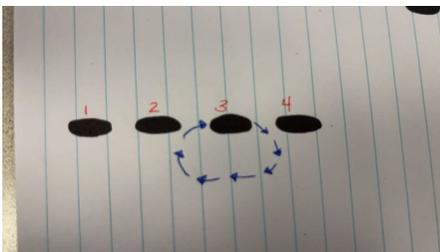
Modified from Oklahoma State University Extension : Beef Showmanship

Ring Setup

Although every judge's ring procedure may vary from judge to judge, there are some basic ring procedures that you should be aware of prior to entering the ring. If you are not exhibiting in the first class, it can be very beneficial to watch and observe how the judge sets up his/her ring and their likes/dislikes. If you are in the first class, you can always look for and pay attention to the ring stewards and judge to make sure you're lining up where the judge wants you to.

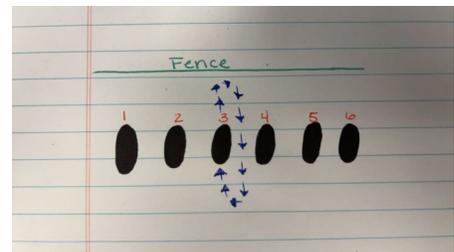
One of the most important things to remember in the show ring is to be courteous to those around you. Ensuring your line up with the first person in the line will help to keep from "burying" or covering the line of view from the judge to another person. If another exhibitor's animal stops in front of you, it can be helpful to assist the other exhibitor as best you can. In the instance of vacant spots directly in front of you, you should pull your calf ahead to fill those spots to condense the area the judge has to cover to examine the livestock.

When standing side by side or head to tail, there may come a time where you need to reset your animal. To do so, you have to pull your animal out of line and re enter your place in line again. When in head to tail lineup, it is fairly easy to reset yourself as you simply pull your animal out and loop around re entering the line where you came out of, as straight as you can. Be sure to watch out for anyone else who may be resetting or being pulled into a place by the judge. Resetting while in side by side lineup may be a little more difficult as you are closer to one another. If you are provided room in the ring, you can pull your animal forward in line making it easier to loop out and reset. Sometimes this extra space in the front of the line is not accessible for resetting. Instead, you may have to push your animals head away from you and turn them right, to get out of line. In an instance like this, you want to keep your animal between you and another animal for as long as possible to avoid injury from accidentally spooking another exhibitor's beef project.

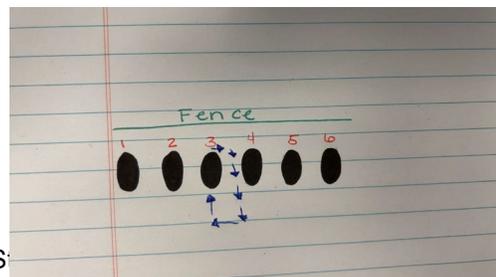


Head to Tail Reset

Side by side with no room



Side by Side with Room



Modified from Oklahoma Showmanship
Common Asked Questions in Showmanship Classes

What are the offspring called?

What is marbling?

How by looking at your animal can you tell the age?

Age/Weight/Breed

Where's (insert body part) located on your animal?

Parts of the ruminant digestive system?

What is something you like about this animal?

What can you change about this animal?

What percent of protein and fat is your feed?

Name some cuts of meat.

What is your animal's daily rate of gain?

Name 3 other breeds besides the breed that you are showing.

Why did you choose the feed you are feeding your animal?

What was your target weight for the fair and why?

How did you prepare your animal for the fair/show?