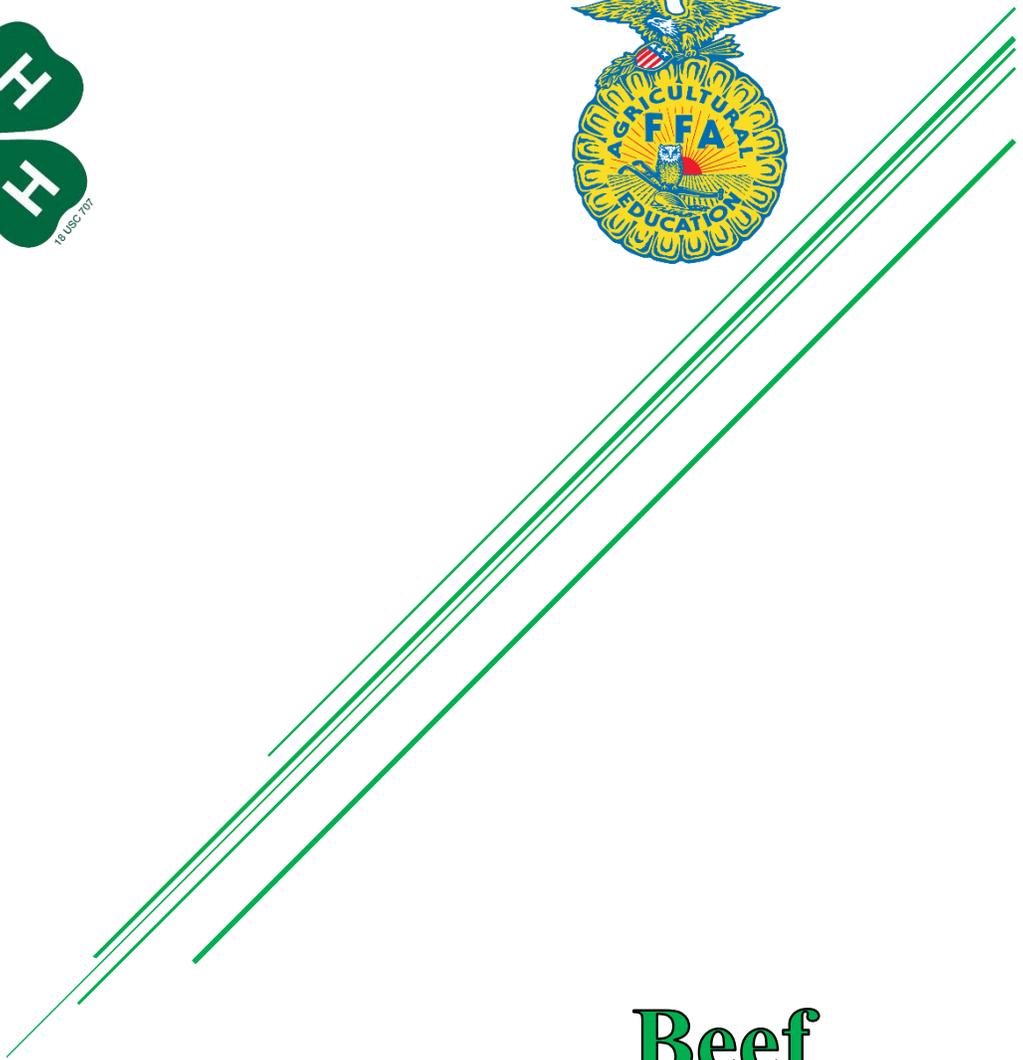


Pasco County Fair



Beef Skill-a-thon Study Guide



Dear 4-H and FFA youth participant,

Welcome to the Pasco County Fair Skill-a-thon study guide. This manual is provided as a study guide and should be used as an aid to help youth prepare for the skill-a-thon which will be held at the Pasco County Fair.

A Skill-a-thon is a method of involving 4-H and FFA youth in challenging activities to increase knowledge of their animal project. The skill-a-thon is designed to take youth through a series of mini learning stations and the activities involve hands on learning. Participants will rotate from station to station attempting to perform a given task.

Junior participants will have fewer stations than Intermediate and Senior youth. It is recommended that youth study the entire booklet to prepare them for this challenge.

Curriculum in this package was developed by Extension Services. If you have questions, please contact your 4-H or FFA leader to assist you with your preparation.

Study hard and you will be successful with this skill-a-thon.

Sincerely,

Shayla Reighter
Pasco County 4-H Agent

Breeds



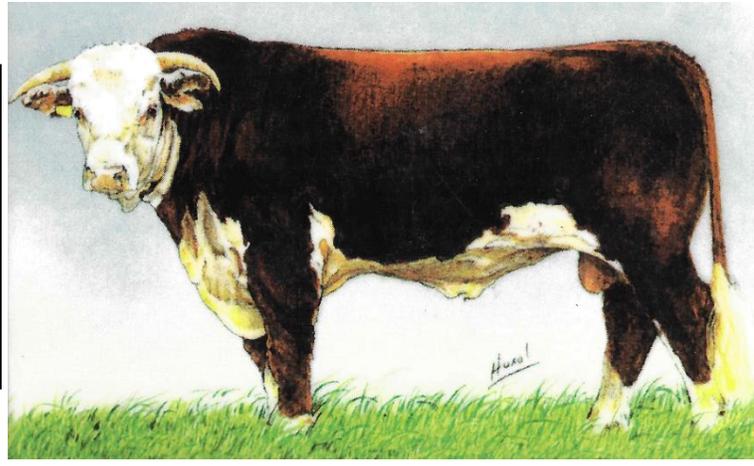
Angus



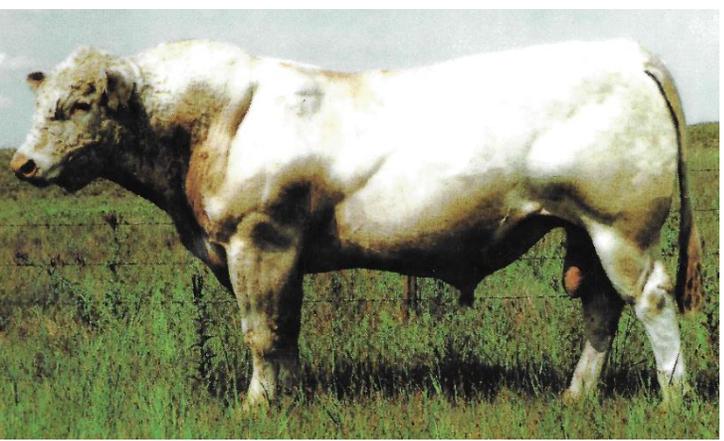
Gelbvieh



Brahman



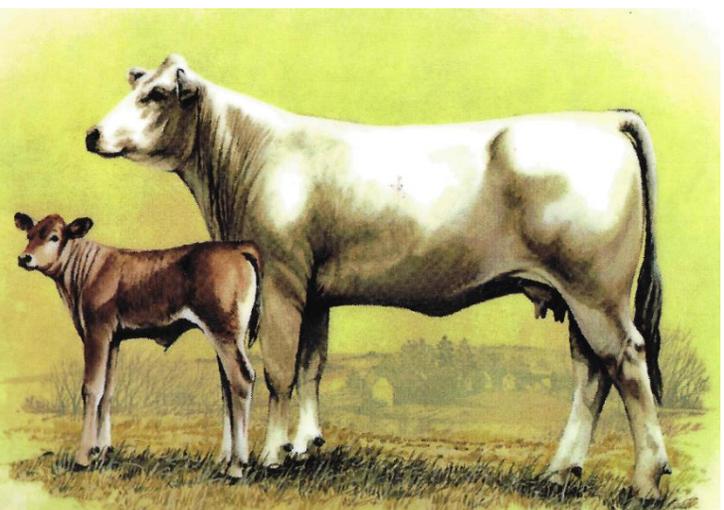
Hereford



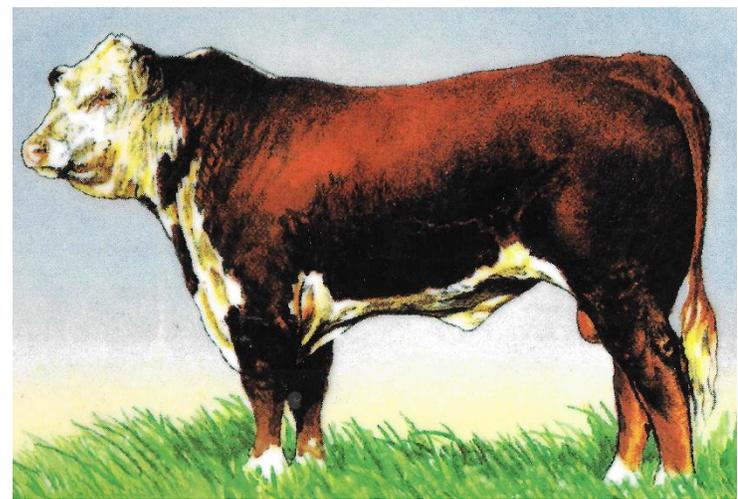
Charolais



Limousin



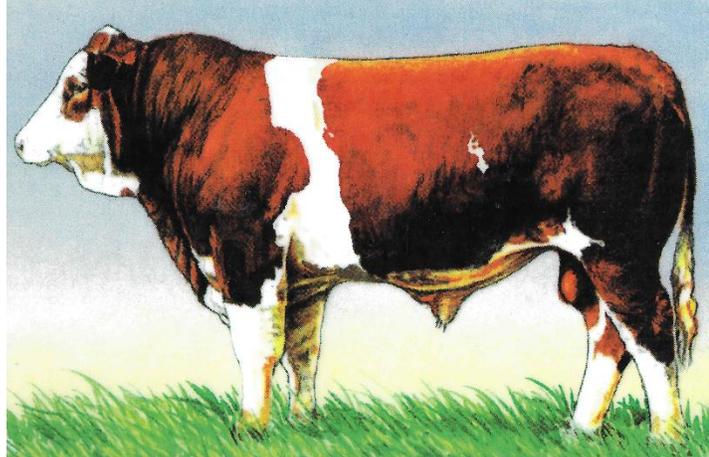
Chianina



Polled Hereford



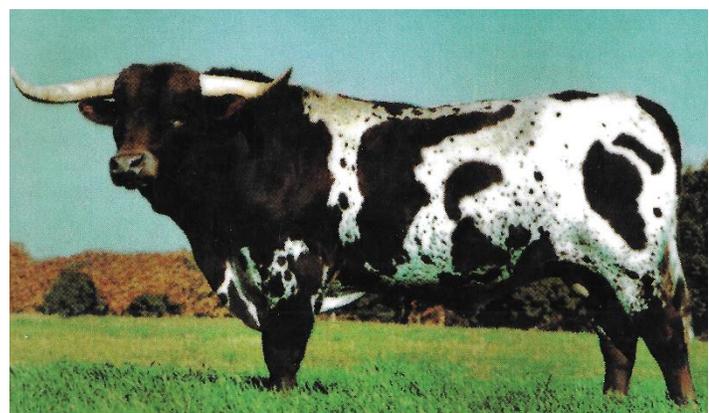
Santa Gertrudis



Simmental



Shorthorn



Texas Longhorn

This breed originated in Scotland. These animals are polled with a black, smooth coat. They are known for their carcass quality, and milking, mothering, and reproductive abilities.

Angus

This breed was developed in the southwestern United States by crossing Zebu cattle from India with British breeds. The color of these animals varies from light gray or red to almost black. It is known for its ability to withstand heat and insects.

Brahman

This breed was developed in France and imported into the United States from Mexico in 1936. These animals are large and white. They are noted for their fast growth and lean meat.

Charolais

This breed was developed in Italy. These animals are white with black skin pigmentation. They are large: a mature bull can weigh up to 4,000 pounds and stand 6 feet tall. They are noted for their working, mothering, and beef-producing abilities.

Chianina

This breed originated in Germany. They are solid cream to reddish yellow in color. These animals are known as a general-purpose breed with good milking ability.

Geibtrieb

This breed was developed in England and brought to the United States in 1817. These animals have red bodies with white faces. They are known for their foraging ability, vigor, hardiness, and quiet disposition.

Hereford

This breed originated in west-central France. They are solid to golden red in color with lighter circles around the eyes and muzzle. When slaughtered at an early age, these animals yield a high percentage of lean meat with a minimum amount of fat.

Limousin

This breed was developed in the United States from the Hereford breed. Except for the polled trait, these animals exhibit the same characteristics as the Hereford breed.

Polled Hereford

This breed was developed on the King Ranch in Texas. These animals are 5/8 Shorthorn and 3/8 Brahman. They are known for their growth rate, long life, and hardiness.

Santa Gertrudis

This breed was brought to the United States from England in 1783. These animals can be red, white, or roan in color. They are noted for their good disposition and mothering and milking abilities.

Shorthorn

This breed was imported into the United States from Switzerland, France, and Germany. These animals have red to dark red, spotted bodies with white to light straw faces. They are noted for their fast growth and milking ability.

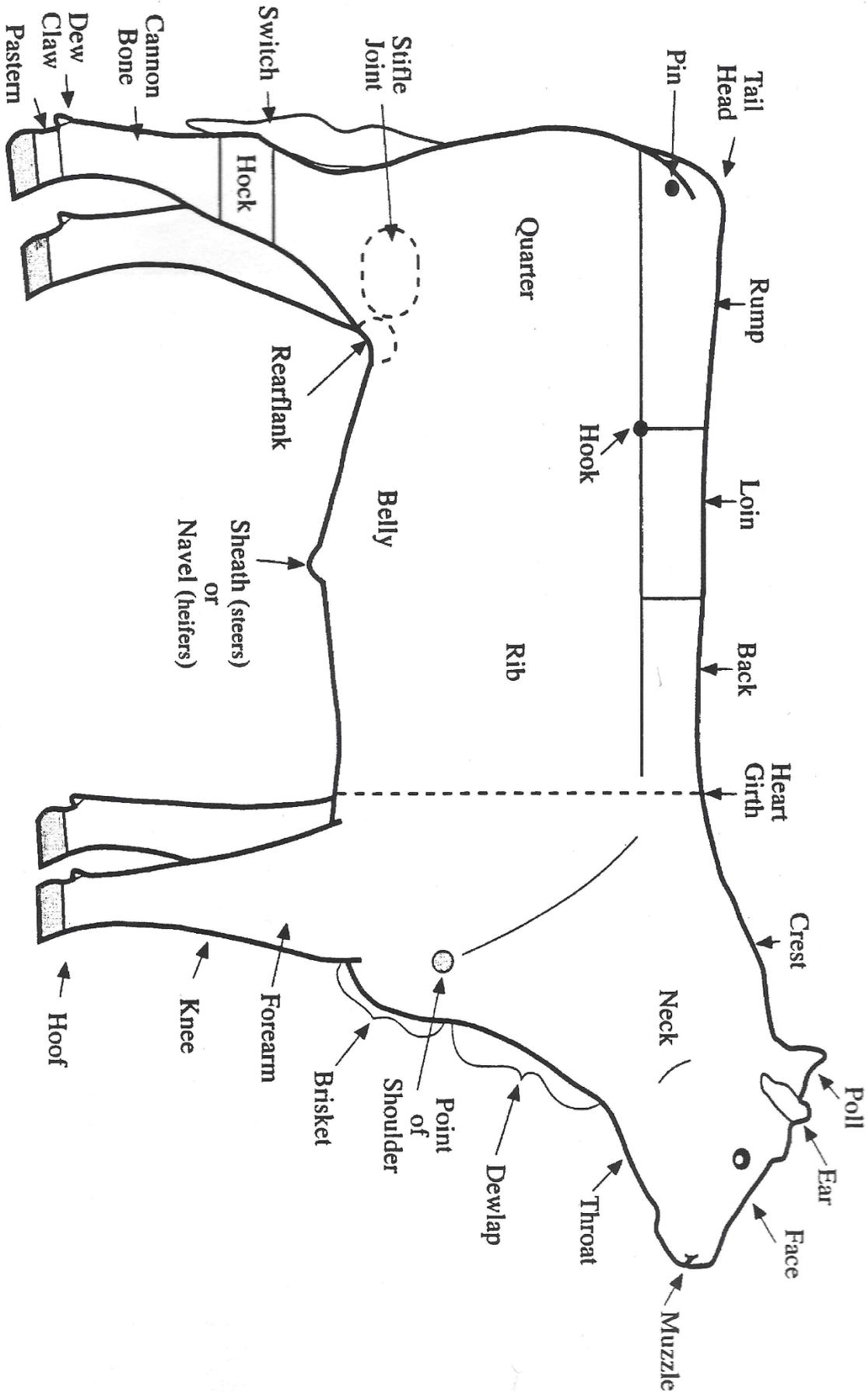
Simmental

This breed originated from Spanish Andalusian cattle. These animals have long horns and several different color patterns. They are known for their longevity, hardiness, strong survival instincts, and resistance to disease and parasites.

Texas Longhorn

Anatomy

Parts of a Beef Animal



Quality Assurance and Animal Care: Youth Education Program

This material is based upon work supported by Extension Service, United States Department of Agriculture, under special project number 93-EFSSQ-4096.

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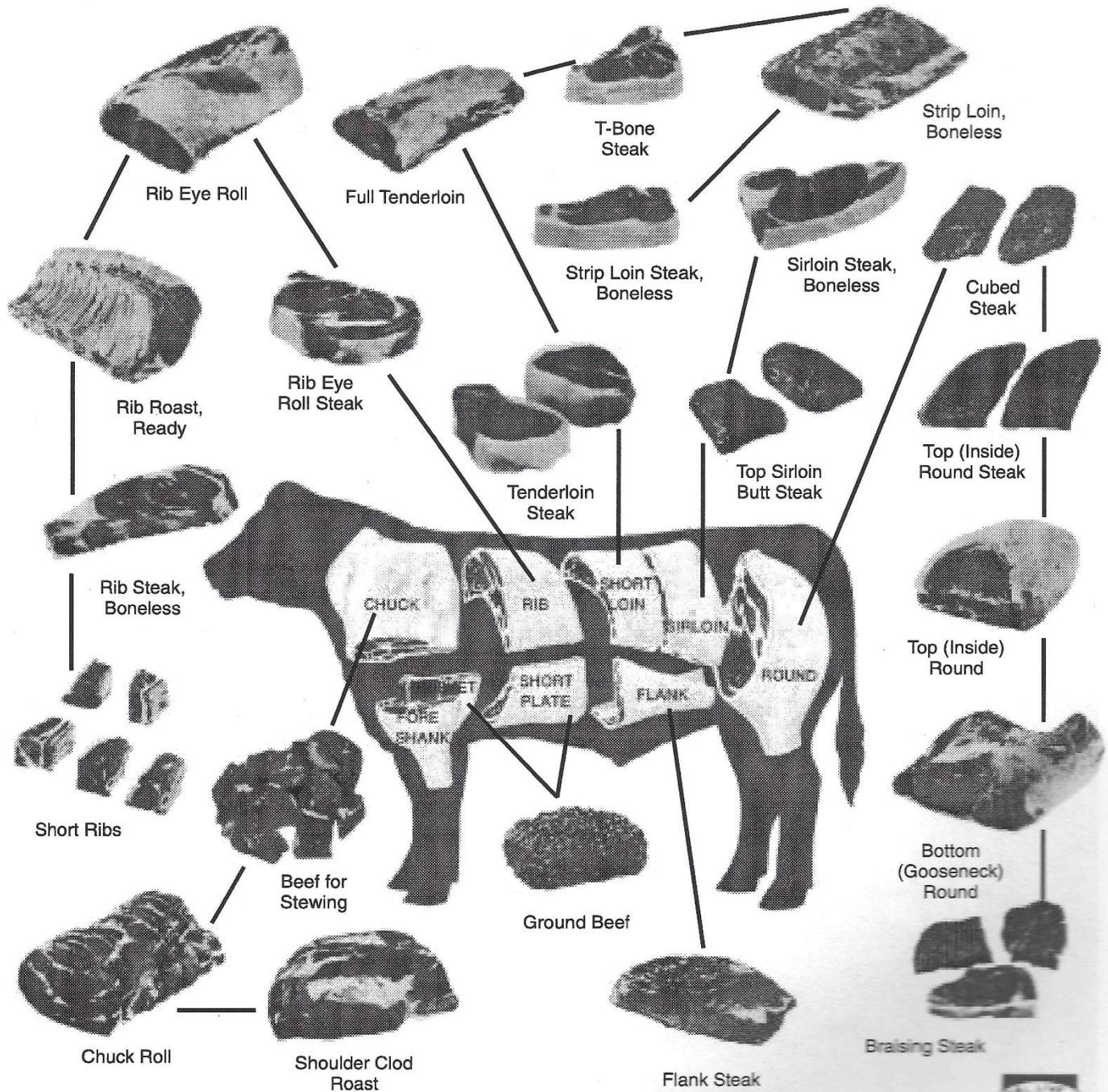
BEEF

LEARNING LABORATORY KIT

Product distribution through the Ohio Agricultural Education Curriculum Materials Service

Meat Cuts

Wholesale Cuts of Beef



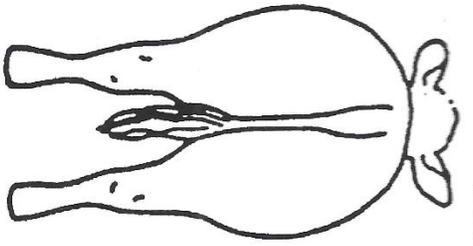
Assuring Animal Product Quality by Youth Producers

This material is based upon work supported by Extension Service, United States Department of Agriculture, under special project number 93-EFSQ-4096.

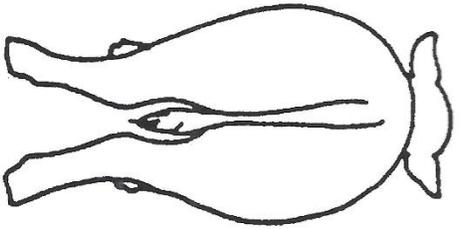
Graphic used with the express permission of National Live Stock and Meat Board.

Conformation

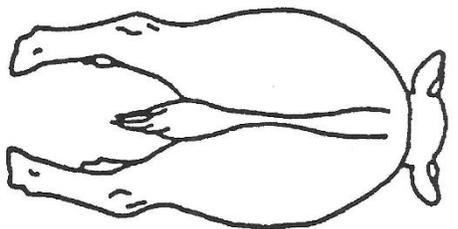
Beef Feet and Leg Structure



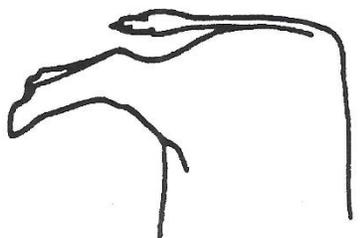
Correct



Cow-Hocked
or Splayfooted



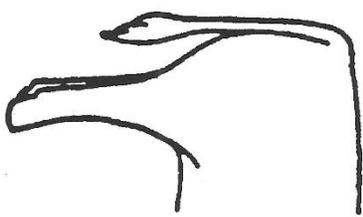
Bowlegged or
Pigeon-Toed



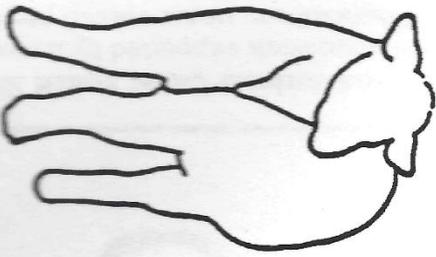
Sickle-Hocked



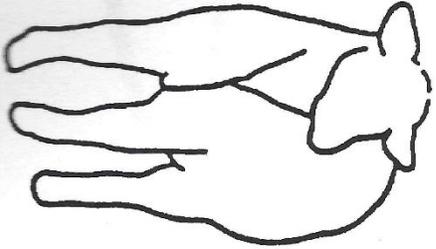
Correct



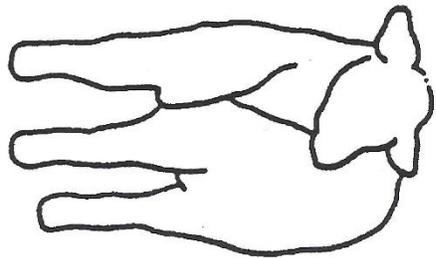
Post-Legged



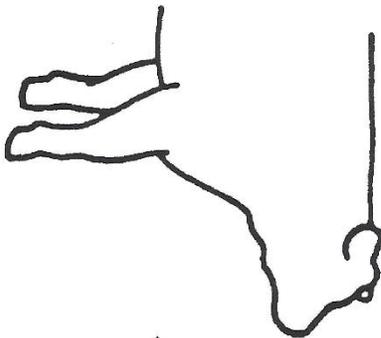
Knocked-Kneed
or Splayfooted



Bowlegged or
Pigeon-Toed



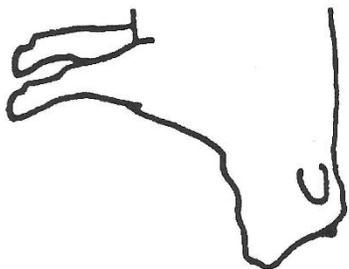
Correct



Buck-Kneed



Correct



Calf-Kneed



BEEF

LEARNING LABORATORY KIT

Quality Assurance and Animal Care: Youth Education Program
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Medication

Label

Medication Label

Name of Drug _____

OMNIBIOTIC

(hydrocillin) _____

Active Ingredients

Directions for use: See package insert

Cautions
and Warnings _____

Warning: The use of this drug must be discontinued for 30 days before treated animals are slaughtered for food. Exceeding the highest recommended dosage level may result in antibiotic residues in meat or milk beyond the withdrawal time.

Withholding
Times _____

Store between 2° and 8° C (36° and 46° F) _____

Storage

Keep dry and keep away from light

Quantity
of Contents _____

TAKE TIME

Net Contents: 100 ml

Distributed by

USA Animal Health, Inc. _____

Name of Distributor



OBSERVE LABEL
DIRECTIONS



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LEARNING LABORATORY KIT

Quality Assurance and Animal Care: Youth Education Program
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Medication Insert

Name of Drug

OMNIBIOTIC

(Hydrocillin in Aqueous Suspension)

Active Ingredients

For use in Beef Cattle, Lactating and Non-Lactating Dairy
Cattle, Swine and Sheep

Species and
Animal Class

Read Entire Brochure Carefully Before Using This
Product

For Intramuscular Use Only

Approved
Uses

Active Ingredients: Omnibiotic is an effective antimicrobial preparation containing hydrocillin hydrochloride. Each ml of this suspension contains 200,000 units of hydrocillin hydrochloride in an aqueous base.

Indications: Cattle - bronchitis, foot rot, leptospirosis, mastitis, metritis, pneumonia, wound infections. **Swine** - erysipelas, pneumonia.

Sheep - foot rot, pneumonia, mastitis; and other infections in these species caused by or associated with hydrocillin-susceptible organisms.

Recommended Daily Dosage

The usual dose is 2 ml per 100 lb of body weight given once daily. Maximum dose is 15 ml/day.

Dosage

Body Weight	Dosage
100 lb	2 ml
300 lb	6 ml
500 lb	10 ml
750 lb or more	15 ml

Continue treatment for 1 to 2 days after symptoms disappear.

Cautions
and Warnings

Caution: 1. Omnibiotic should be injected deep within the fleshy muscle of the neck or thigh. Do not inject this material in the hip or rump, subcutaneously, into a blood vessel, or near a major nerve because it may cause tissue damage. 2. If improvement does not occur within 48 hours, the diagnosis should be reconsidered and appropriate treatment initiated. 3. Treated animals should be closely observed for at least 30 minutes. Should a reaction occur, discontinue treatment and immediately administer epinephrine and antihistamines. 4. Omnibiotic must be stored between 2° and 8° C (36° to 46° F). Warm to room temperature and shake well before using. Keep refrigerated when not in use.

Warning: Milk that has been taken from animals during treatment and for 48 hours (4 milkings) after the last treatment must not be used for food. The use of this drug must be discontinued for 30 days before treated animals are slaughtered for food.

Sizes
Available

How Supplied: Omnibiotic is available in vials of 100 ml.

Route of
Administration

Storage
Requirements

Withholding
Times



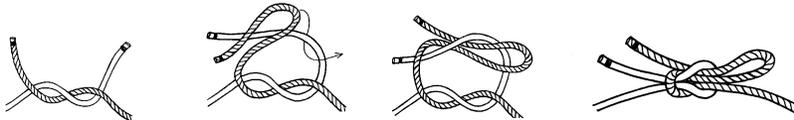
Knots

There are many circumstances in cattle handling that will require you to tie knots. Take the time to learn to tie several types of knots and hitches so that you will have the right knot for the right circumstance. Practice often so that it becomes second nature. In an emergency situation, you do not want to have to think about which knot to choose and how to tie it.

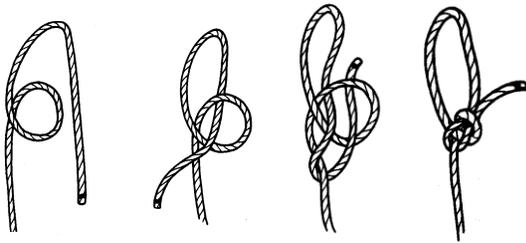
Knots join ropes together, attach ropes to a post or rail, or attach ropes to an animal.

Hitches are used to attach a rope to a post or rail - only thing securing the rope to post is the pressure of one rope coil wrapping upon the others.

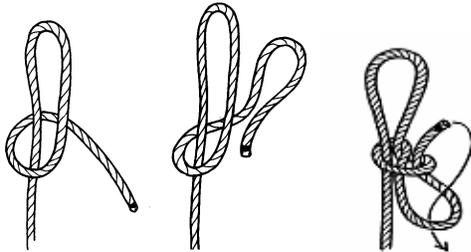
Splices are used to permanently join ropes to one another - individual strands from each rope are interwoven with strands from the other.



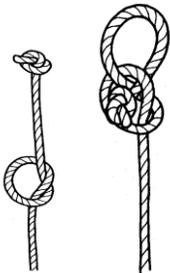
Reefer's Knot (*Quick-Release Square Knot*) A good non-slip knot for tying ends of rope together and can easily be released. An advantage is that it can be tied under tension an important feature for a knot used to restrain livestock.



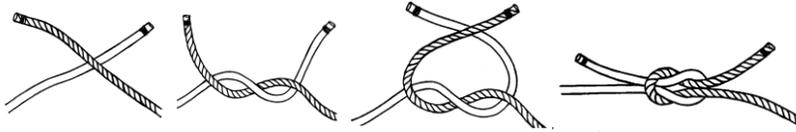
Bowline Knot A non-slip knot used to form a loop that will not tighten or draw down when placed around an animal's body or a post.



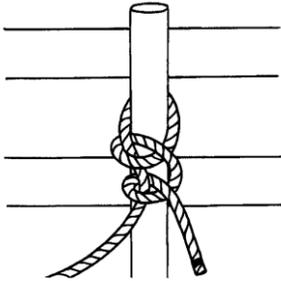
Quick-Release Knot The standard way to tie an animal to a post. A variation of a slipknot that can be released very quickly, even when under tension. This knot should never be tied around the neck or body of an animal.



Honda Knot Knot used to form small loop in the end of a rope in order to pass the rest of the rope through, forming a much larger loop, or lariat.



Square Knot Excellent for tying two nearly equal size ropes together or for tying the ends of a single rope together to form a loop. Used mainly to secure gates or cage openings. Also used to tie a cloth or gauze bandage around the limb of an injured animal.



Double Half Hitch A quick and easy knot which acts like a slipknot and is a convenient way to tie up the end of a rope.

Identification Procedures

TATTOOING

Advantages - It is permanent and does not disfigure the animal.

Disadvantages - Animal must be confined in order to read tattoo. Tattoos are hard to read on dark-skinned animals.

Equipment Necessary -

Squeeze Chute or Head Gate

Tattooing Instrument

Tattooing Numbers &/or Letters

Tattooing Ink or Paste

Alcohol

Clean Cloth

Procedures -

1. Assemble the necessary equipment. It is important that the numbers and/or letters be placed into the tattooing instrument in the proper order. As you look at them in the tattooing instrument, they should appear backward. Always check the numbers and/or letters on a piece of paper or card board before you begin to make sure they are correctly placed.
2. Restrain the animal.
3. Two ribs of the cartilage divide the ear into top, middle and bottom thirds. The tattoo should be placed in the top third of the ear just above the cartilage rib and equal distance from the base and the tip of the ear. Tattooing on the edges of the ear or in the hair portion of the ear can make reading the tattoo difficult. Do not tattoo between the two cartilage ribs; this area is reserved for some types of ear tags or for a brucellosis vaccination tattoo in the right ear of heifers.
4. Clean the inside of the ear, where the tattoo will be placed, with a cloth soaked in alcohol. Infections or warts can result if a tattoo is placed in a dirty ear.
5. Position the tattoo instrument inside the ear so that the needlepoint dies are above the ribs as described in step three. Squeeze the handles of the tattooing instrument together completely and quickly; then release them fully.
6. Rub tattoo ink or paste into all of the needle marks. Work the ink or paste well into the marks.
7. Release the animal.
8. Clean the tattooing equipment with Nolvasan (disinfectant) after each day of use.

EAR TAGGING

Advantages - Economical; can be read from a distance; easy to apply.

Disadvantages - Plastics tend to become hard and brittle in cold weather; easily lost; Pre-numbered tags with block-type numbers are difficult to read if they get soiled.

Equipment Necessary -

Squeeze Chute or Head Gate

Ear Tag and Applicator

Antiseptic

Tag pen

Cloth

Procedures -

1. Select tag style.
2. Select the tag size.
3. Select contrasting ink and tag colors.
4. Select a numbering system for the ear tags.
5. The next decision will be whether to purchase pre-numbered or blank tags. Pre-numbered tags are more convenient, but not as adaptable to your "system" as the blank tags can be. Make this decision based upon the unique needs of your operation. If you choose the blank tags, number the plastic tags with marking pens recommended by the tag manufacturer. Number the tags with large numbers along their bottoms so that they can be seen from a distance when hair grows in the ear. Soak the tag and button prior to application.
6. Insert the ear tag into the appropriate applicator. Each tag manufacturer has an applicator designed specifically for its type of tag. Two-piece tags require that the male portion of the tag be slid over a pin and the female portion inserted into a clip. Be sure to follow the manufacturer's directions when inserting the tag into the applicator. When using two part tags make sure that the male portion of the tag lines up with the female portion of the tag.
7. Select the ear to be tagged.
8. Select the tagging site on the ear. The site selected will vary with the style of tag selected. Two-piece tags should be placed between the cartilage ribs, approximately halfway between the base and tip of the ear. Since the male part is the piercing part, it is easier to locate exactly where you want to place the tag if it is placed in front of the ear.
9. Hold the ear with one hand while using the other hand to insert the ear tag. Pay attention to the proper ear tag site. The two-piece tag is applied with a plier's type applicator by squeezing the handles until the ear tag snaps together.
10. Release the animal.

HOT BRANDING

Advantages - Easy to read; Unique to producer; Can be used on any color cattle; Permanent.

Disadvantages - Lowers the market value of the hide. It can also be difficult to read, especially on haired cattle. Stressful for cattle.

Equipment Necessary -

Branding Irons

Small propane tank with burner or wood fire

Squeeze Chute

30-gallon Drum

Procedure -

1. Assemble and prepare the necessary equipment. The irons used in hot branding should be iron or steel, and should be free of dirt and hair.
2. Heat the branding irons. The lowest cost method of heating branding irons is to use the hot coals of a wood fire. A second and more convenient way to heat irons is to use a small propane tank and burner. A third method is to use electric branding irons.
3. Restrain the animal in a squeeze chute. Most chutes are designed with hinged sidebars that allow access to the hip and shoulder regions of the animal. One or two of these should be lowered to allow access.
4. Put on a pair of leather gloves to prevent burning your hands when handling hot irons.
5. Take the branding iron out of the fire or drum and check the number or character to be used to be sure it is the right one.
6. Check the irons for temperature. The amount of heat required for a good brand is difficult to describe. The color of the hot iron is a good indicator of the temperature. A black iron is too cold. A red hot iron is too hot. Using this type of iron causes a large sore, which results in an indistinct or blotched brand. An iron that is the color of gray ashes is at the proper temperature to do a good job of branding.
7. Firmly press the ash gray colored branding iron against the hide **on the hip** and rock the handle slightly to vary the pressure and obtain uniform application of the entire character. The color of the branded hide should be light tan, or the color of a new saddle leather. If the cattle have a light hair coat and the iron temperature is correct, the time required to brand should only be 5 seconds. Don't brand wet animals as it will cause a blotched brand.
8. Apply one iron at a time. If two irons are applied at once by the same person, the chances of slipping and blotching the brand is increased greatly.
9. Place the iron back in the heat source as in step 2. Make sure the iron is clean.
10. Release the animal.

FREEZE BRANDING

Advantages - Semi-Permanent; Reduced Hide Damage.

Disadvantages - Takes more time to brand an animal, does not work on white cattle.

Equipment Necessary -

Copper or Copper alloy branders

Liquid Nitrogen or Dry Ice

Styrofoam Cooler

99% Isopropyl Alcohol

Electric Clippers

One Quart Squeeze Bottle

Stiff Bristle Brush

Clock (with second hand)

Procedure

1. Prepare the branders. They should be clean and free of debris.
2. Cool the irons in a refrigerant. One method is to place the branders in liquid nitrogen. Place 3 to 4 inches of liquid nitrogen into a Styrofoam cooler or insulated bucket before the irons are added. Second method of cooling branders involves placing them in a mixture of 99% isopropyl alcohol and dry ice. Both methods require more refrigerant to cool the branders initially than to re-chill between animals.
3. Fill the quart squeeze bottle with 99% isopropyl alcohol.
4. Restrain the animal in a squeeze chute.
5. Clip the area to be branded as closely as possible. A stiff bristle brush can be used to remove dirt and debris.
6. The irons are ready for use when the refrigerant stops boiling.
7. Put on a pair of leather gloves, take the brander out of the refrigerant, and check the character to be used to be sure it is the right one.
8. Check the clock to ensure the proper brand application time.
9. Liberally apply 99% isopropyl alcohol from the squeeze bottle over the branding site. Soak the area but don't waste alcohol.
10. Apply the brander to the clipped, alcohol soaked area, and apply pressure to the brander by leaning on it. The minimum time of application for dark cattle is 30 seconds. For white cattle you must apply brander for approximately 2 ½ minutes to kill the hair follicles.
11. Place the brander back into the refrigerant and make sure that the refrigerant covers the iron. If it does not cover the irons, add more liquid.
12. Release the animal.

Bovine Diseases

Name: Brucella Abortus Disease

Common Name: Brucellosis

Cause: Bacteria, *Brucella abortus*

Major Symptoms: Abortion of first calf in last third of pregnancy and retained afterbirth. Some infected cows show no signs but calves may be born weak.

Prevention: Testing for the disease at stages in the cattle's life, such as on the farm, at the stock market, and at the slaughter facilities. Once infected, animal should be culled. If more than one is infected, the whole herd should be quarantined. Good herd management and 1 time only calf hood vaccination by a licensed veterinarian can help with prevention of outbreaks. Note: Florida is currently a "Brucellosis free state".

Name: Bovine Respiratory Syncytial Virus

Common Name: BRSV

Cause: Virus

Major Symptoms: Temperatures of 103-105 degrees F, coughing, and some nasal discharge. In adult cattle that are susceptible, clinical signs are fewer and usually are not noticed until the cattle begin collapsing and die within a few hours.

Prevention: Vaccination when an outbreak has occurred will only aid in slowing down the spreading of the virus. If the herd is known to not be infected, then vaccination will help in preventing an outbreak.

Name: Infectious Bovine Rhinotracheitis

Common Name: IBR, or Red Nose

Cause: Virus

Major Symptoms: Watery to yellow colored discharge from the nose and eyes along with coughing, increased respiration rate and fever. This infection usually follows or is included with other infections such as BVD and or BRSV. So, many of the vaccines come with a strain of the IBR virus to aid in prevention.

Prevention: Vaccination

Name: Bovine Viral Diarrhea

Common Name: BVD or BVDV

Cause: Virus

Major Symptoms: Cattle infected with this disease do not usually show any symptoms, but the immune system is weakened and other diseases are more likely.

Prevention: Good herd management and good sanitation are the best ways to combat this disease. Vaccination will help prevent outbreaks, but will not stop the infection.

Name: Parainfluenza 3

Common Name: PI3

Cause: Virus

Major Symptoms: Watery to yellow-colored discharge from nose and eyes, coughing, fever, and an increase in respiration rate.

Prevention: PI3 usually infects cattle that are already infected with other diseases such as IBR, BVD, or BRSV so a strand of PI3 is usually pre-mixed with another vaccine. Along with vaccination, good herd management is needed along with good sanitary practices to prevent an outbreak.

Name: Leptospirosis

Cause: Bacteria, *Leptospira interrogans*, subclassification, “serovars” hardjo

Major Symptoms: Infected cattle with a chronic or long lasting infection will usually abort the fetus, have a stillborn, or give birth to a weak calf. In rare acute infections, often in calves, the signs are high fever, jaundice (yellowing of the skin), and death.

Prevention: Regular herd vaccinations twice a year will help along with the vaccination of any new replacement heifers or bulls. In chronic cases, once abortion has occurred it is too late to vaccinate. Provide water from a tank and instead of a pond.

Name: Clostridial Disease

Common Name: Blackleg

Cause: Bacteria, *Clostridium chauvoei*

Major Symptoms: Depression, swelling of muscles or groups of muscles, skin may become discolored and crackle when touched. Many calves are found dead before any signs appear.

Prevention: Vaccination of the whole herd is important, not just for *Clostridium chauvoei*, but for all Clostridium bacteria. This is accomplished through vaccinating with 7 or 8 way Clostridium.

Name: Bovine Spongiform Encephalopathy

Common Name: BSE, “Mad Cow Disease”

Cause: Prion, an abnormal form of a normal protein

Major Symptoms: Cattle tend to show signs of progressive degeneration of the nervous system and changes in temperament. Abnormal posture, incoordination and difficulty rising are also observed due to the degeneration of the nervous system. There is a decrease in milk production and a loss in body weight, but there is no loss of appetite.

Prevention: There is no cure for BSE, but there are some guidelines to help prevent an outbreak. Do not feed meat bone meal, or other feed stuff that contains products from ruminants. Ensure good slaughter and processing procedures so as not to contaminate edible products.

Though BSE is not contagious, monitoring the off spring of an infected cow is recommended.

Finally the humane destruction of infected cattle to prevent any possible spreading due to contamination is required. Only 3 cases have been confirmed in US.

By Products

By-products are incidental or secondary products made in the manufacture or synthesis of something else.

Several valuable by-products come from beef production, including:

Football



Glue



Photographic Film

Pesticides



Buttons



Piano Keys



Sandpaper



Combs



Toothbrush



Violin Strings



Lipstick



Tires



Marshmallows



Gum



Paint Brushes



Gelatin Candies

