

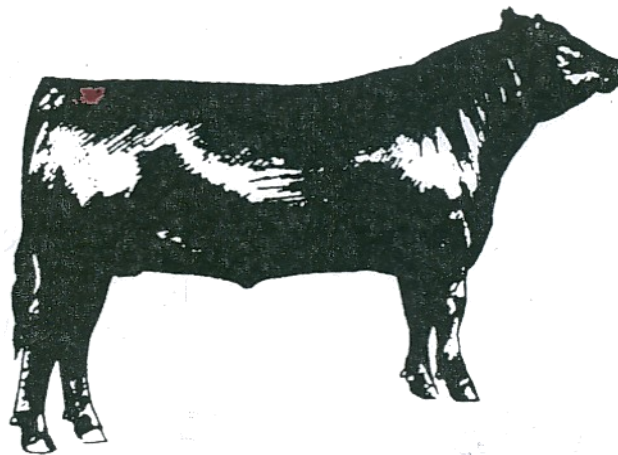
# Osceola County 4-H Market Steer

**SKILL-A-THON REFERENCE BOOK**

**&**

**SENIOR SKILL-A-THON ACTIVITIES**

**2023-2024**



**UF** | **IFAS Extension**  
UNIVERSITY of FLORIDA



	<b>BEEF CATTLE</b>	<b>SWINE</b>	<b>SHEEP</b>
<b>INTACT MALE</b>	<b>BULL</b>	<b>BOAR</b>	<b>RAM</b>
<b>MALE CASTRATED PRIOR TO DEVELOPMENT OF SECONDARY SEXUAL CHARACTERISTICS</b>	<b>STEER</b>	<b>BARROW</b>	<b>WETHER</b>
<b>MALE CASTRATED AFTER DEVELOPMENT OF SECONDARY SEXUAL CHARACTERISTICS</b>	<b>STAG</b>	<b>STAG</b>	<b>STAG</b>
<b>FEMALE THAT HAS PRODUCED PROGENY</b>	<b>COW</b>	<b>SOW</b>	<b>EWE</b>
<b>YOUNG FEMALE WITH NO PROGENY</b>	<b>HEIFER</b>	<b>GILT</b>	<b>EWE</b>
<b>VERY YOUNG PROGENY</b>	<b>CALF</b>	<b>PIG</b>	<b>LAMB</b>

# STEER SKILL-A-THON

## Introduction

This manual is provided as a *study guide* for the skill-a-thon competition and should be used as an additional aid to ongoing educational programs. Sections are labeled **Junior, Intermediate & Senior, Intermediate & Senior, Senior or Bonus** to help exhibitors and educators identify which materials are required for their age level. The topic for this year's Skill-a-thon is **Digestion**.

Topics for the Knowledge and Skills Stations may include the following:

### **Juniors (age 8-10 as of September 1, 2023)**

Body Parts  
Breeds Identification  
Structure  
Digestive Anatomy  
Digestive Function  
Common Livestock Terms

### **Intermediates (age 11-13 as of September 1, 2023)**

All of the above plus...  
Parts of a Feed Label  
Basic Livestock Terms

### **Seniors (age 14 and over as of September 1, 2023)**

All of the above plus....  
Common Nutritional Disorder

### **Bonus Points**

Knots

The contest will be held on **January 24, 2024, from 2:00 p.m. until 6:00 p.m. in the KVLS Arena.**

**The Skill-a-thon contest will be held on January 24, 2024, from 2:00 p.m. until 6:00 p.m. in the KVLS Arena.**

### **KVLS Skill-a-thon Rules for 2023-2024**

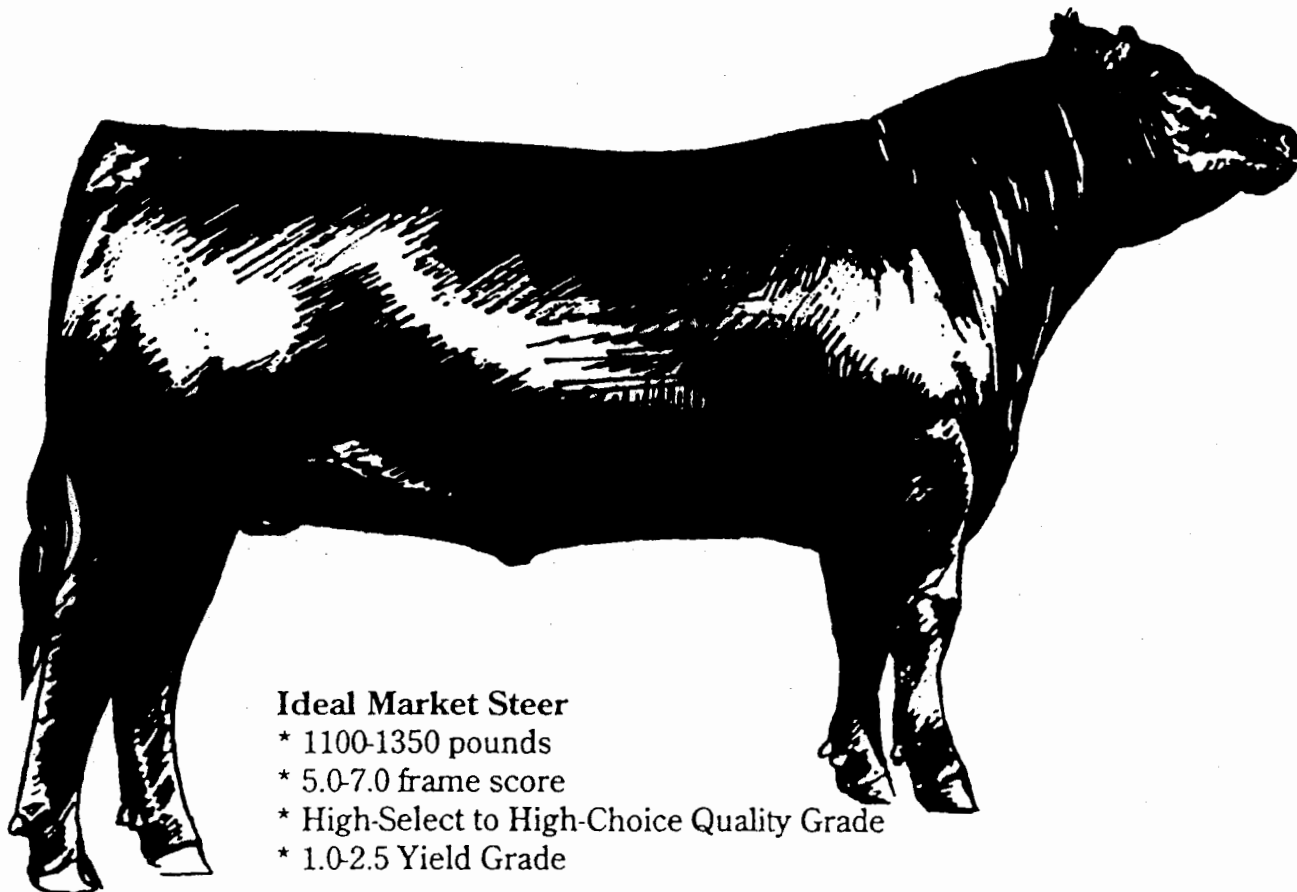
1. All market exhibitors must take the Skill-a-thon in their project area for the animal that they are showing in order to participate in the market programs, i.e. steer exhibitors must take the Steer Skill-a-thon. Any exhibitor who does not meet the required grade average on their report card or who does not have a report card must score 70% on the Skill-a-thon to participate in the Market Animal Program.
2. All exhibitors must take the Skill-a-thon for the first time on their own, then a reader can be requested the second time, if a passing grade is not achieved.
3. Awards will be given on the score of the first Skill-a-thon taken. Top awards are only given for passing scores (70% or above).
4. Only those exhibitors who do not make the 3.25 grade point requirement are required to take the skill-a-thon and make a passing score of 70% or above in order to participate in the market animal program.
5. Exhibitors must stay in the testing room once they have signed up to take the Skill-a-thon.
6. Exhibitors showing a second animal must stay in the testing room to take the second animal Skill-a-thon.
7. No parents or other adults not on the Committee are allowed in the Skill-a-thon room.
8. No exhibitors are allowed to have cell phones while in the Skill-a-thon room.
9. No time limit will be imposed on the exhibitors.
10. Skill-a-thon handbooks will be given at the start of the project

### **KVLS Awards**

There will be a Junior (8-10), Intermediate (11-13), Senior (14 - graduate from High School) division for the contest. Within each division, 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place will receive rosette ribbons and a monetary award.

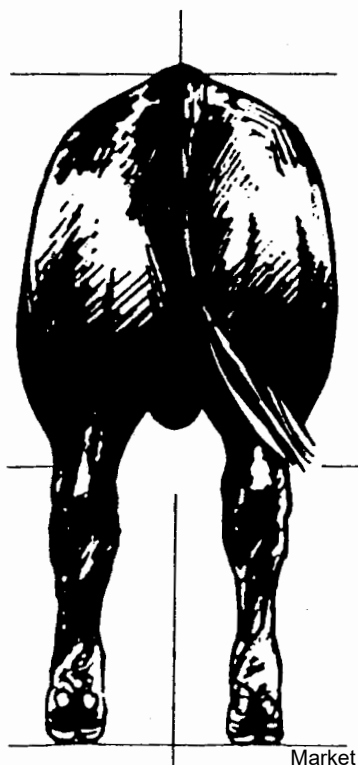
**BEEF**

**The Ideal Market Steer**

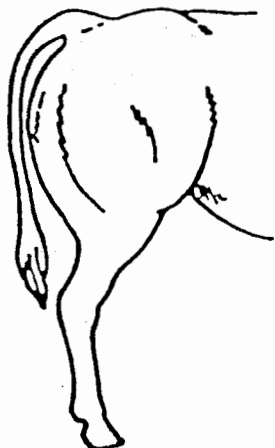


**Ideal Market Steer**

- \* 1100-1350 pounds
- \* 5.0-7.0 frame score
- \* High-Select to High-Choice Quality Grade
- \* 1.0-2.5 Yield Grade



## Evaluation of Market Cattle



When selecting and evaluating market cattle, the 4-H member must keep in mind the purpose of these animals. The primary function of market animals is meat production. Therefore, traits such as muscling and finish are emphasized. Frame size and structural correctness are examined but to a slightly lesser degree than in breeding cattle.

### MUSCLING

\*Modern market cattle should exhibit extra muscling down their top and through their hind quarters. These are the areas from which the high-priced cuts come. Traits that are found in the ideal market steer include:

- more natural thickness down the top
- more muscular loin
- long, level rump
- thicker through the center of the quarter
- wider, deeper stifle

### FINISH

\*Finish refers to the amount of fat cover a market animal possesses. An ideal market animal should have the minimal amount of body fat and still be able to reach the Choice quality grade. Desirable traits in regard to finish include:

- smooth and uniform fat cover over ribs
- uniform depth of body
- freedom from fat patches about tailhead
- no excessive fullness in brisket

### FRAME SIZE

\*Current trends in market cattle frame size have shifted toward moderation. Market cattle should have enough frame to enable them to reach an acceptable market weight (1,100-1,350 lbs.) at an age of 12-18 months. Acceptable traits for today's frame size include:

- moderate hip height (frame size 5.0-7.0)
- extra length of body
- longer rump

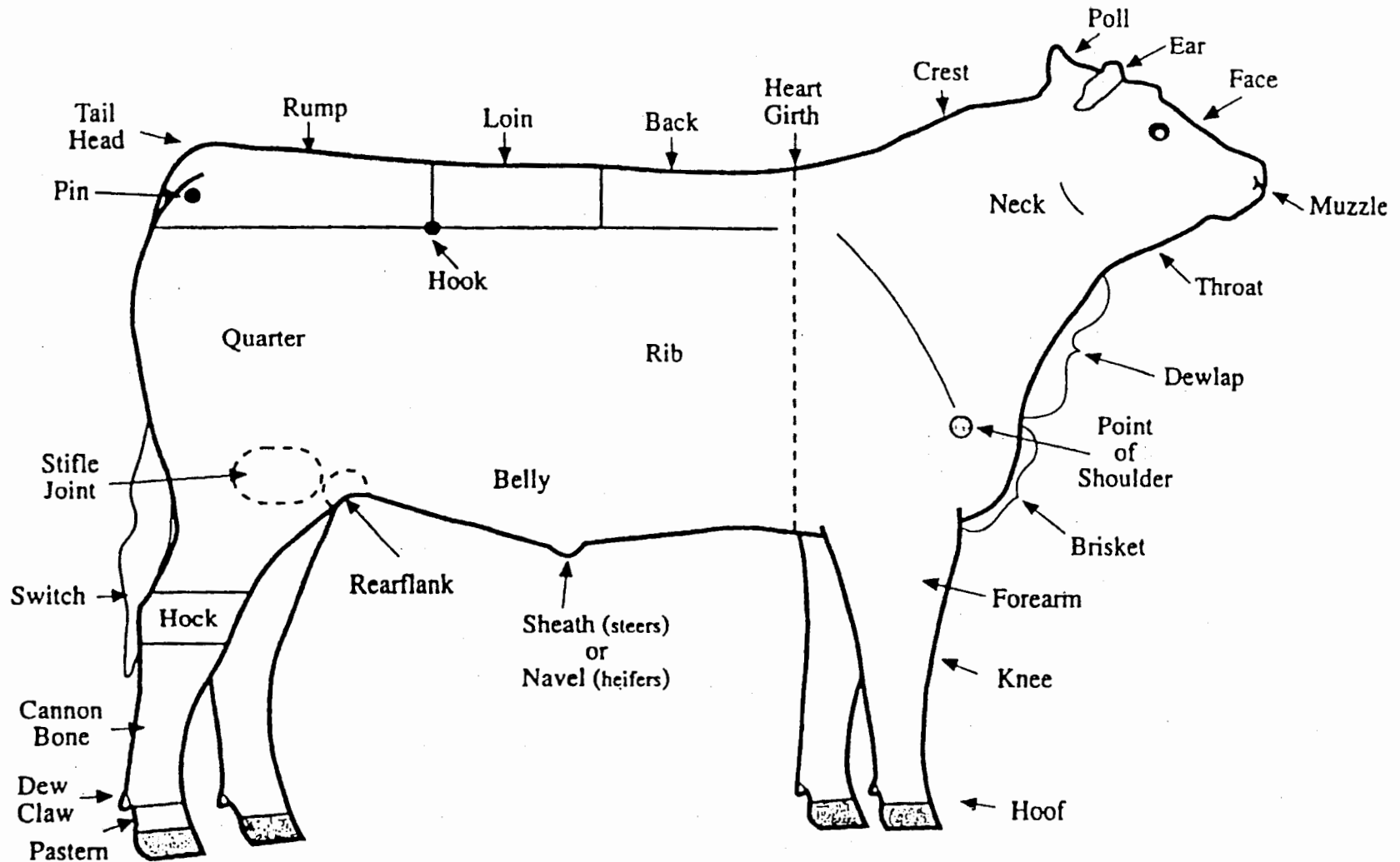
### STRUCTURAL CORRECTNESS

\*While it is not emphasized as greatly as it is with breeding cattle, structural correctness is an important selection criteria when judging market animals. As with breeding cattle, look for animals that are:

- standing squarely on front and rear legs
- heavier boned
- moving with a long, reaching stride
- more nearly level from hooks to pins
- possessing adequate set to the hocks

It is important for livestock producers to share a common language. Using the correct names for various body parts is one way to be certain your message is understood. Study the pictures with the names of the body parts labeled so that you can communicate with other producers using correct terms.

# Parts of a Beef Animal



Juniors, Intermediates, Seniors

## **BREED IDENTIFICATION**



### **BRANGUS**

The Brangus breed was developed by crossing Brahman and Angus cattle. Brangus cattle are based on foundation stock that is 3/8 Brahman and 5/8 Angus. Brangus cattle have sleek solid black hides and are polled. An inspection is necessary to determine conformation and breed character before the animal may be registered.



### **BEEFMASTER**

This breed is a result of crosses among Herefords, Shorthorns and Brahman. The exact percentage of blood from each is not known. The breed has a variety of colors. Selection has been mainly for good disposition, fertility, gain, conformation, hardiness, and milk production.



### **MAIN-ANJOU**

Maine-Anjou cattle are dark red and white in color. Some animals are roan in color. They have lightly pigmented skin. They are a horned breed with medium-size horns that curve forward. They are considered docile and easily handled.



## **BREED IDENTIFICATION**



### **BRAFORD**

The color of the Braford is red and shows a Hereford color pattern. The breed is about 5/8 Hereford and 3/8 Brahman. Calves grow rapidly and attain weaning weights of 500 to 800 pounds. The breed is noted for its superior maternal ability.



### **GELBVIEH** **(a big yellow cow)**

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 abilities.



### **ABEERDEEN-ANGUS** **(polled, black cow)**

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

## **BREED IDENTIFICATION**



**LIMOUSIN**  
**(a long, sleek cow)**

This breed originated in the west-central part of France. They are solid-red 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.



**SANTA GERTRUDIS**  
**(a saggy, solid cherry red cow)**

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.



**CHAROLAIS**  
**(a big, white, pink-nosed cow)**

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.

## **BREED IDENTIFICATION**



**CHIANINA**  
**(the biggest/tallest cow)**

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.



**HEREFORD**  
**(a white-faced cow)**

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 dispositions.



**SHORTHORN**  
**(a red-and-white, red, white, or roan-colored beef cow)**

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, mothering and milking abilities.



## **BREED IDENTIFICATION**



### **BRAHMAN**

The Brahman breed was developed in the southwestern part of the United States. The major use of the Brahman is in crossing with other breeds. The color of the Brahman is light gray or red to almost black. In addition to the characteristic hump over the shoulders, they have loose skin under the throat and large drooping ears. Brahman cattle have a very high heat tolerance.

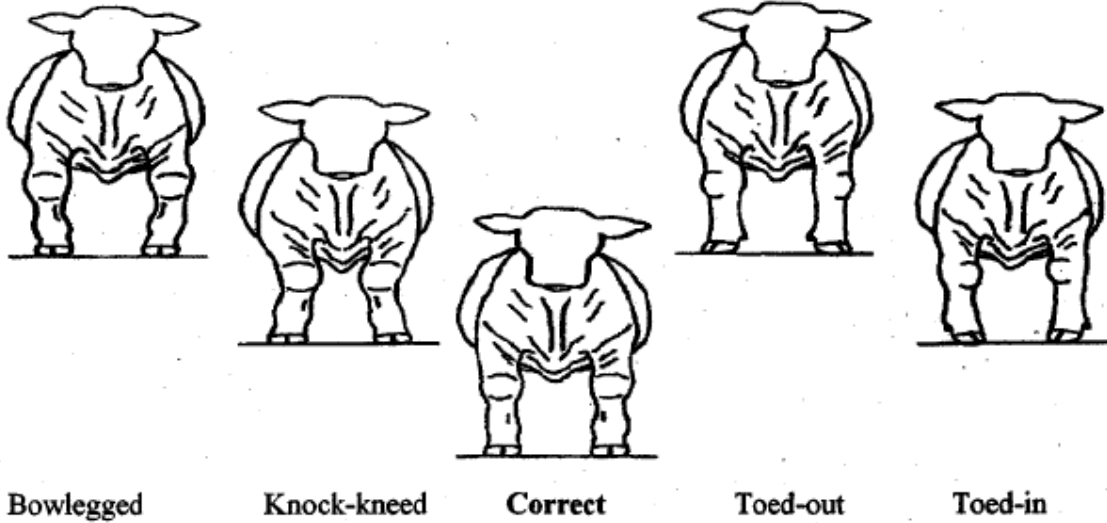


### **SIMMENTAL**

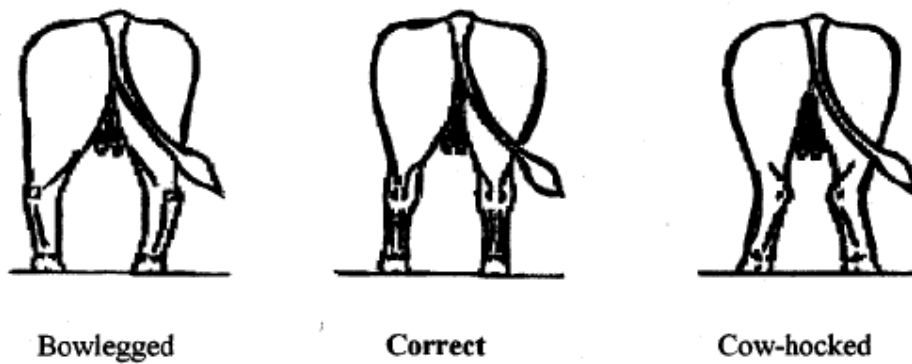
This breed was imported into the United States from Switzerland, France, and Germany. These animals can be red to dark red, brown, or black with spotted bodies and white faces. They are noted for their fast growth and milking abilities.

## STRUCTURAL DIFFERENCES FRONT & REAR VIEWS

### Front Leg Alignment

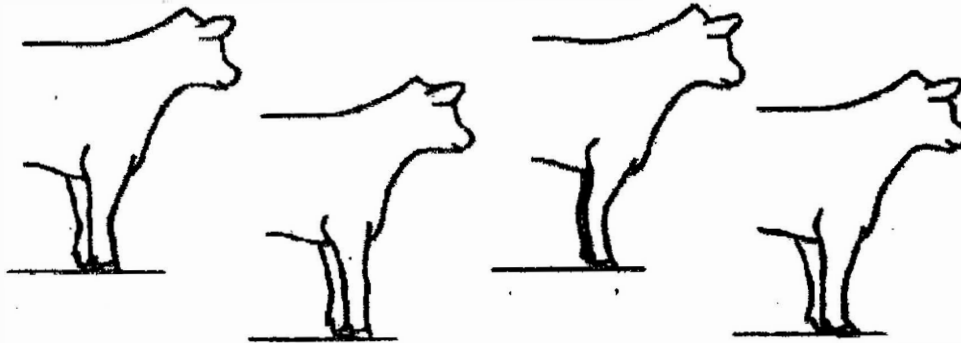


### Rear Leg Alignment



## STRUCTURAL DIFFERENCES SIDE VIEWS

### Front Leg Set



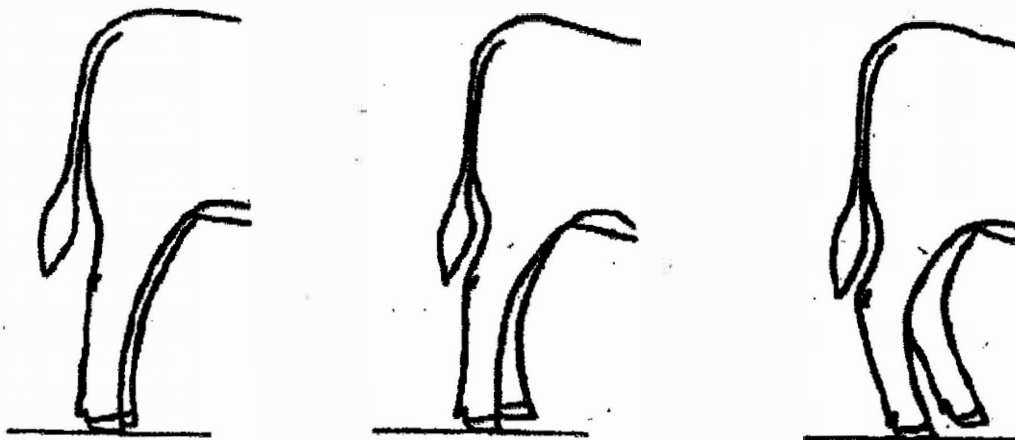
Correct

Buck-kneed

Calf-kneed

Weak Pasterns

### Hind Leg Set



Post-legged

Correct

Sickle-hocked

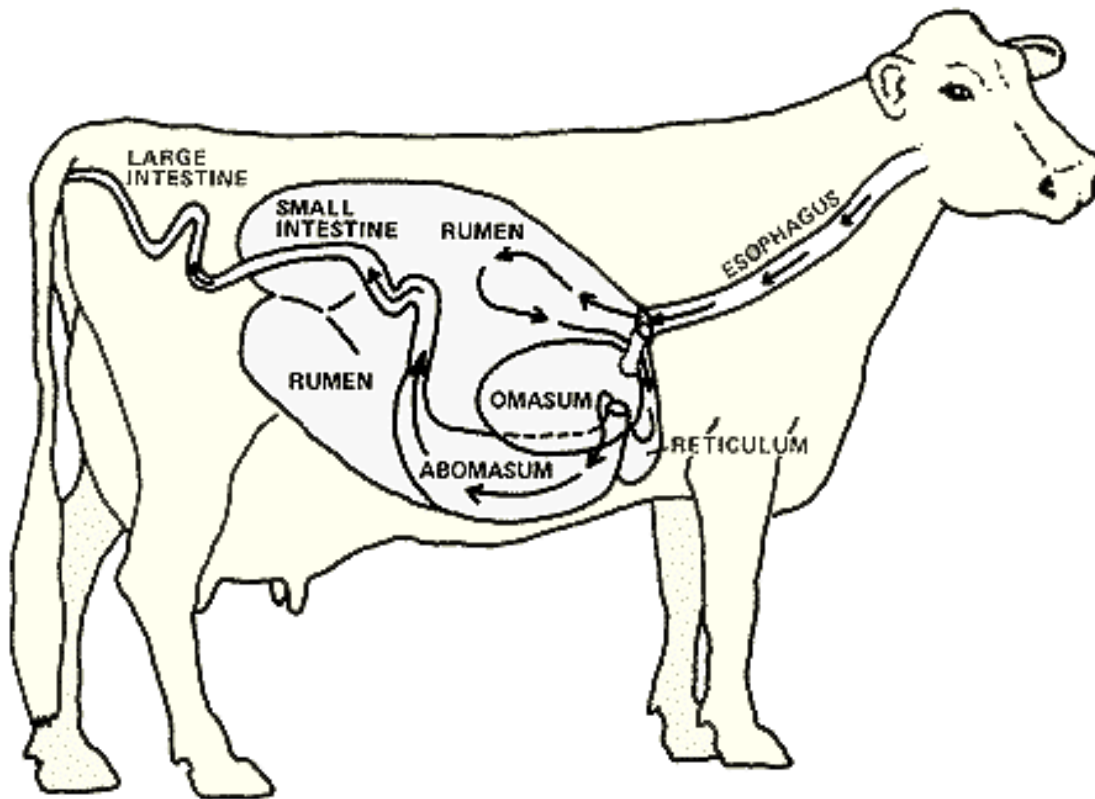
## **STRUCTURAL DIFFERENCES DESCRIPTIONS**

<b>Buck-kneed</b>	When the calf is "over at the knees" or buck-kneed, full extension of the knee cannot occur when observed from the side. This is usually seen in cattle that are also too straight in their shoulder.
<b>Calf-kneed</b>	This is the other extreme, where the calf stands "back at the knees" when viewed from the side.
<b>Weak Pastern</b>	Having an angle greater than 45 degrees in the pastern/h hoof alignment, putting too much pressure on the joint.
<b>Postlegged</b>	The hock has too little angle or set. The calf is too straight through the joint, resulting in very stiff, constricting movement because of the lack of flexibility. More cattle become unsound because of being postlegged than sickle hocked.
<b>Sickle-hocked</b>	When viewing the rear legs from the side, the hock has too much angle or set, causing the steer to stand too far underneath itself. Often these calves also will droop excessively from hooks to pins.
<b>Bowlegged</b>	When viewed from the front or rear, the knees set too far out.
<b>Knock-kneed</b>	When viewed from the front, the knees are close together.
<b>Toed-out (splayfooted)</b>	The feet toe out away from each other. This problem is often seen in extremely light-muscled, narrow-chested cattle, where the legs are naturally set too close together.
<b>Toed-in (pigeon-toed)</b>	Toes turn in towards each other.
<b>Cow-hocked</b>	When viewing the rear legs from the rear, the hocks are turned in or placed too close together.

## Digestive Anatomy

You are what you eat sounds silly but is somewhat true. Farm animals are grouped by what they eat, which is based on the type of digestive system they possess. *Herbivores* are vegetarians (cattle, sheep, goats, rabbits). *Carnivores* are flesh eaters (dogs). *Omnivores* eat both flesh and plants (pigs, chickens, humans). Based on the digestive system, animals are grouped as **monogastric** or *simple stomach* (pig), *polygastric* or **ruminant** (cattle, sheep, goats), *avian* (chickens), or **pseudo-ruminants** with a functional cecum (rabbits). Understanding the digestive system is fundamental to selecting the proper feeds and feeding system for your animal.

After studying this manual, you should be able to identify the parts of the digestive tract of a beef cow and tell the function of each part.



## Digestive Function

The physical and chemical changes of feed within the gastrointestinal tract that allow nutrients to be released and absorbed into the body are called **digestion**. There are significant differences in the digestive processes between species. The type of digestive system an animal has determines what the animal can successfully use as feed. Complicated feed (forage) requires a complicated digestive tract (ruminant). The steps in digestion include: prehension (gathering), mastication (chewing), salivation, deglutition (swallowing), microbial, enzymatic and chemical breakdown, absorption of nutrients, defecation, and micturition (urination). For a review of rumen anatomy visit: <http://mc050.k12.sd.us/Ruminant%20Digestive%20System.ppt>.



## Digestive Function

**Digestion Definition:** The process of breaking down food by mechanical and enzymatic action in the stomach and intestines into substances that can be used by the body.

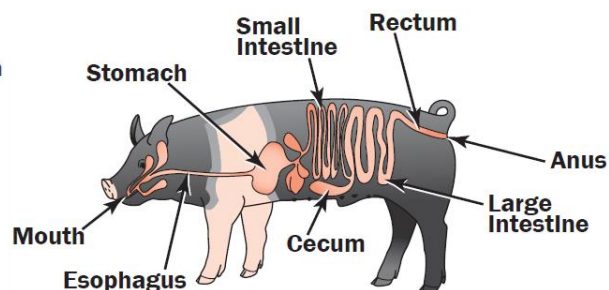
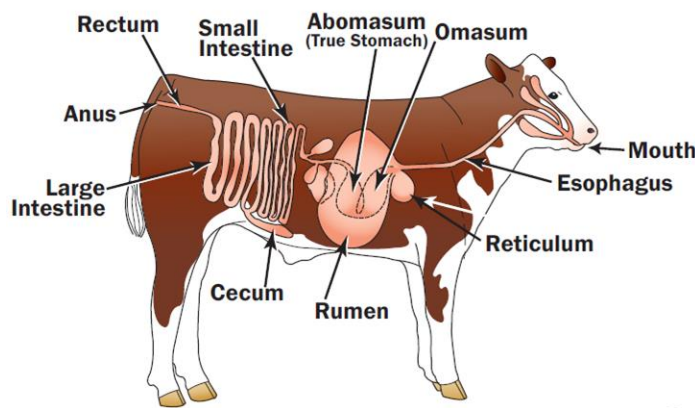
### What are the differences between the monogastric and ruminant systems?

There are two main differences between monogastric and ruminant animals:

1. **Monogastric** animals only have one compartment to their stomach. Ruminants have four compartments to their stomach.
2. **Ruminant** animals chew their food numerous times through a process called regurgitation or rumination. That means that food that travels first from the mouth to the esophagus to the rumen. From the rumen, the food then moves to the reticulum where it can then come back up the esophagus to the mouth to be chewed again and the process is repeated.

### Do the monogastric and ruminant digestive systems look different?

The systems look different in terms of their stomach compartments and the size of the organs.



### What are the compartments of the ruminant stomach?

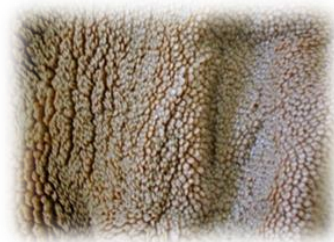
#### Taking a Closer Look at the Ruminant Digestive Systems:

The Ruminant stomach consists of four compartments that in order of food entering them go the rumen, reticulum, omasum, and abomasum. Each compartment has a different distinct function and appearance.

#### **Rumen**

The rumen is the largest compartment of the stomach that has the capability to store up to 50 gallons of digested materials.

Fermentation occurs here which allows for the storage and digestion of feed. The rumen has fingerlike projections called papillae that increase the surface area for microorganisms to do their work.



## Reticulum

The reticulum is attached to the rumen and the walls form a honeycomb structure. Additionally, the reticulum is sometimes referred to as the “blind pouch” as it sorts feed particles. The main function of the organ is to detect large feed particles that need to be further digested and regurgitate them back to the mouth to be re-chewed and then re-swallowed.



## Omasum

The omasum acts as a filter to remove water from the feed. The many folds or layers of muscles, also called “plies,” squeeze the moisture away from the feed particles while also continuing to reduce the particle size of the feed.



## Abomasum

The “true” stomach is the abomasum. This is where acids and enzymes further digest the feed. This compartment has a very low pH and is most similar to humans as feed mixes with gastric juice before entering the small intestine.



## What are the additional parts of the digestive tract?

### Mouth

Upper dental pad, lower incisors, both upper and lower molar teeth, and tongue are used in prehension, mastication, and salivation.

### Esophagus

Hollow muscular tube that transports food from the mouth to the stomach

### Sm. Intestine

Pancreatic and intestinal juices break down proteins and carbohydrates while bile from the liver breaks down fats. The first section (duodenum) is involved in digestion, and the next two sections (jejunum & ileum) are actively involved in nutrient absorption. (17 gallons and 150 feet)

### Lg. Intestine

Mainly absorbs water and end products of microbial digestion. The cecum has little function in ruminants. The colon is the site for water resorption and storage reservoir of undigested material which passes out of the rectum as feces. (8 gal.)

## **COMMON LIVESTOCK TERMS**

When working with cattle the following terms are important to know.

<b>BULL</b>	Intact male of cattle
<b>COW</b>	Female that has produced progeny in cattle
<b>PROGENY</b>	Offspring, young
<b>CALF</b>	Very young progeny
<b>HEIFER</b>	A female in cattle under three years old, which has not produced a calf
<b>STEER</b>	Male castrated prior to development of secondary sexual characteristics in cattle
<b>CARCASS</b>	The dressed body of a slaughtered meat animal, offal having been removed.
<b>FINISH</b>	Refers to the amount of external fat covering on an animal.
<b>MARBLING</b>	Refers to flecks of fat distributed within the muscle.
<b>MILKING ABILITY</b>	Refers to the amount of milk an animal can produce
<b>HINDQUARTER</b>	The rear half of a side of a carcass, divided between the 12 <sup>th</sup> and 13 <sup>th</sup> rib.
<b>FOREQUARTER</b>	The front half of a side of a carcass, divided between the 12 <sup>th</sup> and 13 <sup>th</sup> rib.
<b>POLLED</b>	Naturally hornless
<b>PARASITES</b>	Organisms living on other organisms - doing harm
<b>CROSSBREEDING</b>	Is the mating of two animals from different breeds.
<b>HYBRID</b>	The offspring produced from crossbreeding.

## Feed Label Information

A commercial law requires each bag or bulk load to be accompanied by a label showing several key items:

- Net weight
- Product name and brand name
- Drug additives
- Guaranteed analysis of the feed – crude protein, crude fat and crude fiber must be guaranteed on all feeds except straight mineral or vitamin supplements, molasses or drug compounds.
- Minimum percentage of crude protein, percentage of equivalent protein from non-protein nitrogen, if any. The amount of crude or total protein in a feed is guaranteed. Crude protein is determined by multiplying the nitrogen content of a feed by the factor 6.25.
- When non-protein nitrogen (NPN) is applied to feedstuffs, a statement “for ruminants only” must appear underneath the name of the feed. Additionally, it must also have a guarantee for crude protein which has been supplied from non-protein nitrogen.
- Minimum crude fat content – Fat has an energy value approximately 2.25 times the value of carbohydrate feedstuffs.
- Maximum crude fiber content – Crude fiber is a measure of the indigestible or non-useful portion of a feed. Feeds having low fiber values tend to be higher in digestible energy or total digestible nutrients than those feeds having high fiber values.
- Minerals – feeds containing 6.5 percent or more minerals must show a guarantee of: calcium – minimum and maximum; phosphorous- minimum; salt – minimum and maximum
- Vitamins, only if guaranteed
- Common and usual name of each ingredient or the collective term for each grouping of feed ingredients
- Directions for use and cautionary statements
- Name and principle mailing address of the manufacturer

50 lbs net weight

**Brand Name Show Feed**  
**(for ruminants only)**

### Medicated

Feed for 28 days as an aid in the maintenance of weight gains in the presence of respiratory diseases, such as shipping fever.

**Caution:** Use only as directed.  
Discontinue use 14 days prior to slaughter.

**Active Drug Ingredients:**  
Chlortetracycline 7.6 grams/ton

### Guaranteed Analysis

**CRUDE PROTEIN**, not less than 12%

This includes not more than 1.00% equivalent crude protein from non-protein nitrogen.

**CRUDE FAT**, not less than 2.0%

**CRUDE FIBER**, not less than 19%

**Ingredients:** Grain products, roughage products, plant protein products, processed grain by-products, forage products, molasses products, calcium carbonate, salt, vitamin E supplement, vitamin A supplement, ferrous sulfate, potassium iodide, manganese oxide copper chloride, cobalt glucoheptonate, vitamin D3 supplement, sodium selenite.

RUMINANT MEAT AND BONE MEAL FREE

**FEEDING DIRECTIONS:** Feed at the rate of 12 pounds per head per day.

**MANUFACTURED BY:**  
The Best Feed Company  
P. O. Box 00000  
Small Town, USA

## Basic Livestock Terms

1. **Condition, Finish or Covering** – All are used to denote fat. The terms finish and covering are used to describe fat on market animals, while condition is used when describing breeding stock.
2. **Growtiness** – The characteristics of having size and weight at a certain age.
3. **Balance or Symmetry** – A proper proportion and blending of parts of the animal. Balance or symmetry is evaluated from a side view.
4. **Ruggedness, Stoutness** – The quality of being heavy or large boned. This is usually determined by the size of the cannon bone (from the knee to the ankle).
5. **Quality** – A general term that combines smoothness and refinement. Refinement of hair coat, freedom of wrinkles in hogs and freedom of roughness, patchiness in cattle indicates quality.
6. **Scale** – The size of the animal as determined by skeletal structure, independent of weight. The height, length and width of the animal.
7. **Style** – The general eye-appeal or attractiveness of the animal. Includes balance, structural correctness and quality.
8. **Broodiness** – Female breeding stock term that means she has a favorable combination of characteristics to be a good mother. Depth, capacity, prominence of teats and/or mammary system, stoutness and correctness of vulva.
9. **Breed Character** – Characteristics that separate breeding stock of one breed from other breeds, primarily by differences of the head: shape, length, dish of face, width of muzzle, shape of poll and ears; color markings and wool covering in sheep.
10. **Trimness** – Freedom from fat or finish.
11. **Meatiness/Muscling** – having a high proportion of muscle in the areas of the high-priced cuts. This is shown primarily by the relative width, length and fullness of the quarter, leg or ham, and by the thickness and fullness through the rib, rack or loin.
12. **Type** – A combination of characteristics that make an animal useful for a specific purpose. Determined by the general shape and form of an animal. Desirable types are constantly changing.
13. **Tight Framed** – The ability of the animal to hold itself together. Indicated by a strong top (back), tightness of shoulder and squareness of feet and leg placements.
14. **Structural Soundness** – The desirability or correctness of the skeletal structure with major emphasis on straightness of top and proper feet and leg structure.
15. **Femininity** – Characteristics that distinguish the female from the male. Indicated by refinement of the head, neck and shoulders.
16. **Masculinity** – Characteristics that distinguish the male from the female. Indicated by boldness or massiveness of head and chest, thickness of the neck and development of the forequarters.

## Common Nutritional Disorders

### Disorder

### Chief Cause

Hardware disease

Wire or nails lodged in reticulum

Ketosis

Sudden need for extra energy caused by a change in production demand and fat mobilization

Acidosis

Excess grain consumption

Grass tetany

Mg deficiency caused by consumption of lush grass

Night blindness

Vitamin A deficiency

Goiter

Iodine deficiency

Rickets

Ca, P, or vitamin D deficiency (young animals)

Anemia

Fe, Cu, vitamin B<sub>12</sub>, or folic acid deficiency

Founder (laminitis)

Too rapid change in the ration

Liver abscesses

Bacteria in the gut that grows quickly when cattle are on low roughage/high concentrate finishing rations

Photosensitization

Some feeds or forages or accumulation of metabolites

Bloat

Slime producing bacteria increase and slime traps rumen gas. Most common on lush legume pastures

Calf scours

Severe diarrhea

Polioencephalomalacia

Associated with inadequate thiamine status or high sulfur intake

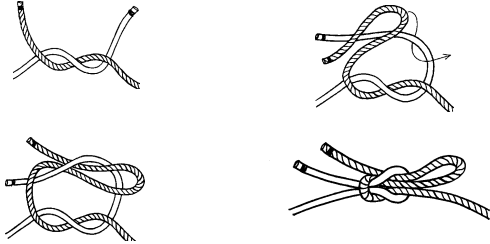
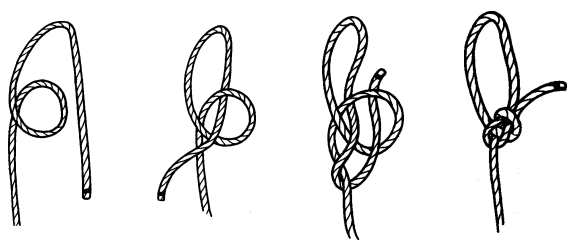
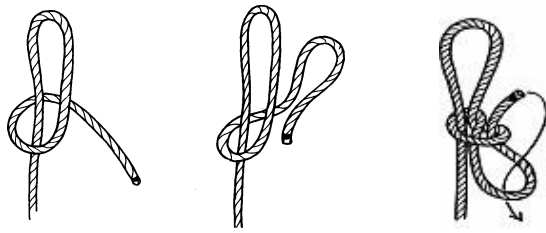
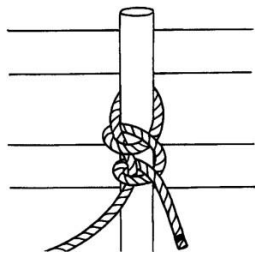
## Knots for Livestock Handling

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.

	
<p><b>Reefer's Knot</b> (<i>Quick-Release Square Knot</i>) 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.</p>	<p><b>Bowline Knot</b> 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.</p>
	
<p><b>Quick-Release Knot</b> 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.</p>	<p><b>Double Half Hitch</b> A quick and easy knot which acts like a slipknot and is a convenient way to tie up the end of a rope.</p>

# Activities

It is recommended that you complete the six activities provided in this skill-a-thon book to help prepare you for the skill-a-thon. The activities are very similar to what you should expect during the skill-a-thon and can be used for practice.

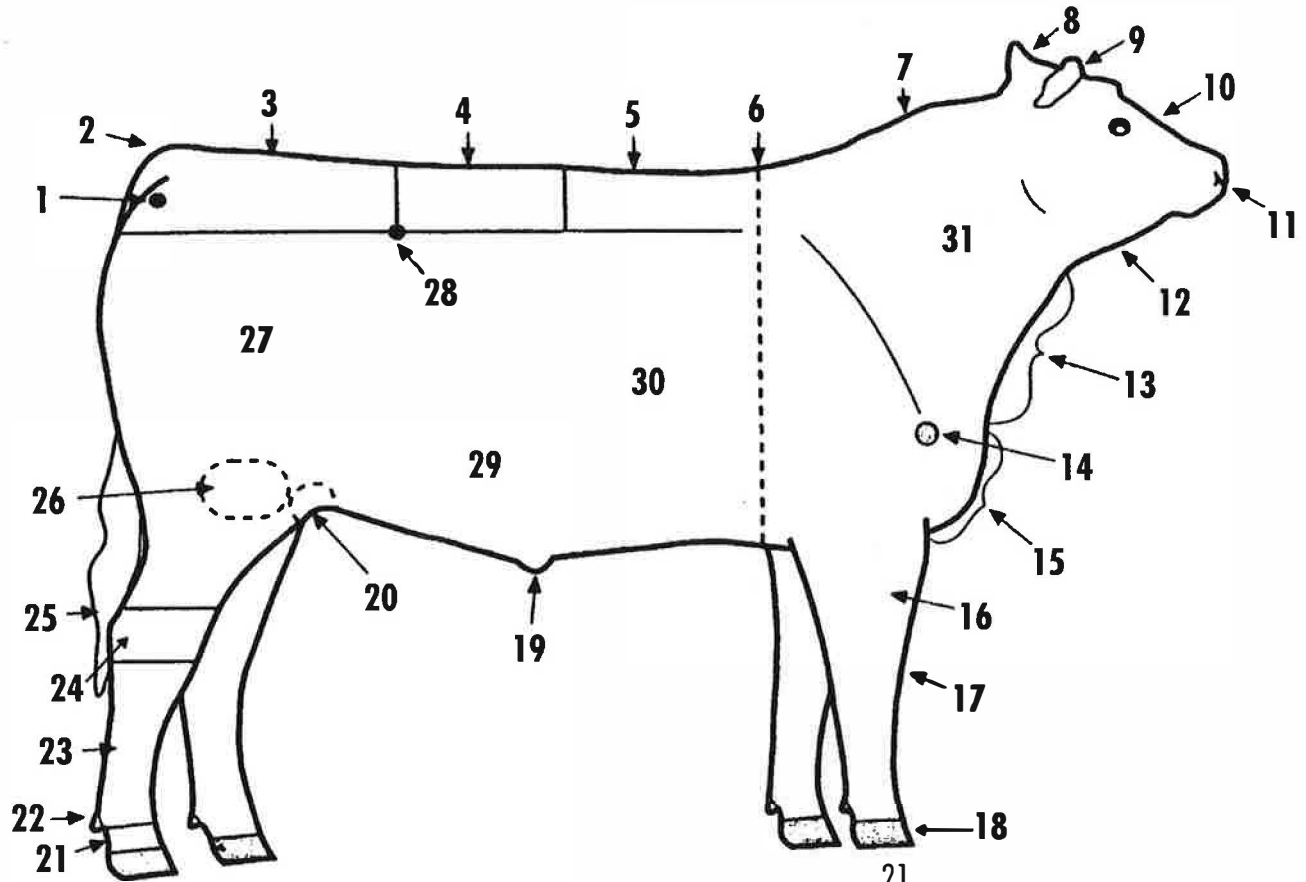
**4-H Members Only:** After you have completed an activity you should record it in your record book using the table on the 4-H Project Book/ Activities page. You do not need to attach the activity page you have completed in the record book. Before turning into 4-H in May have your leader sign the Activity Page showing they have seen your six (6) completed Activities..



# SENIOR STEER PARTS

## ACTIVITY #1

Write in the name that corresponds to the correct part of the animal.



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_
17. \_\_\_\_\_
18. \_\_\_\_\_
19. \_\_\_\_\_
20. \_\_\_\_\_

21. \_\_\_\_\_
22. \_\_\_\_\_
23. \_\_\_\_\_
24. \_\_\_\_\_
25. \_\_\_\_\_
26. \_\_\_\_\_
27. \_\_\_\_\_
28. \_\_\_\_\_
29. \_\_\_\_\_
30. \_\_\_\_\_
31. \_\_\_\_\_

References: Ohio 4-H Beef, Sheep, and Swine Selection and Evaluation Book #103R; Beef Learning Laboratory Kit  
Prepared By: Jodi Black, State Extension Associate, 4-H/Animal Sciences; Andrea Auker, Animal Sciences Student

# SENIOR MARKET STEER BREEDS

## ACTIVITY #2

*Use your knowledge of cattle breeds and the characteristics of each to fill in the blank with the correct breed for each animal below.*

1. \_\_\_\_\_: My genetics are 5/8 Angus and 3/8 Brahman.
2. \_\_\_\_\_: My genetics are 3/8 Brahman and 5/8 Shorthorn.
3. \_\_\_\_\_: I have a red body and white face. I am known for my foraging ability, vigor, hardiness and quiet disposition.
4. \_\_\_\_\_: This breed is about 5/8 Hereford and 3/8 Brahman.
5. \_\_\_\_\_: I am a great worker, mother and produce great beef. I am large.
6. \_\_\_\_\_: I was developed in the southwestern United States. I am very heat tolerant.
7. \_\_\_\_\_: I am known for my fast growth and lean meat. I am large and white.
8. \_\_\_\_\_: I am polled with a black coat. I originated in Scotland.
9. \_\_\_\_\_: I may be red and/or white, or roan in color. I am from England.

10. \_\_\_\_\_: This breed is a result of crosses among Herefords, Shorthorns, and Brahmans. The exact percentage of blood from each is not known, the breed has a variety of colors. Reds and duns are more common than other colors. Selection has been mainly for good disposition, fertility, gain, conformation, hardiness, and milk production.
11. \_\_\_\_\_: This breed was imported into the United States from Switzerland, France, and Germany. These animals have red to dark red or black with spotted bodies with white faces. They are noted for their fast growth and milking abilities.
12. \_\_\_\_\_: This breed is solid cream to reddish yellow in color. They originated in Germany. They are known as a general-purpose breed with good milking abilities.
13. \_\_\_\_\_: These cattle are dark red and white in color. Some animals are roan in color. They have lightly pigmented skin. They are a horned breed with medium-size horns that curve forward. They are considered docile and easily handled.
14. \_\_\_\_\_: This breed originated in the west-central part of France. They are solid to golden-red in color with lighter circles around the eyes and muzzle.

## SENIOR STEER DIGESTION FUNCTION ACTIVITY #3

Write the correct number and name in the line to match the function description of each compartment.

1. Omasum
2. Abomasum
3. Rumen
4. Reticulum

\_\_\_\_\_ Looks similar to a honey comb structure. The main function of the organ is to detect large feed particles that need to be further digested and regurgitate them back to the mouth to be re- chewed and then re-swallowed.



\_\_\_\_\_ This is the largest compartment of the stomach that has the capability to store up to 50 gallons of digested materials. Fermentation occurs here which allows for the storage and digestion of feed.



\_\_\_\_\_ This organ acts as a filter to remove water from the feed. The many folds or layers of muscles, also called “plies,” squeeze the moisture away from the feed particles while also continuing to reduce the particle size of the feed.



\_\_\_\_\_ This is also known as the “true” stomach. This is where acids and enzymes further digest the feed.



# SENIOR MARKET STEER DIGESTIVE TRACT ACTIVITY #4

Enter the corresponding digestive organ by the correct number.

LARGE INTESTINE

CECUM

ABOMASUM

ANUS

RUMEN

RETICULUM

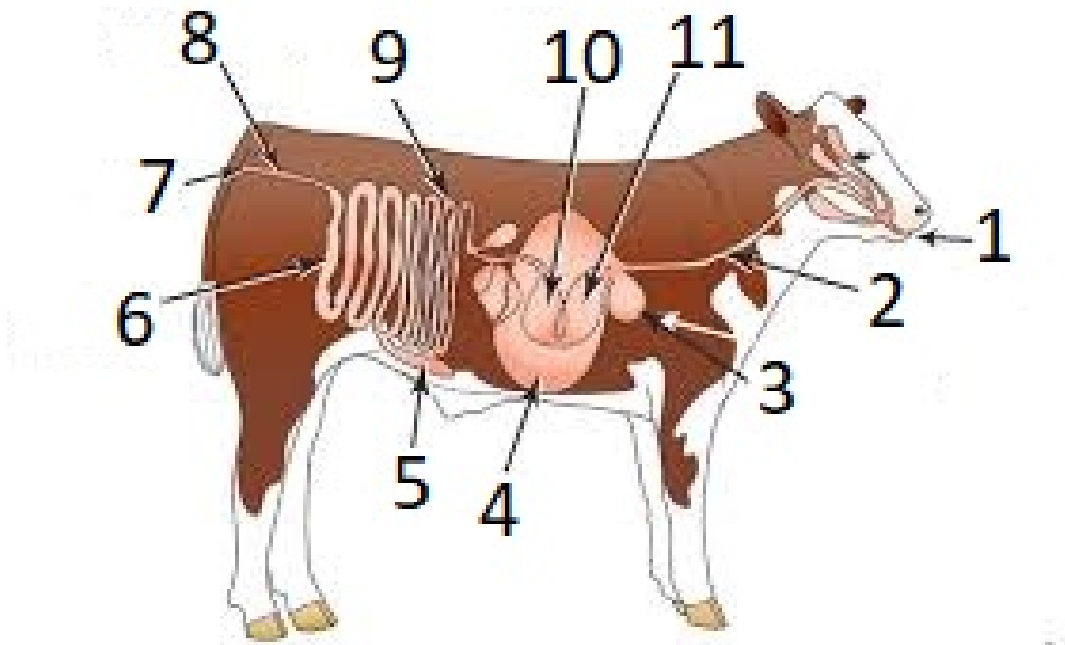
ESOPHAGUS

MOUTH

OMASUM

SMALL INTESTINE

RECTUM



1. \_\_\_\_\_

6. \_\_\_\_\_

2. \_\_\_\_\_

7. \_\_\_\_\_

3. \_\_\_\_\_

8. \_\_\_\_\_

4. \_\_\_\_\_

9. \_\_\_\_\_

5. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

## SENIOR STEER FEED LABEL ACTIVITY #5

PLACE NUMBER BY THE PROPER LABEL DESCRIPTION

- \_\_\_\_\_ Feeding Directions
- \_\_\_\_\_ Ingredients
- \_\_\_\_\_ Net Weight
- \_\_\_\_\_ Manufactured by
- \_\_\_\_\_ Guaranteed Analysis
- \_\_\_\_\_ Drug Additives
- \_\_\_\_\_ Product Name  
and Brand Name
- \_\_\_\_\_ Crude Fiber
- \_\_\_\_\_ Crude Protein
- \_\_\_\_\_ Caution
- \_\_\_\_\_ Crude Fat

1. \_\_\_\_\_

2. \_\_\_\_\_  
(for ruminants only)

**Medicated**  
Feed for 28 days as an aid in the  
maintenance of weight gains in the  
presence of respiratory diseases  
such as shipping fever.

3. \_\_\_\_\_ Use only as directed.  
Discontinue use 14 days prior to  
slaughter.

4. \_\_\_\_\_  
**Chlortetracycline 7.6 grams/ton**

5. \_\_\_\_\_

6. \_\_\_\_\_ not less than 12%  
This includes not more than 1.00% equivalent  
crude protein from non-protein nitrogen

7. \_\_\_\_\_, not less than 2.0%

8. \_\_\_\_\_, not more than 19%

9. \_\_\_\_\_ Grain Products, roughage products,  
plant protein products, processed grain by-products,  
forage products, molasses products, calcium carbonate,  
salt, vitamin E supplement, vitamin A supplement,  
ferrous sulfate, potassium iodide, manganese oxide  
copper chloride, cobalt glucoheptonate, vitamin D3  
supplement, sodium selenite.

RUMINANT MEAT AND BONE MEAL FREE

10. \_\_\_\_\_: Feed  
at the rate of 12 pounds per head  
per day.

11. \_\_\_\_\_:  
**The Best Feed Company**  
**P.O. Box 00000**  
**Small Town, USA**

**SENIOR STEER COMMON NUTRITIONAL DISORDER**  
**ACTIVITY #6**

Write in the **Name** that corresponds with the cause of the common nutritional disorder.

<b>Name:</b>	
<b>Cause:</b>	Too rapid change in the ration

<b>Name:</b>	
<b>Cause:</b>	Vitamin A deficiency

<b>Name:</b>	
<b>Cause:</b>	Excess grain consumption

<b>Name:</b>	
<b>Cause:</b>	Sudden need for extra energy caused by a change in production demand and fat mobilization

<b>Name:</b>	
<b>Cause:</b>	Bacteria in the gut that grows quickly when cattle are on low roughage/high concentrate finishing rations

<b>Name:</b>	
<b>Cause:</b>	Severe diarrhea

<b>Name:</b>	
<b>Cause:</b>	Some feeds or forages or accumulation of metabolites

<b>Name:</b>	
<b>Cause:</b>	Associated with inadequate thiamine status or high sulfur intake

<b>Name:</b>	
<b>Cause:</b>	Slime producing bacteria increase and slime traps rumen gas. Most common on lush legume pastures

<b>Name:</b>	
<b>Cause:</b>	Fe, Cu, vitamin B <sub>12</sub> , or folic acid deficiency

<b>Name:</b>	
<b>Cause:</b>	Wire or nails lodged in reticulum

<b>Name:</b>	
<b>Cause:</b>	Ca, P, or vitamin D deficiency (young animals)

<b>Name:</b>	
<b>Cause:</b>	Mg deficiency caused by consumption of lush grass

<b>Name:</b>	
<b>Cause:</b>	Iodine deficiency
