

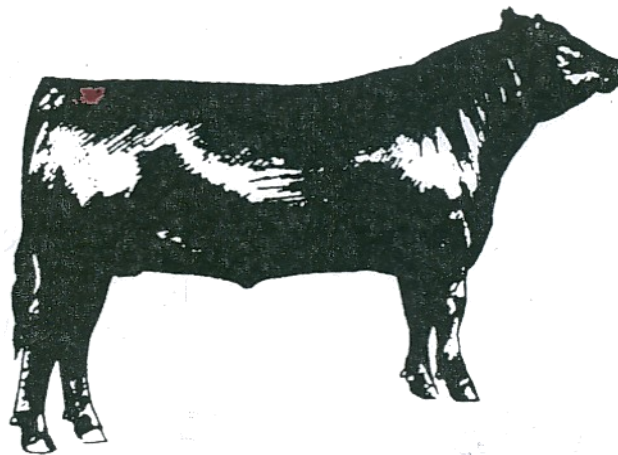
Osceola County 4-H Market Steer

SKILL-A-THON REFERENCE BOOK

&

SENIOR SKILL-A-THON ACTIVITIES

2021-2022



UF | **IFAS Extension**
UNIVERSITY of FLORIDA



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

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** to help exhibitors and educators identify which materials are required for their age level. The topic for this year's Skill-a-thon is **nutrition**.

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

Juniors (age 8-10 as of September 1, 2021)

Body parts
Breeds
Structure
Beef Nutrition
Feed Classification & Feed Identification
Common Livestock Terms

Intermediates (age 11-13 as of September 1, 2021)

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

Seniors (age 14 and over as of September 1, 2021)

All of the above plus....
Nutritional Disorders

The Skill-a-thon contest will be held on January 26, 2022, from 2:00 p.m. until 6:00 p.m. in the KVLS Arena.

KVLS Skill-a-thon Rules for 2021-2022

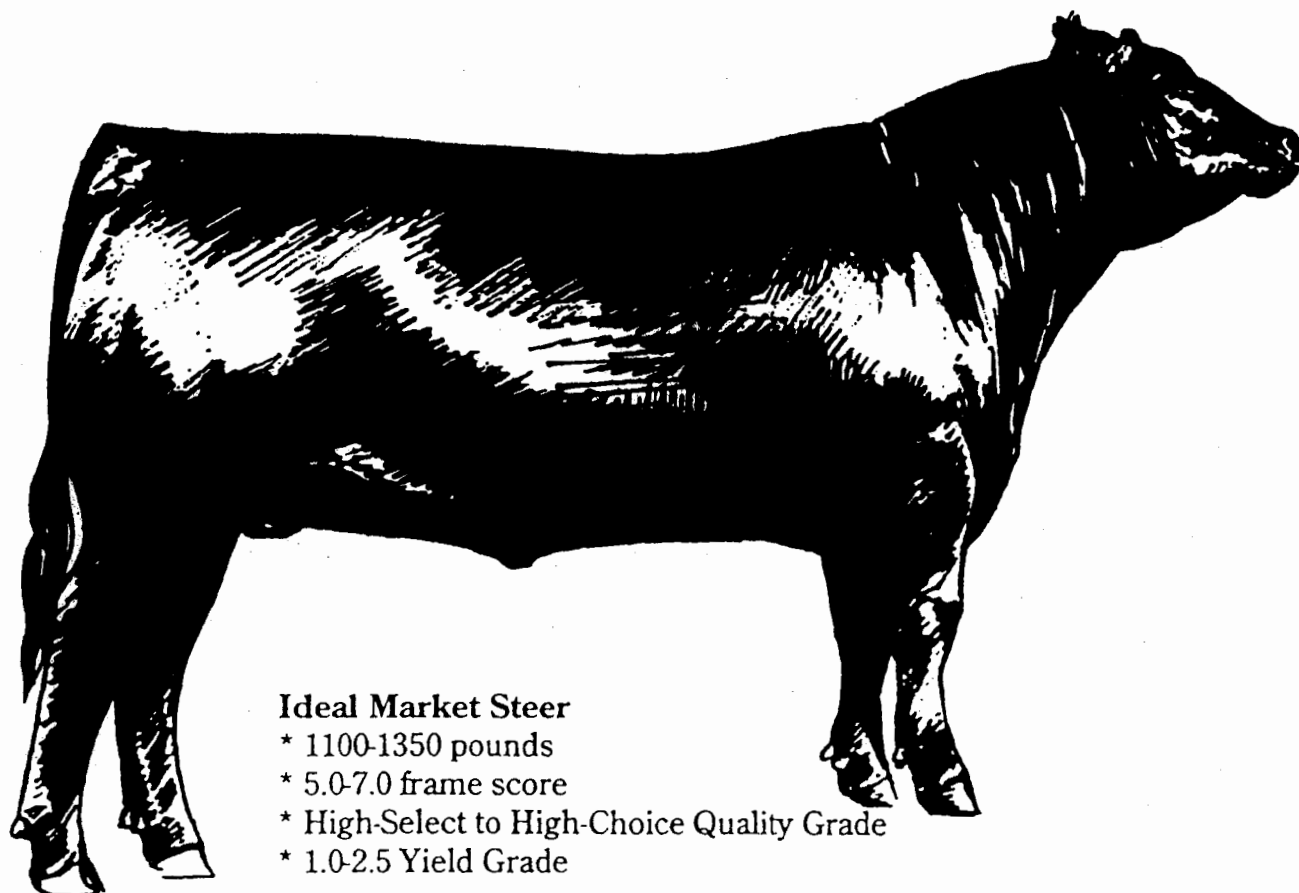
1. All market exhibitors must take the Skill-a-thon in their project area for the animal that they are showing in order to participate in the market programs, i.e. steer exhibitors must take the Steer Skill-a-thon. Any exhibitor who does not meet the required grade average on their report card or who 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, 1st, 2nd and 3rd place will receive rosette ribbons and a monetary award.

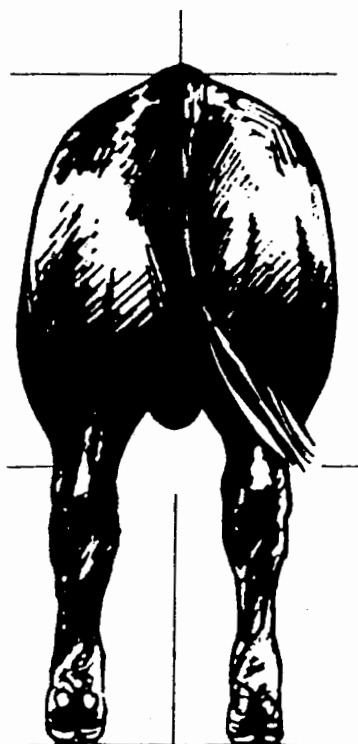
BEEF

The Ideal Market Steer

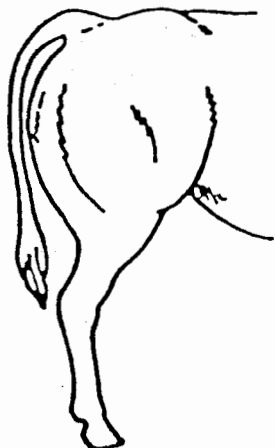


Ideal Market Steer

- * 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

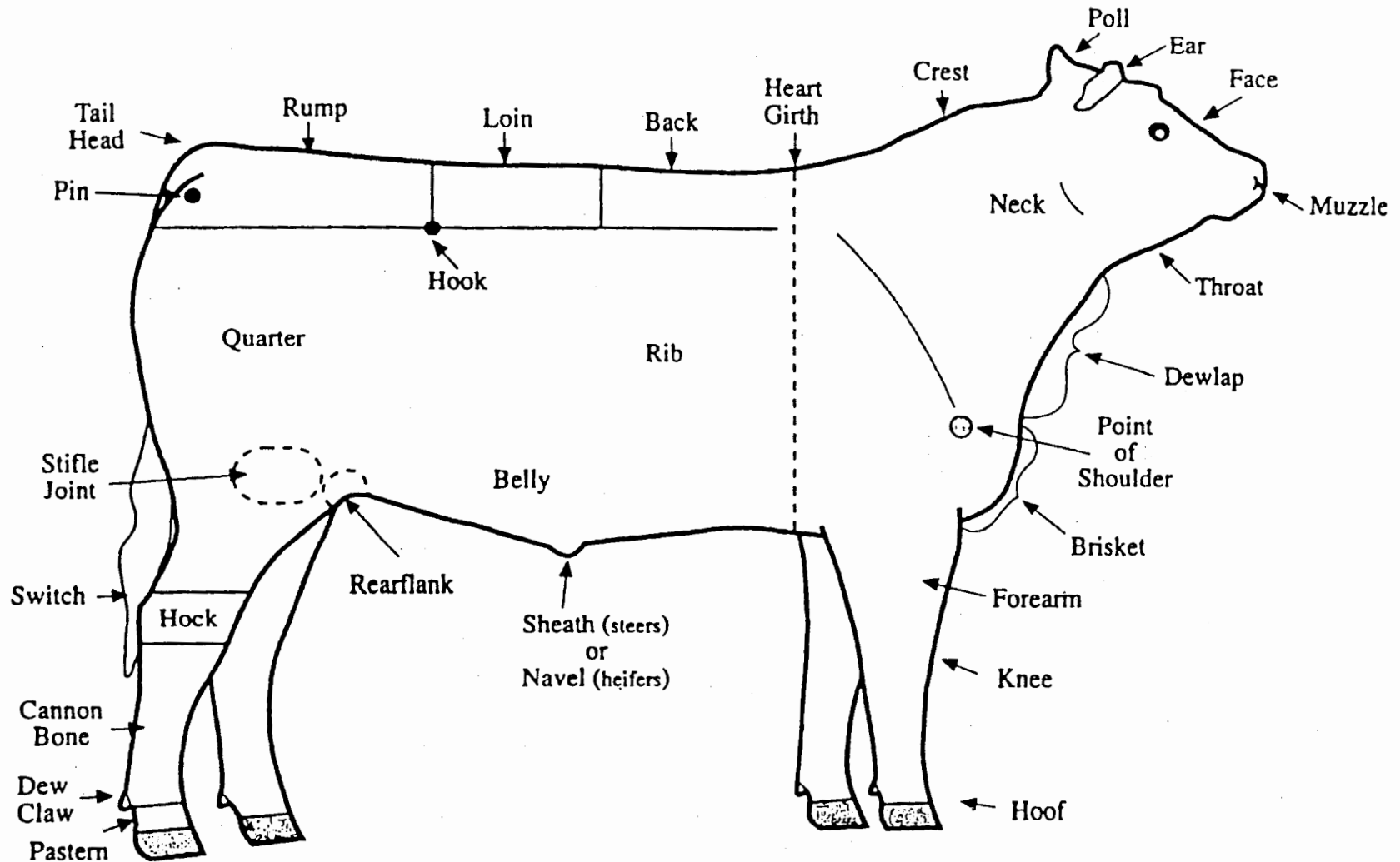
STRUCTURAL CORRECTNESS

*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 Brahmans. 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.

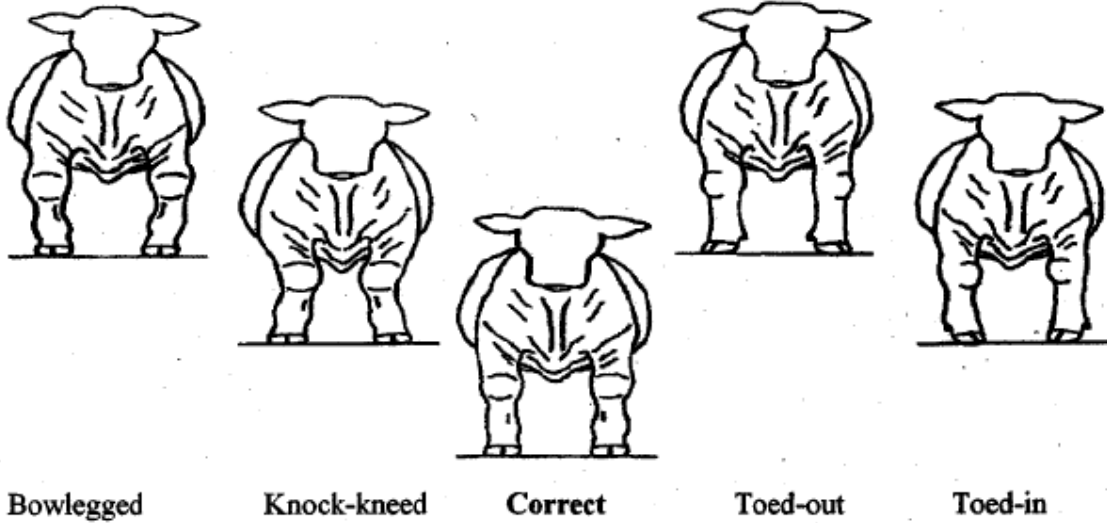


SIMMENTAL

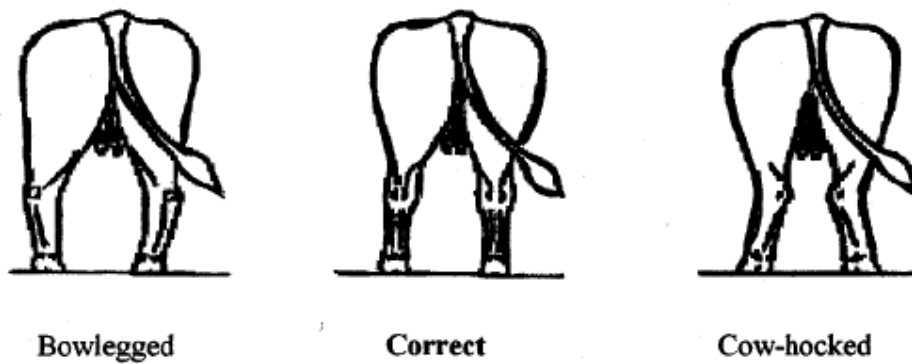
This breed was imported into the United States from Switzerland, France, and Germany. These animals can be red to dark red, brown, or black with spotted bodies and white faces. They are noted for their fast growth and milking abilities.

STRUCTURAL DIFFERENCES FRONT & REAR VIEWS

Front Leg Alignment

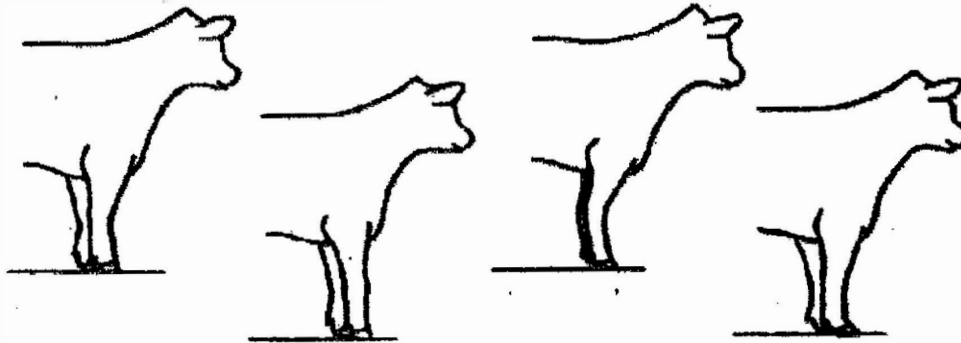


Rear Leg Alignment



STRUCTURAL DIFFERENCES SIDE VIEWS

Front Leg Set



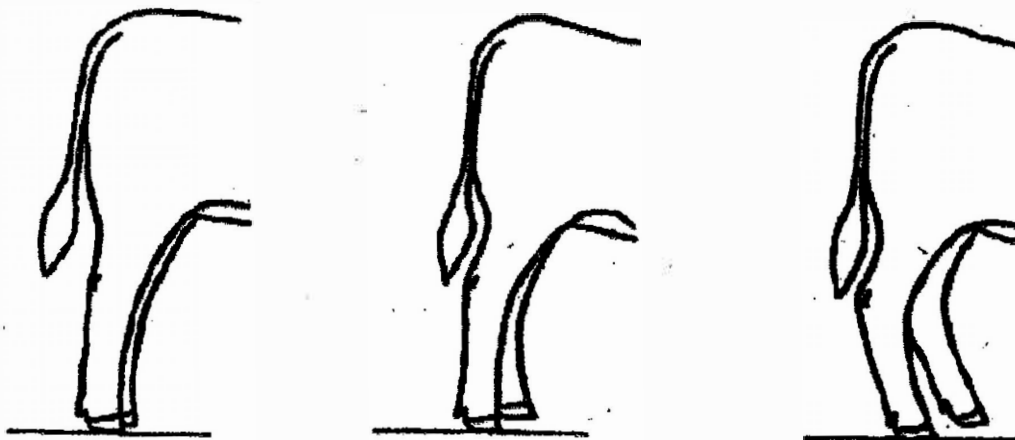
Correct

Buck-kneed

Calf-kneed

Weak Pasterns

Hind Leg Set



Post-legged

Correct

Sickie-hocked

STRUCTURAL DIFFERENCES DESCRIPTIONS

Buck-kneed	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.
Calf-kneed	This is the other extreme, where the calf stands "back at the knees" when viewed from the side.
Weak Pastern	Having an angle greater than 45 degrees in the pastern/h hoof alignment, putting too much pressure on the joint.
Postlegged	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.
Sickle-hocked	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.
Bowlegged	When viewed from the front or rear, the knees set too far out.
Knock-kneed	When viewed from the front, the knees are close together.
Toed-out (splayfooted)	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.
Toed-in (pigeon-toed)	Toes turn in towards each other.
Cow-hocked	When viewing the rear legs from the rear, the hocks are turned in or placed too close together.

Beef Nutrition

What an animal eats, how it is digested, absorbed, utilized and what is excreted is the essence of *nutrition*. Good nutrition is basic to good health and production. Proper feeding management requires knowledge of the nutrients in the feedstuffs available to the producer and the nutrient needs of their animals. It also includes an understanding of animal behavior and a management strategy that allows the animals to consume all that is required without causing digestive upset. Though general rules of thumb are helpful, each situation may require adjustments in order to optimize growth and production.

Nutrients are substances in the diet that support normal body functions. Some nutrients can be manufactured in the animal's body and are classified as *dietary non-essential*. *Dietary essential* nutrients must be provided in the ration. **Nutrients can be classified into six groups: water, carbohydrates, fats (lipids), proteins, vitamins and minerals.**

Water is the most essential nutrient and is involved in all body functions. It is the most abundant and therefore the cheapest nutrient. Animals receive water from drinking as well as from feeds that contain water. An animal that is not receiving enough water will not eat well. Factors which affect an animal's water consumption are the animal's size, feed intake, environmental temperature, humidity, and water quality.

Proteins function as the basic structural unit of the animal body and in metabolism. Protein is the main component of the organs and soft structures of the animal body with the exception of water. The dietary requirement for protein is highest in young, growing animals. All proteins are composed of simple units called amino acids. The particular amino acids in a protein determine the quality of that protein. Protein is one of the most expensive portions of the diet.

Carbohydrates are organic compounds formed in plants by the process of photosynthesis. They make up about 75% of the dry weight of plants and grain. Carbohydrates serve as a source of energy in the body. A surplus of carbohydrates is transformed into fat and stored.

Fats function much like carbohydrates in that they serve as a source of energy. Fats produce 2 ¼ more energy than carbohydrates when digested; therefore a smaller amount is required to serve the same function. Some fats are essential for proper metabolism in the animal.

Vitamins are essential for the development of normal tissue and necessary for metabolic activity. They are effective in the animal body in small amounts. When not consumed in an adequate amount a specific deficiency disease can result, or toxicity may result if eaten in extremely high amounts. Vitamins are classified as being either fat soluble (A, D, E, K) or water soluble (B complex & C). Fat soluble vitamins must be consumed in the diet.

Minerals are inorganic, solid, crystalline chemical elements. They are classified as being either macro (Ca, P, Na, Cl, K, Mg & S) meaning required in high concentrations or micro (Cr, Co, Cu, F, Fe, I, Mn, Mo, Ni, Se, Si, & Zn) meaning required in trace amounts. Calcium makes up nearly 50% of the total body mineral, phosphorus composes 25%, and other minerals make up the remaining 25%. Minerals function in protein synthesis, oxygen transport, and in skeletal formation and maintenance.

Feed Classification and Identification

Though we generally group feeds into roughages (high fiber, >18% crude fiber, less digestible) and concentrates (low fiber, <18% crude fiber, more readily digestible). **There are 8 international feed classes that are based on content and use.**

1. **Dry forages and roughages** -cut and cured products with >18% CF like hay, straw, corn cobs, shells and hulls, paper, wood by-products and stover.



Hay



Cottonseed Hulls

2. **Pasture, range plants and forages fed fresh** - all forages not cut or cut and fed fresh.



Grass Pasture

3. **Silages and haylages** - plant material preserved through the ensilin process, forages like corn, alfalfa and grass.



Baleage

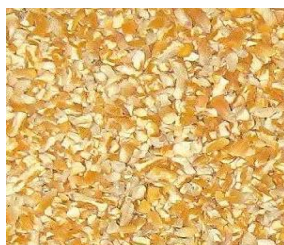


Silage

4. **Energy feeds** – products with <20% CP, <18% CF and > 70% TDN, like cereal grains (corn, oats, barley, wheat), mill byproducts, beet and citrus pulp, molasses, animal, marine and vegetable fats, nuts, roots and tubers. Energy content of a feedstuff is expressed as percent total digestible nutrients (TDN) because it is strongly correlated with digestible energy.



Whole Corn



Cracked Corn



Wheat



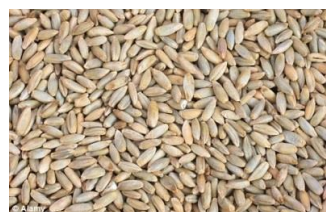
Grain Sorghum (Milo)



Barley



Oats



Rye



Wheat Middlings



Distiller's Grain

5. **Protein supplements** – products with >20% CP or more; protein from non-ruminant animal origin, oilseed meals like soybean or cotton, legume seeds, milling by-products of grains, brewery and distillery by-products, yeast, non-protein nitrogen.



Soybean Meal



Fish Meal



Dried Wheat

6. **Mineral supplements**



Dicalcium Phosphate



White Salt



Trace Mineral Salt



Ground Limestone (Calcium Carbonate)

7. **Vitamin supplements**

8. **Non-nutritive additives** – supplements such as antimicrobials, antifungals, antibiotics, antioxidants, probiotics, buffers, coloring material, flavors, hormones and medicines.

COMMON LIVESTOCK TERMS

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

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

<u>Disorder</u>	<u>Chief Cause</u>
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 ₁₂ , 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

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.

Helpful Study Resources:

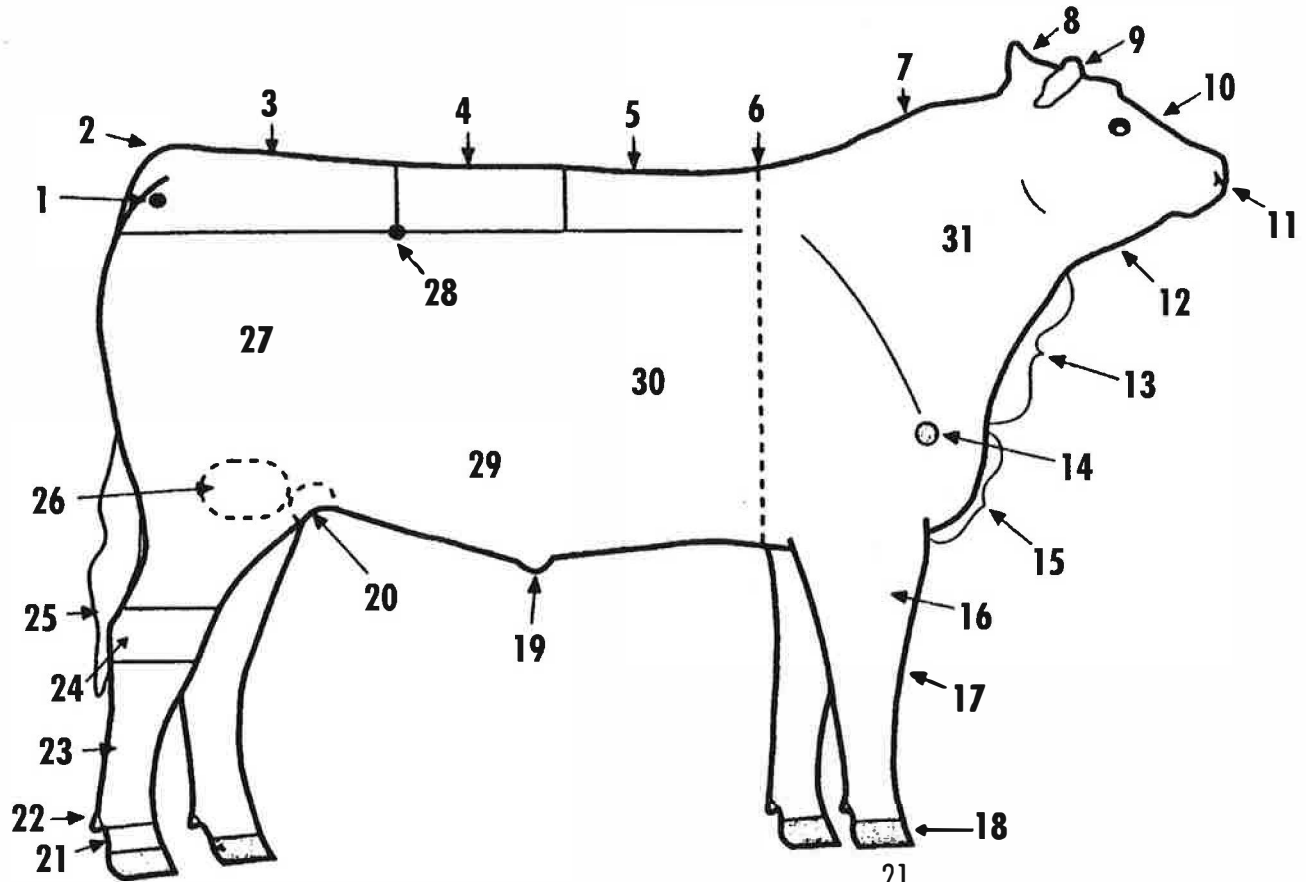
<https://animalscience.tennessee.edu/youth-resources//>

https://osu.az1.qualtrics.com/jfe/form/SV_cTR1YeOMFV0MTml

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.
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 Brahman. 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. _____: The color of this breed is red and shows a Hereford color pattern. The breed is about $\frac{5}{8}$ Hereford and $\frac{3}{8}$ Brahman. Calves grow rapidly and attain weaning weights of 500 to 800 pounds. The breed is noted for its superior maternal ability.
13. _____: 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.
14. _____: 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.
15. _____: 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 NUTRITION
ACTIVITY # 3**

Please match the nutrient to the definition

A. Minerals

B. Protein

C. Carbohydrates

D. Fats

E. Water

F. Vitamins

1. _____ This is the most essential nutrient. It is needed for digestion, temperature control, waste removal, and many other purposes. Without this nutrient an animal will not eat well. It is the most abundant and cheapest nutrient
2. _____ The dietary requirement is highest in young, growing animals and is one of the most expensive portion of the animal's diet. Composed of amino acids.
3. _____ Essential for the development of normal tissue and necessary for metabolic activity. This nutrient is classified as fat soluble (A, D, E, K) or water soluble (B complex and C).
4. _____ Organic compounds formed in plants by the process of photosynthesis. Serve as a source of energy in the animal's body.
5. _____ Inorganic, solid, and crystalline chemical elements. This nutrient is needed for function in protein synthesis, oxygen transport, and in skeletal formation and maintenance. Macro (Ca, P, Na, Cl, K, Mg, & S) meaning required in high amounts or micro (Cr, Co, Cu, F, Fe, I, Mn, Mo, Ni, Se, Si, & Zn) meaning required in trace amounts.
6. _____ Nutrient serves as a source of energy. Produces more energy than carbohydrates when digested; therefore a small amount is required to serve same function as carbohydrates.

**SENIOR STEER
FEED CLASSIFICATION & IDENTIFICATION
ACTIVITY # 4**

Please write the feed class and feed identification for each picture below



Example:

Feed Classification: Energy Feed

Feed Identification: Cracked Corn



Feed Classification: _____

Feed Identification: _____



Feed Classification: _____

Feed Identification: _____



Feed Classification: _____

Feed Identification: _____



Feed Classification: _____

Feed Identification: _____



Feed Classification: _____

Feed Identification: _____



Feed Classification: _____

Feed Identification: _____

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.

Name:	
Cause:	Too rapid change in the ration

Name:	
Cause:	Vitamin A deficiency

Name:	
Cause:	Excess grain consumption

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

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

Name:	
Cause:	Severe diarrhea

Name:	
Cause:	Some feeds or forages or accumulation of metabolites

Name:	
Cause:	Associated with inadequate thiamine status or high sulfur intake

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

Name:	
Cause:	Fe, Cu, vitamin B ₁₂ , or folic acid deficiency

Name:	
Cause:	Wire or nails lodged in reticulum

Name:	
Cause:	Ca, P, or vitamin D deficiency (young animals)

Name:	
Cause:	Mg deficiency caused by consumption of lush grass

Name:	
Cause:	Iodine deficiency