Like most businesses, the cattle business has a language all its own. Following are definitions of some of the most common beef cattle terminology.

**Accuracy (of selection)** - Correlation between an animal’s unknown true genetic worth and a calculated estimated genetic worth. An accuracy is an expression of the reliability of an EPD and may range between a low of 0.0 and a high of 1.0.

**Adjusted Weaning Weight** (adj 205 day wt) - Weight of a calf at weaning, adjusted to a standard 205 days of age and adjusted for the age of the dam.

**Adjusted Yearling Weight** (adj 365 day wt) - Weight of a calf as a yearling adjusted to a standard 365 days of age and adjusted for the age of the dam.

**Artificial Insemination (A.I.)** - The procedure for impregnating cows by manually placing semen in the reproductive tract of the female.

**Average Daily Gain (ADG)** - Calculation of post-weaning gain, figured by dividing the weight gain by the days on feed.

**Barren** - Sterile female.

**Birth Weight** - Weight taken in the first 24 hours of a calf’s life.

**Bloom** - An inclusive term used to describe the general look of a healthy, clean, lustrous hair coat.

**Bred** - Applies to the female definitely safe in calf, or pregnant; also used to refer to the mating process.

**Breeder** - The owner of the dam of the calf at the time she was mated.

**Breeding soundness examination** - Inspection of a bull involving evaluation of physical conformation and soundness through genital palpation, scrotal circumference, and testing semen for motility and morphology.

**Bulling** - a cow in heat.

**Bull** - Uncastrated male cattle of any age.

**By** - Designates the sire.

**Calf Crop Percent** - The percent of cows exposed to breeding which subsequently wean a calf.

**Calves** - Young cattle of either sex less than one year of age.

**Calving** - Giving birth, also called “dropping a calf” or parturition.

**Carrier** - A heterozygous individual having one recessive gene and one dominant gene for a given pair of genes (alleles). For example, an animal with one gene for polledness and one gene for horns will be polled but can produce a horned offspring when mated to another animal carrying the gene for horns.

**Castrate** - to remove the testes of male cattle.

**Chromosome** - Chromosomes are long DNA molecules on which genes (the basic genetic codes) are located. Domestic cattle have 30 pairs of chromosomes.

**Conformation** - The form of an animal as determined by structure, shape and muscling.

**Congenital** - Acquired during prenatal life. Condition exists at or dates from birth. Often used in the context of congenital (birth) defects.

**Contemporary group** - A group of cattle that are of the same breed and sex and have been raised in the same management group (same location on the same feed and pasture). Contemporary groups should include as many cattle as can be accurately compared.

**Correlation** - A measure ranging from -1.0 to +1.0 of how two traits vary together. A positive correlation indicates that as trait A increases, trait B also increases. A negative correlation would indicate that as A increases trait B would decrease.

**Cow** - Female cattle that have had one or more calves.

**Crossbreeding** - System of mating two animals of different breeds to increase production efficiency by allowing breed
complimentarity and hybrid vigor. Breed complementarity is combining the desirable traits of two parent breeds, and hybrid vigor (or heterosis) is the increased performance of crossbred calves over the average of their parents.

**Crossbred** - An animal that has purebred parents or grade parents of different breeds.

**Cryptorchid** - Male cattle with undescended testes.

**Cull** - to eliminate an animal of low quality from a herd.

**Cutability** - Carcass cutout value or yield of saleable meat; sometimes designated as yield grade by meat graders.

**Dominance** - Dominant genes affect the phenotype when present in either homozygous or heterozygous condition. A dominant gene need only be obtained from one parent to achieve expression.

**Dystocia** (calving difficulty) - Abnormal or difficult labour causing difficulty in delivering the fetus and/or placenta.

**Embryo Transfer (E.T.)** - Taking fertilized eggs from a purebred donor cow and transferring them to the uteruses of recipient cows. This allows top-quality cows to produce more than one calf a year.

**Environment** - All external (non-genetic) conditions that influence the reproduction, production and carcass merit of cattle.

**Estrus synchronization** - Using synthetic hormones to make a group of females come into heat at the same time. They can then be bred at the same time and all of their calves will be born in a short period, ensuring uniform ages in the calf crop and lower labour requirements.

**Expected Progeny Difference (EPD)** - An estimate of the expected performance of an animal’s offspring, expressed in actual pounds. EPDs can be positive or negative, depending on whether a sire or dam will increase or decrease the measurement in question in its offspring.

**F1** - Offspring resulting from the mating of a purebred bull and a purebred cow of different breeds.

**Feed Conversion** - The amount of feed required to achieve one unit of production (usually a pound of weight gain). The age of the animal and the composition of gain (lean or fat) must be considered when comparing animals for feed conversion or feed efficiency.

**Feed Efficiency** - The product (usually weight gain) produced per unit of feed consumed.

**Finish** - The degree of fatness

**Fitted** - Animal fed, trained and groomed for show or sale.

**Founder** - A nutritional ailment from overeating; foundered animals become lame with sore feet and excessive hoof growth.

**Freemartin** - The female member of unlike twins in cattle, showing many male characteristics and incapable of production.

**Gene** - The basic genetic unit by which characteristics are transmitted from parent to offspring.

**Generation Interval** - The average length of time between the birth of an animal and the birth of the progeny replacing that animal in the breeding herd.

**Genetic Correlation** - A correlation between two traits that arises because some of the same genes affect both traits.

**Genetic Merit** - The genetic worth of an animal for a given trait.

**Genotype** - Actual genetic makeup or blueprint of an individual determined by its genes or germplasm.

**Get** - Calves sired by the same bull.

**Half-sibs** - Individuals having either the same sire or the same dam, but not both.

**Heat** - The recurrent period of sexual receptiveness in mature cows, when the cow will stand for the bull to breed her; estrus.

**Heifer** - Female cattle that have not had a calf.

**Heredity** - The transmission of characteristics from parents to offspring through genes.

**Heritability** - The proportion of the differences among cattle, measured or observed, that is transmitted to the offspring. Heritability varies from zero to one. The higher the heritability of a trait, the more accurately does the individual performance predict breeding value and the more rapid should be the response due to selection for that trait.

**Heterosis (hybrid vigor)** - Amount by which measured traits of the crossbreds exceed the average of the two or more purebreds that are mated to produce the crossbreds.

**Heterozygous** - Genes of a specific pair (alleles) are different in an individual.

**Homozygous** - Genes of a specific pair (alleles) are alike in an individual.

**Inbreeding** - When sire and dam are close relatives.

**Identification** - A permanent indicator of an animal’s identity (eg tattoo). Identification must be unique for each animal to allow accurate record keeping and estimation of genetic merit.

**Lethal gene** - A gene, or genes, that cause the death of an individual which expresses them.

**Linebreeding** - Selective breeding, sire and dam of some similarity of heredity, but not as closely related as inbreeding; parents of an individual related to a common outstanding ancestor.

**Marbling** - The small white flecks of fat distributed throughout a cut of beef.

**Mean** - The average value for a trait.
Multiple Trait Selection - The simultaneous selection for more than one trait. An example would be the consideration of both birth weight and average daily gain when selecting a herd sire.

Nick - When a bull produces outstanding calves from females of a certain line of breeding.

Open - Refers to the non-pregnant female.

Out of - Designates dam.

Pedigree - A chart showing a line of ancestry.

Performance Test - Measure of individual performance, specifically, rate and efficiency of growth and carcass traits.

Phenotype - The visible or measurable expression of a character; for example, weaning weight, post-weaning gain, reproduction, etc. Phenotype is the sum of genotype plus environment (P = G+E).

Polled - Cattle that are born without horns.

Prepotent - Above average in ability to transmit individual’s desirable traits of offspring.

Purebred - A beef animal whose parents are of the same breed and are recorded with the registry association.

Recessive Gene - Recessive genes affect the phenotype only when present in a homozygous condition. Recessive genes must be received from both parents before the phenotype caused by the recessive genes can be observed.

Registered - An animal whose name, along with the name and number of its sire (father) and dam (mother), has been recorded in the record books of its breed association. The association gives the animal a number, known as a registration number. The association gives the animal a certificate known as a registration certificate showing that the animal has been registered.

Scrotal circumference - A measure of testes size obtained by measuring the distance around the testicles in the scrotum with a circular tape. Related to semen producing capacity and age at puberty of female sibs and progeny.

Selection Intensity - An indication of the percentage of animals which are selected to become parents. Selection intensity increases as the percentage of animals selected decreases.

Service - The act or ability to breed.

Sibs (Full Sibs) - Brothers and sisters of an individual

Springer - Heifer or cow showing signs of advanced pregnancy; near calving.

Stag - Male bovine castrated after sex characteristics are developed.

Steers - Male cattle that were castrated at an early age before any sex characteristics developed.

Straightbreeding - The mating of purebred animals of the same breed.

Supplement - Nutritional additive intended to remedy deficiencies of the diet, such as salt, minerals, protein.

Tattoo - A system of identification of purebred cattle which includes tattoo letters (assigned by the breed association), tattoo serial number and tattoo year letter, For example HER 1E.

Terminal Crossbreeding - The systematic crossing of different breeds or crossbreds where all progeny are marketed.

Trait - Any measurable or observable characteristic of an animal.

Ultrasonic Measurements - Used to estimate carcass and reproductive characteristics, Operates off the principal that sound waves echo differently with different densities of tissue.

Fact 1-Issue1/Nov94
Parts of a beef animal

1. Poll
2. Crest
3. Loin
4. Hook or Hip Bone
5. Rump
6. Tail Head
7. Pin Bone
8. Hock
9. Hind Shank
10. Stifle
11. Rear Flank
12. Fore Flank
13. Fore Shank
14. Brisket
15. Point of Shoulder
16. Ribs
17. Heart Girth or Depth of Chest
18. Length of Rump
19. Height at Hip
Beef Quiz Bowl Questions

BEEF 1 – Bite into Beef

BEEF 1 – QUIZ BOWL QUESTIONS

1. What beef breed was developed at the King Ranch in Texas?
   Sante Gertrudas

2. What solid black polled breed originated in Scotland
   Angus – weights bull 1,600 – 2,000  Cow – 1,000 – 1,400

3. What is the middle joint of the rear leg of a calf called?
   Hock

4. Where are the pin bones located?
   Bone by Tailhead

5. What is an example of a comparative judging term describing the finish of a steer?
   Cleaner, trimmer, more optimally conditioned, longer bodied, more extended – page 11

6. When should you start halter breaking a calf?
   Several months before the show when they are still calves

7. What are four pieces of equipment used to fit a steer?
   Adhesive, scotch comb, flathead clippers, sheep head clippers, spray bottle, blower

8. How do you set up the legs of a beef animal when showing?
   The legs need to be square under the animals body.

9. What approximately percent crude protein should growing cattle be fed?
   12 – 16%

10. What are three signs of a sick calf?
    humped back, snotty nose, yellow runny feces, slow moving, doesn’t come to feeder

11. What are three examples of feed ingredients used as protein sources in a ration?
    Cottonseed meal, soybean meal, distillers grain, brewers grain, corn gluten meal, urea

12. What do feed ingredients like hay, barley and oats supply in a ration?
    Energy

13. What is the name of the bone found in a chuck roast?
    Blade and arm bone

14. What are the names of three retail cuts of beef?
    Round steak, rib eye roast, arm pot roast, t-bone steak, skirt steak, brisket, sirloin steak
    short ribs, back ribs, chuck eye roast.

15. What is a bovine male called?
    Bull

IDENTIFYING BEEF BREEDS – Page 6-7
1. Name the white faced, red cattle that have horned or polled bloodlines.
   Hereford – 2nd most numerous breed in US
   Originated in England

2. What breed of cattle were originally called Durhorns and this British breed is red, white or roan in color?
   Shorthorn – Originally British breed

3. What large cattle breed originated in the **French** Maine and Anjou river valleys?
   Maine – Anjou

4. Which large muscled, red to gold breed originated in the **French** regions of Limousin and Marche?
   Limousin  
   Weights – Bull 2000 - 2200  
   Cow 1200 – 1400

5. Which breed of cattle has a solid frame, is solid white and know for their fast growth rates?
   Charolais – French Breed

6. Name this breed that is white faced, red or yellow from the Simme Valley in Switzerland.
   Simmental  
   Weights – Bull 2300 – 2400  
   Cow 1600 – 1700

7. Name this cherry red colored breed from the **French** Salers Valley.
   Salers  
   Weights – Bull 2400 – 2600  
   Cow 1400 – 1600

8. What cattle breed was developed in the wild in dry, harsh conditions which they have to constantly worry about predators?
   Their most important traits are calving ease, hardness, good feet and legs and speed.
   Texas Longhorn

9. What cattle breed is the largest cattle breed in the world that was developed as a draft animal?
   Piedmontese

10. What cattle breed was developed in Scotland’s cold, rocky, harsh environment and it’s most important traits are small frame size, calving ease, and cold weather tolerance?
    Highland

11. What cattle breed was developed as a pure meat animal to produce the largest possible cuts of meat?
    Chianina  
    Weights – Bull 3500 – 4000  
    Cow 2000 – 2400

12. What cattle breed was developed as a draft & Milk breed which is known for its strong feet and legs, large capacity and milking ability?
    Fleckvich

13. What cattle breed was developed in a not environment and has important traits of disease resistance, teat tolerance and hardiness?
    Brahman

**BEEF CATTLE PARTS** – Page 8

1. Area along the tope from the point of shoulders to the last rib.
   Back or top
2. What is the chest of the calf called?
   Brisket

3. What is the bone called from knee to pastern and from hock to pastern?
   Cannon Bone

4. Where is the dewlap located?
   Back of hoof.

5. What is the dewlap?
   Flap of skin on the throat.

6. What joint is in the front legs at the fore flank region?
   Elbow

7. What area is from knee to elbow of the front leg?
   Fore leg

8. Where is the fore rib?
   Right behind the shoulder

9. Where is the rear flank?
   In front of the rear leg

10. What is the middle joint of the rear leg?
    Hock

11. Where does the line tie into the hip?
    Hook or hip bone

12. Where is the loin muscle?
    From the last rib to the start of the hip

13. What is the area along the belly line behind the front legs?
    Lower fore rib (Heart Girth)

14. What is the pastern?
    Joint right above the hoof

15. What is the pin bone?
    Bone by the tail head

16. What is the poll?
    Top point of the head

17. What is the area where front legs meet along the top line?
    Point of shoulder

18. What is the stifle?
    A muscle at rear flank

19. What is the tail head?
    Where tail attaches to animal

20. Where is the cod?
    Between the rear legs of a steer
1. **For the proper fit of a halter on cattle where should the nose piece be?**
   Up on the nose just under the eyes

2. **Why would allowing the animal to drag a dead rope on the ground help break a calf to lead?**
   Teach the calf to respond to pressure
3. Name one thing not to do when breaking a calf to lead:
   - Tie calf behind a vehicle and pull,
   - Hit the calf with a stick or whip,
   - Pull on the halter with hard jerks,
   - Use an electric prod.

**MANAGEMENT & HEALTH PRACTICES** – pages 19, 20, 23

1. About what % of water will a calf drink of its body weight in cold weather?
   8%
   and in hot weather?
   19%

2. About how many pounds of dry feed do you need to feed to beef steers for every 100 pounds of body weight each day?
   2.5 lbs.

3. How often should you at least check for injuries, sickness, unusual things or changes in behavior?
   Daily to twice a day.

4. Why should you bush cattle?
   To calm them and clean, and train hair.

Page 20

1. What is a syringe for?
   Administering medicine or vaccines i.e. IM, IV or SQ

2. What are ear tags for?
   Identifying cattle

3. Name 3 ways of castrating:
   Banding, cutting, and buriduzzo

4. What would be used to administer colostrum or fluids to a weak newborn calf?
   Calf feeder bag

Page 23

1. Name 3 of the five basic nutrients?
   Protein, energy, minerals, vitamins, water

2. What is excess energy stored as?
   Fat

3. What nutrient provides supplies for making body tissues like muscle, bones, blood, skin?
   Fat

4. What is the most important nutrient?
   Water

5. A 500 lb. calf will drink how much water?
   5-12 gallons
   750 lb calf?
   7-18 gallons
1,000 lbs calf?
10-24 gallons

6. **Name two forage products used in a beef cattle ration:**
   Alfalfa, hay, ground alfalfa, leaf meal, ground grass

7. **Name two roughage products used in a beef cattle ration:**
   beet pulp, cottonseed hulls, oat hulls, straw ground

**BEEF PRODUCTS – Page 24**

1. Where does the Retail Cut ______ come from in the wholesale cut?
   - **Round steak** – Round
   - **Rib Eye roast** – Rib
   - **Arm Pot Roast** – Chuck
   - **T-bone steak** – Short loin & sirloin
   - **Skirt steak** – Short Plate
   - **Brisket** – Fore shank and Brisket
   - **Sirloin Steak** – Short loin & sirloin
   - **Short ribs** – Chuck and Short Plate
   - **Back Ribs** – Rib
   - **Chuck eye roast** – Chuck

**Page 27**

1. What types of beef cuts are best suited to dry heat methods such as grilling, stir-frying, roasting or broiling?
   Tender cuts

2. What types of beef cuts are best suited to moist heat methods such as braising or simmering?
   Less tender cuts

**Page 29**

1. What is live quality grade based on?
   Evaluation of fatness on an animal (conditioning)

2. What is carcass quality grade based on?
   Evaluation of degree of marbling and degree of maturity

3. Name 3 of the 5 quality grades for young cattle:
   Prime, Choice, Select, Standard, Utility

**BEEF TALK 1**

1. What is backfat?
   Amount of fat over the animal’s back,

2. Where is backfat measured?
   usually measured between the 12th and 13th rib

3. What are by-products?
   Products made by further processing of leftovers after the primary

4. What is the term used to describe the # of % of calves produced within a herd in a given year relative to the # of cows & heifers in the breeding herd?
   Calf crop
5. **What is parturition?**
   Giving birth

6. **What is the first mile given by a female following delivery of her calf, which is high in antibodies that protect the calf from invading microorganisms?**
   Colostrum

7. **What is concentrate?**
   Feed high in energy, highly digestible and low in fiber

8. **What is a crossbred?**
   Animal produced by crossing 2 or more breeds

9. **What is the bolus of feed that cattle regurgitate for further chewing?**
   Cud

10. **What is culling?**
    Removing an animal from a herd due to poor production, type, or health

11. **What is a dam?**
    A female parent

12. **What is dual purpose?**
    Animal used for both meat and milk

13. **What are cattle that need further feeding for the period from weaning to finish prior to slaughter?**
    Feeder cattle

14. **An animal that doesn’t have horns because of its genetic traits is called what?**
    Polled

15. **What is a male parent called?**
    Sire

16. **What is a steer?**
    Bovine male castrated before puberty

17. **What are the first cuts that a beef carcass is broken into?**
    Primal Cuts

18. **What are cuts of beef in sizes that are purchased by the consumer?**
    Retail Cuts

19. **What is a purebred?**
    Animal eligible for registry with a recognized breed association.

20. **What are steers or heifer calves run on grass before going to feed lot?**
    Stockers

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**BEEF 2 – Here’s the Beef**

**BEEF 2 – QUIZ BOWL QUESTIONS**

1. **What is a good example of ideal feet and legs on a beef animal?**
   Correct set of rear and front legs with rear legs set far apart. Legs should appear straight, slightly hocked when viewed from rear. Front legs should not be knock kneed or bowlegged when viewed from the front.
2. How does feed move through a ruminant’s digestive system?
   Esophagus, Rumen, Reticulum, Omasum and Abomasum then small intestines, large intestines

3. How do microbes (bugs) in the rumen help digest feed?
   Digest low-quality feces that other animals can not
   Digest large amounts of grass and hay – use many types of feeds

4. What type of feed ingredients in the ration are required for good skeletal growth in beef animals?
   Calcium

5. What insect attaches itself to the skin and sucks blood from its host?
   Lice

6. What’s another name for buffalo gnats?
   Black Flies

7. What is a good electronic source of beef project information?
   http://www.ag.ohio-state.edu Ohio State

8. How should the hair be clipped on a show steer’s legs?
   Four areas of the leg will be short; the back of the hock bone, the front of the hind leg below the flank, the inside of the hock and the front of the pastern or knuckle

9. What does it mean to practice ethical behavior in the beef project?
   Wrongly tampering with the animal’s nature (ie. color, size or use of injections.)

10. How is yield grade determined?
    Yield grade is based upon the yield of boneless, closely trimmed retail cuts from the round, liver, rib and chuck, is referred to as “carcass cutability”

FEEDING, MANAGEMENT AND HEALTH PRACTICES

Page 11

1. What part of the digestive system functions as a storage area for food and aids in the breakdown of coarse particles through bacterial action?
   Rumen

2. What part of the digestive system has honeycomb-like walls retain foreign materials that could injure the digestive system?
   Reticulum

3. What part of the digestive system removes liquid from the feed by muscle contractions and breaks up coarse particles in feed?
   Omasum

4. Which stomach compartment is the “True Stomach?”
   Abomasum digestive juices break down food. Juices include hydrocholoric acid, pepsin, renin and lipase.

Page 15

1. What is a flight zone?
   An animal’s own space in which it doesn’t want any people or foreign objects.

2. True or False – Cattle are herd animals. They handle much easier by themselves.

3. True or False – Moving objects distract cattle.
4. True or False – Livestock have wide angle vision. They see almost except what is directly behind them.

Page 18 & 19

1. THESE SYMPTOMS DESCRIBE WHAT PARASITE IN BEEF CATTLE:
   Diarrhea, blood in urine and fever, losing weigh, poor appetite.
   Worms
   Scratching or rubbing, Loss of blood, loss of hair, weight loss
   Lice
   Back of animal looks like marbles under hide.
   Grubs

BEEF PRODUCTS

Page 28 & 29

1. What grade identifies cattle for differences in yields of boneless, closely trimmed retail cuts from the round, line, rib and chuck?
   Yield Grade

2. What is another name for yield grade?
   Cutability

Page 30 & 31

1. What 2 grades are used to calculate carcass values?
   Yield Grade & Quality Grade

BEEF TALK 2

1. What is the adjusted weaning weight?
   Weight of a calf at weaning, adjusted to a standard 205 day weight.

2. What is a sterile bovine female?
   Freemartin

3. What is the calf weight taken at birth?
   Birth weight

4. What disorder is characterized by gas distention in the rumen seen on the animal’s left-side?
   Bloat

5. What is a male bovine with un-descended testes?
   Cryptorchid

6. What are fed cattle whose time in the feedlot is completed and are now ready for slaughter?
   Finished cattle

7. What nutritional ailment is due to overeating and causes animals to go lame with sore front feet and excessive hoof growth?
   Founder
8. **What disorder is magnesium deficiency in grazing cattle?**  
Grassy Tetany

9. **What term refers to the amount of muscle an animal has?**  
Leanness

10. **What term is used to describe the small flecks of fat within a muscle?**  
Marbling

11. **What is palatability?**  
The degree to which a feed is liked or accepted by an animal

12. **What term is used to describe the measurement in square inches of a cross section of the loin muscle taken at the 12th rib?**  
Rib Eye Area

13. **What are the internal organs & cavities of an animal called?**  
Viscera

**BEEF 3 – LEADING THE CHARGE**

**QUIZ BOWL QUESTIONS**

1. **How is the frame score of a steer determined?**  
Determine hip height, know age of animal, use frame score table to determine animal’s frame score.

2. **What does EPD stand for when selecting cattle?**  
Expected Progeny Differences

3. **What is something that effects the quality of hay?**  
Fertilizers, age or stage of maturity, how well it is dried after being cut, storage and handling

4. **What is the crude protein content of corn grain?**  
9.8%

5. **What are 3 careers related to the beef industry?**  
Cow/Calf Rancher  
College researcher/teacher  
Feeder cattle buyer  
Breed Representative  
Extension/Consultant

6. **What is a symptom of a beef animal with laminitis?**  
Lameness in cattle where lamina hoof wall and sole become very sore, overgrown and malformed hooves often result.

7. **What is a name of a contagious skin disease of cattle?**  
Warts, ringworm

8. **What are the names of 3 parts of a beef cow’s reproductive tract?**  
Vulva, vagina, cervix, uterus, uterine horn, oviduct, ovaries

9. **What are three things that should be considered when selecting a beef sire?**  
birth weight, weaning weight, yearling weight, maternal milk, marbling

10. **How many days does a cow’s estrous cycle?**  
21 days
11. What does the term “cutability” refer to when evaluating a beef carcass?
   Refers to the proportion of the carcass that is saleable as trimmed (boned or partially
   boned) retail cuts.

12. What does it mean to “hedge risk”?
   Hedging – risk management strategy that allows a producer to lock in a price for a given
   commodity at a specified time.

**SELECTION AND JUDGING**

Page 11

Name 3 EPD’s that are posted on a SIRE SUMMARY or SIRE EVALUATION?
   Birth weight, weaning weight, yearling weight, maternal milk, marbling, etc.

**FEEDS, FEEDING AND CAREERS**

Page 17

What are 4 key items that must be on a feed label?
   Net weight, product name & brand name, drug additives, guaranteed analysis of the feed,
   directions for use, and cautionary statements.

**HEALTH AND REPRODUCTION**

Page 21

What is the disease name for a contagious skin disease of cattle that are 1 to 2 inches in
diameter where hair is lost and a slightly raised crustiness appears? It is caused by a
fungus.
   Ringworm

Page 23

Name 3 parts of a bull’s reproductive tract?
   Epididymis, penis, retractor penis muscle, scrotum, sheath, sigmoid flexure, and testicles

Page 25

1. What is fertilization?
   The union of sperm from the male with an ovum from the female

2. What is ovulation?
   The release of an ovum from the follicle on the ovary.

3. About how long is gestation in beef cattle?
   285 days

4. What reproduction tool manipulates reproductive processes so that female cattle
   will come into heat at a predicted time range?
   Estrous Synchronization

5. What does A.I. stand for?
   Artificial Insemination

Page 27
What is a way to check that a cow is pregnant?
   Rectal palpation, ultrasound

Page 29

1. **What are the 3 stages of parturition?**
   
   **Stage 1:** Uterine muscle contracts, cervix dilates
   
   **Stage 2:** Begins with the emergence of the feet or the water sac and eventually the calf moves from the uterus, through the cervix and through the birth canal.
   
   **Stage 3:** The fetal membranes are passed.

2. **Describe 3 presentations that are difficult to deliver when a cow is calving:**
   
   Head back, one leg back, upside down, or crosswise, both front legs back, backwards

3. **What is the safest way to remove a calf that is too large?**
   
   Cesarean Section

**MEATS AND MARKETING**

Page 31

1. **What are 3 parameters that are considered when evaluating a carcass for muscling?**
   
   Length, width, thickness, bulge, and plumpness of the round, width & fullness through the sirloin and short loin, size of the rib eye, width of the rib and muscle development in the chuck.

2. **What are 3 quality attributes to be considered in grading quality?**
   
   Maturity, marbling, firmness of the lean, texture of the lean, and lean and fat color.

3. **Why is marbling important to a piece of meat?**
   
   Important for flavor and it influences juiciness.

**BEEF TALK 3**

1. **What is the procedure called where semen is manually placed into the reproductive tract of the female with the purpose of getting a pregnancy?**
   
   Artificial Insemination

2. **Line breeding or inbreeding, mating of related animals is also called?**
   
   Close breeding

3. **What is the term used to refer to a disease that can be readily transmitted from one animal to another?**
   
   Contagious

4. **What is another name for ‘heat’?**
   
   Estrus

5. **What is the term used to refer to the amount of feed it takes to gain one pound of weight?**
   
   Feed efficiency
6. **What is the ability of an animal to reproduce called?**
   Fertility

7. **What is the market price?**
   The price paid by the packer for cattle.
1) Name 3 breeds of beef cattle
   A. Hereford, Shorthorn, Angus, Charolais, Limousin

2) T or F? You should dehorn your project steer or better yet buy a dehorned or polled steer.
   A. True

3) What should a finished steer ready to butcher weigh? ________ to __________ pounds.
   A. 1250 to 1350 pounds

4) T or F? Fiber is hard to digest.
   A. True

5) What is Bull?
   A. A male cattle of any age, that is un-castrated.

6) What are young cattle of either sex under 1 year of age called?
   A. Calves

7) T or F? A female animal that shows evidence through age, weight, conformation, and udder of having produced one or more calves is called a cow.
   A. True

8) What does “polled” mean?
   A. Cattle born without horns

9) What is a male animal that has been castrated before sexual maturity called?
   A. Steer

10) If you see an animal scratching or rubbing, it is a good indication it may have what?
    A. Mites, Parasites, Flies, Ticks, grubs, or Lice

11) The grades of beef for young market animals are__________.
    A. Prime, Choice, Select, Standard

12) The grades of beef for old market animals are__________.
    A. Commercial, Utility, Cutter, Canner

13) What is the length of the gestation period of a cow?
    A. 285 days (9 months and 7 days).

14) What feed helps your animal grow and build muscle?
15) Name two feeds for cattle that are a good source of protein.
   A. Cottonseed, Soybean, Linseed, Alfalfa Hay

16) What do you call high energy source feeds?
   A. Carbohydrates

17) Name 3 carbohydrate type energy feeds.
    A. Barley, Corn, Oats, Wheat, Milo, Beet Pulp, Molasses

18) What is the Food Conversion Ratio; FCR?
    A. FCR is the amount of grain you get from every pound of grain you feed.

19) What is the Food Conversion Ratio for cattle?
    A. The Food Conversion Ratio for cattle is 8:1

20) Feed that is low in digestibility and high in fiber is called what?
    A. Roughage

21) Give an example of roughage or high fiber feed.
    A. Hay or Pasture

22) A feed that is highly digestible and low in fiber is called what?
    A. Concentrate

23) What is the term “finish” describing?
    A. Degree of fatness and readiness for market.

24) What is the term used for describing the process of fattening, training, and grooming an animal for show or sale called?
    A. Fitting

25) What is a beef animal that has one or both parents not registered with a breed association called?
    A. Grade Animal

26) A table that gives a line of ancestors for an animal; a genealogical tree, is called what?
    A. Pedigree

27) T or F? Genetics is the study of how an animal processes its food.
    A. False. Genetics is the study of how animal or plant characteristics are passed from parent to offspring.

28) T or F? A small amount of marbling is necessary for juiciness and flavor of meat.
29) T or F? Yield (Dressing Percent) is the weight (yield) of the carcass as a percent of live weight.
   A. True. Example: A 1000 lb. live steer yields a 600 pound carcass. The “dressing percent” is 60% (600 divided by 1000x100%=60%).

30) T or F? A “Rib Eye” is a cross section of the loin muscle (longissimus dorsi). The large muscle of a rib steak or loin chops.
   A. True

31) Name the 4 parts of a ruminant’s stomach in order. (4 points available)
   A. Rumen, Reticulum, Omasum, Abomasum

32) Name two types or species of animals that are ruminants. (2 points available)
   A. Cattle, Sheep, Goats

33) Give an example of what means an animal might be identified by. (1 point available)
   A. Brand, tattoo, number and neck chain, ear tag

34) Cattle grubs found on the back of an animal are the larvae of what?
   A. Heel Fly

35) Name three parasites which may affect cattle. (3 points available)
   A. Ticks, Lice, Horn Flies, Intestinal Worms, mites

36) Name a disease cattle may get.
   A. Blackleg, Leptospirosis, Influenza, Pneumonia, Pink eye, Hoof rot

37) T or F? An animal should clean-up the feed you have given it in ½ to 1 ½ hours.
   A. True

SHOWMANSHP
1) T or F? You should have a scotch comb.
   A. True, (Comb: Scotch or flat.)

2) T or F? Circle the ring clockwise at a brisk walk
   A. True

3) T or F? While leading the calf, the showmen walks to the left of the calf's head, so the judge will have a full front view of the animal.
   A. True

4) T or F? The halter shank needs to be loose at all times, so the animal can move freely about.
   A. False. The halter shank needs to be tight at all times, so the exhibitor can feel all
movements of the calf.

5) T or F? You must keep your eyes on the judge at all times, besides to look where you are going and to set up your animal
   A. True

6) T or F? You can “Place the animals feet” with pressure on the halter, combined with the use of the show stick.
   A. True

7) T or F? After the judge moves on to the next animal, comb your animals hair back in place, if it was touched, and make sure the animal is reset properly.
   A. True

8) T or F? When instructed to change place in line, lead out forward and turn the animal to the right (clockwise). Keep the calf between the judge and yourself. Lead back through the spot you just left and lead to the proper place. Avoid making very short turns as this detracts from the animal’s appearance.
   A. True

9) T or F? The judge's first lineup is generally their final placing. You can relax now and quit “showing”.
   A. False. The judge's first lineup is generally not their final placing, and so you shouldn't become discouraged or quit showing until the class is dismissed.

10) T or F? Part of having “Good Ethics” is having a good attitude only if you win.
    A. False. A good showman will always be courteous and maintains a sportsmanlike attitude throughout the show, whether winning first or not.

11) T or F? You do not need to shave/clip your animal, that’s for swine only.
    A. False. You do clip your animal before showing it.

12) T or F? It does not matter whether you get your calf used to being tied. It is only important to train it to wear a halter and walk.
    A. False. It has to be tied up at the fair for the whole week.
**General Livestock Sample Questions from “Animals In Pursuit”**

**Beef**

Q. When selecting a meat animal on structural soundness, special emphasis should be placed on what body parts?
A. Feet and legs

Q. What is the minimum recommended resting area for a market beef animal?
A. 25 square feet

Q. Corn silage, pasture, and hay are examples of what type of feed?
A. Roughages

Q. When is the best time to start training a beef calf to lead?
A. At a young age

Q. Name a piece of equipment used to dehorn a newborn calf.
A. Caustic stick, tube calf dehorner or heat dehorning iron

Q. What is a learn by doing non-competitive 4-H activity involving several mini learning stations called?
A. Skillathon

Q. What is the sheet that lists the sire and dam of a purebred animal called?
A. Registration paper

Q. What is the minimum area recommended for an outside exercise area for a market beef animal?
A. 400 square feet

Q. What grain raised on Minnesota farms is the most common concentrate in beef rations?
A. Corn

Q. What type of halter is best for breaking a beef calf to lead?
A. Rope halter

Q. When is the best time to dehorn a calf?
A. From one day to three months of age

Q. What is the event called that involves judges, several classes of 4 animals of beef, sheep and swine?
A. Judging Contest

Q. At what age should a beef heifer be bred?
A. 15-18 months

Q. A feed box or bunk for a market beef animal should be how far from the ground or floor?
A. 18-24 inches

Q. What is the most important vitamin for a breeding beef animal?
A. Vitamin A

Q. From what side do you lead a beef calf?
A. Left side

Q. What is the process called in which the testicles of male calves are removed?
A. Castration

Q. What is the name for a two minute presentation in a Judging Contest where the participant discusses a class of livestock?
A. Oral Reasons

Q. What is the amount of fat on a market animal called?
A. Finish

Q. How many linear feet of bunk space does a market beef animal require?
A. 2 ½ to 3 feet

Q. Calcium and phosphorous are examples of what type of nutrients?
A. Minerals

Q. What is the name of a tool used by beef showmen to adjust the legs on a beef calf?
A. Show stick

Q. What is a piece of equipment used for castrating a calf?
A. Sharp knife, emasulator, burdizzo or elastrator

Q. What are the birth dates, adjusted weaning weights, adjusted yearling weights called in a judging contest?
A. Performance data

Q. By what date each year must market beef steers in Minnesota be weight and identified?
A. February 15
Q. How many gallons of water will a 1000 pound steer drink per day if the outside temperature is 50°F?
A. 8-10 gallons

Q. What feed ingredient is normally fed free-choice to beef cows on pasture?
A. Salt or mineral

Q. If a show stick is used by a beef showmen to apply pressure behind the dew claw, what direction will the calf likely move his foot?
A. Forward

Q. What is a common parasite of cattle?
A. Fly, grub, lice or worm

Q. In a class of 4 animals in a judging contest, how many possible placings are there?
A. 24

Q. What is a beef animal that naturally lacks horns called?
A. Polled

Q. How many gallons of water will a 100 pound steer drink per day if the outside temperature is 90°F?
A. 17-19 gallons

Q. Besides a balanced ration, a clean, fresh supply of this item is essential in feeding market beef?
A. Water

Q. When a beef showmen uses a show stick to press back between the toes in the left of the foot, the calf will likely move the foot what direction?
A. Backwards

Q. What are two causes of scours?
A. Soured feed, feed too finely ground, too much protein, or overfeeding of legume hays

Q. What is the maximum length of time a set of oral reasons should be?
A. 2 minutes

Q. Name a popular British beef breed that is black?
A. Angus

Q. What season of the year do most beef cows calve?
A. Spring

Q. What is a commercial feed used to raise the protein level of beef ration called?
A. Protein Supplement

Q. Doing things such as brushing, washing and clipping are referred to as what in a beef project?
A. Grooming

Q. What is the act of removing horns from cattle called?
A. Dehorning

Q. How far should a person stand from the judge when presenting oral reasons?
A. 6-8 feet

Q. How many animals are in a class at most judging contests?
A. 4

Q. How many months after calving will a beef cow normally come into heat?
A. 1 ½ to 2 months

Q. A normal beef steer will consume what percent of its body weight in feed each day?
A. 2.5 to 2.5%

Q. What is the main reason for good grooming in a beef animal?
A. To improve the appearance of the animal

Q. What is the normal temperature of a cow?
A. 101.0°F or 38.3°C

Q. When giving oral reasons on a pair of animals, what are the merits for the second place animal in a pair called?
A. Grants

Q. What causes dark cutting beef?
A. A long term stress period prior to slaughter

Q. What piece of equipment is necessary to weight calves for performance records?
A. Scale

Q. If a steer is fed too much roughage relative to grain, how may it’s visual appearance change?
A. He will become heavy middled or paunchy

Q. Ideally, how often should a beef calf be brushed and combed?
A. Daily
Q. What is the normal pulse rate for cattle?
A. 60-70 beats per minute

Q. What is meeting in a club or county in a specific project area called?
A. Project meeting

Q. Rump roast comes from what beef wholesale cut?
A. Round

Q. When figuring an adjusted weaning weight, name one of the adjustment factors.
A. Age of calf; sex of calf; age of the Dam

Q. What feed grain is the most common energy source in a market beef ration?
A. Corn

Q. How often should a beef calf be washed the final 2 months before a County Fair?
A. Once per week

Q. What is the normal respiration rate for cattle?
A. 10-30 per minute

Q. For most 4-H livestock project members the biggest livestock show held locally is what event?
A. County Fair

Q. Porterhouse steak comes from what beef wholesale cut?
A. Loin or short loin

Q. Once a heifer has a calf she is called what?
A. Cow

Q. Name a method used to get supplemental feed to beef calves on pasture prior to weaning?
A. Creep Feeding

Q. If all the soap is not rinsed out of a beef calf during washing it will result in what condition?
A. Dandruff

Q. What are two factors which may influence body temperature in a healthy animal?
A. Weather, exercise, disease, excitement, time of day

Q. What livestock group sponsors and coordinates the 4-H Livestock Auction at the Minnesota State Fair?
A. Minnesota Livestock Breeder’s Association

Q. T-bone steak comes from what beef wholesale cut?
A. Loin or short loin

Q. What precautions can be taken with dehorning tools to prevent infections?
A. Dip tools in a disinfectant solution prior to and between each use

Q. Name 2 feed stuffs commonly used in creep feed for beef calves?
A. Corn, oats, protein supplement

Q. What is done to a beef calf to improve the way the calf stands and walks?
A. Trim the hooves (feet)

Q. Where is a cow’s pulse taken?
A. Outside of the jaw, just above its lower border

Q. What is the name of an event where beef steers are weighed and identified?
A. Beef Weigh-In
Beef

**Junior**

Approximately how much feed does it require to produce a pound of beef?

6-7 pounds

What is the term given to a female bovine that has not produced a calf?

Heifer

T or F Cattle can eat grain only?

False, they eat forages also.

At how many months old are calves usually weaned?

7-8 months

The breed of cattle which originated in Scotland, having no horns and is mainly black in color, but can be red is what?

Angus

A young bull or heifer that is under 1 year of age is called a what?

Calf

What is the average market weight for cattle?

1150-1250 pounds

A group of cattle is called a what?

Herd
What is the average weight of a calf at birth?

80-100 lbs.

Is it good management practice to raise polled or dehorned animals rather than keeping animals with horns?

Yes

At approximately what age is it best to castrate, dehorn, earmark, and brand calves?

3-5 months

When someone refers to a cow as open what does he or she mean? (BU-6352 Revised 1999)

The cow is not pregnant or bred

A castrated male bovine is commonly known as__________?

Steer

In cattle, this term means naturally having no horns.

A. docked
B. pointed
C. buffed
D. polled
E. smooth

D.polled

In days, what is the gestation length of a beef cow?

A. 115 days
B. 151 days
C. 230 days
D. 284 days
E. 345 days

D.284 days
Implants are used in beef production to: (Nebraska 4-H 2000 Livestock Quiz Bowl Questions)

A. improve feed efficiency
B. improve average daily gain
C. improve profitability
D. All of the above

D. all of the above

What breed of beef cattle was developed in France, is known for fast growth lean meat and are large and white? (Nebraska 4-H 2000 Livestock Quiz Bowl Questions)

Charolais

List three of five common techniques for permanent identification of cattle. (University of Arkansas Sample Beef Bowl Quiz Questions)

Ear notching
Ear tattooing
Hot Iron branding
Freeze branding
Chemical branding

What are Body Condition Scores (BCSs)? (Texas 4-H Quiz Bowl Sample Questions)

BCS numbers are used to suggest the relative fatness or body composition of a cow.

The target body condition score for a cow prior to calving is _________? (Texas 4-H Quiz Bowl Sample Questions)

5-6

Most thin cows will not re-breed if they are exposed to the bulls. (Texas 4-H Quiz Bowl Sample Questions)

True
To ensure high pregnancy rates, the lowest body condition score that a
cow should have is __________?  
(Texas 4-H Quiz Bowl Sample Questions)

Five

A cow with a body condition score of 9 would be considered
____________?  (Texas 4-H Quiz Bowl Sample Questions)

Extremely Fat

A cow with a body condition score of 1 would be considered
____________?  
(Texas 4-H Quiz Bowl Sample Questions)

Very Thin

T or F The most prudent and effective way to reduce birth weight is to
feed less.  
(Texas 4-H Quiz Bowl Sample Questions)

False: use a bull that is known to sire calves with low birth weights

Bos taurus and Bos indicus breeds, which group will reach puberty first
and are considered early maturing?  
(Texas 4-H Quiz Bowl Sample Questions)

Bos Taurus

T or F A mature cow that has consistently calved throughout her life
and is unexpectedly found open can be retained in the herd.  
(Texas 4-H Quiz Bowl Sample Questions)

True

Where is the proper place to put implants?  
(Texas 4-H Quiz Bowl Sample Questions)

Backside of middle third of ear
T or F Implanting at any location other than the backside middle third of ear violates federal law.  
(Texas 4-H Quiz Bowl Sample Questions)

True

T or F Many implants are available, but selection of an implant is less critical than the decision on whether to implant or not.  
(Texas 4-H Quiz Bowl Sample Questions)

True

When feeding a concentrate feed, what should one do upon the first signs of any digestive problems?  
(Texas 4-H Quiz Bowl Sample Questions)

increase hay (roughage)

What is the term used to describe a digestive ailment often caused by cattle eating rations too high in grain; especially common when starting on feed?  
(Texas 4-H Quiz Bowl Sample Questions)

acidosis

What feedstuff can be added to help prevent feed separation and settle dust in a mixed feed?  
(Texas 4-H Quiz Bowl Sample Questions)

molasses

What vitamin is typically adequate in cattle exposed to sunlight?  
(Texas 4-H Quiz Bowl Sample Questions)

Vitamin D
**T or F** Excessive fattening of heifers at young ages diminishes future milk production potential.
(Texas 4-H Quiz Bowl Sample Questions)

True

**How many times a day should cattle be fed to consume more feed and have fewer digestive problems?**
(Texas 4-H Quiz Bowl Sample Questions)

more than twice a day

**With show cattle, rinsing the calf daily is designed to do what?**
(Texas 4-H Quiz Bowl Sample Questions)

promote healthy skin and hair

**Senior**

**What is the #1 agricultural commodity in Oklahoma?**

Beef or Cattle and calves

**Name the breed of cattle developed in southern United States from stock originating in India and having a lump between the shoulders and large folds of loose skin?**

Brahman

**T or F** Breeding bulls should be kept very fat to improve breeding performance during the breeding season.

False

**What is the term used to describe abnormally large, bulging muscles in the rear quarter and forearm of a beef animal?**

Double muscling
The average age that a heifer will be bred for the first time is: (4A465 Wyoming Beef Report)
   A. 9 months
   B. 5 months
   C. 24 months
   D. 15 months

D. 15 months

The time period that a cow or heifer will stand to be receptive to a bull is known as what? (4A465 Wyoming Beef Report)

Heat or Estrus

What is the average body temperature of cattle?
   A. 98.6
   B. 100
   C. 101
   D. 102.5

D. 102.5

What mineral deficiency causes grass tetany, a condition in which cattle appear nervous, lack muscle coordination, and have muscle twitch?
   A. Magnesium
   B. Calcium
   C. Phosphorus
   D. Selenium
   E. Sodium

A. Magnesium

The intramuscular (IM) injection site of choice in cattle over 300 lbs. is:
   A. neck
   B. triceps
   C. lion
   D. hamstring
   E. gluteal

A. neck
What scientific name refers to cattle?

A. ovine  
B. porcine  
C. equine  
D. caprine  
E. bovine

E. bovine

Loss of weight during shipping is called ______________.

Shrink

Where is the brisket of a calf? (Nebraska 4-H 2000 Livestock Quiz Bowl Questions)

Between the front legs

What disease is caused by a magnesium deficiency and is sometimes seen in grazing cattle? (Nebraska 4-H 2000 Livestock Quiz Bowl Questions)

Grass Tetany

When the reproductive processes of a group of cows are manipulated so that a large number of cows all come into heat at the same time, this is known as ___________. (Nebraska 4-H 2000 Livestock Quiz Bowl Questions)

Estrous Synchronization

Name two signs that a cow/heifer is in heat (Nebraska 4-H 2000 Livestock Quiz Bowl Questions).

Tend to group together, ride each other, and exhibit standing heat/stand to be ridden, mucous discharge from vagina
Describe how a calf will be presented, (i.e., in what position are its various body parts) in a normal delivery (Nebraska 4-H 2000 Livestock Quiz Bowl Questions).

Front legs first with head resting between legs, calf is right side up

The flap of skin on the throat of a beef animal is called what? (Nebraska 4-H 2002 Livestock Quiz Bowl Questions)

Dewlap

What’s another name for cattle that are registered with a breed association and that are used to establish a breeding herd? (Nebraska 4-H 2002 Livestock Quiz Bowl Questions)

A. Commercial
B. Straightbred
C. Seedstock
D. Seedstock

What do the letters NCBA stand for? (University of Arkansas Sample Beef Bowl Quiz Questions)

National Cattlemen’s Beef Association

Protein and energy should be in proper balance. If protein is in excess compared to the level of energy, what will happen to the excess protein? (Texas 4-H Quiz Bowl Sample Questions)

The protein will be used for energy.

Heifers should weigh what percent of their mature weight at their first breeding? (Texas 4-H Quiz Bowl Sample Questions)

65-70 percent
What is the recommended age to calve first-calf heifers to increase total lifetime productivity?
(Texas 4-H Quiz Bowl Sample Questions)
2 years old

What major hormone is produced by the testis (testicle) of the bull?
(Texas 4-H Quiz Bowl Sample Questions)
Testosterone

How many days prior to the breeding season should bulls be evaluated for breeding soundness?
(Texas 4-H Quiz Bowl Sample Questions)
30-60 days

What are the reproductive organs that produce the ovum or egg during estrus?
(Texas 4-H Quiz Bowl Sample Questions)
Ovaries

How early can an experienced palpator with skill and practice be able to detect pregnancy?
(Texas 4-H Quiz Bowl Sample Questions)
30 days

What two criteria are used to determine frame scores?
(Texas 4-H Quiz Bowl Sample Questions)
Hip height and age of animal

There are four measured factors used to formulate yield grades. Name them.
(Texas 4-H Quiz Bowl Sample Questions)
fat thickness, ribeye area, carcass weight, kidney, pelvic, and heart fat
Between what ribs are ribeye measurements taken?
(Texas 4-H Quiz Bowl Sample Questions)

12th and 13th rib

Cattle require eight basic nutrients. Name five.
(Texas 4-H Quiz Bowl Sample Questions)

protein, minerals, vitamins, water, sugar, starch, cellulose, fat

What term is used to describe the activity that ensures the body is getting its requirement to function properly?
(Texas 4-H Quiz Bowl Sample Questions)

maintenance

What additive is used in feeds to help prevent some feedlot stress problems and control low-level infections but has little effect on increasing weight gain?
(Texas 4-H Quiz Bowl Sample Questions)

Antibiotics

What percent of body weight can cattle consume daily in dry matter?
(Texas 4-H Quiz Bowl Sample Questions)

2-3 percent

What is another name for Bangs Disease?
(Texas 4-H Quiz Bowl Sample Questions)

Brucellosis

T or F Brucellosis causes abortion and infertility in cattle.
(Texas 4-H Quiz Bowl Sample Questions)

True