

## **NJAS Quiz Bowl Study Guide**

**(\* Questions for the NJAA Quiz Bowl may come from the study guide but may also come from other sources)**

### **Animal Science**

- ❖ The average gestation period length for a beef cow is 283 days
- ❖ The average length between heat cycles for beef cattle is 21 days
- ❖ The normal temperature for a beef animal is 101.5°F
- ❖ The first milk that an animal receives that is very rich in nutrients is called  
Colostrum
- ❖ The amount of weight that a calf gain per day over a period of time is called  
Average Daily Gain
- ❖ A subcutaneous shot is given to an animal under the skin
- ❖ A heifer calf that is born twin to a bull is called a freemartin
- ❖ Cattle that are in maturity range B are 30-42 months of age
- ❖ The largest compartment in a cow's stomach is the Rumen
- ❖ The four compartments in a cow's stomach are the Rumen, the Reticulum, the Omasum, and the Abomasum
  - The rumen is primarily used for storage
- ❖ A 1000 pound steer should drink 8-10 gallons of water on a day that is 50°F
- ❖ The average daily water intake for a cow nursing a calf during the months of April to June is 15-18 gallons
- ❖ A typical steer will gain 3 pounds per day
- ❖ FSH is Follicle Stimulating Hormone
- ❖ Approximately 54 % of live weight of cattle becomes beef
- ❖ Over consumption of grain causes foundering in beef cattle
- ❖ During the calving to breeding production period a mature cow has the highest total nutrient requirements
- ❖ Coccidiosis is a serious calf disease and is also common in poultry
- ❖ Cattle that have sweet clover poisoning will also have the symptoms of a Vitamin K deficiency

- ❖ Nutrient requirements of beef cows vary according to the stage of pregnancy, temperature, stage of lactation, age, etc.
- ❖ The energy requirements for a cow increase during periods of extreme cold temperatures
- ❖ A 500 pound feeder steer calf started on a finishing program would be expected to eat a 10-15 pound ration consisting of 10% grain and 90% hay
- ❖ Approximately 55% of feed energy and protein consumed by a cow is utilized for maintenance
- ❖ Sodium is of most concern when considering dietary essentials for fed cattle
- ❖ A three breed rotational crossbreeding system maintains more hybrid vigor
- ❖ The bull determines the sex of the calf by providing either a X or Y chromosome
- ❖ If a heterozygous polled bull is bred to a horned cow, there is a 50% chance that the calves would be polled
- ❖ If a heterozygous polled bull is bred to a heterozygous polled cow, there is a 25% chance that the calves would be horned
- ❖ If a homozygous horned bull is mated to a heterozygous polled cow, there is a 50% chance that the calves will be polled
- ❖ If a horned bull is mated to a horned cow, there is a 0% chance that the calves would be polled
- ❖ Mule foot is the common name that is given to the genetic abnormality in cattle where the normal two toed hoof has fused into a single toe
- ❖  $\frac{1}{2}$  of the total number of chromosomes are contributed by the sire
- ❖  $\frac{1}{4}$  of an animal's total number of chromosomes are contributed by its' maternal grandsire
- ❖ Genes & or Chromosomes in the nucleus of cells carry the genetic or hereditary material
- ❖ At conception you can expect an animal's genotype to be established
- ❖ The fertility of an animal would Decrease as the amount of inbreeding would Increase
- ❖ A sperm cell carrying the Y chromosome will produce a male calf
- ❖ A sperm cell carrying the X chromosome will produce a female calf
- ❖ Ketosis (milk fever) generally occurs in the first 6 to 8 weeks after calving
- ❖ Cattle have 26 ribs, making up 13 pairs

- ❖ Cattle have 30 pairs of chromosomes

### **General Information**

- ❖ “COOL” stands for Country Of Origin Labeling
- ❖ Hay that is sunshine and sun-cured are good sources of Vitamin D
- ❖ Fat on a beef carcass that was grass-fattened has a characteristic color of yellow
- ❖ Hip height is used to determine the frame score in cattle
- ❖ The minimum amount of marbling a carcass must have to qualify for CAB is modest
- ❖ The average dressing percent for slaughter steers is 60% - 65%
- ❖ Birth weight on a calf should be collected within 24 hours of birth
- ❖ The Beef Check-Off requires \$1.00 for each animal sold
- ❖ The Food and Drug Administration (FDA) is a national organization that monitors the use of feed additives for beef cattle
- ❖ India is the country that has the most head of cattle
- ❖ Body Condition Scores in beef cattle range from 1-5
- ❖ A breeder would utilize a terminal sire to produce animal intended for the slaughter marker
- ❖ There is approximately 95 million cattle in the United States
- ❖ Any food constituent that functions in the support of life is called a nutrient
- ❖ Carotene in green grass is a good source of Vitamin A
- ❖ Cottonseed meal, linseed meal and soybean meal are three types of protein supplements
- ❖ Feed which contains a high percentage of cellulose, such as hay, silage, and straw, and have a low digestibility, are called roughages
- ❖ Hay is the most important roughage fed for beef cattle
- ❖ ADG stands for Average Daily Gain
- ❖ Mid-gestation is the interval in which a cow requires the least amount of nutrition
- ❖ The two minerals needed in order for bone and tooth formation to take place are calcium and phosphorus
- ❖ The disease rickets is a result of a deficiency in Vitamin D
- ❖ The nitrogen compounds that make up proteins are called amino acids
- ❖ The energy value of feedstuffs is expressed in terms of calories

- ❖ **Vitamin A is stored in the liver in times of abundance**
- ❖ **Branding, tattoo, ear tags, or chains with numbers are all methods of cattle identification**
- ❖ **Pour on, paste, drenching with liquid, worm blocks, or crumbles are all ways to de-worm cattle**
- ❖ **Cortisone, a drug used to relieve pain in humans, is made from the gall bladder of a cow**
- ❖ **On a futures market, a live cattle contract consists of 40,000 pounds**
- ❖ **Phosphorus is known as the “master mineral,” because it is involved in practically all the metabolic processes of the body**
- ❖ **A 160 acre pasture can carry 68 cow-calf pairs (1.25 Units) for a 45 day AI breeding season when the stocking rate is .8 units a month per acre**
- ❖ **Backgrounding is the term that most correctly describes the practice of utilizing forages and high roughage feed to prepare stock cattle for finishing programs**
- ❖ **There are 5 different maturity classifications (A, B, C, D, or E)**
- ❖ **Feeds that are high in food value and low in fiber are called concentrates**
- ❖ **The most common form of diarrhea is scours**
- ❖ **A vaccine that is to be administered I.M. is the be injected Intramuscularly**
- ❖ **A parasite is an organism that lives at the expense of a living animal, either in or on the animal**
- ❖ **Barbed Wire was invented in 1873**
- ❖ **Oxytocin is the hormone that is involved in both uterine contractions and milk let down**
- ❖ **The initials BIF refer to the Beef Improvement Federation**
- ❖ **Double heads, coiled tails, proximal droplets, distal droplets all refer to abnormalities found in sperm cells**
- ❖ **Liquid nitrogen is the chemical used to keep semen frozen in a semen tank**
- ❖ **The hide is considered a by-product of a beef animal**
- ❖ **Cattle that are 18 to 24 months of age are called long yearlings**
- ❖ **The younger the cattle the better that they will gain**
- ❖ **Consumers ultimately determine the prices that cattlemen are paid for cattle**
- ❖ **When cattle are moved from pasture to pasture to have more forage it is called rotational grazing**

- ❖ The two major types of connective tissue found in beef muscle are collagen and elastin
- ❖ The National Cattlemen's Beef Association headquarters is located in Denver, Colorado
- ❖ Hardware disease is caused when a animal eats any type of metal
- ❖ When an animal has a very sever case of bloat, the left side of an animal can be punctured to relieve the pressure and save the life of the animal. (This treatment method is a last resort option.)
- ❖ Carcass EPD's include marbling score, percent retail cuts, and carcass weight
- ❖ Tenderloin steak is part of a loin or short loin wholesale cut
- ❖ The Beef Improvement Federation suggests that a yearling bull should have a minimum scrotal circumference of 32 cm.
- ❖ Frozen semen should be thawed in a water bath at around 96°F
- ❖ The loin is the most tender and palatable wholesale cut of the beef carcass
- ❖ Meat is approximately 60 % water
- ❖ Collagen is the major component of connective tissue found in meat
- ❖ Beef carcasses are given two types of grades, Yield grade and Quality grade.
  - The yield grades are a number from 1 thru 5 (The lower the number the leaner the meat)
    - The factors considered in yield grading are backfat, hot carcass weight, loin eye are, and % KPH (kidney, pelvic, and heart fat)
  - The four quality grades of a carcass are Prime, Choice, Select, or Standard (Prime is the best, and Standard is the worst)

### Angus Information

- ❖ The first Registered Angus cow was named Old Grannie, she was also known as The Prima Cow, she died on July 1, 1859 at the age of 35 years and six months. She was the dam of 25 calves.
- ❖ The first Registered Angus cow in the United States was named Favorite of Boghead
- ❖ The web address for the AAA is [www.angus.org](http://www.angus.org)
- ❖ George Grant brought the first 4 Angus Bulls from Scotland to America in 1873, he settled with them in the middle of the Kansas prairie and established Victoria, Kansas

- ❖ **Angus Bulls were imported for use on Longhorn cows**
- ❖ **The American Angus Association was founded in 1883 in Chicago, Ill., as the American Aberdeen Angus Association.**
  - **It was shortened in the 1950's to the American Angus Association**
- ❖ **The American Angus Auxiliary was founded in 1952**
- ❖ **The Auxiliary sponsors the Miss American Angus contest, the CAB cook off, Silver Pitcher, Crystal and Achievement Awards.**

### **NJAA Information**

- ❖ **The Junior Activities Department of the AAA was started in 1956**
- ❖ **The first National Junior Angus Show was held in Columbia, MO, in 1969**
- ❖ **The first National Junior Angus Showmanship Contest held in conjunction with the All-American Angus Breeders Futurity, Lexington, KY, in 1967**
- ❖ **The mentoring program was started in 2002, in Milwaukee, to allow mentors to assist first and second time exhibitors at the NJAS**
- ❖ **The State Herdsmanship contest is held at the NJAS and involves maintaining a clean display of cattle and stall area**
- ❖ **There are many different contests held prior to and throughout the National Junior Angus Show; Photography, Graphic Design, Creative Writing, Team Sales, Prepared Speech, Extemporaneous Speech, Herdsmanship, Scrapbook, Poster, and CAB Cook-Off**
- ❖ **There is currently over 8,000 active members of the NJAA from the United States and Canada**
- ❖ **There is about 40 state, regional, and local Junior Angus Associations active throughout the country**
- ❖ **For shows sponsored and coordinated by the American Angus Association the junior exhibitor must be a minimum of 9 years of age before January 1 of the calendar year of the show. The junior members' last year of eligibility is the calendar year of their 21st birthday**
- ❖ **There are seven different categories to compete in at the National Junior Angus Show, Carcass Steers, On-Hoof Steers, Bred-and-Owned Heifers, Owned Heifers, Bred-and-Owned Bulls, Bred-and-Owned Cow-Calf Pairs, and Owned Cow-Calf Pairs**

- ❖ The National Junior Angus Association Board consist of 12 members
- ❖ NJAA Board members can only serve one 2-year term.

### Terms

- ❖ Crossbreeding is a term that is used to describe the mating system where two or more breeds are used
- ❖ The term dominant describes a gene that always expresses itself in the presence of a recessive gene for the same trait
- ❖ Selection differential is a term used to describe the superiority of selected parent stock compared to the average of the herd from which they were selected
- ❖ Polled is the term used to describe cattle that do not naturally have horns
- ❖ Heterosis or hybrid vigor is a term used to describe the increased performance on a trait by crossbred progeny over and above the average performance of their straight-bred parents
- ❖ The term complimentary in crossbreeding describes how strong points of one breed offset the weak points of any other breed
- ❖ Backgrounding is the term that most correctly describes the practice of utilizing forages and high roughage feed to prepare stock cattle for finishing programs
- ❖ Outbreeding Or Outcross is the term used to describe a mating system which involves mating unrelated families with the same breed
- ❖ Linebreeding or Inbreeding is the term used to describes a system of breeding that involves the mating of individual animals that are closely related
- ❖ Dystocia is the one word term for calving difficulty
- ❖ Estrus is the term given for heat in cattle
- ❖ Physiology is the study of the functions of the living body and its organs
- ❖ Longevity is the reproductive life span or length of time a cow or bull remains productive
- ❖ Copulation is the physical procedure of natural mating between a male and a female of the same species
- ❖ Veal is the term applied to meat from cattle slaughtered at 6 months or less of age
- ❖ Genotype is the term that refers to the actual genetic make up of an animal
- ❖ Phenotype is the term that refers to the physical make up of an animal
- ❖ The crest refers to the top of the neck on beef animals

- ❖ The name of the bones in the rump are called hooks and pins
- ❖ The thoracic is the cavity that contains the heart and lungs
- ❖ A bred-and-owned animal is one where the junior member owned the dam of the heifer/bull at the time the heifer/bull was conceived. The junior member must be listed as the breeder, first and continuous owner on the registration certificate