

# 2019 NAILE 4-H Dairy Quiz Bowl

## Phase A - Answers

- 190001 What is the closest relative that paternal half-sibs have in common?  
**Sire**
- 190002 What is the term used to describe a mature oocyte or sperm?  
**Gamete**
- 190003 How many cells are there in an embryo after 4 cell divisions?  
**16**
- 190004 A red cow bred to a red carrier bull has what percent chance of having a red calf?  
**50 Percent**
- 190005 What is the term for an animal that never grows horns because of its genetic makeup?  
**Polled**
- 190006 What is the most common grain source of starch fed to milking herds in the U.S.?  
**Corn grain**
- 190007 What are the only cells that have no nucleus?  
**Red Blood Cell (Erythrocytes)**
- 190008 What is the disorder that is characterized by excessive salivation and labored breathing, and can be found in cattle on high legume pastures?  
**Bloat**
- 190009 What is the process called in which vitamins are added to milk before packaging?  
**Fortifying**
- 190010 What nutrient comprises approximately 75 percent of a cow by weight?  
**Water**
- 190011 Which mineral, when severely deficient in the cow's diet, often results in calves born with thin hair, hairless, stillborn or enlarged thyroids?  
**Iodine**
- 190012 What is poloxalene used to prevent?  
**Bloat**
- 190013 There are 2 organs that undergo involution. The uterus is one, what is the other?  
**Udder**

- 190014 What is the name of the single cell that is formed after an oocyte is fertilized by a sperm?  
**Zygote**
- 190015 Which bovine stomach compartment is highly acidic?  
**Abomasum**
- 190016 What acid, when present in silage, has a rotten or rancid smell and only takes a small amount in the feed to cause problems?  
**Butyric acid**
- 190017 When pasteurizing milk using the HTST method, it is heated to 161 F for how many seconds?  
**15 Seconds**
- 190018 Which state had the highest average milk production per cow in 2018?  
**Michigan**
- 190019 What is the current regulatory maximum SCC for herds in the United States?  
**750,000 Cells/ml**
- 190020 A Canadian heifer weighs 350 Kg (kilograms). Convert that weight to pounds.  
**770 pounds**
- 190021 According to DHIA data, which state had the lowest average somatic cell count in 2018?  
**Vermont**
- 190022 What hormone stimulates the epithelial cells in the udder to produce milk?  
**Prolactin**
- 190023 What is the general term for compounds called have the chemical formula with CH<sub>2</sub>O and include sugars, starches, cellulose and gums?  
**Carbohydrates**
- 190024 What is the term for different pathogenic types of bacteria?  
**Serotypes**
- 190025 Vitamin D helps prevent what nutritional disorder in calves?  
**Rickets**
- 190026 A standard plate count measures the number of bacteria in what quantity of milk?  
**1 milliliter (1 ml)**
- 190027 What is the highest grade of butter sold in the United States?  
**U.S. grade AA**

- 190028 What is the technical term for the eversion of the teat orifice?  
**Hyperkeratosis**
- 190029 Edward Jenner first used a cow to protect people against a disease. He used the cowpox virus to prevent smallpox. What is the process called?  
**Vaccination**
- 190030 What is the scientific term for the act of giving birth?  
**Parturition**
- 190031 What is the common name for the combination of precipitated minerals and organic soils which forms on milking equipment?  
**Milkstone**
- 190032 What is the more common name for hyperketonemia?  
**Ketosis**
- 190033 What tissue is monitored for residual drug levels at slaughter?  
**Kidneys**
- 190034 Excess ammonia is converted into what by the liver and kidneys then subsequently excreted in the urine?  
**Urea**
- 190035 If you have 60 pounds of corn silage at 34% dry matter, how many pounds of dry feed do you have?  
**20.4 Pounds**
- 190036 What is the name of the plant component within the neutral detergent fiber (NDF) fraction which is indigestible?  
**Lignin**
- 190037 What is the primary source of protein in all-milk, milk replacers?  
**Dried whey**
- 190038 How many pounds of silage at 40 percent dry matter must be fed to have 1000 pounds of dry matter?  
**2500 Pounds**
- 190039 HCG has been used experimentally to improve fertility when using artificial insemination. What structure in the uterus produces this hormone?  
**Chorion**
- 190040 What is the total monthly quality premium for a 500 cow herd that produces 1,125,000 pounds of milk with a quality premium of \$.40/cwt?  
**\$4500**
- 190041 What is the SCC requirement for dairy producers who's milk is destined to produce products for European consumption?  
**Less than 400,000 cells per milliliter**

- 190042 What is the name of the technology which removes an undesirable section of DNA and replaces it with more desirable DNA?  
**CRISPR**
- 190043 What is the term for the rate of decline in a dairy cow's production after she reaches her peak milk production for a lactation?  
**Persistency**
- 190044 The bacteria which digest the fibrous portion of a dairy cow's ration primarily produce which volatile fatty acid?  
**Acetate**
- 190045 Your herd is averaging 80 pounds of milk, you receive \$20 per hundred weight and it costs \$8 per day to feed your cows. What is your income over feed cost?  
**\$8.00**
- 190046 A vaccine has been developed for which mastitis causing organism other than *Staphylococcus aureus* and *Escherichia coli*?  
**Klebsiella**
- 190047 A cow eats 40 pounds of silage that is 40% dry matter, 10 pounds of hay that is 85% dry matter. How many pounds of forage dry matter did she eat?  
**24.5 pounds.**
- 190048 Where in the cow would you find Furstenberg's rosette?  
**Teat cistern**
- 190049 What is the process which is used in dairy manufacturing to remove solid impurities from milk prior to further processing?  
**Clarification**
- 190050 Aflatoxins are particularly toxic to which organ in the dairy cow?  
**Liver**