

# 2022 NAILE 4-H Dairy Quiz Bowl

## Phase A – Written Exam

1. What chemical compound is used to freeze semen?  
***Liquid nitrogen***
2. If the farm price received for milk is \$14.00 per hundredweight, what is the price received per pound of milk?  
***14 Cents***
3. Rear teats which are too close is attributed to what mammary structure?  
***Strong median suspensory ligament***
4. What is the term for the number of pregnant cows after the first AI breeding divided by the number of cows inseminated for the first time?  
***First service conception rate***
5. What is the process called when the uterus returns to its normal, non-pregnant size and regenerates the uterine lining?  
***Uterine involution***
6. What is the term for the hormone altering method which causes groups of cows and heifers to show heat at the same time?  
***Estrus Synchronization***
7. What is the primary gas in biogas?  
***Methane***
8. What is the term that means no oxygen is present in the rumen mixture?  
***Anaerobic***
9. If your herd's heat detection rate is 50 percent and your herd's conception rate is 50 percent, what is your pregnancy rate?  
***25 Percent***
10. Calculate the pregnancy rate when 10 cows were bred in a group of 20 eligible cows and 2 were confirmed pregnant.  
 ***$2/20 = 10\%$***
11. What is the area on the cow located at the junction of the shoulder and the backbone called?  
***Withers***
12. What kind of bedding supports the least amount of bacteria?  
***Sand (Inorganic)***
13. Where are immunoglobulins absorbed in a newborn calf?  
***Small intestine***
14. What compound has the greatest effect on the amount of cheese produced from a pound of milk?  
***Protein***

15. What term is given to the number of pregnancies achieved in all open cows during each 21-day period?

***Pregnancy rate***

16. Your cow has had 5 bull calves, what is the probability that her next calf will be a bull?

***50 Percent***

17. Near the time of mating, a follicle on one of the ovaries ruptures and an egg is released. What is this process called?

***Ovulation***

18. What is the 1 word term for the chemical messengers?

***Hormones***

19. What disease is caused by the organism Mycobacterium avium subspecies paratuberculosis?

***Johne's Disease***

20. What mineral is important in the prevention of cystic ovaries and retained placentas and its addition to diets is regulated by FDA?

***Selenium***

21. What is the general term used to describe forages that are harvested by grazing animals called?

***Pasture***

22. What is the hormone primarily responsible for bringing a cow or heifer into heat?

***Estrogen***

23. What is the term for the financial obligations incurred by a business?

***Liabilities***

24. What nutrient has 2.25 times the energy as carbohydrates?

***Fats***

25. What does the acronym CFU stand for when measuring yeasts and molds?

***Colony forming units***

26. What is the term for warm blooded animals that produce milk to feed their young?

***Mammals***

27. What is the common name for ascorbic acid?

***Vitamin C***

28. Hormones produced by the thyroid require what mineral?

***Iodine***

29. Which fetal hormone increases rapidly and induces calving?

***Cortisol***

30. What does KPI represent?

***key performance indicators***

31. A dairy farmer injects a cow that is 4 months pregnant with prostaglandin F2alpha. What will probably happen?

***Regression of the corpus luteum; Abortion***

32. In terms of reproductive management performance, what does a pregnancy rate of 27% indicate relative to an industry average.

***Above, average is 18 to 20 percent.***

33. What type of organism is Cryptosporidium parvum?

***Protozoa***

34. What does the term ipsilateral mean?

***Same side***

35. What term describes the combination of cull rate and mortality rate and is used to help determine the number of replacement animals needed in an operation?

***Herd turnover rate***

36. What hormone is secreted by the corpus luteum in order to maintain pregnancy?

***Progesterone***

37. Propylene glycol is converted to what in the liver?

***Glucose***

38. What is the main hormone produced by the testicles which is released into the blood stream and causes the development of male characteristics?

***Testosterone***

39. How many pairs of chromosomes does a cattle embryo have?

***30 Pairs***

40. Which hormone, produced in the pancreas, promotes mammary cell growth and cell division?

***Insulin***

41. What is the process by which white blood cells engulf microorganisms?

***Phagocytosis***

42. In what male sex organ is sperm produced?

***Testicle***

43. What structure separates the thoracic cavity from the abdominal cavity?

***Diaphragm***

44. Term used to describe the benefit of mating two breeds of the same species.

***Hybrid vigor***

45. Which female organ connects the cervix with the vulva?  
***Vagina***
46. What hormone can interfere with milk ejection when a cow becomes frightened or upset?  
***Adrenaline (epinephrine); Norepinephrine***
47. Lactating cows should consume what percent of their body weight in dry matter?  
***3 to 4 Percent of their body weight***
48. What is the name given to a negatively charged ion or particle?  
***Anion***
49. What forage, known for its deep tap root, enters summer dormancy because of heat and drought, but returns to full growth potential as moisture returns and temperatures drop?  
***Alfalfa***
50. Light entering the cow's eye suppresses the release of what hormone that comes from the pineal gland?  
***Melatonin***