

2024 NAILE 4-H Dairy Quiz Bowl

Phase A – Written Exam

1. Name 1 of the 2 vitamins that are required to be added to low fat milk according to the PMO.

Vitamins A or D

2. What is the health disorder which results from puncturing of the reticulum by a sharp object?

Hardware disease (Traumatic pericarditis)

3. Calf scours is the number one disorder in pre-weaned calves. Name 1 pathogenic bacteria that can cause scours.

E. coli; Salmonella; Clostridia (not rota virus; corona virus; or crypto)

4. Holstein heifers should gain an average of how many pounds per day from birth to freshening at 23 to 24 months of age?

1.8 Pounds per day (1.7 to 2.0 Pounds)

5. What is the average percent protein of soybean meal with soy hulls on an as fed basis?

44 to 46 Percent

6. What type of disease transmission occurs when droplets are passed through the air from one animal to another?

Aerosol

7. What food or class of foods has done the most to increase the use of Italian style cheese in the U.S.?

Pizza

8. If you buy a ton of feed that is 35% dry matter, how many pounds of water are you buying?

1,300

9. What is the term when a cow ovulates but shows no signs of heat?

Silent heat

10. In which season of the year are the incidence of retained placenta and metritis the highest?

Summer

11. What deficiency is associated with white muscle disease?

Deficiency of selenium/Vitamin E

12. Name 1 of the 2 limiting amino acids in most dairy cattle rations.

Methionine; Lysine

13. What is the only part of the milking machine that touches the teats?

Liner or Inflation

14. What type of organism causes Coccidiosis?

Protozoa (Eimeria bovis)

15. On Friday at 9 AM, you administer a product with a 5 day pre-slaughter withdrawal according to the label directions and your veterinarian's recommendations. When is the earliest time and day that you will be able to ship the animal to be harvested for me

After 9 a.m. Wednesday or Wednesday morning (answer needs both day and time)

16. Which drug is made from cattle and is used in human medicine to prevent blood from clotting?

Heparin

17. What is another term for parturition?

Calving/Birthing

18. Dry cows need 0.8 percent K in their diet. What element is K?

Potassium

19. What gland releases oxytocin into the blood?

Posterior pituitary gland

20. Which genetic recessive defect is characterized as causing death in calves during the neonatal period?

Bovine leukocyte adhesion deficiency (BLAD)

21. What hormone blocks milk letdown?

Adrenaline (Epinephrine) or Cortisol

22. Nitrogen is converted into what nutrient by plants?

Amino acids; Protein

23. What is the liquid called that is left when cheese is made?

Whey

24. What breed of dairy cattle has 3 color categories: red, red and white, and roan?

Milking Shorthorn

25. What is the term for the amount of moisture free feed consumed by an animal in 24 hours?

Dry matter intake

26. In the Holstein breed, if a red and white bull is mated to a red and white cow, what is the chance that she will have a black and white calf?

None (red is recessive; black is dominant)

27. As of April 2024, lactating cows are federally ordered to be tested for what disease before being transported across state lines?

Highly pathogenic avian influenza (H5N1)

28. Milk fat globules are reduced from 5 microns to 2 microns during a very common milk manufacturing process. Name the process.

Homogenization

29. What is the membrane called that immediately surrounds the developing fetus?

Amnion

30. What is the name of the proteins which are high in colostrum and protect the newborn calf against organisms that cause scours and other diseases?

Immunoglobulins; Antibodies

31. What hormone can be used to control the time of estrus in a cow with a corpus luteum?

Prostaglandin F2 α

32. What is the average pH of a cow's saliva?

8 to 9

33. What disease causes severe diarrhea in calves and can be spread to humans and contaminate water supplies?

Cryptosporidium

34. What vessel carries blood away from the heart?

Arteries

35. Name the primary hormone that controls the movement of the fertilized egg through the oviduct into the uterus.

Estrogen

36. Non-point source usually refers to pollution such as nutrients, chemicals, toxins or pathogens that contaminate what?

Ground or surface water

37. What term is used to describe the genotype when the 2 alleles at a given locus are different?

Heterozygous

38. Name 1 of the secretions of the abomasum.

Hydrochloric acid; Pepsinogen; Rennin

39. What genetic evaluation of cow fertility for sires is based on the number of 21 day cycles required for a bull's daughters to become pregnant?

Daughter Pregnancy Rate (DPR)

40. The process which kills harmful bacteria in milk is called?

Pasteurization

41. A pregnant cow will generally have a greater concentration of which hormone compared to an open cow?

Progesterone

42. What genetic term is used to express the evaluation of cows and daughters of bulls for milk, fat & protein production traits that will be passed on?

Predicted Transmitting Ability (PTA)

43. What directive is required when antibiotics are administered by feed or water?

Veterinary Feed Directive or VFD

44. In which organ does most of the digestion and absorption of fat occur?

Small intestine

45. What is the term for "naturally without horns" ?

Polled

46. Numerous mycotoxins can be found in feedstuffs. Which is the only one regulated by the Food and Drug Administration?

Aflatoxin

47. Your recently fresh cow is sick and the veterinarian treats her with propylene glycol. What is her problem?

Ketosis

48. What is direct contact transmission?

Touching infected surfaces.

49. Name 1 of the basic types of hay preservatives.

Anhydrous ammonia; Bacterial inoculants; Propionic acid

50. Urea substitutes for a nutrient in a ruminant's diet. What is that nutrient?

Protein