

2021 NAILE 4-H Dairy Quiz Bowl

Phase A – Written Exam

1. What is a normal body temperature for a cow (°F)?
101.5 to 102.5 Degrees F
2. The energy content of fat is approximately how many times the energy content of carbohydrates?
2.25 Times
3. What genetic term is used to describe the physical characteristics and performance of an individual?
Phenotype
4. Hardware disease occurs when a sharp piece of metal punctures which structure of the digestive tract?
Reticulum
5. What grade of milk is the only one which can be used for fluid milk?
Grade A
6. Primiparous refers to what group of cows?
First lactation cows
7. If a feed contains 70% moisture what is it's percent dry matter?
30 Percent
8. How is passive transfer of immunity achieved in calves?
Ingestion of colostrum
9. What is the common name for a cryogenic container often found on dairy farms?
Semen tank
10. What chemical element does the letter K represent?
Potassium
11. Oxidized flavors in milk begin to develop when it is exposed to what source?
Light source
12. What is the general term for a pH of 5?
Acidic
13. What do the Charm and Delvo tests have in common?
Antibiotic tests
14. What metabolites are used to synthesize milk casein?
Amino acids

15. Anaerobic digestion is a way to turn manure into energy. What gas is produced in the process?

Methane

16. What type of feed is being formed by using heat, moisture and pressure to force a meal type feed through holes in a metal die?

Pellet; Extrusion

17. What is the process where carbon dioxide is taken from the atmosphere and fixed as carbohydrates in plant material?

Photosynthesis

18. What hormone is measured in milk samples to determine if a cow is open or pregnant?

Progesterone

19. What calfhood disease is caused by a deficiency of vitamin E and selenium?

White Muscle Disease; Muscular dystrophy

20. Which fat soluble vitamin is produced in the rumen?

Vitamin K

21. Two people milk with 12 units. They milk 144 cows in 72 minutes. On average, how many minutes does it take to milk each cow?

6 Minutes per cow

22. What is the general term for an element that has a negative electrical charge?

anion

23. In which stomach compartment are you most likely to find an ulcer?

Abomasum

24. Name the structure that holds the uterus and ovaries in their proper position.

Broad ligament

25. A deficiency of what vitamin may cause blindness in calves?

Vitamin A

26. How much milk does it take to make 1 pound of cheddar cheese?

10 Pounds

27. What is the term for the milk that remains in the mammary gland following the completion of milking?

Residual milk

28. What term describes the hormone altering method to have cows and heifers come into heat within a similar time?

Estrus synchronization

29. In a standard feed analysis, which measure of fiber provides an indication of the digestibility of a forage?

ADF (acid detergent fiber) /NDF digestibility acceptable

30. How long does it take sperm to pass through the epididymis?
About 2 weeks
31. What Latin term is used to describe a feeding system where cows are allowed to eat all they want?
Ad libitum, ad lib
32. What sugar is found in milk?
Lactose
33. Which government organization must approve all new feed additives?
Food and Drug Administration, FDA
34. A colorless algae that can cause mastitis in dairy cattle?
Prototheca
35. What is the recommended maximum number of heifers per waterer?
20 per waterer
36. Your herd is averaging 60 pounds of milk, you receive \$15 per hundred weight and it costs \$6 per day to feed your cows. What is your income over feed cost?
\$3.00
37. What term refers to any loss of feed between harvest (or purchase), to the time a cow actually consumes it?
Shrink, feed shrink
38. What is the formula which combines ambient temperature and relative humidity into a single value called?
Temperature Humidity Index (THI)
39. Which stomach compartment of ruminants secretes hydrochloric acid?
Abomasum
40. What instrument is used to determine the gross energy value of a feed?
Bomb Calorimeter
41. Where is metabolizable protein absorbed in the dairy cow?
Small intestine
42. How much water will a high producing dairy cow consume daily?
30 to 50 gallons (not less than 30)
43. Determine the feed efficiency of a cow consuming 50 lbs of DMI and producing 100 lbs of FCM (include units).
2 FCM to DMI
44. What part of the drought stressed corn plant has the highest nitrate concentration?
Bottom of the stalk

45. In what feed ingredient is the toxin gossypol found?
Cotton seed; Cotton seed meal
46. Which component in the plant is indigestible to a ruminant?
Lignin
47. What is the name of the tissue which connects the stomach with the other organs in the abdomen?
Omentum
48. What part of the corn kernel is broken when processing corn silage?
Pericarp
49. In a voluntary robotic milking system, a cow spends 7 minutes being milked at each visit and visits the milker 4 times per day. The system records feed consumption of 0.5 lbs/ min, how much feed did she eat at the robot, include units?
7*4*0.5=14 lbs/d
50. If herd is feeding 10 tons as fed of corn silage per day, how many as fed tons need to be harvested for the year, if shrinkage is 10%?
4015 or 4055 tons