



2023 NATIONAL FFA DAIRY CATTLE EVENT

DAIRY MANAGEMENT EXERCISE

Select the best answer for each of the following 40 questions.

1. The leading environmental issues facing farmers are contamination of ground and surface waters by which two nutrients?
 - A. Nitrogen (N) and Potassium (K)
 - B. Potassium (K) and Phosphorus (P)
 - C. Nitrogen (N) and Chlorine (Cl)
 - D. Nitrogen (N) and Phosphorus (P)
 - E. Phosphorus (P) and Calcium (Ca)
2. Which measure on a feed analysis report is used as a predictor of feed intake
 - A. NDF
 - B. Dry Matter
 - C. ADF
 - D. Protein
 - E. TDN
3. Which of the following factors influence the amount of water dairy cattle consume?
 - A. Body size
 - B. Water quality
 - C. Environmental temperature
 - D. Milk production
 - E. All of the above
4. Which solutions are commonly used as teat tips on dairy farms?
 - A. Chlorine
 - B. Hydrogen peroxide
 - C. Chlorhexidine
 - D. Iodine
 - E. All of the above
5. According to the PDCA Cow Unified Scorecard, which of the following is NOT a category on the scorecard?
 - A. Body Capacity 10 pts
 - B. Udder 40 pts
 - C. Frame 15 pts
 - D. Feet and Legs 20 pts
 - E. Dairy Strength 25 points

6. One of your recently fresh cows is ill. She has been receiving a high grain, low roughage diet. The consistency of the small amount of manure she produces is "putty-like." Your veterinarian detects a "pinging" sound when using his stethoscope. What is the most likely diagnosis?
- A. Left Displaced Abomasum
 - B. Milk Fever
 - C. Grass Tetany
 - D. Ketosis
 - E. Rumen Acidosis
7. Dr. Gustaf de Laval was credited with inventing what important piece of equipment?
- A. Tractor
 - B. Centrifugal cream separator
 - C. Calf hutch
 - D. Semen Tank
 - E. Rotary milking parlor
8. Which of the following is a part of the teat that milk passes through?
- A. Streak canal
 - B. Inflation
 - C. Cervix
 - D. Pituitary
 - E. Oxytocin
9. An example of a Class IV use for milk would be to make
- A. Hard cheese
 - B. Ice cream
 - C. Chocolate Milk
 - D. Cottage Cheese
 - E. Butter
10. One effective method to prevent milk fever in dry cow rations is to supplement with anionic salts. What type of electrical charge does an anion have?
- A. Positive
 - B. Neutral
 - C. Negative
 - D. They do not have a charge at all
 - E. Amp

11. What is one challenge to successfully applying anionic salts to dry cow diets?
 - A. Poor palatability
 - B. Add too much energy to the diet
 - C. Results in the cow calving early
 - D. Decreases milk production
 - E. Ketosis
12. The ruminant stomach is comprised of 80% of this first compartment.
 - A. Reticulum
 - B. Omasum
 - C. Rumen
 - D. Abomasum
 - E. Small intestine
13. Which dairy breed produces milk with the highest fat and protein content?
 - A. Ayrshire
 - B. Brown Swiss
 - C. Jersey
 - D. Holstein
 - E. Guernsey
14. What is the name of the organization that resulted from the collaboration among industry partners, breed associations, AI companies, DHIA testing organizations and the dairy records processing centers?
 - A. World Dairy Expo
 - B. Animal Improvement Programs Laboratory
 - C. Dairy Business Association
 - D. Council on Dairy Cattle Breeding
 - E. National Dairy Shrine
15. The local veterinarian has invited you to do a herd visit with him to determine why calves are experiencing illness. You are asked to observe the calves housed outside in individual calf hutches. Calves appear to be lethargic and dehydrated. You notice calves have watery stools that are brown, grey, or yellow in color. Calves are weak and depressed. Upon reviewing birth information, the most seriously affected calves average 2-4 days of age. The bedding appears wet and dirty in both the calf hutches and the maternity pen. The most likely cause for this condition is which of the following:
 - A. Too much milk being fed
 - B. E.coli bacteria causing scours
 - C. Antibiotic residues
 - D. Too much protein in the milk replacer
 - E. Staph infection.

16. The dehydrated calves in #15 should be supplemented with which of the following: A) Fat
- A. Protein
 - B. Hay
 - C. Electrolytes
 - D. None of the above.
17. One way to help prevent the incidence of the sick calves in #15 is to:
- A. A) Group calves together
 - B. Provide clean, dry, well-bedded calving pens and calf hutches
 - C. Let the calf nurse on the cow immediately after calving
 - D. Feed more milk
 - E. Do not feed colostrum at birth.
18. Which of the following is NOT considered a micromineral?
- A. Phosphorus
 - B. Cobalt
 - C. Zinc
 - D. Iodine
 - E. Iron.
19. The record of an animal's ancestry that provides genetic and performance information on an animal and its ancestors is commonly referred to as a?
- A. Family tree
 - B. Registration Paper
 - C. Breeding Chart
 - D. Pedigree
 - E. Performance Report.
20. What hormone can interfere with milk letdown when a cow becomes frightened or upset?
- A. Prolactin
 - B. Progesterone
 - C. Adrenaline (epinephrine)
 - D. Oxytocin
 - E. Relaxin.
21. In 2023, FFA Dairy will maintain an average SCC of 125,000 cells/ml in all 1st lactation cows. In this SMART goal, 125,000 cells/ml SCC, represents which part of the acronym?
- A. Specific
 - B. Measurable
 - C. Attainable
 - D. Realistic
 - E. Timely

22. You call your local veterinarian to evaluate the reproductive status of your dairy cows. He uses an ultrasound machine to help determine what?
- A. Pregnancy
 - B. Sex of the embryo
 - C. Monitor cystic ovaries
 - D. Determine if twins are being carried
 - E. All of the above.
23. If the MUN level is considered high, which nutrient is likely to be in excess?
- A. Fats
 - B. Carbohydrates
 - C. Vitamins
 - D. Minerals
 - E. Protein.
24. Recently, your cows have been experiencing less production, lower butterfat, and sick cows that never seem to recover. What could be the cause of these symptoms?
- A. Ketosis
 - B. Milk Fever
 - C. Johne's
 - D. Hardware
 - E. Rumen Acidosis.
25. This vitamin is derived from carotenoids found in plants and serves a wide range of functions for the animal.
- A. Vitamin E
 - B. Vitamin D
 - C. Vitamin C
 - D. Vitamin B12
 - E. Vitamin A.
26. Corn silage harvest was recently completed. Your nutritionist arrived to take a forage sample for analysis to determine a new ration formulation. You received the test report back. One number in particular that you are interested in knowing is the ADF value. What does ADF stand for?
- A. Area Dairy Forage
 - B. Active Digestible Fiber
 - C. Acid Detergent Fiber
 - D. Available Digestible Forage
 - E. Active Digestible Feed.

27. What does ADF measure in feed?
- A. Protein
 - B. Dry matter
 - C. How much cellulose, hemicellulose, and lignin are in the feed
 - D. How much water is in the feed
 - E. how much cellulose, lignin, and lignified nitrogen components are in the feed.
28. Ideally, how much ADF should make up a high-producing cow's ration?
- A. 18-21%
 - B. <10%
 - C. 30-40%
 - D. >50%
 - E. There should not be any in the ration.
29. What is the target for body condition score at calving and dry-off?
- A. 2.75
 - B. 3.0-3.25
 - C. 4.0-4.25
 - D. 2.5
 - E. 5.0.
30. What is the most likely limiting nutritional requirement for a high-producing dairy cow?
- A. Water
 - B. Vitamins
 - C. Minerals
 - D. Energy
 - E. Protein.
31. Volatile fatty acids are the main products of carbohydrate digestion by rumen microorganisms. Which of the following are volatile fatty acids produced in the rumen?
- A. Acetate and Propionic acid
 - B. Butyric and Hydrochloric Acid
 - C. Propionate and Lysine
 - D. Methionine and Acetate
 - E. Butyric Acid and Phosphorus.

32. In early summer, you select the heifers you want to show. As you examine the animals, you notice signs on the face, neck and ears of what you believe to be a contagious disease caused by a fungus leading to an infection outside of the immune system of the heifers. This disease that invades the hair follicles and the outer layer of skin is commonly known as:
- A. Shipping Fever
 - B. Ringworm
 - C. Black Leg
 - D. Rabies
 - E. Pinkeye.
33. The age of cattle most susceptible to the disease in #32 is?
- A. 1st lactation cows
 - B. Mature Bulls
 - C. Mature Cows
 - D. Young animals (calves and heifers)
 - E. 3 year old cows.
34. Raw milk produced on the farm has which of the following milk quality tests performed at the milk plant?
- A. Sediment test
 - B. Antibiotic test
 - C. Preliminary incubation (PI) count
 - D. Freezing point
 - E. All of the above.
35. FFA Dairy recently began making cheese on the farm. In order to get the milk to curdle, what coagulant made from an enzyme found in the inner lining of a calf's stomach is added to the milk?
- A. Coccidiosis
 - B. Rennet (Rennin)
 - C. IBR
 - D. Lactose
 - E. Cellulose.
36. The purpose of this program is to show customers that the dairy industry is taking the very best care of cows and the environment, producing safe and wholesome milk, and adhering to the highest standards of workforce development. The name of the program is:
- A. National Dairy FARM Program
 - B. Farm Bill Program
 - C. Dairy Margin Coverage Program
 - D. Precision Dairy Farming
 - E. Best Management Practices Program.

37. Through what process is carbon dioxide taken from the atmosphere and fixed as carbohydrates in plant material?
- A. Respiration
 - B. Transpiration
 - C. Photosynthesis
 - D. Photoperiod
 - E. Translocation.
38. Factors affecting a dairy herd's conception rate include which of the following?
- A. All of the following
 - B. Heat detection accuracy
 - C. Semen (bull) fertility
 - D. Herd (cow) fertility
 - E. Technician competency.
39. Budgets, balance sheets and cash flow projections are valuable and essential management tools, but they do not tell the manager if the business is profitable. What is the only tool of farm business analysis that measures profitability?
- A. Bank Statement
 - B. Equity Statement
 - C. Income Statement
 - D. Schedule F
 - E. Excel spreadsheet.
40. During a recent visit with your A.I. salesman, you are discussing the new bull proofs with her and want her help in selecting the best bulls to use on your heifers to improve PL. What does the acronym PL stand for?
- A. Production Lifetime
 - B. Productive Life
 - C. Predicted Lifetime
 - D. Predicted Longevity
 - E. It doesn't stand for anything specific.