

Phase B      5 Questions      Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. What is the name of the hormone used in reproductive management that functions to destroy or regress the corpus luteum?

ANS: Prostaglandin (or Prostaglandin F2 Alpha)

2. In a 600 cow breeding herd with a 50% conception rate, how many cows would need to be bred the third time?

ANS: 150

3. A cow is consuming 45 pounds of dry matter from a total mixed ration (TMR) that contains 50% moisture. How many actual (as-fed) pounds of the TMR is the cow eating?

ANS: 90 pounds

Calculation: 45 pounds of dry matter divided by 50% dry matter in the TMR

4. Which of the following is the term for the amount of heat required to raise the temperature of one gram of water from 14.5 degrees C to 15.5 degrees C?

a) TDN                      b) NE                      c) calorie                      d) heat increment

ANS: c) calorie

5. When formulating rations, nitrogen is a major consideration for dairy nutritionists. Which one of the following is the primary way that nitrogen is added to the ration?

a) in the water              b) from sources of crude protein      c) from limestone  
d) from sources of supplemental fat

ANS: b) from sources of crude protein

Phase C      20 Questions      Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. Which one of the following is the name of the toxic substance that can be formed in sorghum forage that has been damaged by frost?

- a) hydrochloric acid      b) linoleic acid      c) prussic acid      d) sulfuric acid

ANS: c) prussic acid

2. During which season of the year is the demand for milk the highest?

ANS: Fall

3. Which of the following describe fumonisin and zearalenone?

- a) lipids      b) carbohydrates      c) mycotoxins      d) protein

ANS: c) mycotoxins

4. What is the name of the nutritional disorder that can occur in cattle grazing lush pasture that are fed a diet that is deficient in magnesium?

ANS: Grass tetany

5. Sodium bicarbonate is routinely added to dairy rations to help prevent acidosis. Which one of the following describes sodium bicarbonate?

- a) an anionic salt      b) a buffering source      c) a source of bypass protein

ANS: b) a buffering source

6. Which of the following is the number of amino acids that are considered to be essential in the dairy cow, and therefore are required in the diet?

- a) 10   b) 20   c) 30   d) 40

ANS: a) 10

7. What do we call the milk that remains in the udder following the milking process?

- a) residual milk      b) alveoli      c) foremilk      d) lactation

ANS: a) residual milk

8. What is the name of the Federal Milk Marketing Order that includes North Carolina?

ANS: Appalachian

9. Which one of the following is the purpose of the Pasteurized Milk Ordinance (PMO)?

- a) it establishes the standards for feeding milk to calves  
b) it establishes the standards for feeding the lactating herd  
c) it establishes the standards for Grade A milk

ANS: c) it establishes the standards for Grade A milk

10. To help prevent milk fever, anionic salts may be added to close-up dry cow rations. Which one of the following is the type of electrical charge that the anion has?

- a) positive charge      b) negative charge      c) neutral charge

ANS: b) negative charge

11. Of the following age groups of dairy cattle, which group generally has the lowest incidence of calving difficulty?

- a) Heifers (when giving birth to their first calf)      b) aged cows      c) 1<sup>st</sup> lactation cows

ANS:    b) aged cows

12. In the last few years, which one of the following sections of the U.S. has seen the greatest decline in numbers of dairy farms?

- a) Northeast      b) Southeast      c) Southwest      d) West

ANS: b) Southeast

**13. Which one of the following terms refers to practices that prevent the introduction or spread of disease on the farm?**

- a) biotechnology      b) bioinformatics      c) biofeedback      d) biosecurity

ANS : d) biosecurity

**14. In the dairy cow, glucose can be formed from this volatile fatty acid (VFA) produced in the rumen. What is the name of this VFA?**

ANS: Propionate

**15. In reference to calves, which one of the following refers to scours?**

- a) acetonemia      b) pneumonia      c) brucellosis      d) enteritis

ANS: d) enteritis

**16. You keep good herd records and you routinely track peak milk production and peak feed intake. Which of these normally occurs second in a lactating dairy cow?**

ANS: Peak feed intake

**17. What disease is caused by *Mycobacterium paratuberculosis*?**

ANS: Johne's Disease

**18. Which of the following is the percentage of crude protein that is normally contained in a commercial calf starter grain mix?**

- a) 10 to 12 percent    b) 18 to 22 percent    c) 30 to 40 percent

ANS: b) 18 to 22 percent

**19. When referring to milk composition analysis, what does MUN stand for?**

ANS: Milk Urea Nitrogen

**20. Which one of the following has happened to the pH of the rumen when a cow has acidosis?**

- a) it has increased to a high level    b) it has declined to a low level    c) it has not changed

ANS: b) it has declined to a low level

**Bonus Questions      Each bonus question is worth 20 points.**

**Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.**

**1. The milk replacer label lists that it contains 15% fat. How many pounds of fat will be contained in a 50 pound bag of the milk powder?**

ANS: 7.5 pounds of fat

**2. The DRMS is located in Raleigh. What does DRMS stand for?**

ANS: Dairy Records Management Systems

**3. When referring to genetic evaluations, what do the letters BLUP stand for?**

ANS: BEST LINEAR UNBIASED PREDICTION