

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. Chromosomes are found in the nucleus of the cell. How many pairs of chromosomes do dairy cattle have?

- a) 10      b) 20      c) 30      d) 40

ANS: c) 30

2. Which of the following are classified as ionophores?

- a) Rumensin (monensin) and Bovatec (lasalocid)  
b) methionine and lysine  
c) calcium and phosphorous

ANS: a) Rumensin (monensin) and Bovatec (lasalocid)

3. When should the newborn calf receive its first feeding of colostrum?

- a) at 3 days of age      b) after the first day of life  
c) as soon as possible, preferably within the first 30 minutes of life

ANS: c) as soon as possible, preferably within the first 30 minutes of life

4. Which of the following are the two times that a cow is most susceptible to becoming infected with coliform mastitis?

- a) peak lactation and dry off      b) at calving and at dry off  
c) peak lactation and mid dry period

ANS: b) at calving and at dry off

5. "Saturated" fatty acids are completely hydrogenated. How many double bonds do "saturated" fatty acids contain?

- a) 2      b) 4      c) 6      d) none

ANS: d) none

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. In which one of the following breeds is DUMPS, an inherited condition which results in embryonic death, found?

- a) Jersey      b) Guernsey      c) Holstein

ANS: c) Holstein

2. On DHIA milk production records, what does M.E. stand for?

ANS: Mature Equivalent

3. Which of the following dairy products are being promoted with the “3-A-Day” slogan?

- a) milk, butter and cheese      b) milk, cheese and yogurt      c) milk, whey and butter

ANS: b) milk, cheese and yogurt

4. Which one of the following describes the lining of the abomasum?

- a) honeycomb      b) covered with papillae  
c) a mucous covered lining to protect it from the hydrochloric acid that is secreted

ANS: c) a mucous covered lining to protect it from the hydrochloric acid that is secreted

5. On the PDCA Dairy Cow Unified Score Card, what category contains the reference to “Stature”?

ANS: Frame category

**6. What is the name of the method of determining pregnancy in cattle by sending sound waves through reproductive tissue?**

ANS: Ultrasound (or ultrasonic imaging)

**7. What is the name of the enzyme that is added to milk to make cheese?**

ANS. Rennet

**8. On a DHIA record, what does “days to first service mean”?**

- a) time from dry off to calving      b) days from calving until first breeding date  
c) days from calving until conception

ANS: b) days from calving until first breeding date

**9. What does the term “anthelmintics” refer to?**

- a) the name of the class of chemicals used to kill internal parasites  
b) antibiotics              c) clostridia

ANS: a) the name of the class of chemicals used to kill internal parasites

**10. Which one of the following is the most concentrated source of energy in dairy cattle rations?**

- a) starch      b) protein      c) fat      d) carbohydrate

ANS: c) fat

**11. When evaluating the ability of a ration to maintain good rumen function, what does “chewing time in minutes per pound of feed” measure?**

- a) soluble fiber      b) “effective” fiber      c) digestible fiber

ANS: b) “effective” fiber

**12. Which one of the following describes “udder edema” in dairy cows??**

- a) metritis      b) ketosis      c) acetonemia  
d) the condition when an excessive amount of lymph fluid accumulates between the skin and the secretory tissue of the udder in a cow after calving

ANS: d) the condition when an excessive amount of lymph fluid accumulates between the skin and the secretory tissue of the udder in a cow after calving

**13. Which of the following are the two most limiting amino acids in dairy cattle nutrition?**

- a) arginine and threonine    b) methionine and lysine    c) leucine and valine

ANS: b) methionine and lysine

**14. Which of the following is the term for “diseases that are transmitted between vertebrate animals and humans”?**

- a) clinical diseases    b) zoonotic diseases (or zoonoses)

- c) subclinical diseases    d) incurable diseases

ANS: b) zoonotic diseases (or zoonoses)

**15. On the Dairy Cow Unified Score Card, under what category is “Pasterns”?**

ANS: Feet and Legs

**16. Which one of the following nutrients is broken down by enzymes known as lipases?**

- a) protein    b) carbohydrate    c) fat (or lipids)

ANS: c) fat (or lipids)

**17. Which one of the following ingredients would you expect to find in a milk replacer?**

- a) soybean meal    b) wheat bran    c) cottonseed hulls    d) dried whey

ANS: d) dried whey

**18. What happens to the pH of corn silage in a silo during a proper fermentation process?**

- a) it increases    b) it decreases    c) it does not change

ANS: b) it decreases

**19. Which of the following is the main advantage to using a “Brown Midrib” corn variety for silage?**

- a) higher lignin content and lower fiber digestibility  
b) lower lignin content and greater fiber digestibility  
c) higher yields

ANS: b) lower lignin content and greater fiber digestibility

**20. In which one of the following parts of the digestive system are the immunoglobulins in colostrum absorbed in a newborn calf?**

- a) abomasum      b) small intestine      c) large intestine

ANS: b) small intestine

**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. What is the name of the bacteria that causes the disease known as “Circling Disease” in cattle?**

ANS: Listeria

**2. Dairy farmers in North Carolina often use water sprinklers and fans on their cows in order to reduce the effects of which of the following:**

- a) fatty liver    b) foot rot    c) heat stress      d) mastitis

ANS: c) heat stress

**3. What is the name of the by-product that results from the cheese manufacturing process?**

ANS: Whey