

## 2021 Virginia FFA Milk Quality and Products CDE Written Test

Name: \_\_\_\_\_

Chapter: \_\_\_\_\_

**Instructions:** This exam consists of 60 multiple-choice questions. Each question is worth two points. Choose the single best answer to each question and mark your answer on the back of your Scantron form in the "Written Exam" sections. Time limit is 40 minutes.

### Production Questions

- 1. What is the recommended temperature for washing the bulk tank, lines, and other equipment?**
  - A. 135°F
  - B. 145°F
  - C. 160°F
  - D. 212°F
- 2. To determine the protein content of a feed, multiply the nitrogen fraction by what number?**
  - A. 2.15
  - B. 6.25
  - C. 8.6
  - D. 16
- 3. The process by which milk is squeezed out of milk-producing tissue by the action of oxytocin is called \_\_\_\_.**
  - A. Forestripping
  - B. Involution
  - C. Machine stripping
  - D. Milk letdown
- 4. Heifers should be moved into the breeding pen when they reach what percent of mature bodyweight?**
  - A. 40%
  - B. 55%
  - C. 75%
  - D. 85%
- 5. Which group of cows on the dairy farm benefits from a short-day photoperiod?**
  - A. Dry cows
  - B. Transition cows
  - C. Early lactation cows
  - D. Mid lactation cows
- 6. \_\_\_\_ is the period of pregnancy that begins at fertilization and ends at birth.**
  - A. Gestation
  - B. Lactation
  - C. Ovulation
  - D. Parturition
- 7. Management practices that protect the herd from the entry of new diseases and minimize the spread and/or adverse effects of diseases in the herd are called \_\_\_\_.**
  - A. Animal rights
  - B. Animal well-being
  - C. Biosecurity
  - D. Vaccination protocols
- 8. What is the most costly disease in dairy cattle?**
  - A. Johne's disease
  - B. Ketosis
  - C. Mastitis
  - D. Milk fever
- 9. What should the acid detergent fiber content of a high producing dairy cow's ration be?**
  - A. 12-14%
  - B. 18-21%
  - C. 24-27%
  - D. 30-32%

2021 Virginia FFA Milk Quality and Products CDE Written Test

10. \_\_\_\_\_ is the waxy substance produced by cells lining the teat canal that serves as a plug between milkings and aids in reducing penetration by microorganisms.
- A. Chyme
  - B. Keratin
  - C. Myoepithelium
  - D. Mucin
11. A newborn calf should be fed colostrum at an amount equal to what percent of the calf's bodyweight within the first two hours of life?
- A. 5%
  - B. 10%
  - C. 15%
  - D. 20%
12. \_\_\_\_\_ is the number of times per minute that a pulsator opens and closes.
- A. Agitation
  - B. Pulsation
  - C. Pulsation rate
  - D. Pulsation ratio
13. Which type of mastitis is characterized by visible abnormalities in the udder or milk?
- A. Acute
  - B. Clinical
  - C. Chronic
  - D. Subclinical
14. What is generally considered the best material for covering a bunker silo?
- A. Burlap
  - B. Plastic
  - C. Sawdust
  - D. Straw
15. Cows grazing rapidly growing legumes are susceptible to what condition?
- A. Bloat
  - B. Displaced abomasum
  - C. Hardware disease
  - D. Ketosis
16. What is the common name for dystocia?
- A. Calving difficulty
  - B. Foot rot
  - C. Milk fever
  - D. Twisted stomach
17. Which of the cow's stomach compartments is known as the honeycomb?
- A. Abomasum
  - B. Omasum
  - C. Reticulum
  - D. Rumen
18. How many different DHI test plans are offered by National DHIA and Quality Certification Services?
- A. 10
  - B. 15
  - C. 20
  - D. 25
19. During which season is the incidence of metritis and endometritis highest?
- A. Winter
  - B. Spring
  - C. Summer
  - D. Fall
20. Proteins derived from ruminant sources may not be used in ruminant rations because of concerns about what disease?
- A. Johne's disease
  - B. Leptospirosis
  - C. Ketosis
  - D. Mad cow disease
21. What type of system milks cows without human labor?
- A. Automatic milking system
  - B. Robotic milking system
  - C. Voluntary milking system
  - D. All of the above

## 2021 Virginia FFA Milk Quality and Products CDE Written Test

- 22. Name the structure through which the fetus receives all of its nutrients.**
- A. Navel
  - B. Ovary
  - C. Placenta
  - D. Uterus
- 23. What do you call wrapped round bales of silage?**
- A. Baleage
  - B. Green chop
  - C. Hay
  - D. Haylage
- 24. What is the first step in the NMC recommended milking procedures?**
- A. Check foremilk and udder for mastitis
  - B. Pre-dip teats in an effective product
  - C. Provide a clean, low stress environment for cows
  - D. Wash teats using a sanitary solution
- 25. What is a firm called that is owned by its farmer members, is operated for their benefit, and distributes earnings on the basis of patronage?**
- A. Cooperative
  - B. Corporation
  - C. Limited liability corporation
  - D. Partnership
- 26. What part of the milking system prevents the vacuum level from exceeding a prescribed level?**
- A. Pulsator
  - B. Vacuum gauge
  - C. Vacuum pump
  - D. Vacuum regulator
- 27. What is the legal limit for somatic cell counts in raw milk in the United States?**
- A. 200,000 cells/ml
  - B. 400,000 cells/ml
  - C. 750,000 cells/ml
  - D. 1,000,000 cells/ml
- 28. What percent of bulls born twin to a bull are sterile?**
- A. 50%
  - B. 75%
  - C. 90%
  - D. 100%
- 29. What does colostrum contain that provides calves with passive immunity to disease?**
- A. Antibiotics
  - B. Antibodies
  - C. Casein
  - D. Lactose
- 30. Cows milked three times a day will normally produce what percent more milk than cows milked twice a day?**
- A. 2-3%
  - B. 5-7%
  - C. 8-15%
  - D. 16-18%
- Marketing Questions**
- 
- 31. The document that establishes the standards for Grade A milk is known as the \_\_\_\_.**
- A. Dairy Guidelines for U.S. Dairy Farmers
  - B. Dietary Guidelines for Americans
  - C. Pasteurized Milk Ordinance
  - D. Smith-Lever Act
- 32. How many Federal Milk Marketing Orders use multiple component pricing?**
- A. 4
  - B. 7
  - C. 10
  - D. 11
- 33. Milk that does not meet the fluid grade standards belongs to what milk grade?**
- A. Grade A
  - B. Grade B
  - C. Grade C
  - D. Grade M

2021 Virginia FFA Milk Quality and Products CDE Written Test

34. According to the 2020-2025 Dietary Guidelines for Americans, how many cup-equivalents of dairy are recommended in the Healthy U.S.-Style Pattern for children and adolescents ages 9 to 13 years?
- A. 1
  - B. 2
  - C. 3
  - D. 4
35. Funding for the Cooperatives Working Together program comes from farmers who invest \_\_\_\_\_ cents per hundredweight of milk sold.
- A. 2
  - B. 4
  - C. 5
  - D. 15
36. The National Organic Program for organic livestock production requires a diet consisting of at least what percent dry matter intake from pasture during the growing season?
- A. 30%
  - B. 50%
  - C. 75%
  - D. 100%
37. Butter and milk in dried form belong to which milk class?
- A. Class I
  - B. Class II
  - C. Class III
  - D. Class IV
38. In which month is National Grilled Cheese Month observed?
- A. April
  - B. June
  - C. July
  - D. October
39. What term is traditionally used to define products including beverage milks, fluid cream items, and yogurts?
- A. Fluid products
  - B. Manufactured products
  - C. Processed milk
  - D. Raw milk
40. The observation of June Dairy Month started in what year?
- A. 1900
  - B. 1923
  - C. 1937
  - D. 1965
41. What term is given for firms that process raw Grade A milk into fluid milk products?
- A. Cooperatives
  - B. Manufacturers
  - C. Processors
  - D. Producers
42. \_\_\_\_\_ is the dairy farmer-funded self-help program to address supply and demand imbalances that can depress milk prices.
- A. Cooperatives Working Together
  - B. Dairy Herd Information Registry
  - C. Dairy Margin Coverage
  - D. National Dairy FARM Program
43. What organization is the national leaders for June Dairy Month?
- A. American Dairy Association
  - B. Dairy Alliance
  - C. National Dairy Council
  - D. National Milk Producers Federation
44. The top 50 dairy cooperatives accounted for what percent of the milk produced in the United States in 2019?
- A. 28%
  - B. 53%
  - C. 81%
  - D. 95%

2021 Virginia FFA Milk Quality and Products CDE Written Test

45. What state ranks first for the number of organic dairy cows?
- A. California
  - B. New York
  - C. Vermont
  - D. Virginia
46. \_\_\_\_\_ is an illustration of the five food groups in a place setting that was originally based on the 2010 Dietary Guidelines for Americans and designed to help consumers make healthier food choices.
- A. Food Pyramid
  - B. Got Milk?
  - C. Healthy Meals, Healthy Hearts
  - D. MyPlate
47. \_\_\_\_\_ is the name of the trade agreement that replaced the North American Free Trade Agreement.
- A. Agricultural Improvement Agreement
  - B. General Agreement of Tariffs and Trade
  - C. North American Agricultural Trade Treaty
  - D. United States-Mexico-Canada Agreement
48. The name of the Federal Milk Marketing Order that was most recently added is \_\_\_\_\_.
- A. Appalachian
  - B. California
  - C. Florida
  - D. Pacific Northwest
49. What is the name of the legislation that provided for Federal Milk Marketing Orders?
- A. Agricultural Agreement Act of 1937
  - B. Hatch Act
  - C. Morrill Act
  - D. Smith-Lever Act
50. Packaged dairy products used as beverage milks are known by what general term?
- A. Fluid milk
  - B. Homogenized milk
  - C. Pasteurized milk
  - D. Residual milk
51. What appears on dairy product packaging to assure the consumer that they are purchasing a genuine dairy product?
- A. Bar code
  - B. Expiration date
  - C. Nutrition label
  - D. Real Seal
52. What is the current focus of the Cooperatives Working Together (CWT) program?
- A. Animal well-being
  - B. Biosecurity
  - C. Herd reduction
  - D. Providing export assistance
53. Which U.S. fast food chain uses the most milk?
- A. Burger King
  - B. Dairy Queen
  - C. McDonald's
  - D. Wendy's
54. What term refers to the price of milk that is of average composition, is a weighted average for the market, and accounts for all payments received for milk including performance bonuses and premiums?
- A. Blend price
  - B. Commodity price
  - C. Net price
  - D. Mailbox milk price
55. The "Got Milk?" Campaign was first used by processors in which state?
- A. California
  - B. Georgia
  - C. Ohio
  - D. Pennsylvania
56. What term describes how milk is used by the processor or in a marketing area?
- A. Fluid utilization
  - B. Milk class
  - C. Milk grade
  - D. None of the above

2021 Virginia FFA Milk Quality and Products CDE Written Test

**57. Classified pricing in Federal Milk Marketing Orders is based on how many milk classes?**

- A. 2
- B. 4
- C. 8
- D. 10

**58. How much does a gallon of milk weigh?**

- A. 2.15 pounds
- B. 5 pounds
- C. 8.6 pounds
- D. 10 pounds

**59. How would milk be labeled if it contains 2.5 grams of fat and 100 calories per cup?**

- A. Low fat
- B. Reduced fat
- C. Skim
- D. Whole

**60. By definition, butter should contain a minimum of \_\_\_\_\_ percent fat.**

- A. 20
- B. 40
- C. 60
- D. 80

## 2021 Virginia FFA Milk Quality and Products CDE Written Test

Name: \_\_\_\_\_

Chapter: \_\_\_\_\_

**Instructions:** This exam consists of 60 multiple-choice questions. Each question is worth two points. Choose the single best answer to each question and mark your answer on the back of your Scantron form in the "Written Exam" sections. Time limit is 40 minutes.

### Production Questions

- 1. What is the recommended temperature for washing the bulk tank, lines, and other equipment?**
  - A. 135°F
  - B. 145°F
  - C. 160°F**
  - D. 212°F
- 2. To determine the protein content of a feed, multiply the nitrogen fraction by what number?**
  - A. 2.15
  - B. 6.25**
  - C. 8.6
  - D. 16
- 3. The process by which milk is squeezed out of milk-producing tissue by the action of oxytocin is called \_\_\_\_.**
  - A. Forestripping
  - B. Involution
  - C. Machine stripping
  - D. Milk letdown**
- 4. Heifers should be moved into the breeding pen when they reach what percent of mature bodyweight?**
  - A. 40%
  - B. 55%**
  - C. 75%
  - D. 85%
- 5. Which group of cows on the dairy farm benefits from a short-day photoperiod?**
  - A. Dry cows**
  - B. Transition cows
  - C. Early lactation cows
  - D. Mid lactation cows
- 6. \_\_\_\_ is the period of pregnancy that begins at fertilization and ends at birth.**
  - A. Gestation**
  - B. Lactation
  - C. Ovulation
  - D. Parturition
- 7. Management practices that protect the herd from the entry of new diseases and minimize the spread and/or adverse effects of diseases in the herd are called \_\_\_\_.**
  - A. Animal rights
  - B. Animal well-being
  - C. Biosecurity**
  - D. Vaccination protocols
- 8. What is the most costly disease in dairy cattle?**
  - A. Johne's disease
  - B. Ketosis
  - C. Mastitis**
  - D. Milk fever
- 9. What should the acid detergent fiber content of a high producing dairy cow's ration be?**
  - A. 12-14%
  - B. 18-21%**
  - C. 24-27%
  - D. 30-32%

2021 Virginia FFA Milk Quality and Products CDE Written Test

10. \_\_\_\_\_ is the waxy substance produced by cells lining the teat canal that serves as a plug between milkings and aids in reducing penetration by microorganisms.
- A. Chyme
  - B. Keratin
  - C. Myoepithelium
  - D. Mucin
11. A newborn calf should be fed colostrum at an amount equal to what percent of the calf's bodyweight within the first two hours of life?
- A. 5%
  - B. 10%
  - C. 15%
  - D. 20%
12. \_\_\_\_\_ is the number of times per minute that a pulsator opens and closes.
- A. Agitation
  - B. Pulsation
  - C. Pulsation rate
  - D. Pulsation ratio
13. Which type of mastitis is characterized by visible abnormalities in the udder or milk?
- A. Acute
  - B. Clinical
  - C. Chronic
  - D. Subclinical
14. What is generally considered the best material for covering a bunker silo?
- A. Burlap
  - B. Plastic
  - C. Sawdust
  - D. Straw
15. Cows grazing rapidly growing legumes are susceptible to what condition?
- A. Bloat
  - B. Displaced abomasum
  - C. Hardware disease
  - D. Ketosis
16. What is the common name for dystocia?
- A. Calving difficulty
  - B. Foot rot
  - C. Milk fever
  - D. Twisted stomach
17. Which of the cow's stomach compartments is known as the honeycomb?
- A. Abomasum
  - B. Omasum
  - C. Reticulum
  - D. Rumen
18. How many different DHI test plans are offered by National DHIA and Quality Certification Services?
- A. 10
  - B. 15
  - C. 20
  - D. 25
19. During which season is the incidence of metritis and endometritis highest?
- A. Winter
  - B. Spring
  - C. Summer
  - D. Fall
20. Proteins derived from ruminant sources may not be used in ruminant rations because of concerns about what disease?
- A. Johne's disease
  - B. Leptospirosis
  - C. Ketosis
  - D. Mad cow disease
21. What type of system milks cows without human labor?
- A. Automatic milking system
  - B. Robotic milking system
  - C. Voluntary milking system
  - D. All of the above



## 2021 Virginia FFA Milk Quality and Products CDE Written Test

- 22. Name the structure through which the fetus receives all of its nutrients.**
- A. Navel
  - B. Ovary
  - C. Placenta
  - D. Uterus
- 23. What do you call wrapped round bales of silage?**
- A. Baleage
  - B. Green chop
  - C. Hay
  - D. Haylage
- 24. What is the first step in the NMC recommended milking procedures?**
- A. Check foremilk and udder for mastitis
  - B. Pre-dip teats in an effective product
  - C. Provide a clean, low stress environment for cows
  - D. Wash teats using a sanitary solution
- 25. What is a firm called that is owned by its farmer members, is operated for their benefit, and distributes earnings on the basis of patronage?**
- A. Cooperative
  - B. Corporation
  - C. Limited liability corporation
  - D. Partnership
- 26. What part of the milking system prevents the vacuum level from exceeding a prescribed level?**
- A. Pulsator
  - B. Vacuum gauge
  - C. Vacuum pump
  - D. Vacuum regulator
- 27. What is the legal limit for somatic cell counts in raw milk in the United States?**
- A. 200,000 cells/ml
  - B. 400,000 cells/ml
  - C. 750,000 cells/ml
  - D. 1,000,000 cells/ml
- 28. What percent of bulls born twin to a bull are sterile?**
- A. 50%
  - B. 75%
  - C. 90%
  - D. 100%
- 29. What does colostrum contain that provides calves with passive immunity to disease?**
- A. Antibiotics
  - B. Antibodies
  - C. Casein
  - D. Lactose
- 30. Cows milked three times a day will normally produce what percent more milk than cows milked twice a day?**
- A. 2-3%
  - B. 5-7%
  - C. 8-15%
  - D. 16-18%
- Marketing Questions**
- 
- 31. The document that establishes the standards for Grade A milk is known as the \_\_\_\_.**
- A. Dairy Guidelines for U.S. Dairy Farmers
  - B. Dietary Guidelines for Americans
  - C. Pasteurized Milk Ordinance
  - D. Smith-Lever Act
- 32. How many Federal Milk Marketing Orders use multiple component pricing?**
- A. 4
  - B. 7
  - C. 10
  - D. 11
- 33. Milk that does not meet the fluid grade standards belongs to what milk grade?**
- A. Grade A
  - B. Grade B
  - C. Grade C
  - D. Grade M

2021 Virginia FFA Milk Quality and Products CDE Written Test

34. According to the 2020-2025 Dietary Guidelines for Americans, how many cup-equivalents of dairy are recommended in the Healthy U.S.-Style Pattern for children and adolescents ages 9 to 13 years?
- A. 1
  - B. 2
  - C. 3
  - D. 4
35. Funding for the Cooperatives Working Together program comes from farmers who invest \_\_\_\_\_ cents per hundredweight of milk sold.
- A. 2
  - B. 4
  - C. 5
  - D. 15
36. The National Organic Program for organic livestock production requires a diet consisting of at least what percent dry matter intake from pasture during the growing season?
- A. 30%
  - B. 50%
  - C. 75%
  - D. 100%
37. Butter and milk in dried form belong to which milk class?
- A. Class I
  - B. Class II
  - C. Class III
  - D. Class IV
38. In which month is National Grilled Cheese Month observed?
- A. April
  - B. June
  - C. July
  - D. October
39. What term is traditionally used to define products including beverage milks, fluid cream items, and yogurts?
- A. Fluid products
  - B. Manufactured products
  - C. Processed milk
  - D. Raw milk
40. The observation of June Dairy Month started in what year?
- A. 1900
  - B. 1923
  - C. 1937
  - D. 1965
41. What term is given for firms that process raw Grade A milk into fluid milk products?
- A. Cooperatives
  - B. Manufacturers
  - C. Processors
  - D. Producers
42. \_\_\_\_\_ is the dairy farmer-funded self-help program to address supply and demand imbalances that can depress milk prices.
- A. Cooperatives Working Together
  - B. Dairy Herd Information Registry
  - C. Dairy Margin Coverage
  - D. National Dairy FARM Program
43. What organization is the national leaders for June Dairy Month?
- A. American Dairy Association
  - B. Dairy Alliance
  - C. National Dairy Council
  - D. National Milk Producers Federation
44. The top 50 dairy cooperatives accounted for what percent of the milk produced in the United States in 2019?
- A. 28%
  - B. 53%
  - C. 81%
  - D. 95%

2021 Virginia FFA Milk Quality and Products CDE Written Test

45. What state ranks first for the number of organic dairy cows?
- A. California
  - B. New York
  - C. Vermont
  - D. Virginia
46. \_\_\_\_\_ is an illustration of the five food groups in a place setting that was originally based on the 2010 Dietary Guidelines for Americans and designed to help consumers make healthier food choices.
- A. Food Pyramid
  - B. Got Milk?
  - C. Healthy Meals, Healthy Hearts
  - D. MyPlate
47. \_\_\_\_\_ is the name of the trade agreement that replaced the North American Free Trade Agreement.
- A. Agricultural Improvement Agreement
  - B. General Agreement of Tariffs and Trade
  - C. North American Agricultural Trade Treaty
  - D. United States-Mexico-Canada Agreement
48. The name of the Federal Milk Marketing Order that was most recently added is \_\_\_\_\_.
- A. Appalachian
  - B. California
  - C. Florida
  - D. Pacific Northwest
49. What is the name of the legislation that provided for Federal Milk Marketing Orders?
- A. Agricultural Agreement Act of 1937
  - B. Hatch Act
  - C. Morrill Act
  - D. Smith-Lever Act
50. Packaged dairy products used as beverage milks are known by what general term?
- A. Fluid milk
  - B. Homogenized milk
  - C. Pasteurized milk
  - D. Residual milk
51. What appears on dairy product packaging to assure the consumer that they are purchasing a genuine dairy product?
- A. Bar code
  - B. Expiration date
  - C. Nutrition label
  - D. Real Seal
52. What is the current focus of the Cooperatives Working Together (CWT) program?
- A. Animal well-being
  - B. Biosecurity
  - C. Herd reduction
  - D. Providing export assistance
53. Which U.S. fast food chain uses the most milk?
- A. Burger King
  - B. Dairy Queen
  - C. McDonald's
  - D. Wendy's
54. What term refers to the price of milk that is of average composition, is a weighted average for the market, and accounts for all payments received for milk including performance bonuses and premiums?
- A. Blend price
  - B. Commodity price
  - C. Net price
  - D. Mailbox milk price
55. The "Got Milk?" Campaign was first used by processors in which state?
- A. California
  - B. Georgia
  - C. Ohio
  - D. Pennsylvania
56. What term describes how milk is used by the processor or in a marketing area?
- A. Fluid utilization
  - B. Milk class
  - C. Milk grade
  - D. None of the above

2021 Virginia FFA Milk Quality and Products CDE Written Test

57. Classified pricing in Federal Milk Marketing Orders is based on how many milk classes?

- A. 2
- B. 4
- C. 8
- D. 10

58. How much does a gallon of milk weigh?

- A. 2.15 pounds
- B. 5 pounds
- C. 8.6 pounds
- D. 10 pounds

59. How would milk be labeled if it contains 2.5 grams of fat and 100 calories per cup?

- A. Low fat
- B. Reduced fat
- C. Skim
- D. Whole

60. By definition, butter should contain a minimum of \_\_\_\_\_ percent fat.

- A. 20
- B. 40
- C. 60
- D. 80