

Milk Quality and Products Career Development Event

Milk Production

2018

- Antibiotics are not permitted in milk because
 - they artificially lower bacteria counts
 - off flavors are produced
 - fat becomes rancid
 - some persons are hypersensitive to certain antibiotics
- Adulteration of milk with water is unlawful and can be detected by testing for
 - titratable acidity
 - total milk solids
 - a high freezing point
 - somatic cells
- The ideal cleaning agent for removing milkstone from equipment surfaces is
 - acidic detergent
 - phosphate
 - chelating agent
 - surfactant
- The microbiological standard for unpasteurized Grade A milk is _____ bacteria or less per milliliter of milk
 - 50,000
 - 75,000
 - 100,000
 - 750,000
- The principal protein in milk is _____.
 - whey protein
 - casein
 - crude protein
 - lactoglobulin
- Compared to a Holstein cow, on a per gallon of milk basis, the average Jersey cow produces
 - more fat and total milk solids
 - more fat but less total solids
 - less fat and total milk solids
 - less fat but more total milk
- Raw milk somatic cell count must be _____ or less to meet Grade A government standards in the United States.
 - 100,000
 - 250,000
 - 400,000
 - 750,000
- The activity/inactivity of the enzyme _____ is the basis for confirming the adequacy of pasteurization of milk
 - phosphatase
 - lipase
 - peroxidase
 - catalase
- Aflatoxins sometimes found in milk are produced on corn by
 - bacteria
 - viruses
 - molds
 - yeast

10. Poor quality forage will cause _____ in milk to decrease significantly.
- A. somatic cells
 - B. bacteria counts
 - C. casein percentage
 - D. fat percentage
11. To what temperature must a farm bulk tank, or cooling plate, have the capacity to chill milk within two hours of the end of milking?
- A. $\geq 50^{\circ}\text{F}$
 - B. $\leq 45^{\circ}\text{F}$
 - C. $\approx 40^{\circ}\text{C}$
 - D. $\leq 42^{\circ}\text{K}$
12. The California Mastitis Test (CMT) test detects _____ in raw milk.
- A. bacteria
 - B. red blood cells
 - C. somatic cells
 - D. antibiotics
13. The off-flavor in milk generally caused by exposure to sunlight or fluorescent light is ____.
- A. rancid
 - B. oxidized
 - C. acid
 - D. malty
14. Raw milk somatic cell count must be _____ or less to meet export standards required by the European Union (EU).
- A. 100,000
 - B. 250,000
 - C. 400,000
 - D. 750,000
15. Post dipping a cow's teats helps control _____.
- A. contagious pathogens
 - B. milk flow
 - C. hair growth
 - D. antibiotics
16. What milk quality test measures organisms that grow at low temperatures, called psychrotrophic organisms, which often cause premature milk spoilage?
- A. Standard Plate Count
 - B. Coliform Count
 - C. Preliminary Incubation Count
 - D. Lab Pasteurization Count
17. By volume, milk consists of approximately _____ percent water.
- A. 3.7
 - B. 50
 - C. 87
 - D. 92
18. What is the greatest milk production cost on most dairies?
- A. feed
 - B. labor
 - C. milking supplies
 - D. A.I. breeding supplies
19. What hormone is naturally released by the cow to stimulate milk letdown?
- A. oxytocin
 - B. progesterone
 - C. estrogen
 - D. adrenaline
20. The ability of lipase to attack milk fat and produce a rancid off-flavor is enhanced by
- A. feeding cows moldy hay
 - B. excessive agitation of warm raw milk
 - C. exposing milk to sunlight
 - D. poorly cleaned milking equipment

21. The document used by the U. S. dairy industry that contains the rules for producing today's fresh pasteurized milk supply is
- A. The Code of Federal Regulations
 - B. Standard Methods for the Examination of Dairy Products
 - C. The Grade A Pasteurized Milk Ordinance (PMO)
 - D. The Codes Alimentarius of the World Health Organization
22. The two most important diseases of cattle transmissible to man through milk are
- A. scarlet fever and Q fever
 - B. tuberculosis and anthrax
 - C. brucellosis and scarlet fever
 - D. tuberculosis and brucellosis
23. Even when there are no clinical signs, a cow's milk production begins to decline when its somatic cell count is greater than how many cells/ml?
- A. 100,000 cells/ml
 - B. 200,000 cells/ml
 - C. 400,000 cells/ml
 - D. 750,000 cells/ml
24. The major result of storing milk cold is the
- A. stopping of all bacterial growth
 - B. slowing of bacterial growth
 - C. killing of all bacteria
 - D. killing of all microorganisms
25. For most dairies in the U. S. the value of milk is primarily based upon the pounds of milk components (milkfat and protein). Milkfat depression can be caused by feed with _____ in a cow's diet.
- A. too much unsaturated fats
 - B. not enough unsaturated fats
 - C. too much fiber
 - D. too much fatty acids
26. One gallon of milk weighs approximately _____ pounds.
- A. 5.5
 - B. 7.8
 - C. 8.6
 - D. 10.1
27. Milk is a major nutritional source of which mineral that combined with vitamin D and exercise builds strong bones and teeth?
- A. calcium
 - B. iron
 - C. phosphorous
 - D. potassium
28. Which portion of milking procedure is recommended because it flushes potential mastitis-causing bacteria from the end of the teat canal, allows you to observe early signs of clinical mastitis and helps promote milk letdown?
- A. predipping
 - B. forestripping
 - C. postdipping
 - D. drying

29. Bulk tanks that are used to store raw milk should have what mechanical component to assure thorough mixing of the milk to prevent fat separation?
- A. thermometer
 - B. agitator
 - C. air vent
 - D. automated control box
30. Cracked and blistered rubber parts of milking machine are likely to cause
- A. high bacteria counts of milk
 - B. oxidation of milk
 - C. rancid flavor in milk
 - D. high freezing points of milk

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Answer Key

1. D
2. C
3. A
4. C
5. B
6. A
7. D
8. A
9. C
10. D
11. B
12. C
13. B
14. C
15. A
16. C
17. C
18. A
19. A
20. B
21. C
22. D
23. A
24. B
25. A
26. C
27. A
28. B
29. B
30. A

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Milk Marketing

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31. The reason Federal Milk Market Administrators test Grade A milk for composition and audit records of purchases by handlers is to
- A. ensure an adequate supply of pure and wholesome milk for the consumer
 - B. ensure a market for milk
 - C. help handlers with their business affairs
 - D. keep government informed
32. A Federal Milk Marketing Order is not authorized unless two-thirds of the affected _____ milk to the proposed marketing area approves its implementation.
- A. dairy cooperatives supplying
 - B. producers supplying
 - C. cheese processors manufacturing
 - D. handlers processing
33. To make one gallon of ice cream requires approximately ___ pounds of whole milk.
- A. 8
 - B. 12
 - C. 22
 - D. 44
34. Which of the following flavors of ice cream is the most popular, by sales volume?
- A. Raspberry
 - B. Strawberry
 - C. Vanilla
 - D. Chocolate
35. Milk has more protein than you may think. An 8 ounce glass of real milk has ___ times more protein than plant-based beverages, like almond milk. In addition, milk protein is a complete protein, while most plant protein sources are missing some of the amino acids your body needs.
- A. 2
 - B. 8
 - C. 20
 - D. 31
36. As dairy cow numbers recently climbed to a 22-year high point during 2017, dairy farm numbers reached a modern-day low of approximately _____ farms.
- A. 30,000
 - B. 40,000
 - C. 45,000
 - D. 55,000
37. The Cooperatives Working Together (CWT) Program focuses on sales of what two dairy products?
- A. cheese and butter
 - B. yogurt and milk
 - C. ice cream and cheese
 - D. butter and milk
38. A milk producer would receive the maximum price for milk delivered within a milk marketing order if all of it was used to make
- A. dry whole milk
 - B. ice cream
 - C. mozzarella cheese
 - D. pasteurized milk

39. What is the process called that disintegrates fat globules in milk in order to reduce the separation of cream? The fat globules are typically broken down by forcing the milk through a small passage at a high velocity.
- A. pasteurization
 - B. ultra-pasteurization
 - C. homogenization
 - D. standardization
40. What two dairy product prices are largely determined by export opportunities and greatly affect the milk price paid to farmers?
- A. Nonfat dry milk and skim milk powder
 - B. Cheese and skim milk powder
 - C. Ice cream and whole milk
 - D. Nonfat dry milk and yogurt
41. To make one pound of butter requires approximately _____ pounds of whole milk.
- A. 8
 - B. 12
 - C. 22
 - D. 44
42. Dairy Product imports into the U. S. comprised _____ percent of U. S. industry product sales in 2017. USDA projects that percent to hold steady for 2018.
- A. 3
 - B. 15
 - C. 25
 - D. 30
43. What piece of legislation made farmer cooperatives legal?
- A. Sherman Act
 - B. Capper-Volstead Act
 - C. Farm Bill
 - D. Barkley Act
44. Over half of the top 50 U. S. dairy cooperatives belong to a federation that is dairy farmers' chief lobbying voice in the nation's capital. What is the name of the federation?
- A. International Dairy Federation
 - B. Dairy Farmers of America Federation
 - C. National Milk Producers Federation
 - D. International Dairy Foods Association
45. Milk used to make ice cream would be priced in what Federal Order class?
- A. Class I
 - B. Class II
 - C. Class III
 - D. Class IV
46. The actual cost of producing dairy products that is used in the Class III and IV pricing formula is called the _____.
- A. milk-feed ratio price
 - B. cooperative bonus premium
 - C. Federal Order price
 - D. make allowance
47. Dividing the total dollars a dairy has in assets by the number of cows determines which economic indicator?
- A. equity
 - B. total investment per cow
 - C. debt per cow
 - D. debt to asset ratio

48. Under several Federal Milk Marketing Orders, milk is priced based on the amount of
- water and free fatty acids
 - mastitis and aflatoxins
 - bacteria counts of milk and antibiotics
 - fat, protein, and other solids
49. Federal Milk Market Orders provide _____ to distribute moneys fairly among producers supplying milk to a market
- a milk cooperative
 - a producer settlement fund
 - supply-demand equalization
 - a board of commissioners
50. What is the name given to the system utilized by the Federal Milk Marketing Orders that sets producer prices based on the finished dairy product in which the milk was used?
- Market pricing
 - Classified pricing
 - Creative pricing
 - Hedge pricing
51. The _____ is a voluntary risk management program for dairy producers authorized by the 2014 Farm Bill through December 31, 2018. The program offers protection to dairy producers when the difference between the all milk price and the average feed cost (margin) falls below a certain dollar amount selected by the producer.
- Milk Income Loss Contract
 - Price Support Program
 - Classified Pricing
 - Margin Protection Program for Dairy
52. Mastitis has severe economic consequences. The high somatic cell count causes a decrease in cheese yield and the bacteria causes a (an) _____ in the lactose (milk sugar).
- denaturation
 - decrease
 - increase
 - gram-negative infection
53. Most dairy cows are milked two to three times per day. On average, a cow will produce _____ Gallons of milk each day.
- 1 to 2
 - 6 to 7
 - 15 to 16
 - 20 to 21
54. The actual milk check amount received by dairy farmers is called the _____.
- milk-feed ratio price
 - cooperative bonus premium
 - Federal Order price
 - mailbox price
55. _____ is an effective natural choice exercise recovery drink due to its powerful nutrient package that supplies the nutrition the body needs after a workout. It has carbohydrates to help refuel the body; protein to help reduce muscle breakdown and stimulate growth; and fluid and electrolytes to aid in rehydration. Drinking it after resistance training a has been shown to increase the body's ability to make new muscle and may help improve body composition.
- Chocolate milk
 - Greek yogurt
 - Gatorade
 - Whey protein concentrate

56. A mixture of milk and cream containing not less than 10.5 percent milkfat, but less than 18 percent milkfat is defined as
- A. light whipping cream
 - B. half-and-half
 - C. light cream
 - D. heavy cream
57. Federal Milk Marketing Orders are a _____ program that defines the terms under which handlers of milk within a specific marketing order purchase milk from dairy farmers.
- A. mandatory
 - B. congressionally required
 - C. elected
 - D. voluntary
58. Which variety of cheese represents in the largest wholesale sales volume, annually, in the U.S.?
- A. Swiss
 - B. Cheddar
 - C. Mozzarella
 - D. Process American
59. Since 1984, when President Ronald Reagan proclaimed a National Ice Cream Month, it has been celebrated annually, every _____.
- A. June
 - B. July
 - C. August
 - D. September
60. Prices paid by handlers are identical in all federal orders for milk utilized in the manufactured product categories, however milk used in Class I varies by location. The highest price paid for Class I milk is in the _____ region of the United States.
- A. Southeast
 - B. Midwest
 - C. Northwest
 - D. Northeast

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Answer Key

- 31. A
- 32. B
- 33. B
- 34. C
- 35. B
- 36. B
- 37. A
- 38. D
- 39. C
- 40. A
- 41. C
- 42. A
- 43. B
- 44. C
- 45. B
- 46. D
- 47. B
- 48. D
- 49. B
- 50. B
- 51. D
- 52. B
- 53. B
- 54. D
- 55. A
- 56. B
- 57. D
- 58. C
- 59. B
- 60. A