

Milk Quality and Products Career Development Event
Milk Production
2017

1. Cheese manufacturers realize greater yields from milk when the somatic cell counts are low and the _____.
 - A. protein content is low
 - B. milkfat content is low
 - C. protein content is high
 - D. carbohydrate content is high

2. 98% of the microorganisms that call a cow's rumen stomach home are what type?
 - A. Archaea
 - B. bacteria
 - C. diatoms
 - D. fungi

3. The microbiological standard for Grade A unpasteurized milk is _____ bacteria or less per milliliter of milk.
 - A. 50,000
 - B. 75,000
 - C. 100,000
 - D. 750,000

4. According to the National Animal Health Monitoring System data, what do most farmers site as the most common criteria for weaning a calf?
 - A. age
 - B. starter intake
 - C. weight
 - D. space constraints

5. The major cause of salty flavor in milk is _____.
 - A. the large intake of salt by the cow
 - B. mastitis
 - C. exposure to sunlight
 - D. bacteria

6. Which of the following fatty acids found in milk have been associated with health benefits in humans?
 - A. oleic acid
 - B. conjugated linoleic acid
 - C. butyric acid
 - D. lactic acid

7. Stainless steel equipment is used to produce, store and process milk because _____.
 - A. surfaces do not corrode easily
 - B. stainless steel is a relatively low-cost metal
 - C. surfaces cannot be easily polished
 - D. stainless has a dull finish

8. Lactose is the principal _____ in milk.
A. mineral C. fat
B. protein D. carbohydrate
9. Excessive agitation of raw milk is a common cause of the off-flavor _____.
A. oxidized C. rancid
B. acid D. metallic
10. Historically, the two most important diseases of cattle transmissible to man through raw milk are _____ and _____.
A. tuberculosis and brucellosis
B. brucellosis and scarlet fever
C. scarlet fever and Q fever
D. tuberculosis and anthrax
11. _____ is the test used to check for water added to milk.
A. acid degree value C. Kjeldahl
B. cryoscope D. titratable acidity
12. When pasteurizing milk, the minimum temperature that raw milk must be heated to for 15 seconds is _____.
A. 111 degrees F C. 161 degrees F
B. 121 degrees F D. 171 degrees F
13. What is a test used to screen for antibiotics in milk?
A. direct microscopic C. Kjeldahl
B. cryoscope D. Charm
14. When cooling milk on the farm, what temperature must the bulk storage system reach within two hours of the end of a milking?
A. > 40 degrees F C. < 45 degrees F
B. < 40 degrees F D. < 38 degrees F
15. Distillers grains provide primarily what two nutrients to a dairy cattle diet?
A. carbohydrates and minerals C. fat and protein
B. vitamins and fat D. fatty acid and minerals
16. The principal protein in milk is _____.
A. casein C. crude protein
B. whey protein D. lactoglobulin
17. Raw milk somatic cell count must be _____ or less to meet Grade A standards in the United States.
A. 100,000 C. 400,000
B. 250,000 D. 750,000

18. In a herd milked three times a day, no cows should have a long lag time. The time from when the cow is stimulated to milker attachment should be less than _____ seconds.
- A. 30
 - B. 90
 - C. 120
 - D. 150
19. What is the number one reason for culling cows on American dairy farms, according to National Health Monitoring System data?
- A. lameness
 - B. reproduction problems
 - C. high somatic cell count
 - D. low production
20. The off-flavor in milk generally caused by exposure to sunlight or fluorescent light is _____.
- A. rancid
 - B. oxidized
 - C. acid
 - D. malty
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. Somatic cells occurring in large numbers in milk indicates _____.
- A. a cow has mastitis
 - B. cows consume too much protein
 - C. milking machines are dirty
 - D. poor cooling of the milk in the bulk tank
23. People who consume full-fat dairy are less likely to develop what disease?
- A. Tuberculosis
 - B. Diabetes
 - C. Cancer
 - D. Pneumonia
24. Typical farm milk consists of _____.
- A. 87.6% water, 3.7% fat, 3.2% protein, 5.5% other solids
 - B. 50.6% water, 3.7% fat, 4.2% protein, 41.5% other solids
 - C. 80.6% water, 6.7% fat, 4.2% protein, 8.5% other solids
 - D. 84.6% water, 4.7% fat, 6.2% protein, 4.5% other solids
25. What hormone, which blocks the let-down of milk, is released into the cow's bloodstream when it is stressed?
- A. oxytocin
 - B. parathyroid hormone
 - C. adrenaline
 - D. gonadotrophin-releasing hormone

26. Poor quality forage will cause _____ to decrease significantly.
- A. somatic cells
 - B. bacteria count
 - C. casein percentage
 - D. fat percentage
27. The CMT test detects _____ in raw milk.
- A. bacteria
 - B. red blood cells
 - C. somatic cells
 - D. antibiotics
28. Among the various food groups, dairy products serve as the leading source of _____ in the American diet.
- A. iron
 - B. magnesium
 - C. carbohydrates
 - D. calcium
29. The rolling herd average is defined as _____.
- A. an average of the herd's fat and protein percentages
 - B. an average of the number of cows in milk at any given time
 - C. the average number of hours a cow in the herd is milked per lactation
 - D. an estimate of annual milk production
30. One gallon of milk weighs approximately _____ pounds.
- A. 5.5
 - B. 7.8
 - C. 8.6
 - D. 10.1

Milk Quality and Products Career Development Event

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Answer Key

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

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Milk Marketing

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31. During 2016 the state that held a hearing to listen to testimony for a proposal to create a Federal Milk Marketing Order was....
- A. New York
 - B. Wisconsin
 - C. California
 - D. Idaho
32. Under Federal Orders milk is priced based on the finished dairy product in which it is used. This is called _____.
- A. minimum pricing
 - B. maximum pricing
 - C. creative pricing
 - D. classified pricing
33. The actual milk check amount received by a dairy farmer is called the _____.
- A. milk -feed ratio price
 - B. cooperative bonus premium
 - C. Federal Order price
 - D. mailbox price
34. What piece of legislation made farmer cooperatives legal?
- A. Capper-Volstead Act
 - B. Sherman Act
 - C. Farm Bill
 - D. Barkley Act
35. A primary reason for establishing minimum farm milk prices through the Federal milk orders is...
- A. to insure all dairymen have a market for milk
 - B. to insure all processors have adequate milk for manufacture of butter and feeds
 - C. to insure an adequate supply of milk for the consumer
 - D. to provide federal control of the production of milk
36. Dairy consumption growth in the United States is only 0.8 percent, but foreign consumption is growing much more quickly. Which country has increased in dairy consumption the most?
- A. Mexico
 - B. New Zealand
 - C. China
 - D. European Union (EU)
37. Which cheese variety produced in the U.S. is the most commonly consumed in recent years?
- A. Cheddar
 - B. Mozzarella
 - C. Italian style cheese
 - D. Queso fresco
38. A milk producer would receive the maximum price for milk delivered within a milk market order, if all of the milk was used to make _____.
- A. dry whole milk
 - B. ice cream
 - C. mozzarella cheese
 - D. fluid pasteurized milk
39. Federal Milk Marketing Orders are _____ programs that define the terms under which haulers of milk within a specific marketing order purchase milk from dairy farmers.
- A. mandatory
 - B. congressionally required
 - C. voluntary
 - D. elected

40. 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
41. To make one pound of Cheddar cheese requires approximately _____ pounds of whole milk.
- A. 8
 - B. 10
 - C. 22
 - D. 44
42. A Federal Milk Marketing Order is authorized only if 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
43. Federal Milk Marketing Orders provide _____ to distribute moneys fairly among producers supplying milk to a market.
- A. a milk cooperative
 - B. a board of commissioners
 - C. supply-demand equalization
 - D. a producer settlement fund
44. According to the Food and Nutrition Board of the National Academy of Sciences, all people need at least _____ milligrams of calcium per day.
- A. 10
 - B. 100
 - C. 1,000
 - D. 1,000,000
45. The _____ is a voluntary program to help score a farm's animal welfare practices against the industry recommendations. It is operating as a partnership of the National Milk Producers Federation and Dairy Management Inc.
- A. National F.A.R.M. program (Farmers Assuring Responsible Management)
 - B. National Dairy Checkoff Program
 - C. Agriculture's Animal and Plant Health Inspection Service (APHIS)
 - D. Animal Welfare Act (AWA)
46. A system of fairly distributing payment among producers in a Federal Milk Market is called, , , ,
- A. quota options
 - B. base-excess pricing
 - C. seasonal incentive pricing
 - D. pooling
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. Marketing cooperatives often offer incentives to dairy farmers for producing milk having which of the following special characteristics?
- A. low volume milk production per cow
 - B. low protein content
 - C. high somatic cell count
 - D. low bacteria count
49. _____ is an effective exercise recovery 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 has been show to increase the body's ability to make new muscle and may help improve body composition.
- A. Chocolate milk
 - B. Greek yogurt
 - C. Gatorade
 - D. Whey protein concentrate
50. Since 1984 President Ronald Reagan proclaimed a National Ice Cream Month. It has been celebrated annually, every _____.
- A. June
 - B. July
 - C. August
 - D. September
51. USDA Farm Service Agency administers _____ that offers dairy producers a catastrophic coverage when the difference between the all-milk price and average feed costs falls below a specified level.
- A. Margin Protection Program
 - B. Cooperatives Working Together
 - C. Federal Market Orders
 - D. DEIP Exports
52. Milk marketing cooperatives...
- A. are not permitted by Federal Orders
 - B. provide marketing power for dairy farmers
 - C. control Federal Orders
 - D. operate only outside Federal Orders
53. Most dairy cows are milked two or three times per day. On average, a cow will produce _____ gallons of milk each day.
- A. 1 to 2
 - B. 8 to 9
 - C. 15 to 16
 - D. 20 to 21
54. 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 _____ regions of the United States.
- A. Southeast
 - B. Midwest
 - C. Northwest
 - D. Northeast

55. Dairy is the second largest organic food category accounting for what percentage of total organic food sales?
- A. 5 percent
 - B. 15 percent
 - C. 25 percent
 - D. 35 percent
56. Which of the following flavors of ice cream is the most popular, by sales volume?
- A. Raspberry
 - B. Strawberry
 - C. Vanilla
 - D. Chocolate
57. In a milk market with four classes of milk, Class III milk is commonly used for...
- A. fluid products
 - B. cottage cheese and cream products
 - C. cheese
 - D. butter and dry products
58. According to the Dietary Guidelines for Americans 2015-2020, what percentage of the population is not getting the recommended three servings of dairy daily?
- A. less than 12 percent
 - B. 50 percent
 - C. 85 percent
 - D. 90 percent
59. Milk has more protein than you may think. An 8-ounce glass of real milk has _____ times more protein than a similar sized serving of a plant-based beverage, 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
60. Federal milk order hearings can be lengthy because _____ can testify and _____ can cross-examine the witness.
- A. only Federal employees, no one
 - B. only cooperative managers, anyone
 - C. only Federal lawyers, anyone
 - D. any interested party, anyone

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Answer Key

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

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1. Antibiotics are not permitted in milk because
 - A. they artificially lower bacteria counts
 - B. off flavors are produced
 - C. fat becomes rancid
 - D. some persons are hypersensitive to certain antibiotics
2. Adulteration of milk with water is unlawful and can be detected by testing for
 - A. titratable acidity
 - B. total milk solids
 - C. a high freezing point
 - D. somatic cells
3. The ideal cleaning agent for removing milkstone from equipment surfaces is
 - A. acidic detergent
 - B. phosphate
 - C. chelating agent
 - D. surfactant
4. The microbiological standard for unpasteurized Grade A milk is _____ bacteria or less per milliliter of milk
 - A. 50,000
 - B. 75,000
 - C. 100,000
 - D. 750,000
5. The principal protein in milk is _____.
 - A. whey protein
 - B. casein
 - C. crude protein
 - D. lactoglobulin
6. Compared to a Holstein cow, on a per gallon of milk basis, the average Jersey cow produces
 - A. more fat and total milk solids
 - B. more fat but less total solids
 - C. less fat and total milk solids
 - D. less fat but more total milk
7. Raw milk somatic cell count must be _____ or less to meet Grade A government standards in the United States.
 - A. 100,000
 - B. 250,000
 - C. 400,000
 - D. 750,000
8. The activity/inactivity of the enzyme _____ is the basis for confirming the adequacy of pasteurization of milk
 - A. phosphatase
 - B. lipase
 - C. peroxidase
 - D. catalase
9. Aflatoxins sometimes found in milk are produced on corn by
 - A. bacteria
 - B. viruses
 - C. molds
 - D. 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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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
- A. water and free fatty acids
 - B. mastitis and aflatoxins
 - C. bacteria counts of milk and antibiotics
 - D. fat, protein, and other solids
49. Federal Milk Market Orders provide _____ to distribute moneys fairly among producers supplying milk to a market
- A. a milk cooperative
 - B. a producer settlement fund
 - C. supply-demand equalization
 - D. 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?
- A. Market pricing
 - B. Classified pricing
 - C. Creative pricing
 - D. 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.
- A. Milk Income Loss Contract
 - B. Price Support Program
 - C. Classified Pricing
 - D. 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).
- A. denaturation
 - B. decrease
 - C. increase
 - D. 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.
- A. 1 to 2
 - B. 6 to 7
 - C. 15 to 16
 - D. 20 to 21
54. The actual milk check amount received by dairy farmers is called the _____.
- A. milk-feed ratio price
 - B. cooperative bonus premium
 - C. Federal Order price
 - D. 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 has been shown to increase the body's ability to make new muscle and may help improve body composition.
- A. Chocolate milk
 - B. Greek yogurt
 - C. Gatorade
 - D. 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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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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- 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



Milk Quality and Products

Select the one best answer for each question

QUALITY MILK PRODUCTION

1. A major reason for limiting the use of antibiotics with lactating dairy cows is that antibiotics
 - A. are toxic to cows
 - B. may be found in the milk for many hours after treatment
 - C. are ineffective when they contact milk
 - D. cost more than dairymen can afford
2. A baby dairy animal is called a calf, weighting approximately _____ pounds at birth.
 - A. 20 to 40
 - B. 80 to 100
 - C. 150 to 160
 - D. 200
3. The microbiological standard for unpasteurized Grade A milk is _____ bacteria or less per milliliter of milk.
 - A. 50,000
 - B. 75,000
 - C. 100,000
 - D. 750,000
4. A young female calf is called a heifer. An adult female that has a calf is called a cow. A heifer will give birth to a calf when she is approximately _____ old.
 - A. 9 months
 - B. 12 months
 - C. 24 months
 - D. 36 months
5. To what temperature must a farm bulk tank, or cooling plate, have the capacity to chill milk within two hours of the end of a milking?
 - A. $\geq 50^{\circ}\text{F}$
 - B. $\leq 45^{\circ}\text{F}$
 - C. $\approx 40^{\circ}\text{C}$
 - D. $\leq 42^{\circ}\text{K}$

6. Adulteration of milk with water is unlawful and can be detected by testing for
- A. titratable acidity
 - B. total milk solids
 - C. a high freezing point
 - D. somatic cells
7. Dairy cows begin to produce milk after giving birth to a calf. This milk production continues for approximately a 10 month period. This 10 month period is called the cow's _____ period.
- A. lactation
 - B. gestation
 - C. dry
 - D. calving
8. The principal protein in milk is _____.
- A. whey protein
 - B. casein
 - C. crude protein
 - D. lactoglobulin
9. _____ is an organization that meets biennially in odd-numbered years. The main purpose of the Conference is to deliberate proposals submitted by various individuals from state or local regulatory agencies, FDA, USDA, producers, processors, consumers, etc., who have an interest in ensuring that the dairy products we consume are safe.
- A. National Conference on Interstate Milk Shipments (NCIMS)
 - B. Food and Drug Administration (FDA)
 - C. AOAC
 - D. United States Dairy Export Council (USDEC)
10. Raw milk somatic cell count must be _____ or less to meet Grade A government standards in the United States.
- A. 100,000
 - B. 250,000
 - C. 400,000
 - D. 750,000
11. When pasteurizing milk, the minimum that raw milk must be heated to for 15 seconds is
- A. 111°F
 - B. 121°F
 - C. 161°F
 - D. 171°F

12. The key to boosting milk protein lies largely in getting the correct amino acids to which part of the cow's digestive tract?
- A. rumen
 - B. small intestine
 - C. omasum
 - D. reticulum
13. The CMT test detects _____ in raw milk.
- A. bacteria
 - B. red blood cells
 - C. somatic cells
 - D. antibiotics
14. The off-flavor in milk generally caused by exposure to sunlight or fluorescent light is ____.
- A. rancid
 - B. oxidized
 - C. acid
 - D. malty
15. What were the top three milk producing states during 2018?
- A. South Dakota, Texas, and New York
 - B. California, Wisconsin, and Idaho
 - C. Wisconsin, New York, and New Mexico
 - D. California, New York, and Texas
16. Post dipping a cow's teats helps control _____.
- A. contagious pathogens
 - B. milk flow
 - C. hair growth
 - D. antibiotics
17. Failure to sanitize milking equipment immediately before use may result in a
- A. foreign flavor
 - B. high somatic cell count
 - C. high bacteria count
 - D. high freezing point
18. By volume, milk consists of approximately _____ percent water.
- A. 3.7
 - B. 50
 - C. 87
 - D. 92

19. To remove fat from milking equipment use_____.
- A. alkaline cleaner in hot water
 - B. alkaline cleaner in cold water
 - C. acid cleaner in cold water
 - D. acid cleaner in hot water
20. What hormone is naturally released by the cow to stimulate milk letdown?
- A. oxytocin
 - B. progesterone
 - C. estrogen
 - D. adrenaline
21. The U.S. dairy industry is increasingly complex, with dynamic trends in consumer preferences, farm production, product manufacturing and government regulations. The U.S. dairy industry is considered to be a_____ a year industry.
- A. \$628 billion
 - B. \$125 billion
 - C. \$500 million
 - D. \$100 million
22. 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
23. _____ is the time after processing during which a dairy product normally remains suitable for human consumption.
- A. Packaged date
 - B. Shelf life
 - C. Product code
 - D. Product life
24. 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
 - D. The Codex Alimentarius of the World Health Organization

25. The major cause of salty flavor in milk is _____.
A. the large intake of salt by the cow
B. mastitis
C. exposure to sunlight
D. bacteria
26. 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
27. Marketing cooperatives often offer incentives to dairy farmers for producing milk having which of the following special characteristics?
A. low volume milk production per cow
B. low protein content
C. high somatic cell count
D. low bacteria count
28. 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
29. When feeding distillers grains in dairy feed rations, there are concerns regarding the supply of protein building blocks. What are the building blocks of protein?
A. DNA
B. carbohydrates
C. nitrogen
D. amino acids
30. 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



Milk Quality and Products

Select the one best answer for each question

MILK MARKETING

31. What piece of US legislation made farmer cooperatives legal?
- A. Sherman Act
 - B. Capper-Volstead Act
 - C. Farm Bill
 - D. Barkley Act
32. With few exceptions U.S. commercial disappearance of dairy products in 2018 was better than 2017 levels. However, products that fell short of the 2017 levels were significant. Two of these products were _____.
- A. cheese and butter
 - B. yogurt and cheese
 - C. butter and fluid milk
 - D. nonfat dry milk and skim milk powder
33. A Federal Milk Marketing Order is not authorized unless two-thirds of the affected _____ the proposed marketing area approves its implementation.
- A. dairy cooperatives supplying milk to
 - B. producers supplying milk to
 - C. cheese processors manufacturing with milk from
 - D. handlers processing milk in
34. Under the Federal Milk Marketing Orders, Class I milk is the highest priced utilization. In 2018, the highest Class I price was in the _____ federal milk order.
- A. Upper Midwest
 - B. Northeast
 - C. Southeast
 - D. California
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. A Federal milk order is a regulation, issued by _____, which places certain requirements on the first buyers of milk from dairy farmers within a certain geographical area.
- A. the Secretary of Agriculture
 - B. Congress
 - C. each state's Governor
 - D. state legislatures
37. 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
38. _____ cheese is the nation's biggest cheese category reflecting amazing production growth. Every single month during 2018 this cheese topped 2017 monthly production totals.
- A. Cheddar
 - B. Swiss
 - C. Edam
 - D. Mozzarella
39. One gallon of milk weighs approximately _____ pounds.
- A. 5.5
 - B. 7.8
 - C. 8.6
 - D. 10.1
40. What is the name of the USDA program that pays dairy farmers that signed up if the margin of the monthly measures for the price of milk and the cost of feed is less than \$9.50?
- A. Margin Protection Program
 - B. Whole herd buy out
 - C. Dairy Margin Coverage
 - D. Dairy Support Price

41. _____ 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 has been shown to increase the body's ability to make new muscle and may help improve body composition.
- A. Chocolate milk
 - B. Greek yogurt
 - C. Gatorade
 - D. Whey protein concentrate
42. The trading fees paid by other countries to import dairy products into the United States are called _____.
- A. Import fees
 - B. Export expenses
 - C. Margin prices
 - D. Tariffs
43. The Federal Milk Marketing Orders primary objective is to provide
- A. a framework to make buying and selling of milk a more orderly process
 - B. ensure fairness in the marketing of the milk
 - C. help handlers with their business affairs
 - D. keep the government informed
44. Children's bodies and minds develop quickly, so they need all the nutrition they can get. Yet, more than half of the elementary school-aged children do not get enough calcium. Milk is the answer. One 8-ounce glass of milk provides ____ of the daily minimum allowance of calcium.
- A. 100 %
 - B. 60 %
 - C. 30 %
 - D. 15 %
45. What is the major milk production cost on most dairy farms?
- A. calf care
 - B. labor
 - C. milking supplies
 - D. A.I. breeding supplies
46. The current United States Secretary of Agriculture is _____.
- A. Sonny Bono
 - B. Sonny Perdue
 - C. Tom Vilsack
 - D. Ann M. Veneman

47. 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
48. Which of the following flavors of ice cream is the most popular, by sales volume?
- A. Chocolate
 - B. Vanilla
 - C. Strawberry
 - D. Butter Pecan
49. To make one pound of butter requires approximately ____ pounds of whole milk.
- A. 8
 - B. 12
 - C. 22
 - D. 44
50. According to the U.S. Dairy Export Council _____received the most dairy products exported from the United States in 2018.
- A. Japan
 - B. Mexico
 - C. Canada
 - D. China
51. Over half of the top 50 U.S. dairy cooperatives belong to an organization that is dairy farmers' chief lobbying voice in the nation's capital. What is the name of the organization?
- A. International Dairy Federation
 - B. Dairy Farmers of America Federation
 - C. National Milk Producers Federation
 - D. International Dairy Foods Association
52. 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

53. Which state, which did not participate in the Federal Milk Marketing Order program, voted to implement a new Federal order starting in November of 2018?
- A. Montana
 - B. Idaho
 - C. California
 - D. Pennsylvania
54. Under several Federal Milk Marketing Orders, milk is priced based on the amount of
- A. water and free fatty acids
 - B. mastitis and aflatoxins
 - C. bacteria counts of milk and antibiotics
 - D. fat, protein, and other solids
55. The annual production of milk for the United States during 2018 was 218 billion pounds, which was _____ 2017.
- A. higher than
 - B. lower than
 - C. equal to
 - D. unchanged from
56. 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?
- A. Market pricing
 - B. Classified pricing
 - C. Creative pricing
 - D. Hedge pricing
57. Which two countries in the world produce the largest volume of cow's milk?
- A. United States and New Zealand
 - B. Germany and Russia
 - C. United States and China
 - D. United States and India
58. Most dairy cows are milked two or three times per day. On average, a cow will produce _____ gallons of milk each day.
- A. 1 to 2
 - B. 6 to 7
 - C. 15 to 16
 - D. 20 to 21

59. The actual milk check amount received by dairy farmers is called the _____.
A. milk-feed ratio price
B. cooperative bonus premium
C. Federal Order price
D. mailbox price
60. Milk marketing cooperatives
A. provide marketing power for dairy farmers
B. control Federal Milk Marketing Orders
C. are not permitted by the Federal Milk Marketing Orders
D. operate only outside the Federal Milk Marketing Orders system



Milk Quality and Products

Select the one best answer for each question

QUALITY MILK PRODUCTION KEY

Question	Answer	Standard	Standard	Standard
1.	B			
2.	B			
3.	C			
4.	C			
5.	B			
6.	C			
7.	A			
8.	B			
9.	A			
10.	D			
11.	C			
12.	B			
13.	C			
14.	B			
15.	B			
16.	A			
17.	C			
18.	C			
19.	A			
20.	A			
21.	A			
22.	B			
23.	B			
24.	C			

[Type here]

25.	B			
26.	D			
27.	D			
28.	B			
29.	D			
30.	A			



Milk Quality and Products

Feb-20

Select the one best answer for each question

MILK MARKETING KEY

Question	Answer	Standard	Standard	Standard
31.	B			
32.	D			
33.	B			
34.	C			
35.	B			
36.	A			
37.	D			
38.	D			
39.	C			
40.	C			
41.	A			
42.	D			
43.	A			
44.	C			
45.	B			
46.	B			
47.	D			
48.	B			
49.	C			
50.	B			
51.	C			
52.	B			
53.	C			
54.	D			

[Type here]

55.	A			
56.	B			
57.	D			
58.	B			
59.	D			
60.	A			



Milk Quality and Products

Select the one best answer for each question

Please DO NOT write on exam

QUALITY MILK PRODUCTION

1. What is the maximum bacteria count per milliliter of milk allowed for pasteurized Grade “A” milk?
 - A. 20,000
 - B. 50,000
 - C. 100,000
 - D. 400,000
2. The general recommendation for Holstein calves weighing about 90 pounds is to feed _____ quarts of colostrum within four hours of birth.
 - A. 1
 - B. 4
 - C. 6
 - D. 8
3. The microbiological standard for unpasteurized Grade A milk is _____ bacteria or less per milliliter of milk.
 - A. 20,000
 - B. 50,000
 - C. 100,000
 - D. 750,000
4. Which state had the most dairy farms in 2020?
 - A. California
 - B. Wisconsin
 - C. New York
 - D. Minnesota
5. Which of the following occurs during the HTST pasteurization process?
 - A. The amount of protein is decreased
 - B. Thermotolerant spore-forming microorganisms are eliminated
 - C. Pathogenic microorganisms are killed
 - D. All the milk is heated to at least 170°F

6. Cracked and blistered rubber parts of milking machines 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
7. How long after birth should fermented feed first be introduced into a calf's diet?
- A. 10 days
 - B. 1 month
 - C. 6 weeks
 - D. 4 months
8. What is the term used to describe amino acids that must come from the food humans eat because they cannot be made by the body?
- A. whey protein
 - B. casein
 - C. essential
 - D. non-essential
9. Who appoints members of the Fluid Milk Processor Promotion Board?
- A. US Secretary of Agriculture
 - B. Food and Drug Administration (FDA)
 - C. Chair of the DMI Board
 - D. Chair of National Milk Producers Federation
10. Raw milk somatic cell count must be _____ or less to meet Grade A government standards in the United States and _____ or less to meet export standards required by the European Union (EU).
- A. 20,000; 100,000
 - B. 250,000; 400,000
 - C. 400,000; 750,000
 - D. 750,000; 400,000
11. 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
 - D. The Codex Alimentations of the World Health Organization

12. Cows produce a lot of saliva while chewing, which contains a _____ compound that helps to reduce the acidity levels in the rumen.
- A. magnesium oxide
 - B. sodium bentonite
 - C. bicarbonate
 - D. calcium carbonate
13. _____ is the hormone naturally released by the cow to stimulate milk letdown.
- A. Oxytocin
 - B. Progesterone
 - C. Estrogen
 - D. adrenaline
14. The ability of lipase to attack milkfat 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
15. Bacteria silage inoculants should be frozen or refrigerated below what temperature when storing?
- A. 10 °F
 - B. 30 °F
 - C. 40 °F
 - D. 50 °F
16. Which breed of dairy cattle typically has the highest percentage of A1 (versus A2) genes for the beta-casein protein?
- A. Jersey
 - B. Normande
 - C. Guernsey
 - D. Holstein
17. At what temperature should the water be maintained at the beginning of the alkaline detergent wash cycle while cleaning milking equipment?
- A. At least 100° F
 - B. 100° to 115° F
 - C. At least 120° F
 - D. 160° to 170° F

18. Adulteration of milk with water is unlawful and can be detected by testing for_____.
- A. titratable acidity
 - B. total milk solids
 - C. a high freezing point
 - D. somatic cells
19. For removing biofilms from milk equipment, which of the following is expected to be most effective?
- A. Hot water
 - B. Peracetic acid
 - C. Detergent
 - D. Sodium Chloride
20. The two most common tests used for determination of unpasteurized milk quality are _____ and _____.
- A. standard plate count and color
 - B. somatic cell count and standard plate count
 - C. flavor and titratable acidity
 - D. somatic cell count and odor
21. What product has grown in popularity as a bedding material because it is recycled from manufacturing and construction waste, making it an affordable product that has good moisture absorption, low bacteria growth, and soil benefits?
- A. Chloride
 - B. Magnesium
 - C. Lime
 - D. Gypsum
22. 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
23. Salty flavor in milk can be attributed to which two things?
- A. Too much salt in the ration and impaired kidney function of the cow
 - B. Excessive feeding of minerals and dry roughage
 - C. Cows with mastitis and milk produced late in a cow's lactation period
 - D. Salt based sanitizers or alkaline water for drinking

24. On an annual basis, what percentage of the total U.S. dairy herd is culled each year?
- A. 10%
 - B. 20%
 - C. 30%
 - D. 40%
25. The major cause of oxidized flavor in milk is _____.
- A. the large intake of salt by the cow
 - B. mastitis
 - C. exposure to light
 - D. bacteria
26. After the first touch of the udder the milking unit should be attached within _____ seconds for optimal milking time.
- A. 10 to 25 second
 - B. 30 to 50 seconds
 - C. 60 to 90 seconds
 - D. 120 to 160 seconds
27. Frequently caused by over milking, what is the name of the condition in cows when cells in the inner lining of the teat end begin to overgrow?
- A. Hyperkeratosis
 - B. Carcinoma
 - C. Teat Canker
 - D. Hairy Warts
28. 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

29. The term used to describe a lag of at least 30 seconds between the milking unit attachment and the incline phase of milk flow is_____.
- A. delayed milk ejection
 - B. milk let-down
 - C. milk flow dynamics
 - D. vacuum delay
30. The map that describes a species' DNA sequence that geneticists use to evaluate and share genomic information is called_____.
- A. reference genome
 - B. whole sequence genome
 - C. single nucleotide polymorphism
 - D. recessive gene



Milk Quality and Products

Select the one best answer for each question

Please DO NOT write on exam

MILK MARKETING

31. Many U.S. dairy manufacturing companies belong to an organization that is the dairy processors' chief lobbying voice in the nation's capital. What is the name of the organization?
- A. International Dairy Federation
 - B. Dairy Farmers of America
 - C. National Milk Producers Federation
 - D. International Dairy Foods Association
32. In comparison to the Margin Protection Program for dairy, the Dairy Margin Coverage program offers three new higher levels of margin coverage on a producer's first 5 million pounds. Which of the following is not one of those levels?
- A. \$8.50
 - B. \$9.00
 - C. \$9.50
 - D. \$10.00
33. 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).
- A. denaturation
 - B. increase
 - C. decrease
 - D. gram-negative infection
34. The 2018 farm bill established the _____ that makes it easier for producers, cooperatives, and processors to offer milk to food banks.
- A. Dairy for Kids Program
 - B. Food Bank Provision Program
 - C. Milk Donation Program
 - D. Producer Food Bank Alliance

35. 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
36. Created by the Fluid Milk Promotion Act of 1990, this organization collects an assessment from processors marketing more than 3 million pounds of milk. This organization develops and finances generic advertising programs to expand markets and uses of US fluid milk products. What is the name of this organization?
- A. Dairy Marketing Inc.
 - B. National Milk Producers Federation
 - C. National Fluid Milk Processor Promotion Board
 - D. International Dairy Federation
37. What is the term used to describe the processing credits that are designed to reflect the average processing costs associated with producing cheese, butter, nonfat dry milk, or dry whey?
- A. Cost ratio
 - B. Make allowance
 - C. Competitive pay price
 - D. Producer Price differential
38. How many pounds of cheese do U.S. consumers eat annually per capita?
- A. 15 pounds
 - B. 29 pounds
 - C. 37 pounds
 - D. 45 pounds
39. One gallon of 40% cream weighs approximately _____ pounds.
- A. 7.7
 - B. 8.3
 - C. 8.6
 - D. 9.2

40. What state most recently entered the Federal Milk Marketing Order system?
- A. Wisconsin
 - B. California
 - C. New York
 - D. Florida
41. In the updated 2020-2025 Dietary Guidelines for Americans, USDA upheld dairy's standing as a major food group critical to maintaining healthy diets, recommending the equivalent of _____ one-cup servings of milk per day for adults ages 19 through 59.
- A. two
 - B. three
 - C. four
 - D. five
42. While there were significant disruptions in trade throughout 2020, US dairy exports _____ when compared to the dairy exports of 2019.
- A. grew by 9%
 - B. decreased by 8%
 - C. grew by 25%
 - D. declined significantly by 20%
43. What is the name given to the system utilized by the Federal Milk Marketing Orders that sets milk prices based on the finished dairy product in which the milk was used?
- A. Free market pricing
 - B. Classified pricing
 - C. Hedge pricing
 - D. Creative product pricing
44. 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 essential amino acids your body needs.
- A. 2
 - B. 8
 - C. 15
 - D. 20

45. In ice cream, the term that refers to the volume of air relative to the initial volume of ice cream mix is?
- A. Fluffiness
 - B. Overrun
 - C. Airiness
 - D. Viscosity
46. Dairy herds now average more than 1,000 head in _____ states in 2020.
- A. four
 - B. eight
 - C. fifteen
 - D. eighteen
47. Although, some states produce more milk than their population can consume (net exporters of milk), other states do not produce enough milk to full fill their population needs (net importers of milk). Which of the following states is a net importer of milk?
- A. Florida
 - B. South Dakota
 - C. Oregon
 - D. California
48. Which variety of cheese represents the largest wholesale sales volume, annually, in the U.S.?
- A. Swiss
 - B. Cheddar
 - C. Mozzarella
 - D. Processed American
49. To make one pound of Cheddar cheese requires approximately _____ pounds of whole milk.
- A. 8
 - B. 10
 - C. 20
 - D. 44
50. How many states had an increase in dairy operations from 2019 to 2020?
- A. 20
 - B. 10
 - C. 5
 - D. 0

51. 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
52. Which country purchased the most dairy products from the United States during 2020?
- A. Mexico
 - B. New Zealand
 - C. Canada
 - D. China
53. Which two states produced the most milk in 2020?
- A. New York and Wisconsin
 - B. Idaho and Texas
 - C. California and Idaho
 - D. California and Wisconsin
54. A Federal milk marketing order classifies milk based on its use. The classes of milk have different _____.
- A. percentages of fat
 - B. prices paid to producers
 - C. somatic cell counts
 - D. quality standards
55. The annual production of milk for the United States during 2020 was 223 billion pounds, which was _____ 2019 annual milk production.
- A. 2.2% higher than
 - B. 2.0 lower than
 - C. 3.1% higher than
 - D. unchanged from
56. What is the term for the actual amount received by a dairy producer for milk sold to a processor?
- A. Milk-feed ratio price
 - B. Cooperative bonus premium
 - C. Federal Order price
 - D. Mailbox price

57. Which country sold the most dairy products to the United States in 2020?
- A. Mexico
 - B. Russia
 - C. Canada
 - D. New Zealand
58. The USDA-AMS standards for dry whey require that it be not more than _____, and not more than _____.
- A. 10% moisture and 0.5% milkfat
 - B. 5% moisture and 1.5% milkfat
 - C. 5% moisture and 5% milkfat
 - D. 10% moisture and 1.5% milkfat
59. Who was the largest dairy products processor that filed bankruptcy in 2020?
- A. DFA (Dairy Farms of America)
 - B. Kroger
 - C. Land'O Lakes
 - D. Borden
60. What item of federal legislation authorized the legality of farmer cooperatives and provided them with legal rights of negotiation for their members in matters related to the pricing structures and marketing of milk products?
- A. Morrill Act
 - B. Sherman Act
 - C. Capper-Volstead Act
 - D. Farm Bill



Milk Quality and Products

Select the one best answer for each question

QUALITY MILK PRODUCTION KEY

National
FFA
Organizat

Question	Answer	Standard	Standard	Standard
1.	A			
2.	B			
3.	C			
4.	B			
5.	C			
6.	A			
7.	D			
8.	C			
9.	A			
10.	D			
11.	C			
12.	C			
13.	A			
14.	B			
15.	C			
16.	D			
17.	D			
18.	C			
19.	B			
20.	B			
21.	D			
22.	A			
23.	C			
24.	C			

[Type here]

25.	C			
26.	C			
27.	A			
28.	B			
29.	A			
30.	A			



Milk Quality and Products

Aug-22

Select the one best answer for each question

MILK MARKETING KEY

Question	Answer	Standard	Standard	Standard
31.	D			
32.	D			
33.	C			
34.	C			
35.	D			
36.	C			
37.	B			
38.	C			
39.	B			
40.	B			
41.	B			
42.	A			
43.	B			
44.	B			
45.	B			
46.	C			
47.	A			
48.	C			
49.	B			
50.	D			
51.	B			
52.	A			
53.	D			
54.	B			

[Type here]

55.	A			
56.	D			
57.	C			
58.	B			
59.	D			
60.	C			



Milk Quality and Products

Select the one best answer for each question. Please DO NOT write on the exam.

QUALITY MILK PRODUCTION

1. Milk contains how many essential nutrients?
 - a. 11
 - b. 13
 - c. 7
 - d. 9

2. According to USDA-AMS Standards, Ice Cream must contain not less than _____.
 - a. 10 % Milk solids and 20% milkfat
 - b. 30% Milk Solids and 20% milkfat
 - c. 15% milk solids and 10% milkfat
 - d. 20% milk solids and 10% milkfat

3. The microbiological standard threshold for unpasteurized Grade A milk is _____ bacteria or less per milliliter of milk.
 - a. 20,000
 - b. 50,000
 - c. 100,000
 - d. 750,000

4. The activity/inactivity of the enzyme _____ is the basis for confirming the adequacy of pasteurization of milk.
 - a. Phosphatase
 - b. Lipase
 - c. Peroxidase
 - d. Catalase

5. What is the predominant method of pasteurization used for milk in the U.S.?
 - a. Ultra-high temperature (UHT)
 - b. Vat pasteurization
 - c. Ultra-pasteurized (UP)
 - d. High-temperature, short-time (HTST)
6. To meet the definition of 100% fat-free, food must contain _____ and contain no added fat.
 - a. less than 0.05 g of fat per 100g
 - b. zero g of fat per 100 g
 - c. less than 0.5 g of fat per 100g
 - d. less than 1.0 g of fat per 100g
7. How often should a bulk tank be cleaned and sanitized?
 - a. Every time it is emptied
 - b. Every two days
 - c. Once a week
 - d. Once a month
8. A2 Milk is produced by cows that naturally produce only type?
 - a. A2 protein
 - b. A2 butterfat
 - c. A2 lactose
 - d. A2 carbohydrate
9. What is the most used feed ingredient on a farm?
 - a. Hay
 - b. Corn Silage
 - c. Water
 - d. Mineral mix

10. Raw milk somatic cell count must be _____ or less to meet Grade A government standards in the United States.
- a. 20,000
 - b. 50,000
 - c. 400,000
 - d. 750,000
11. Typical farm milk consists of _____.
- a. 87.3 % water, 4.00 fat, 3.2% protein, 5.5% other solids
 - b. 50.6 % water, 3.7% fat, 4.2% protein, 41.5% other solids
 - c. 80.6 % water, 6.7% fat, 4.2% protein, 8.5% other solids
 - d. 84.6 % water, 4.7% fat, 6.2% lactose, 4.5% other solids
12. Similar to human fingerprints, cow _____ are detailed, nearly unique, difficult to change, and remain the same over the life of an individual, making them ideal long-term markers of identity.
- a. hooves
 - b. eyes
 - c. tongues
 - d. noses
13. _____ is the main nutrient provided by soybean meal in a dairy feed ration.
- a. Protein
 - b. Fat
 - c. Vitamin D
 - d. Carbohydrate
14. The high acid flavor in milk is caused by
- a. feeding cows moldy hay
 - b. excessive agitation of warm raw milk
 - c. exposing milk to sunlight
 - d. bacterial growth

15. How long does it take for the cow to reach optimal oxytocin levels, after udder stimulation?
 - a. more than 4 minutes
 - b. 4 minutes
 - c. 1 to 2 minutes
 - d. 15 seconds
16. Compared to a Holstein cow, on a per gallon of milk basis, the average Jersey cow produces?
 - a. more fat and total milk solids
 - b. more fat but less total solids
 - c. less fat and total milk solids
 - d. less fat but more total milk
17. For removing biofilms from milk equipment, which of the following is expected to be most effective?
 - a. Hot water
 - b. Peracetic acid
 - c. Detergent
 - d. Sodium Chloride
18. What is the most common cause of high bacteria counts in milk?
 - a. Dirty milking equipment
 - b. Environmental contamination
 - c. Milkers not wearing gloves
 - d. Milking cows with high SCC
19. While cow numbers in the nation's dairy herd held steady in 2021, the dairy farm numbers did not follow the same course. Dairy farm numbers fell to under the threshold for the first time since America's pioneer days.
 - a. 10,000
 - b. 15,000
 - c. 25,000
 - d. 30,000

20. The specific gravity of milk is 1.032 at 60°F. Knowing the specific gravity of a milk sample and testing the freezing point of milk with a cryoscope is used to determine
- microbacteria count of milk
 - adulteration of milk with water
 - titratable acidity of milk
 - somatic cell count
21. The California Mastitis Test (CMT) test detects _____ in raw milk.
- bacteria
 - red blood cells
 - somatic cells
 - Antibiotics
22. What is the protein in milk that entraps milk fat within the curd matrix during the manufacture of cheese?
- casein
 - calcium
 - crude protein
 - whey protein
23. The off-flavor in milk generally caused by exposure to sunlight or fluorescent light is ____.
- Salty
 - Rancid
 - Oxidized
 - Malty
24. 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?
- predipping
 - forestripping
 - postdipping
 - drying

25. One gallon of milk weighs approximately _____ pounds
- a. 8.6
 - b. 6.8
 - c. 10.1
 - d. 6.5
26. The key to boosting milk protein lies largely in getting the correct amino acids to which part of the cow's digestive tract.
- a. Reticulum
 - b. Omasum
 - c. Abomasum
 - d. Rumen
27. In ice cream, the term that refers to the volume of air relative to the initial volume of ice cream mix is _____.
- a. Airiness
 - b. Viscosity
 - c. Fluffiness
 - d. Overrun
28. 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
29. Certain types of bacteria form what kind of cell structure that are resistant to heat and sanitizers?
- a. Mycotoxin
 - b. Nuceli
 - c. Ribosomes
 - d. Endospores

30. In the past 50 years, milk production per cow in the United States has increased from 9,751 to _____ pounds.

- a. 13,666
- b. 23,777
- c. 41,888
- d. 50,479



Milk Quality and Products

Select the one best answer for each question. Please DO NOT write on the exam

MILK MARKETING

31. Many U.S. dairy cooperatives belong to an organization that is the dairy farmers' chief lobbying voice in the nation's capital. What is the name of the organization?
- a. International Dairy Federation
 - b. Dairy Farmers of America
 - c. National Milk Producers Federation
 - d. International Dairy Foods Association
32. Who is the U.S. Secretary of Agriculture?
- a. Tom Vilsack
 - b. Sonny Perdue
 - c. Ann Veneman
 - d. John Block
33. A recent survey conducted by Hoard's Dairyman reported that 55% of dairy farms feed waste milk to _____.
- a. A. first calf heifers
 - b. B. calves
 - c. C. 2-year-old cows
 - d. D. cats
34. Milk marketing cooperatives
- a. provide marketing power for dairy farmers.
 - b. control Federal Orders.
 - c. operate only outside Federal Orders.
 - d. are not permitted by Federal Orders.

35. Classified pricing under Federal Milk Marketing is a system that assigns value to milk based on the end use of the product. Class II pricing includes milk used to make _____.
- a. A. dry whole milk
 - b. B. spoonable (soft) dairy products
 - c. C. mozzarella cheese
 - d. D. pasteurized milk
36. The reason Federal Milk Market Administrators test grade A milk for composition and audit records of purchases by dealers is to _____ .
- a. ensure an adequate supply of milk
 - b. ensure fairness in the marketing of the milk
 - c. help dealers with their business affairs
 - d. keep the government informed
37. What is the term that is an estimate of what it costs to transform milk into a finished dairy product like butter or cheese? These estimates are important because the values are used by USDA in setting the monthly minimum prices that regulated plants must pay for the components in your milk checks
- a. Cost ratio
 - b. Make allowance
 - c. Competitive pay price
 - d. Producer Price differential
38. Created by the Fluid Milk Promotion Act of 1990, this organization collects an assessment from processors marketing more than 3 million pounds of milk and develops and finances generic advertising programs to expand markets and uses of US fluid milk products.
- a. Dairy Marketing Inc.
 - b. National Milk Producers Federation
 - c. National Fluid Milk Processor Promotion Board
 - d. International Dairy Federation

39. The Dairy Margin Coverage (DMC) program offers protection to dairy producers when the difference between the all-milk-price and the average feed price (the margin) falls below a certain dollar amount selected by the producer. In 2021, the DMC program made indemnity payments totaling nearly _____ to producers who chose to be covered.
- a. \$990,000
 - b. \$1.2 million
 - c. \$1.2 billion
 - d. \$5.0 billion
40. Which was the top yogurt producing state in 2021?
- a. Wisconsin
 - b. California
 - c. New York
 - d. Idaho
41. Which cooperative marketed the most milk in 2021?
- a. Associated Milk Producers, Inc.
 - b. Dairy Farmers of America
 - c. Land O'Lakes
 - d. Southwest Dairy Farmers
42. While there were significant disruptions in trade throughout 2021, total US dairy export value _____ when compared to the dairy exports of 2020.
- a. grew by 18%
 - b. decreased by 18%
 - c. grew by 25%
 - d. declined significantly by 20%
43. Federal Milk Market Orders provide _____ to distribute moneys fairly among producers supplying milk to a market.
- a. a producer settlement fund
 - b. a board of commissioners
 - c. classified pricing
 - d. creative product pricing

44. Most dairy cows are milked two to three times per day. On average, a Holstein dairy cow will produce _____ gallons of milk each day.
- a. 1 to 2
 - b. 8 to 9
 - c. 15 to 16
 - d. 20 to 21
45. Since 1984, when President Ronald Reagan proclaimed a National Ice Cream Month, it has been celebrated annually, every _____?
- a. August
 - b. July
 - c. May
 - d. June
46. _____ has the greatest number of dairy cows in the world with over 40 million cows.
- a. India
 - b. China
 - c. United States
 - d. Canada
47. Although, some states produce more milk than their population can consume (net exporters of milk), other states do not produce enough milk to fulfill their population needs (net importers of milk). Which of the following states is a net importer of milk?
- a. Idaho
 - b. South Dakota
 - c. Oregon
 - d. Georgia
48. Traditionally, Mozzarella cheese is made from the milk of water buffalo. When compared to mozzarella from dairy cattle milk, mozzarella from water buffalo milk is lower in:
- a. Calcium
 - b. Protein
 - c. Cholesterol
 - d. Iron

49. To make one pound of butter requires approximately _____ pounds of whole milk.
- a. 8
 - b. 10
 - c. 21
 - d. 44
50. Which state recorded the largest percentage gain of milk production with an increase of 16.7% during 2021?
- a. California
 - b. Wisconsin
 - c. South Dakota
 - d. Wyoming
51. The combining total classified value of producer milk received by every handler regulated under a milk order is defined as _____.
- a. minimum pricing
 - b. producers' production pricing
 - c. classified pricing
 - d. marketwide pooling
52. Which country purchased the most dairy products from the United States during 2021?
- a. Mexico
 - b. New Zealand
 - c. Canada
 - d. China
53. California, Wisconsin and Idaho were the three largest milk producing states in 2021. Their production accounted for _____ percent of the U.S. milk production in 2021.
- a. 20
 - b. 40
 - c. 60
 - d. 80

54. _____ 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 has been shown to increase the body's ability to make new muscle and may help improve body composition
- a. Chocolate milk
 - b. Greek yogurt
 - c. Gatorade
 - d. Whey protein concentrate
55. Which countries lead the world in milk production and cattle milk production, respectively?
- a. India and United States
 - b. China and New Zealand
 - c. China and United States
 - d. India and New Zealand
56. Which of the following is true of Kefir??
- a. A. It is a fermented milk drink
 - b. B. It is made from the milk of cattle, goats, or sheep
 - c. C. It is fermented with a culture of bacteria and yeasts
 - d. D. All of the above
57. Milk from this species is the most widely consumed milk in the world?
- a. Cattle
 - b. Goat
 - c. Sheep
 - d. Water buffalo

58. The Dairy Research and Promotion Program, also known as the Dairy Checkoff Program, is a national producer and importer program for dairy product promotion, research, and nutrition education. To fund the program, U.S. dairy farmers pay a 15-cents- per hundred-weight assessment on their milk and importers pay_____ per hundred-weight on dairy products imported into the U.S.
- a. 30-cents
 - b. 22-cents
 - c. 7.5 cents
 - d. 5-cents
59. The actual milk check amount received by a dairy farmer is called the _____.
- a. fair market price
 - b. cooperative uniform price
 - c. mailbox price
 - d. Federal Order uniform price
60. What item of federal legislation authorized the legality of farmer cooperatives and provided them with legal rights of negotiation for their members in matters related to the pricing structures and marketing of milk products?
- a. Morrill Act
 - b. Sherman Act
 - c. Capper-Volstead Act
 - d. Farm Bill



Milk Quality and Products

2022 - QUALITY MILK PRODUCTION KEY

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



Milk Quality and Products

2022-MILK MARKETING KEY

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