

Holstein Foundation

2023 Dairy Bowl

Practice Questions

1. The beauty of the cow, and most mammals, is that they have what glands in their neck, which produce the parathyroid hormone?

Parathyroid glands

2. U.S. dairy exports posted records in 2021 with 5.9 billion pounds of dairy products shipped. This topped the 2020 record by what percent?

10%

3. Since copper and zinc are actively involved in the formation of hard keratin in hooves, these products traditionally have been used for over a century in what?

Footbaths

4. Consumer confusion about date labels is estimated to contribute to what percent of food wasted in the home?

18 to 22%

5. Inflammation after calving aids in a cow's recovery, but sustained inflammation can suppress appetite, cause tissue damage, and do what else?

Reduce milk production

6. A significant factor in a high PI count is using wash water that is what?

Not warm enough

7. The Babcock Test was developed in 1890 by Stephen Babcock to detect what?

Fat content in milk

8. What percent of all U.S. alfalfa hay exports were shipped to China in 2021?

55%

9. The iconic "Beef, It's What's For Dinner." brand, managed by NCBA and funded by the beef checkoff, is partnering with what celebrity athlete and former football star in 2022?

Tony Romo

10. The dairy industry utilizes soybeans within a balanced dairy ration. In addition to soybean meal, what is the popular soy-based product typically included in a ration?

Soyhulls

11. Artificial insemination was first used in what country in 1900?

Russia

12. In the U.S. on average, feed by-products supply what percent of the crude protein needed by lactating dairy cows?

52 to 56%

13. Most people who have spent time working with fresh cows would agree that clinical hypocalcemia often becomes more of a problem as cows get older. What is another name for hypocalcemia?

Milk fever

14. In terms of bedding material, sand is the gold standard for cows because it doesn't support bacterial growth and provides excellent cushioning. Cows prefer how many inches of bedding on the stall surface?

4 to 8 inches

15. What is the name of the domestic and international planning and management organization responsible for increasing sales of and demand for dairy products and ingredients?

Dairy Management Inc. (DMI)

16. Beta casein is a milk protein that exists in what two forms?

A1 and A2

17. Nationally, the average 2021 test-day herd SCC was how many cells per milliliter?

179,000 cells per milliliter

18. Getting heifers at the correct body condition is critical for reproductive efficiency and animal health. What is the ideal heifer body condition score at first breeding?

Score of 2.75 to 3

19. When adding milk to the bulk tank, the blend temperature should be below what Fahrenheit temperature until further cooling occurs?

45 degrees F

20. In the past Ukraine was a major exporter of what crop, with a 10% share of world exports from 2017 to 2021?

Wheat

21. For the first time what U.S. agricultural export exceeded \$10 billion in sales, shattering previous records by 27%

Beef exports

22. The temperature outside in which a cow can maintain their own core body temperature without having to exert any extra effort to regulate either their heat loss or heat gain is called what?

Thermoneutral zone

23. What is defined as procedures intended to protect humans or animals against disease or harmful biological agents?

Biosecurity

24. Milk contains how many essential nutrients?

13 nutrients

25. According to the Dairy Calf and Heifer Association's Gold Standards, farms should aim for less than what percent of preweaned calves experiencing a case of diarrhea that requires 24 hours or more of treatment?

15%

26. With support of the Animal Genomics and Improvement Laboratory housed at USDA, what organization is responsible for genetic evaluations of U.S. dairy cattle?

Council on Dairy Cattle Breeding

27. Carbon is the root of what two greenhouse gases?

Carbon dioxide and methane

28. What type of grains are fed at the highest rate of all by-products to cows in the U.S.?

Corn distillers' grains

29. In 2021, Dairy Margin Coverage paid out over \$1.1 billion, or how much per dairy farm?

\$58,000

30. What is a normal blood calcium level for a cow?

Between 9 and 10 mg/dL

31. Normal water amount in the hoof wall is what percent, which is the optimal hydration for highest resistance to fracture?

15 to 24% water

32. Fluid milk sales tumbled further in 2021 continuing a 12-year slide, and the lowest sales total since what year?

1951

33. What company has received FDA approval of Arovyn - a broad spectrum, prescription antibiotic that treats the major organisms associated with bovine respiratory disease?

Merck Animal Health

34. Inflammation before and after calving in the cervix and uterus is essential to allow for what?

Normal birthing process - loosens tissue in birthing canal, drives contractions and expels calf and placenta

35. Who was the 30th recipient of the Klussendorf-MacKenzie Award?

Jeff Stookey

36. The National AgrAbility Project works with persons with disabilities to enable them to continue working in agriculture. Who funds this project?

U.S. Department of Agriculture

37. The USDA estimates that over 30% of the total food supply in the U.S. is lost at the production level or wasted how every year?

Retail/consumer level

38. What two categories of lameness make up 95% of lameness cases: claw disorders, foot skin problems, or upper leg lameness?

Claw disorders and foot skin problems

39. What dairy cooperative stepped up and offered cooperative memberships to 90 Northeast organic dairy farms that had their contracts terminated by Horizon and Maple Hill Creamery?

Organic Valley Co-op

40. What was the all-market mailbox price in 2021?

\$17.69

41. Name the 2022 National Dairy Shrine Distinguished Dairy Cattle Breeder.

Ernie W. Kueffner

42. The CPI is a good measure of price inflation as data traces back to 1914. What does CPI stand for?

Consumer Price Index

43. When it comes to a comfortable resting place, you should aim for stalls that are how many inches wide with a neck rail 50 inches off the ground?

50 to 52 inches

44. Name the CEO of Dairy Management Inc.

Barbara O'Brien (DMI 2022)

45. Whole milk netted how much per gallon in 2021, according to data collected by federal milk market administrators? This was the highest total since the record year of 2014 that posted a \$3.84 watermark.

\$3.66 per gallon

46. Global demand for what dairy product continues to soar as it reached a global value of \$5 billion in 2021?

Whey

47. Tom Vilsack announced his department's Climate-Smart Agriculture and Forestry Partnership Initiative to fund climate-smart practices through the \$1 billion from CCC. What does CCC stand for?

Commodity Credit Corporation

48. One of the biggest movements currently taking place in business is a focus on adopting principles known as ESG. What does ESG stand for?

Environmental, social, and governance (ESG)

49. When using manure solids for bedding, it should be dried to what percent dry matter to avoid excessive moisture?

60 to 65% dry matter

50. When planting soybeans, early-season control programs need to be geared toward weeds that emerge when air temperatures are between 40 degrees F and what temperature?

70 degrees F

51. Research tells us that cows will typically chew forage and TMR particles while eating to a fairly uniform particle size of how many millimeters before swallowing the bolus of feed?

8 to 11 millimeters

52. Subclinical rumen acidosis occurs when the rumen pH drops below what level?

5.8 pH

53. A recent survey by the School Nutrition Association found 97% of schools report being challenged by higher costs and what other issue as their top concerns?

Supply chain

54. What is the most common by-product feedstuff generally fed to dairy cattle in California?

Almond hulls

55. How often should a bulk tank be cleaned and disinfected?

Every time it is emptied

56. What ice cream flavor continues to top the flavor chart year after year?

Vanilla

57. What U.S. state produced the most pounds of new milk in 2021?

Wisconsin

58. A critical component of mixing milk replacer is mixing it at the proper temperature. What should be used to check this?

Thermometer

59. A major part of feeding accuracy is based on the ingredients going into the rations. What ingredient is commonly the most variable on a day-to-day and often batch-to-batch basis?

Silage

60. According to National Animal Health Monitoring System data, what do most farmers cite as the most common criteria for weaning a calf?

Age

61. Baled silage should be packaged at 45 to 55 percent moisture and wrapped in how many layers of plastic to provide optimal conditions for anaerobic fermentation?

6 to 8 layers

62. Poorly maintained ventilation in a dairy barn can cause what percent of lost air movement?

30 to 50%

63. In general, how often should silicone milk hoses be changed?

Once a year

64. Which factor is considered to be the most important in reducing lameness prevalence in robotic milking system herds?

Stall size

65. How long after a cow calves does it take for her to consume what she is fully capable of eating?

1 month

66. Up to how many miles away can a cow smell something?

6 miles

67. Which state is the nation's leader in number of commercial dairy herds?

Wisconsin (6,770)

68. At how many days will the cow either come back into heat if the egg has not been fertilized or if the fertilized egg does not implant?

21 days (plus or minus 3 days)

69. Feed expense is the largest outlay of cash for a dairy, making up what percent of the total operating costs?

50 to 65%

70. Which vitamin can be synthesized by the skin when exposed to adequate sunlight?

Vitamin D

71. What term describes the removal of the horn producing skin cells before attachment to the skull?

Disbudding or dehorning

72. Which of the four stomach compartments lies just inside the abdominal cavity on the underside of the animal?

Abomasum

73. What is the undisputed king of cheese in the U.S.?

Mozzarella

74. Dairy cows have four possible routes of exchanging heat energy with their environment. They are conduction, convection, radiation and what else?

Evaporation

75. Pollination of alfalfa seed depends on what insect?

Bee

76. Forestripping stimulates the release of oxytocin and helps identify what type of mastitis?

Clinical

77. When reading bull proofs, what does the abbreviation PTA stand for?

Predicted Transmitting Ability

78. During calving, from the time that the amniotic sac breaks, the feet should appear within how many minutes?

30 to 40 minutes

79. What organization is the nation's largest positive youth development and youth mentoring organization, empowering six million young people in the U.S?

4-H

80. What hormone is released into a cow's bloodstream when it's stressed?

Adrenaline

81. To improve quality of corn silage the final moisture content should typically be what percent?

65 to 68%

82. The U.S. is now producing 60% more milk from what percent fewer cows compared to five generations ago?

30% fewer cows

83. Name two of the most commonly fed B vitamins in the U.S.

Biotin and niacin

84. Using a local anesthetic will help desensitize the tissue prior to disbudding. This should be given a minimum of how many minutes before disbudding?

5 minutes

85. What percentage of heats can be classified as low intensity or short duration?

25%

86. When washing milking equipment and milk lines, hot water should still be at what temperature by the time it has run through the entire system?

120 degrees F

87. How often should alfalfa seeders be calibrated?

Every year

88. What is the term used to define the biases and desensitizing of things that are seen constantly or that change slowly over time on dairy farms?

Barn blindness

89. What locomotion score is assigned to a cow that has an arched back when standing and walking? They favor one or more legs but still bear weight on them.

A score of 4

90. A calf that is not breathing at birth should immediately be placed in what position to maximize ventilation?

Upright position on its sternum

91. The Netherlands consumes what percent more dairy products than the UK or U.S.?

25%

92. The Census of Agriculture is taken every five years and dates back to what year?

1840

93. What is the name of the basic ration ingredient that is among the most essential of commodities fed to dairy cows and accounts for two-thirds of the world's high-protein animal feed?

Soybean meal

94. What is defined as the loss of feedstuff during harvest, transport, and packing?

Feed shrink

95. If a cow does not express estrus, she can be checked at how many days following insemination for pregnancy?

28 to 32 days

96. A compound that provides nutrients in some form where these are lacking in the base diet are known as what?

Supplement

97. Through what process is carbon dioxide taken from the atmosphere and fixed as carbohydrates in plant material?

Photosynthesis

98. Before planting summer annual crops, the soil temperature should be at least how many degrees?

60 degrees F

99. Alfalfa can biologically fix nitrogen from the air, but first it will utilize what form of nitrogen from the soil?

Nitrate

100. According to the 2021 U.S. dairy statistics, which state has the most new milk per cow in the U.S.?

New Jersey

101. In cows, sleep is divided into, nonrapid eye movement, rapid eye movement (REM), and what else?

Drowsing

102. The first six inches of alfalfa regrowth comes primarily from what energy source?

Root reserves