

**HOLSTEIN FOUNDATION  
AYRSHIRE QUIZ BOWL  
2022 PRACTICE QUESTIONS**

1. What pattern of concrete grooving can provide excellent long-term traction and drainage when machine-cut into the floor of free stalls and barn alleyways?

Diamond

2. What household item can be used as an aid to determine the effectiveness of kernel processing of corn silage?

32-ounce cup

3. Mortality rates can be cut in half if a calf is removed from its dam within how many hours after birth?

6 hours

4. When it comes to calving on average, how long does it take a heifer to dilate?

4 to 10 hours

5. What is the new standard that measures alfalfa quality?

Relative forage quality

6. What agriculture organization awards over \$40,000 in scholarships annually to those involved in the dairy industry?

National Dairy Shrine

7. What is the most used reproductive tool?

Artificial insemination

8. What State University's College of Veterinary Medicine was the first to have a cow-sized MRI?

Michigan State University

9. What feed additive is used to improve taste and reduce dustiness?

Molasses

10. CLEAN plan programs were developed to provide confidential, no-cost technical support to owners and operators of livestock operations in the U.S. to help them identify and implement farm management practices that protect what?

Environment

11. The first livestock species to have its genetic blueprint sequenced and analyzed was what?

Hereford

12. The Center for Science has listed what as the riskiest foods regulated by the U.S. Food & Drug Administration?

Leafy Greens

13. In a milking system, what term is used to indicate the time the inflation is expanded compared to the time it is collapsed?

Pulsation ratio

14. Name the greatest danger attributed to tower silos.

Silo gas/nitrogen dioxide

15. What term defines a legal and binding contract that allows you to name a personal representative to administer your affairs upon your death?

Will

16. According to the Center for Disease Control and Prevention, hand washing is the single most important measure for preventing the spread of infection and disease. Washing your hands for at least how many seconds is a guideline to ensure thoroughness?

20 seconds

17. True or False: Full siblings share an equal amount of genes from parents.

True

18. What is the part of the back that lies between the withers and the middle of the back called?

Chine

19. According to the PDCA uniform scorecard for showmanship contests, how many points does exhibitor appearance account for?

10 points

20. Body energy and nutrient reserves can be replenished with most ease during which stage of lactation?

Late lactation

21. Injecting cows with a hormonal form of what vitamin before calving may reduce the incidence of milk fever?

Vitamin D

22. In a feeding program, what do the initials DMI stand for?

Dry matter intake

23. On the average, within 3 days, how long is a cow's estrus cycle?

21 days (18 -24 acceptable)

24. Information about which side of the family is shown on the bottom half of a pedigree?

Maternal side (dam or mother)

25. Once a straw of semen has been thawed it should be used to inseminate a cow within how many minutes?

10 to 15 minutes

26. What is the PDCA maximum allowable limit for topline hair in the showing?

1 inch

27. At what approximate age does a calf have a fully developed rumen?

3 to 4 months

28. Which stomach compartment collects metal?

Reticulum

29. What is metritis?

Uterine infection or inflammation

30. What nutrient in milk helps reduce the incidence of osteoporosis?

Calcium

31. On what day must a heifer be born to be the oldest animal in the fall yearling heifer class?

September

32. What do the initials USDA stand for?

United States Department of Agriculture

33. What is the name of the disease that is transmitted by a small tick about half the size of a dog tick?

Lyme disease

34. On a scale of 1 to 5, with 5 being the most condition, what body condition score should a dry cow have?

3.5 to 4.0 score

35. What udder condition appears as swelling due to an excessive accumulation of fluids between the cells of the mammary gland tissue just under the skin?

Edema

36. What term is used to describe forages that are seeded every year, and whose growth is completed in one crop year?

Annual

37. Which reproductive condition is a result of the fetal membranes remaining within the uterus for an extended period after calving?

Retained placenta

38. What hormone is injected into cattle to cause superovulation?

Follicle stimulating hormone

39. Chromosomes are found in what part of the cell?

Nucleus

40. If properly fed to dairy cattle, urea supplies a readily available source of what element?

Nitrogen

41. What is dystocia?

Difficult or obstructed calving

42. The SPC test is used to measure the number of mesophilic organisms in milk to determine whether state regulatory standards are met. What do the initials SPC stand for?

Standard Plate Count

43. What is the name of the waxy substance in the teat duct which helps provide a physical barrier to bacteria?

Keratin

44. What is the average duration a cow in heat will stand to be mounted?

4 to 6 seconds

45. What part of the alfalfa plant has the highest percent digestibility?

Leaves

46. How many pounds of water does a cow need to consume to produce one pound of milk?

4-6 pounds

47. Distiller's grain is added to a cow's ration as a source of what?

Protein

48. Moisture content of a compost mixture should be what percent?

50 to 60%

49. What does a cryoscope measure to determine if water has been added to milk?

Freezing point of milk

50. What is the recommended temperature to thaw semen?

95 - 98 degrees F

51. What muscle keeps the teat end closed and helps prevent bacteria from entering the udder?

Sphincter muscle

52. How many permanent teeth does a mature dairy cow have?

32 teeth

53. How many pounds of whole milk does it take to produce one pound of butter?

21.2 pounds

54. What enzyme is deficient in people who are lactose intolerant?

Lactase

55. Who calculates the dairy sire summary for calving ease?

NAAB

56. Supplementation of what two substances by injection or supplementing a cow's diet has been found to reduce mastitis incidence?

Selenium and vitamin E

57. Milk is produced by groups of what special secretory cells?

Alveoli

58. Which nutrient is most important during the summer months?

Water

59. What is lactose?

Milk sugar

60. At birth, which part of a calf's stomach is functionally active?

Abomasum

61. What is it called when a cow is in heat?

Estrus

62. What happens to the nitrate levels of corn after it has been ensiled?

Lowers

63. Why is it a good management practice to rotate between different herbicides used on your fields?

To reduce weed resistance

64. Why should a teat dip be used after milking?

Reduce/prevent udder infections

65. Which breed's milk has the highest butterfat percentage on average?

Jersey

66. What proteins are high in colostrum and protect the calf against organisms that cause scours and other diseases?

Immunoglobulins or antibodies

67. Approximately how many gallons of blood pass through the udder for each gallon of milk produced?

400 to 500 gallons

68. What is the common name for calf diarrhea?

Scours

69. SCC is used to identify cows with mastitis. What do the initials SCC stand for?

Somatic cell count

70. What specific forage crop has the greatest buffer capacity during ensiling?

Alfalfa or clovers

71. In dairy judging, what is the number value given for the difficulty in placing a pair?

Cut

72. At what Fahrenheit temperature does silage become caramelized, or heat damaged?

120 degrees F (+/- 5)

73. In regard to animal welfare organizations, what do the initials PETA stand for?

People for the Ethical Treatment of Animals

74. What toxin is a common problem usually associated with feeding large amounts of cottonseed?

Gossypol

75. Which vitamin can be synthesized in the body tissue of a newborn calf and therefore, is not required in the diet?

Vitamin C

76. What do the initials bST stand for?

Bovine somatotropin

77. What term is used to describe substances that have low pH values?

Acidic

78. If a cow has an interdigital foot infection, where is it located?

Between the toes

79. What term is used to describe a unit of energy?

Calorie

80. What is the common name for Founder?

Laminitis

81. How do cows effectively lose body heat during hot weather?

Seating or panting

82. What name is given to the surrogate mother in embryo transfer work?

Recipient

83. What substance in corn is likely to increase to toxic levels during a drought?

Nitrate

84. What is it called when you mate two purebred animals of different breeds?

Crossbreeding

85. Which basic nutrient group provides the cow's major source of energy?

Carbohydrates

86. When a dairy animal is handled roughly what specific hormone is released?

Cortisol

87. Normal milk is approximately what percent solids?

13%

88. Ovulation is the process of what?

Release of an egg from a follicle

89. When a sperm cell with an X chromosome fertilizes an egg, what will the resulting sex of the calf be?

Female

90. What is another name for milk fever?

Parturient paresis

91. What is the desirable temperature for mixing a calf's milk replacer?

100 degrees F

92. How many upper incisors does a cow have?

None

93. Which class of milk describes milk used for drinking?

Class I

94. What is the major respiratory disease of young calves?

Pneumonia

95. What is the common name for traumatic gastritis?

Hardware disease

96. What is the name for a sterile heifer that is born twin to a bull?

Freemartin

97. What process is used to distribute the fat evenly in milk?

Homogenization

98. What part of the cow's back is located between the chine and the rump?

Loin

99. What is the name of the byproduct recovered when cheese is made?

Whey

100. On average, cows have a flight zone of how many feet?

5 feet