

## QUESTIONS FROM 2005 PA HOLSTEIN QUIZ BOWL

1. Which stomach compartment is largest in a newborn calf?

**Abomasum**

2. The enzyme rennin or rennet performs what function in the calf's stomach?

**Curd Formation (to curdle milk)**

3. What organ functions in the role of detoxification of metabolites and produces bile?

**Liver**

4. Feet and legs count for what percent on the PDCA Unified Dairy Cow Scorecard?

**15%**

5. The plug that forms in the teat canal during the dry period is made from what protein?

**Keratin**

6. What is the general term that describes metabolites or chemicals produced by fungi or molds?

**Mycotoxins**

7. Animals must have a minimum of what percent Registered Holstein Ancestry to be eligible for national Holstein shows?

**87%**

8. Follicular is the most common type of cyst found on what reproductive organ?

**Ovary**

9. What term describes a male animal when at least one testicle fails to descend into the scrotum?

**Cryptorchid**

10. Trypsin is an important enzyme in the breakdown of which nutrient class?

**Protein**

11. What term describes the taste or likeability of a feedstuff?

**Palatability**

12. What organ is affected by endometritis?

**Uterus**

13. In which U.S. state was this country's first BSE case reported?

**Washington**

14. What is the term for the soil condition that generally occurs in the top 6-8 inches and can severely limit water infiltration while raising the risk of erosion?

**(Surface) Compaction**

15. Who was the first Holstein bull to sire 10,000 registered sons?

**Round Oak Rag Apple Elevation**

16. The Bill Graham Sweepstakes classes at the World Dairy Expo are what types of classes that require a series of entries over a period of years?

**Futurity**

18. What do the letters PDMP stand for when referring to a progressive group within the dairy industry in Pennsylvania?

**Professional Dairy Managers of Pennsylvania**

19. What annual Holstein World program evolved from 1921's Show Cow of the Year selections?

**All-American Contest**

20. Name the early form of production testing that was abbreviated A.R.

**Advanced Registry**

21. Name the first cow to sell at public auction for one million dollars.

**Allendairy Glamorous Ivy**

22. A cow that receives a 5 E designation must be at least how many years old?

**15 years**

23. Enos J. Perry brought artificial insemination technology to the U.S. from what overseas country?

**Denmark**

24. What organization is responsible for the Show Ring Code of Ethics?

**Purebred Dairy Cattle Association (PDCA)**

25. The abbreviation cwt. indicates how many pounds of milk?

**100 pounds**

26. What two-word term refers to the human health condition characterized by inadequately digesting the sugar found in dairy products?

**Lactose Intolerance**

27. If a cow was successfully bred on March 10, in what month would she likely calve?

**December**

28. What is the scientific term for giving birth?

**Parturition**

29. Which nutrient do lipases break down?

**Fat (or lipids)**

30. Sixty (60) pounds of whole milk should yield about how many pounds of cheese?

**6**

31. Name the hormone produced by the ovary that induces estrus in cows.

**Estrogen**

32. What does the acronym CWT stand for when referring to the nation-wide voluntary supply management program?

**Cooperatives Working Together**

33. What is the primary immunoglobulin in colostrum?

**Ig G**

34. What beverage is the most cost-effective way to get needed calcium?

**Milk**

35. What is the two-word term used to describe the percentage of cows eligible to become pregnant in a given time frame that actually do become pregnant?

**Pregnancy Rate**

36. According to the Journal of Dairy Science, robotically milked cows produced less of which hormone which interferes with milk letdown?

**Adrenaline (epinephrine)**

37. What are the chances that a CVM carrier bull will produce an infected calf when bred to a cow that does not carry CVM?

**0**

38. What major dairy breed tends to have the lowest levels of antibodies in its colostrum?

**Holsteins**

39. What hormone is released by a CIDR?

**Progesterone**

40. In which of the four seasons are conception rates lowest in cows?

**Summer**

41. Manure digestors produce what gas which can be converted into electricity?

**Methane**

42. What is the primary use for bovine somatotropin?

**Increase milk production**

43. What term indicates administration of medication to a cow via the blood vessels?

**IV (intravenous)**

44. What manure waste management method puts solids in a pile or bin and lets them degrade?

**Composting**

45. What is the most abundant mineral in the body?

**Calcium**

46. Which volatile fatty acid produced in the rumen of a dairy cow is a precursor for glucose?

**Propionate (propionic)**

47. What condition best describes congestion of the udder due to excessive fluid accumulation?

**Udder edema**

48. In the first month after calving, what happens to the body weight of a lactating dairy cow?

**The cow loses weight**

49. If a corn silage sample contains 38% dry matter, what percentage moisture does it contain?

**62%**

50. What is the procedure known as HTST used for in the dairy industry?

**Pasteurization**

51. The science dealing with hormones and their secretions is called what?

**Endocrinology**

52. Amino acids contain what chemical element not found in carbohydrates?

**Nitrogen**

53. When calves are weaned, what liquid are they no longer fed?

**Milk**

54. The Holstein Foundation headquarters are located in which U.S. state?

**Vermont**

55. Besides acetic acid, what other VFA may result from abnormal fermentation in high moisture silage?

**Butyric acid/butyrate**

56. Fonterra is the dominant cooperative in which country, where it accounts for 25 percent of the nation's total income?

**New Zealand**

57. In what city is the Pennsylvania Junior Dairy Show held?

**Harrisburg**

58. What is the primary protein in milk?

**Casein**

59. Large amounts of ammonia in the blood stream can result from overfeeding what common form of NPN?

**Urea**

60. What is the temperature zone that ranges from 50 to 70 degrees F for dairy heifers and is abbreviated TNZ?

**Thermal neutral zone**

61. What by-product of beer production is fed to dairy cattle?

**Brewer's grain**

62. What is the nation's number one dairy county for milk produced?

**Tulare County (in California)**

63. A heifer named Nelsons Estimate Liz 2 was Junior Champion at the 2004 World Dairy Expo. What suffix does she carry indicating she is a clone?

**ETN**

64. If you test your water and get a positive for fecal coliforms, what bacteria are very likely to be in your water?

**E. coli**

65. Horizon is a major name in the niche-marketing of what type of milk?

**Organic**

66. Give a major reason that many loose-housing herds are using rubber flooring instead of concrete.

**Cow comfort, footing, etc.**

67. What is a downer cow?

**A cow that cannot walk**

68. What science involves the ability of plant or animal breeders to transfer one or more genes from one species and insert them into another?

**Transgenics**

69. DFA is the largest dairy co-op in the United States. What do the letters DFA stand for?

**Dairy Farmers of America**

70. What chemical element is abbreviated Hg and is used to monitor vacuum levels in milking systems?

**Mercury**

71. What is the name of the process that prevents cream from rising in whole milk?

**Homogenization**

72. The official placing in a dairy judging contest is 1-2-3-4. You placed the class 2-1-4-3. The cuts are 2-5-4. What is your score if a perfect score is 50 pts.?

**44**

73. In most dairy shows, what month are the youngest senior two-year-olds born?

**February**

74. Oxytocin and FSH are examples of what?

**Hormones**

75. You breed your Holstein to a Brown Swiss sire. What term describes the calf?

**Crossbreed or Crossbred**

76. What is the name of the tiny, finger-like projections which line the wall of the rumen?

**Papillae**

77. What hormone is released by the corpus luteum and supports pregnancy?

**Progesterone**

78. What is the highest possible percent reliability in a sire proof?

**99%**

79. What is the general name of substances used to maintain rumen pH?

**Buffers**

80. What mineral is abbreviated Mn?

**Manganese**

81. To support dairy promotion activities, how much are dairy producers assessed per hundredweight of milk?

**15 cents**

82. What major category on the current PDCA Unified Dairy Scorecard contains breed characteristics?

**Frame**

83. If a cow is noted as having received G-M-D recognition on her pedigree, you know that she has had at least how many offspring?

**3**

84. What term, common to ruminants, describes a bolus of regurgitated food that is chewed and re-swallowed?

**Cud**

85. What is the name of the structure that lies between the mouth and the esophagus that serves to direct food and air?

**Pharynx**

86. The release of which hormone from the posterior pituitary gland causes the uterus to contract more forcefully and results in the expulsion of the fetus?

**Oxytocin**

87. How many daughters with herdmates must a Holstein bull have to receive an official P-T-A-T?

**10**

88. What specific group of cows is typically fed a transition diet?

**Prefresh Cows**

89. Injection site lesions and carcass bruises lower the value of cows at market and hurt cow prices. Ideally, where should intramuscular injections be given to prevent lesions?

**In the neck or shoulder**

90. What is the biological term for an organism that can only grow in the absence of oxygen?

**Anaerobic**

91. When feed prices are stable and milk price decreases, what happens to profit?

**Decreases**

92. Name two fat soluble vitamins.

**A, D, K, or E**

93. What body system is mainly affected when an animal is afflicted with BLAD?

**The immune system**

94. A Holstein cow is scored Very Good. She must have scored no less than how many points?

**85**

95. Which hormone is produced by the pancreas and promotes mammary cell growth and division?

**Insulin**

96. What type of blood vessels carries the blood from the body back toward the heart?

**Veins**

97. "Committee cow" is a term applied to Holsteins classified at least how many points?

**95 points**

98. In the United States, we use a stepwise genetic base that updates bull proofs every how many years?

**5 years**

99. How many classes are included each year in the Hoard's Dairyman judging contest?

**Five**

100. In what part of the cow would you find her lateral suspensory ligaments?

**Udder**

101. What is the total solids percent in Holstein milk?

**13 percent (+/- 1%)**

102. First calf heifers will have a higher energy requirement than six year old cows for what general function?

**Growth**

103. If you have 45 pounds of carbohydrates, how many pounds of fat would you need to provide the same amount of energy to an animal?

**20**

104. The Victory Lane Bottle of Milk is presented each year to the winner of what famous car race?

**Indianapolis 500**

105. What is a word that describes how well sperm move?

**Motility**

106. What do the letters NAAB stand for when referring to the AI industry?

**National Association of Animal Breeders**

107. Which vitamin enhances the body's ability to absorb calcium?

**Vitamin D**

108. Fort Atkinson, Wisconsin, is the home of what national dairy museum?

**(National) Dairy Shrine**

109. Mad Cow Disease, or BSE, first attacks which system in cattle?

**The nervous system**

110. What is the percent nitrogen in a feed that contains 18.75% crude protein?

**3%**

111. What is the name of the dairy show that is held in November at Toronto, Canada, every year?

**Royal Winter Fair**

112. What linear type trait is the measure relative to the udder floor's distance from the hock?

**Udder depth**

113. Chromosomal DNA is found in which cell structure?

**Nucleus**

114. What type of immunity occurs when antibodies are transferred from one animal to another?

**Passive**

115. What is the condition called when the rumen is distended with the gases of fermentation?

**Bloat**

116. Mange and what other pest are the most common external parasites, especially in winter?

**Lice**

117. A sire with an ERCR value of plus 3 will produce what percent more calves than a sire with an ERCR value of negative one?

**4%**

118. The calf develops in what part of a pregnant cow?

**Uterus**

119. The PDCA changed the allowable limit for topline hair in the show-ring in 2004 to what maximum length?

**One inch**

120. Maltase and sucrase are examples of what protein compounds that aid in digestion?

**Enzymes**

121. What common dairy practice does the American Veterinary Medical Association now oppose because it stresses cattle and provides no benefits?

**Tail docking**

122. Which nutritional disease is most often associated with laminitis?

**Acidosis**

123. What honor presented at World Dairy Expo is the highest honor given to a dairy cattle showman in the U.S.?

**Klussendorf Award**

124. How many different breeds show at the World Dairy Expo?

**7**

125. What do the letters R and W stand for in the association abbreviated RWDCA?

**Red and white**

126. To the nearest thousand, how many total junior members are there in Holstein Association USA?

**10,000**

127. The presence of which chemical element often causes mold and spoilage of silage?

**Oxygen**

128. A colostrometer measures what physical attribute of colostrum to help determine immunoglobulin concentrations?

**Specific gravity**

129. Saturated fat makes up about what fraction of the total fat in milk?

**2/3**

130. Which Holstein classification category is worth 5% of the total score?

**Rump**

131. Through 2003, what country typically imported the most dairy breeding females from the U.S.?

**Mexico**

132. Who is the current Executive Director of the Pennsylvania Holstein Association?

**Ken Raney**

133. What Holstein magazine, with many U.S. subscribers, has its headquarters in the Netherlands?

**Holstein International**

134. What vitamin is generally supplemented with selenium injections?

**Vitamin E**

135. What do the letters AABP stand for when discussing veterinarians?

**American Association of Bovine Practitioners**

136. Where is most phosphorus stored in the body?

**Bone**

137. What do the letters PPD stand for when referring to milk prices?

**Producer Price Differential**

138. LS-1 to LS-4 are measurements of what animal characteristic?

**Locomotion**

139. What disease is caused by a deficiency in vitamin D?

**Rickets**

140. If daughter calving ease is 6 percent heritable, what percent of the variation between cows is then due to environment?

**94%**

141. Autotoxicity is most often a concern with which legume?

**Alfalfa**

142. What complex carbohydrate is the primary energy source for dairy cattle?

**Cellulose**

143. In reference to milk sample analysis, what does the abbreviation SPC stand for?

**Standard plate count**

144. Where on a cow would you typically find a white line lesion?

**Hoof (sole)**

145. What word describes the study and application of genetic and biochemical information and process to create novel or modified products or processes?

**Biotechnology**

146. Preservation of the cell line is the first step in which process commercially performed by Cyagra?

**Cloning**

147. What hormone stimulates milk ejection in dairy cows?

**Oxytocin**

148. What type of host cells are the first to arrive at the site of infection on a dairy cow?

**Neutrophils**

149. The temperature below which the metabolic rate of the animal becomes insufficient to balance heat loss is defined as what?

**Lower Critical Temperature (LCT)**

150. Lasalocid and monensin are ionophores that also combat what parasitic organism?

**Coccidia**

151. How many chambers are found in the heart of a cow?

**4 chambers**

152. How many different ways are there to place a class of 4 animals?

**24**

153. In what year was the National Dairy Shrine founded?

**1949**

154. During the estrous cycle, which gland releases luteinizing hormone?

**Pituitary gland (anterior)**

155. High levels of iron in a diet can decrease the availability of two elements. Name either.

**Copper or zinc**

156. What term describes the return of the uterus to normal function after calving?

**Involution**

157. In May 1887, a noteworthy event in the history of the Holstein breed in America took place; there Clothilde won the silver cup for producing what dairy product?

**Butter**

158. A goiter is an enlargement of what gland?

**Thyroid**

159. Name the device that registers the motion of cows and indicates increased activity levels when they are in estrus.

**Pedometer**

160. In calving ease summaries, what is indicated by the abbreviation OBS?

**(Number of) observations**

161. What linear classification trait is measured as inches between the bottom of the vulva and the top of the milk secreting tissue?

**Rear udder height**

162. What two types of cells are known as gametes?

**Eggs and sperm**

163. What region of the brain controls body temperature?

**Hypothalamus**

164. The majority of a cow's amino acid needs are supplied by what source?

**Rumen microbes**

165. In what year was June established as dairy month?

**1937**

166. When referring to sire summary information, what do the letters YD stand for?

**Yield Deviation**

167. What is the term for a group of tissues that work together to carry out a function?

**Organ**

168. What major milk solids component is excluded in SNF values?

**Fat**

169. Which dairy product is abbreviated NFDM?

**Non-fat dry milk**

170. What term is given to the highest point on a cow's lactation curve?

**Peak (peak milk)**

171. To the nearest pound, how much does a quart of milk weight?

**2 lbs**

172. Strep ag and what other bacterium are the two major contagious mastitis organisms?

**Staph(ylococcus) aureus**

173. Barrel is included under which major breakdown category on the PDCA Unified Dairy Scorecard?

**Body Capacity**

174. What Queen of the Breed was the first Holstein cow to have ten Excellent daughters?

**C Glenridge Citation Roxy**

175. You purchase one ton (2000 pounds) of dairy feed that contains 10% protein. How many pounds of protein did you buy?

**200 pounds**

176. What do the letters BCS stand for when evaluating a feeding program by visually observing animals?

**Body Condition Score**

177. How many ovaries are in the female reproductive tract?

**2**

178. Calories are used to measure what property of feeds?

**Energy**

179. Calf growth is influenced most heavily by intake of energy and intake of what major nutrient class used in building body muscle?

**Protein**

180. In the current Holstein USA type classification system, front end/capacity is worth how many points?

**20**

181. Milk processors are fortifying cheese batches with ultrafiltered milk instead of traditional fortifiers because the ultrafiltered milk does not add what milk component?

**Lactose**

182. Which national contest for college students was held in Altoona, PA, last April?

**Dairy Challenge (North American Intercollegiate Dairy Challenge)**

183. What company purchased Agway Feed and Nutrition?

**Cargill (Animal Nutrition)**

184. Which famous California herd uses the slogan "Generations of Excellence"?

**Ocean-View Farms**

185. Stonyfield Farm, who recently partnered with Dannon, is the leader in which organic dairy product?

**Yogurt**

186. What trait abbreviated DPR was recently added to Net Merit Index?

**Daughter pregnancy rate**

187. Pasteurizing colostrum will destroy what potentially beneficial protein that provides passive immunity?

**Immunoglobulin**

188. The national dairy checkoff program partnered with which professional sport league to promote good nutrition and physical activity programs in schools?

**NFL (National Football League)**

189. Phenotype is defined as the combined effect of genetics and what other component?

**Environment**

190. What ionophore was approved for use in lactating dairy cows by the FDA in 2004?

**Monensin (or Rumensin)**

191. What does the acronym DEIP stand for in reference to the program that allows our dairy products to be sold overseas?

**Dairy Export Incentive Program**

192. In genetic evaluation terms, what name is given to the starting point against which each and every animal within a breed is compared for each trait?

**(genetic) base**

193. Futurland C2C Starlite Z was the first calf born whose sire and dam were both what?

**Clones**

194. Name a cation that should be increased in a cow's diet during heat stress.

**Sodium or Potassium**

195. Which country consumes the most cheese per capita?

**Denmark**

196. If your Holstein cow scores 80% in feet and legs, how many points does this contribute to her final score?

**12**

197. Cheese quality has been an issue in the U.S. due to increased residual lactose, which results in the production of which distasteful acid?

**Lactic acid**

198. What do the letters CIP stand for when referring to equipment sanitation?

**Clean-in-place**

199. Many dairy veterinarians are members of the AETA. What do the letters AETA stand for?

**American Embryo Transfer Association**

200. Which ketone body, which is also a metabolite, has been shown to consistently reduce immune function?

**Beta-hydroxybutyrate**