

## QUESTIONS FROM 2022 NATIONAL GUERNSEY QUIZ BOWL

*(note: All multiple choice questions were asked in Phase A; this list is a mix of junior and senior questions. They are NOT in order of difficulty Most have been updated for 2023 in this listing.)*

1. What process kills disease causing organisms by heating milk to high temperatures?
  - a. Pasteurization
2. A sterile heifer born twin with a bull is called a what?
  - a. Freemartin
3. When you “churn” cream, what product does it turn into?
  - a. Butter
4. What is the name for the first milk produced by a cow immediately after she calves?
  - a. Colostrum
5. What state produces the most total milk in the United States?
  - a. California
6. How many chambers are found in a cow’s heart?
  - a. Four
7. Where on her body would you find a cow’s muzzle?
  - a. Head
8. In a feeding program, what do the letters TMR stand for?
  - a. Total Mixed Ration.
9. On what month and day must a heifer be born to be the oldest possible animal in the winter heifer calf class?
  - a. December 1
10. What is the enzyme needed by humans to digest milk sugar?
  - a. Lactase
11. During hot weather, does a cow’s feed intake **increase, decrease, or stay the same?**
  - a. Decrease.
12. In which season of the year are incidences of twins and retained placenta highest?
  - a. Summer

13. Breyer's and Ben and Jerry's are best known for which dairy product?
- Ice cream
14. The term gestation refers to the time when a cow is in what condition?
- Pregnant
15. How much does it cost to become a junior member of the AGA?
- \$20
16. What famous dairy magazine was first published in 1885?
- Hoard's Dairyman.*
17. Where in a cow would you find her streak canal?
- Teat
18. A mature cow produces between 50 and 80 quarts per day of which fluid that buffers the rumen?
- Saliva
19. What term refers to the highest point on a cow's lactation curve when she is giving the most pounds per day?
- Peak.
20. Milk letdown is stimulated by what hormone released from the posterior pituitary gland?
- Oxytocin
21. In what year was the American Guernsey Cattle Club formed?
- 1877
22. Who was crowned National Guernsey Queen at the 2022 AGA Convention in Ohio?
- Raegan Kime
23. If your cow was successfully bred on January 10, in which month should you expect her to calve?
- October
24. What is the best method to store colostrum for long-term use?
- Freezing

25. Most cheeses should be stored at what temperature?
- accept 35 to 45 degrees F
26. Some breeders prefer polled animals so that they do not have to perform what task on their calves?
- Dehorning
27. The dairy checkoff program collects how many cents per hundredweight of milk sold?
- Fifteen cents
28. What term describes excess fluid accumulation in the mammary gland just prior to calving?
- Edema.
29. Which part of an alfalfa plant has the highest digestibility?
- Leaves
30. Which compartment of the ruminant stomach is referred to as the “true stomach”?
- Abomasum
31. Low levels of effective fiber often lead to a reduction in which milk component?
- Butterfat
32. Which farm in Wisconsin supplied the Guernsey class for the 2023 Hoard’s Dairyman Judging Contest?
- Valley Gem Farm (Grewe)
33. Failure of passive transfer is a term often discussed when feeding what type of milk to calves?
- Colostrum
34. What technique abbreviated PCR can be useful in identifying disease pathogens?
- Polymerase chain reaction
35. IBR is a disease also commonly known by what colorful nickname?
- Red nose
36. What is the general term for the type of stress that occurs in the high temperatures and humidity of summer?
- Heat stress

37. What is the major male reproductive hormone produced in the testicle?
- Testosterone
38. The terms *heavy*, *sour*, and *light whipping* refer to which specific dairy product?
- Cream
39. Which month is National Grilled Cheese Month in the United States?
- April
40. What is the designation given to the second-place finisher in each class in the Guernsey All-American Contest?
- Reserve All-American
41. Which U.S. dairy cooperative has the most member farms?
- Dairy Farmers of America (DFA)
42. How many different parts does a NAAB sire code have?
- Three
43. What products of carbohydrate fermentation are used to provide energy to ruminants and are abbreviated VFA?
- Volatile Fatty Acids
44. What do the letters ME stand for when comparing younger cows to older cows for production?
- Mature Equivalent.
45. One serving of milk is equal to how many ounces?
- Eight.
46. In Guernsey sire evaluations, what do the letters PTI stand for?
- Production Type Index
47. What state is home to Knapps Guernseys and Rolling Prairie Guernseys?
- Iowa
48. What are animals called that are born without horn buttons or horns?
- Polled

49. During cold weather, do a calf's energy requirements **increase** or **decrease**?
- Increase
50. Generally speaking, when should cows infected with mastitis be milked in a herd's milking order?
- Last
51. If your Guernsey has a body condition score of 5, is she **very thin** or **very fat**?
- Very fat
52. The term **strutting** is sometimes used to describe what part of a cow's udder?
- Teats
53. What is the single biggest expense on almost all dairy farms when it comes to producing milk?
- Feed
54. Which fat-soluble vitamin is often called the "sunshine vitamin" since cows exposed to sunlight will readily make it on their own?
- Vitamin D
55. Of **fats, carbohydrates, or minerals**, which provides the most energy per pound?
- Fats
56. Is the saliva of a dairy cow **acidic** or **alkaline**?
- Alkaline
57. In feeding terminology, what does the acronym NDF stand for?
- Neutral Detergent Fiber.
58. Which Guernsey cow ranked first on the April 2023 Top 200 CPI Cows listing?
- GR-Kadence Sherlock Spiced Latte
59. What trait in Guernsey sire summaries is abbreviated PL and is a measure of longevity?
- Productive Life.
60. How many pairs of chromosomes does each Guernsey have?
- 30 pairs

61. In which ruminant stomach compartment are the B complex vitamins mainly produced?

a. Rumen.

62. What is the name of the Guernsey magazine published by Purebred Publishing?

*Guernsey Breeders' Journal*

63. Who is the Executive Secretary of the American Guernsey Association?

a. Robin Alden

64. IgG and IgA are important components of colostrum. What do the letters Ig stand for in IgG and IgA?

a. Immunoglobulin

65. What fluid is produced by the liver and stored in the gall bladder?

a. Bile

66. Hypothermia is most likely to occur in baby calves during which season of the year?

a. Winter.

67. Where is the site of fertilization in a dairy cow?

a. Oviduct

68. If your Guernsey cow scores 85 points, under what final classification score category does she fall?

a. Very Good

69. What hormone interferes with milk letdown?

**a.** Adrenaline or epinephrine.

70. Carbon dioxide and which other gas is the largest contributor to total greenhouse gas emissions from dairy operations?

a. Methane

71. What was the original name of the American Guernsey Association?

American Guernsey Cattle Club

72. What milking system component allows air to enter or exit the shell in an alternating manner?

a. Pulsator

73. A good estimation of a feed's crude protein is to take 6.25 and multiply it by the percentage of which chemical element found in the feed?

a. Nitrogen

74. Which vitamin keeps eye linings healthy and helps prevent night blindness?

a. Vitamin A

75. What Guernsey sire program is abbreviated GGS and provides Guernsey breeders with genomically-tested young sires?

a. Guernsey Gold Sires

76. What two letters are used by NAAB as the breed code to designate Guernsey semen?

a. GU

77. Hyperkeratosis is most often associated with which part of the cow?

a. Teats/ teat ends

78. What cow was named Grand Champion Guernsey at the 2022 World DairyExpo?

a. Valley Gem Atlas Malt—ET

79. What country is the world's largest dairy product exporter?

a. New Zealand

80. Who is the current United States Secretary of Agriculture?

a. Tom Vilsack

81. On the PDCA Unified Dairy Scorecard, how many points are assigned to Rear Feet and Legs?

a. 20

82. When discussing beta casein, if an A2A2 sire is mated to an A1A1 cow, what percent of the resulting offspring should be A2A2 for this trait?

a. Zero (none)

83. What linear type trait measures the relative height of the pins compared to the hooks and is abbreviated RA?

a. Rump angle

84. In the Guernsey Genetic Recovery program, what step abbreviated GT falls between Recorded Female and Provisional Register?

a. Guernsey Type

85. Generally speaking, a healthy cow will have how many rumen contractions per minute?
- a. 1-2
86. What list published in the *Guernsey Breeders' Journal* recognizes the top 100 Guernsey cows who rank highest for combined fat and protein pounds each year?
- a. Component Queens
87. What are the fingerlike projections called that line the rumen wall and assist with absorption?
- a. Papillae
88. What is the name of the condition when the rumen becomes very distended with excess gases?
- a. Bloat
89. What is the more common name for the cattle disease known as paratuberculosis?
- a. Johne's Disease
90. Milk can be checked for what hormone to determine pregnancy status?
- a. Progesterone
91. What is the name of the portion of a cow's back that lies between the chine and rump?
- a. Loin
92. What is another term for the time when a cow is in heat?
- a. Estrus
93. Stable, house, and horn are all types of what insect?
- a. Flies
94. What are the clusters of milk secreting cells called in the udder that are arranged into lobes and lobules?
- a. Alveoli.
95. You look at your DHI sheet and see that your RHA is 23,000 pounds of milk. What do the letters RHA stand for?
- a. Rolling Herd Average
96. What does the P stand for in the AGA program known as TPE?
- a. Performance (Total Performance Evaluation)



97. In the estrous cycle, what organ secretes prostaglandin?
- Uterus
98. What department of the U.S. government oversees the National Organic Program?
- USDA (Agriculture)
99. The Fuel Up to Play 60 program is a partnership between the dairy industry and what professional sports league?
- National Football League
100. Which organization assigns the stud code numbers to Guernsey sires used in AI service?
- National Association of Animal Breeders
101. What Ohio Guernsey farm exhibited the All-American Exhibitor's Herd in the 2022 Guernsey All-American Contest?
- Springhill
102. Bacteria that produce which acid are primarily responsible for silage preservation?
- Lactic acid
103. Who was the first Executive Secretary of the American Guernsey Cattle Club?
- William H. Caldwell
104. Which AGA committee is charged with making recommendations about the care and maintenance of the AGA's artwork and trophies?
- Antiquities Committee
105. The westernmost National Guernsey Show is held in which U.S. state?
- Washington
106. What is the recommended color when using the Real Seal?
- Red.
107. Where do mastitis pathogens most easily enter the udder?
- Through the teat/streak canal
108. How many quarts are in a gallon of milk?
- 4
109. It takes about 10 pounds of milk to make one pound of which dairy product?
- Cheese

110. Lactase and lipase are examples of enzymes that aid in facilitating what process in a cow?
- Digestion
111. What general term describes a feed additive that maintains an optimum rumen pH?
- Buffer
112. What general type of mastitis is characterized by hard quarters and abnormal milk which may have visible flakes or clots?
- Clinical mastitis
113. What prefix does the Hoard's Dairyman farm use to register its Guernseys?
- Dairyman
114. A sole ulcer would be found on what part of the cow?
- Hoof
115. What measurement of volume for pharmaceuticals is abbreviated cc?
- Cubic centimeters
116. What blister-like structure on the ovary contains the egg before ovulation?
- (Graafian) follicle
117. In genetic evaluations, what does the acronym SCS stand for?
- Somatic Cell Score
118. According to Hoard's Dairyman, what U.S. state had the most cows per herd in 2022?
- New Mexico
119. What disease, also known as "circling disease," can be caused by improper ensiling of feed?
- Listeriosis
120. Fair Life milk is produced through a process abbreviated UF. What do the letters UF stand for?
- Ultrafiltration
121. Which dairy product contains at least 80% fat and often is graded AA?
- Butter

122. The Schooner Pilot was the name of the boat captained by what man when he introduced Guernsey cows to America around 1840?

a. Belair

123. If a herd of milking cows is grouped by parity, what does this mean?

a. they are grouped by number of lactations

124. Name one of the two major products manufactured from Class IV milk under the Federal Milk Marketing Order system.

a. Butter or non-fat dry milk (dried milk product)

125. The American Guernsey Association and which other breed combined forces to hire a Records Coordinator to serve both breeds?

Ayrshire (Ayrshire Breeders' Association)

126. What component in fiber is indigestible, regardless of species?

a. Lignin

127. Upright, horizontal and bunker are major types of what forage storage structures?

a. Silos

128. Of **corn, alfalfa, or sorghum**, which one is a legume?

a. alfalfa

129. Which part of a cow's reproductive tract lies between the vulva and cervix?

a. Vagina

130. What rate is defined as the percentage of animals that die over a specific time period?

a. Mortality Rate

131. What type of organisms are often classified as gram positive or gram negative?

a. Bacteria

132. Which hormone is released by the pineal gland in response to longer day length?

a. Melatonin

133. What is the first portion of the small intestine called?

a. Duodenum

134. Foremost Dairy was established by what famous businessman who has a chain of department stores named after him?

a. J.C. Penney

135. In the current Guernsey PTI formula, when added together the PTA's for protein pounds and fat pounds account for what overall percentage of PTI?
- 50%
136. Grass tetany normally results from a deficiency of what mineral?
- Magnesium
137. Which Guernsey sire led the nation for number of daughters registered in 2022?
- Hi Guern View Levi Drone
138. Which greenhouse gas produced by ruminants is abbreviated CO<sub>2</sub>?
- Carbon dioxide
139. Which amino acid is often considered deficient in soybean products?
- Methionine
140. In a feeding program, what do the letters NFC stand for?
- Non-fiber carbohydrates
141. What hormone is abbreviated LH?
- Luteinizing hormone
142. In current U.S. sire summaries, the PTA values for milk and type average zero for cows born in what calendar year?
- 2015
143. The net income after operating expenses is often referred to as ROI. What do the letters ROI stand for?
- Return on Investment
144. What Illinois Guernsey breeder served as president of the AGA over the past year?
- Brian Dinderman
145. What structure connects muscle to muscle?
- Ligament
146. What milk bacteria measurement is abbreviated SPC?
- Standard Plate Count
147. Lactose consists of a unit of glucose combined with a unit of what other sugar?
- Galactose

148. What term refers to the area where cows wait to enter a milking parlor?

a. Holding area

149. What body parts are mainly affected by osteoporosis?

a. Bones/skeleton

150. When a cow's MUN levels are high, which nutrient category is likely being fed in excessive amounts?

a. Protein

151. What term beginning with the letter M refers to the process where energy is made available for use by cells?

a. Metabolism

152. What is the primary byproduct feed resulting from the production of ethanol?

a. Distiller's grains

153. When a Guernsey junior member has at least five different animals qualify for the Gold Star Breeder Award, he or she receives what additional award?

a. (Junior) Progressive Breeder

154. Which fat-soluble vitamin is an antioxidant and improves immunity by neutralizing free radicals created during metabolism when dairy cattle are under stress?

a. Vitamin E.

155. Beef and dairy producers can obtain what certification abbreviated BQA?

a. Beef Quality Assurance

156. What milk quality value includes leucocytes and epithelial cells and is abbreviated SCC?

a. somatic cell count

157. Which dairy cattle disease is abbreviated TB?

a. Tuberculosis

158. What milk processing procedure reduces the size of fat globules so that they stay suspended in milk?

a. Homogenization

159. In Guernsey sire summaries, what do the letters FLC stand for?

a. Foot and Leg Composite

160. What current member of the AGA Board of Directors served as president of Purebred Publishing over the past year?

a. Victoria Baker

161. Many production awards given by breed associations are based on production of ECM. What do the letters ECM stand for?

a. Energy Corrected Milk

162. What do the letters GMS stand for in relation to Guernsey cattle sales?

a. Guernsey Marketing Service

163. Admiral Byrd took several Guernsey cattle with him on a lengthy expedition to what very cold region in 1933 and then put them on display when the animals returned to the United States?

a. Antarctica

164. Clover and what other pasture forage are generally thought to produce the most acute cases of bloat?

a. Alfalfa

165. What type of breeding program maximizes hybrid vigor?

a. Crossbreeding

166. Which ovarian hormone is most responsible for maintaining pregnancy?

a. Progesterone

167. What Guernsey scholarship was funded by the sale of a bull and is open to any AGYA member who has shown in a national show over the past three years?

a. Turley Scholarship

168. Prints of three Guernsey paintings were auctioned off at the 2021 National Guernsey Convention to raise money for what main purpose?

a. To commission a new true-type Guernsey cow

169. What is the term for the condition that occurs when a person cannot digest milk sugar due to the lack of an enzyme and becomes bloated and nauseous?

a. Lactose Intolerance

170. Which hormone does the calf secrete from its adrenal glands to initiate calving?

a. Cortisol

171. In 1979, what cow became the first Guernsey to be named Supreme Champion at World Dairy Expo?

a. Cleverlands Darimost Chrystal

172. Release of FSH and LH is controlled by what hormone from the hypothalamus?

a. GnRH (Gonadotropin Releasing Hormone)

173. In DNA, which nitrogenous base pairs with cytosine?

a. Guanine

174. As of 2022, which Guernsey cow had 165 daughters registered, thus leading the U.S. for most total registered daughters?

a. Knapps Ace Tamera

175. According to *Hoard's Dairyman*, what U.S. state led the nation for most milk produced per cow in 2022?

a. Michigan

176. The American Guernsey Association and Zoetis work together to offer genetic testing. One of the four main genomic tests they offer is for which disease?

a. BVD (Bovine Viral Diarrhea)

177.. In 1982, the national headquarters for the American Guernsey Cattle Club moved from New Hampshire to which state?

a. Ohio

178. Which government agency is abbreviated EPA?

a. Environmental Protection Agency

179. Name one of the two most common on-farm tools used to estimate colostrum quality.

a. Brix refractometer or colostrometer

180. What organization that promotes udder health has the acronym NMC?

a. National Mastitis Council

181. On a milking system, what device prevents the vacuum level from rising to unacceptable levels?

a. Vacuum regulator or controller

182. On the PDCA Unified Dairy Cow Scorecard, which major category worth 15% includes the rump and loin?

a. Frame

183. The Babcock tests estimates the amount of which milk component?

a. Fat/butterfat

184. Old Mill E Snickerdoodle was Grand Champion of her breed show at World Dairy Expo six times. What was Snickerdoodle's breed?

a. Brown Swiss

185. What undesirable four carbon volatile fatty acid is produced during the fermentation of wet forages?

a. Butyric

186. The All-American Produce of Dam in the 2022 Guernsey All-American contest consisted of a pair of offspring from what famous Guernsey cow that was previously All-American herself?

a. Knapps Regis Tambourine—ET

187. What is the name of the trophy presented by AGA each year to the highest living lifetime milk producing cow?

a. Liebers Trophy

188. What is the name of the award sponsored by the American Guernsey Association honoring an individual or farm that has bred outstanding animals for many years and thereby has made a notable contribution to the advancement of the Guernsey breed?

a. Master Breeder