

2025 CALIFORNIA FFA DAIRY JUDGING QUESTIONS #1-200

(Sources 2023 & 2024 Hoard's End of the Year Quiz/2022 and 2023 National FFA Dairy Judging Questions)

- Rumen development in calves is stimulated by the production of what substances during feed digestion?
a. Carbohydrates b. Methane c. Papillae **d. Volatile fatty acids**
- Rations are formulated on a dry matter basis and then weighed and mixed on what basis?
a. **As-fed** b. Dry matter c. Parts per million d. Total mixed ration
- A total mixed ration should be mixed for about how long?
a. 10 to 15 minutes
b. 3 to 5 minutes
c. 30 seconds
d. Up to a half hour
- Beet pulp contains roughly what percent sugar on a dry matter basis?
a. **15%** b. 30% c. 55% d. 70%
- Homofermentative inoculants contain bacteria that mostly produce lactic acid. The bacteria in heterofermentative inoculants produce lactic acid plus what other substance?
a. Acetic Acid
b. Butyric Acid
c. Propionic Acid
d. Valeric Acid
- The second, 8-millimeter sieve of the Penn State Particle Separator reflects the effective fiber in a ration. What is the goal for the share of the ration that remains on this level?
a. Approximately 10%
b. Between 33% and 50%
c. Over 50%
d. Under 25%
- In regard to dairy cattle nutrition, what does MP stand for?
a. Magnesium production
b. Malleable pectin
c. Metabolic production
d. Metabolizable protein
- Dietary protein should be cut back if milk urea nitrogen (MUN) levels rise above how many milligrams per deciliter?
a. 10 **b. 14 to 16** c. 20 d. 3 to 5
- What is the most commonly fed source of magnesium?
a. Calcium magnesium carbonate
b. Calcium magnesium hydroxide
c. Magnesium oxide
d. Magnesium sulfate

10. Corn distillers grains result from what process being performed with corn?
a. Dry milling b. Fermentation c. Oil refining **d. Wet milling**
11. What is the recommended bunk space to provide per head for animals 4 to 8 months old?
a. 12 inches b. 3.2 inches **c. 5.9 inches** d. 9.7 inches
12. For most cows, a stall width of how many inches is sufficient?
a. 30 **b. 48** c. 60 d. 72
13. What factors influence the efficiency of a rotary parlor?
a. Length of milking
b. Number of stalls
c. Platform speed
d. All of the above
14. What is a common platform speed used in rotary parlors?
a. 1 minute per stall
b. 1 second per stall
c. 20 seconds per stall
d. 5 seconds per stall
15. What type of radio have some car manufacturers planned to remove from their new models?
a. **AM** b. FM c. Ham d. Satellite
16. What land grant university closed its dairy farm this year?
a. Louisiana State University
b. South Dakota State University
c. University of Wisconsin-Madison
d. Washington State University
17. Checking belts, cleaning dust, and lubricating fans can help them operate better. Poor maintenance can reduce motor efficiency by up to how much?
a. 10% b. 20% c. 30% **d. 40%**
18. Grouping first-lactation animals separate from older cows provides what benefits?
a. Less competition
b. Limited stress
c. Tailored management
d. All of the above
19. Sidewall curtains on calf barns should be completely open once the temperature reaches what level?
a. 65°F **b. 75°F** c. 83°F d. 90°F
20. What is the term for the ratio of the time milk is flowing to the total pulsation cycle?
a. Milk flow ratio
b. Milk to rest ratio
c. Pulsator ratio
d. Pump to pulse ratio

21. Dairy Margin Coverage (DMC) payments are calculated based on the margin between the All-Milk price and what?
- A farm's cost of production
 - Average corn silage cost
 - Average feed cost**
 - Class III price
22. Which state added the most new dairy cows in 2023?
- Michigan
 - South Dakota**
 - Texas
 - Wisconsin
23. Which dairy product uses the biggest share of the milkfat produced in the U.S.?
- Butter
 - Cheese**
 - Fluid milk
 - Ice cream
24. When was multiple component pricing first used by a federal milk marketing order?
- 1972
 - 1988**
 - 1999
 - 2011
25. Milk's value is determined based on end-product pricing. What class price would milk that is processed into sour cream receive?
- Class I
 - Class II**
 - Class III
 - Class IV
26. Which of the following would not fall under current assets on a balance sheet?
- Cash
 - Feed inventory
 - Land**
 - Savings account balance
27. What is the top butter-producing state in the country?
- California**
 - Idaho
 - Minnesota
 - New York
28. In business terms, what does LLC stand for?
- Limited liability company**
 - Limited loss corporation
 - Low lease conglomerate
 - Low liability contest
29. How many state and regional dairy checkoff organizations are in the U.S.?
- 12
 - 16**
 - 4
 - 8
30. What share of Americans deal with lactose sensitivity or intolerance?
- One-half
 - One-quarter
 - One-third**
 - Two-thirds
31. Most grasses should not be mowed lower than what stubble height?
- 2 inches
 - 4 inches**
 - 6 inches
 - 8 inches
32. What was the top state for dry alfalfa hay production in 2023?
- Idaho**
 - Iowa
 - Montana
 - New York
33. What type of soil works best for frost seeding?
- Loam or clay-based**
 - Peaty
 - Sandy or chalky
 - Silty

34. Compared to harvesting corn for grain, chopping corn for silage has what effect on removing nutrients from the soil?
- It depends on the growing season
 - Removes fewer nutrients
 - Removes more nutrients**
 - Removes the same amount of nutrients
35. Which of the following is a conservation strategy that can help soils sequester carbon?
- Cover crops
 - Diversified crop rotation
 - No-till
 - All of the above**
36. If a large group of small flies is observed on the shoulders and backs of cattle on pasture, what kind of fly pressure are you likely dealing with?
- Face flies
 - Horn flies**
 - House flies
 - Stable flies
37. What is an adequate pH for growing grass?
- 4.3
 - 6.2**
 - 7.9
 - 8.7
38. The goal for haymaking is to stop respiration before the first nightfall after cutting. At what moisture level does a plant stop burning sugar?
- 45%
 - 60%**
 - 70%
 - 90%
39. Alfalfa will not regrow if there are less than how many growing degree days between the last harvest and first hard frost?
- 200**
 - 275
 - 350
 - 400
40. What part of the alfalfa plant contains the most protein?
- Flower
 - Leaves**
 - Roots
 - Stem
41. What is a “lactating” cow, as defined by the Food and Drug Administration in its regulations for antibiotic usage?
- Any female currently giving milk (dry cows excluded)
 - Any female in the first 3 months of lactation
 - Any female over 20 months old**
 - Any female that has calved for the first time
42. Udder infections caused by what type of pathogen will respond to antibiotic treatment most often?
- Bacteria**
 - Fungi
 - Parasite
 - Virus
43. Approximately what share of a cow’s milk requires alveolar contraction to be let down?
- 100%
 - 20%
 - 50%
 - 80%**
44. What temperature should milk be when it is delivered to preweaned calves?
- 100°F to 105°F**
 - 40°F
 - 55°F to 60°F
 - 85°F

45. In a breech calving, which part of the calf is presented first?
- Front feet
 - Head
 - Rear legs
 - Rump and tail**
46. In relation to moving cows, what reference term is used to describe the shoulder?
- Blind spot
 - Flight zone
 - Point of balance**
 - Pressure point
47. To be considered high-quality, colostrum will have an IgG concentration of at least how many grams per liter?
- 15
 - 20
 - 50**
 - 70
48. The use of wood products like shavings for bedding is associated with the presence of what mastitis-causing pathogen?
- Klebsiella**
 - Mycoplasma
 - Prototheca
 - Strep. Uberis
49. At what temperature can lactating cows begin to experience cold stress?
- 10°F
 - 20°F
 - 32°F**
 - 45°F
50. An X-ray is also referred to as what?
- MRI
 - Neuroradiology
 - Radiograph**
 - Ultrasound
51. What milk quality measure will be high if milk cooling procedures are not carried out effectively?
- Lab pasteurized count
 - Preliminary incubation**
 - Somatic cell count
 - Standard plate count
52. Horn-producing cells attach to the frontal bone of an animal's skull at approximately what age?
- 1 week
 - 10 weeks
 - 3 months
 - 6 weeks**
53. Heifers have a functional rumen by what age?
- 1 year
 - 2 to 4 months
 - 2 to 4 weeks
 - 6 to 8 months**
54. When does mammary development begin?
- 2 months old
 - At puberty
 - In utero**
 - Near calving

55. Roughly what percentage of their body weight do cows lose at calving, regardless of parity, due to the expulsion of the calf, placenta, and fluids?
a. **11%** b. 20% c. 30% d. 4%
56. Approximately how much of an animal's height growth is achieved in the first 6 months of life?
a. **Half** b. One-quarter c. One-third d. Two-thirds
57. When is a calf's intestinal tract most permeable to absorb nutrients or other compounds?
a. At one month old
b. At one week old
c. **At or soon after birth**
d. At weaning
58. What effect does inflammation of the mammary gland acquired during the dry period have on a cow's colostrum?
a. Higher protein content
b. Higher volume
c. **Lower antibody levels**
d. Lower pathogen levels
59. Vitamin B3 is the B vitamin synthesized in the largest quantities by rumen microbes. What is another name for vitamin B3?
a. Folate **b. Niacin** c. Riboflavin d. Thiamine
60. What disease broke out in dairy cattle in Europe this year?
a. **Bluetongue**
b. Highly pathogenic avian influenza
c. Johne's
d. Tuberculosis
61. When a cow is close to calving, where does the trigger signal for delivery come from?
a. **The calf**
b. The corpus luteum
c. The cow
d. The placenta
62. What reproductive process does the hormone prostaglandin stimulate?
a. Involution **b. Luteolysis** c. Parturition d. Pregnancy
63. What genetic condition is abbreviated MW?
a. **Early onset muscle weakness**
b. Male wild type
c. Mulefoot
d. Weaver
64. Stage one of dairy cattle labor consists of elevated activity as the cervix dilates and the uterus begins contracting. It typically lasts how long?
a. 15 to 30 minutes **b. 2 to 3 hours** c. 5 hours d. 8 hours

65. What percentage of the 15.5 million units of dairy semen domestically purchased by dairy farmers in 2023 was sexed semen?
a. 22% **b. 54%** c. 73% d. 86%
66. Every dairy animal has about how many DNA base pairs?
a. 120 b. 3 billion **c. 6 billion** d. 60
67. At what temperature should semen be thawed?
a. 45°F to 48°F b. 55°F c. 75°F **d. 95°F to 98°F**
68. Blood pregnancy tests for dairy cattle measure pregnancy-associated glycoprotein (PAG) levels. What reproductive structure produces PAGs?
a. Cervix
b. Corpus luteum
c. Placenta
d. Uterus
69. In genetics, what does PTA stand for?
a. Posited transformation ability
b. Positive trait approval
c. Predicted transmitting ability
d. Predicted type aptitude
70. What occurs approximately 28 hours after the beginning of standing heat?
a. Fertilization
b. Ovulation
c. Uterine attachment
d. Uterine contraction
71. Which of the following is not a potential fat source for milk replacer?
a. Coconut oil
b. Lard
c. Tallow
d. Whey concentrate
72. What is the optimum range for milk urea nitrogen (MUN)?
a. 1 to 3 mg/dL
b. 15 to 18 mg/dL
c. 23 to 28 mg/dL
d. 8 to 12 mg/dL
73. Which of the following can contaminate feed and drain cows' energy?
a. Bacteria
b. Fungi
c. Mycotoxins
d. All of the above

74. Methionine is an example of a functional amino acid. This means that it serves what purpose in addition to being a building block for protein?
- Acts as an ionophore
 - Forms milkfat
 - Functions as a buffer
 - Regulates biological functions**
75. Water delivered to calves should be less than 80°F but above what temperature?
- 40°F
 - 50°F
 - 60°F**
 - 70°F
76. How often should feedbunks for the milking herd be cleaned out to remove refusals?
- Daily**
 - Every other week
 - Never
 - Once a week
77. Which of the following is not a benefit yeast can provide to the ration?
- Convert lactic acid
 - Improve fiber digestion
 - Stabilize rumen pH
 - Support microorganism development**
78. What is the term for when animals eat inanimate objects that aren't food?
- Bored
 - Deficient
 - Inactive
 - Pica**
79. During storage, what happens to a corn silage's processing score?
- Falls
 - Rises**
 - Rises then falls
 - Stays the same
80. When properly stored, silage inoculants often have a shelf life of at least how long?
- 12 months**
 - 3 months
 - 6 months
 - 9 months
81. Adrenaline limits milk letdown and is produced due to animal stress. How long can the inhibitory effects of adrenaline last?
- 10 to 15 minutes
 - 20 to 30 minutes**
 - 60 seconds
 - An hour
82. When predipping, how much of the teat barrel should be coated?
- Half
 - Just the teat end
 - One-third
 - Three-quarters**
83. Tube feeders deposit milk into which stomach compartment?
- Abomasum
 - Omasum
 - Reticulum
 - Rumen**
84. What structure controls a cow's response to daylight and day length?
- Cornea
 - Melatonin
 - Pineal gland**
 - Retina
85. How many times should a needle be used to administer treatments before it is disposed?
- As many as it can
 - Once**
 - Three times
 - Twice

86. What measure is the best gauge of an animal's core body temperature?
a. Monitor temperature-humidity index (THI)
b. Rectal temperature
c. Respiration rate
d. Skin temperature
87. What substance is administered orally and often used to treat ketosis?
a. Calcium b. Ceftiofur c. Meloxicam **d. Propylene glycol**
88. If a farm is using "blanket dry cow therapy," all cows are receiving what at dry-off?
a. A haircut **b. Antibiotics** c. Fungicide d. Scours vaccine
89. What term refers to the period of time after tactile stimulation is completed and before the milking unit is attached?
a. Drag period
b. Latency period
c. Let down time
d. Preparation lag time
90. Meloxicam is an example of what type of animal treatment?
a. Anesthesia
b. Antibiotic
c. Coccidiostat
d. Non-steroidal anti-inflammatory drug
91. Adenosine triphosphate (ATP) swab tests may be used to check what?
a. Cleaning protocols
b. Colostrum quality
c. Milk quality
d. Starch digestibility
92. Which region of the country has the largest average herd size?
a. Midwest b. Northeast c. Southeast **d. West**
93. In a compost-bedded pack barn, a farm should aim to keep the pack moisture below what level?
a. 20% b. 40% **c. 60%** d. 80%
94. Extended lock-up time in headlocks can be defined as more than how many hours per day?
a. 2 **b. 4** c. 5 d. 7
95. What is a dairy cow's desired daily lying time?
a. 11 to 13 hours
b. 15 or more hours
c. 3 to 6 hours
d. 8 to 10 hours

96. Every tractor should have a ROPS installed as a safety measure. What does ROPS stand for?
- Removable overhead protection structure
 - Retractable, operating program for safety
 - Rollover protection structure**
 - Runaway and over protection system
97. When choosing teat liners, it is important to consider the most common teat end shape in your herd. Which of the following is not a way that teat end shape might be classified?
- Flat
 - Pointed
 - Round
 - Sharp**
98. Which of the following is not a type of hay rake?
- Fine tip**
 - Rotary
 - Sidebar
 - Wheel
99. The most recent NAHMS data from 2014 indicates that hutches are used in approximately what share of calf housing facilities in the U.S.?
- 28%
 - 41%
 - 63%**
 - 82%
100. Which of the following is not a tool used to assist a down cow?
- Elevation table**
 - Flotation tank
 - Hip sling
 - Rolling the cow from side to side every few hours
101. High-moisture shelled corn should have a moisture content above what level?
- 15%
 - 19%
 - 24%
 - 28%**
102. Compared to alfalfa and clovers, grass usually has how much internal ash, such as calcium and potassium?
- Less**
 - Much more
 - Slightly more
 - The same
103. Which of the following was not one of the top five corn silage-producing states in 2022?
- California
 - Illinois**
 - Iowa
 - Wisconsin
104. Composting manure can reduce the amount of material that needs to be land applied by up to how much?
- 10%
 - 20%
 - 30%
 - 40%**
105. To maximize regrowth efficiency, how much of the plant should be left after dairy animals graze a pasture and move to a new one?
- 25%
 - 33%
 - 50%**
 - 75%
106. In regard to corn development, what does GDD stand for?
- Ground degree depth
 - Growing degree days**
 - Growth and development during drought
 - Growth development density

107. What is the fertilizer form of potassium called?
a. Bicarbonate b. Phosphate **c. Potash** d. Potassium
108. Late-season yellowing of the lower leaves in corn plants is often a normal sign of what type of deficiency?
a. **Nitrogen** b. Phosphorus c. Potassium d. Sulfur
109. Which of the following is not an acceptable dry matter content for corn to be chopped for silage?
a. **26%** b. 33% c. 35% d. 38%
110. What manure gas destroys the sense of smell when it reaches dangerously high concentrations?
a. Ammonia
b. Carbon dioxide
c. Hydrogen sulfide
d. Methane
111. In what year did sales of dairy semen peak in the U.S. at 24 million doses?
a. 1998 b. 2007 c. 2012 **d. 2015**
112. What process occurs after insemination to modify the sperm plasma membrane and is necessary for fertilization?
a. **Capacitation** b. Deposition c. Dilution d. Spermatogenesis
113. In December 2022, the national cooperator database managed by the Council on Dairy Cattle Breeding reached how many recorded genotypes?
a. 1 billion b. 3 million c. 5 million **d. 7 million**
114. Sexed semen should be thawed at what temperature for at least 45 seconds?
a. 100°F b. 102°F to 105°F c. 89°F **d. 95°F to 98°F**
115. The interval from the onset of standing estrus to ovulation is approximately how long?
a. 12 hours b. 24 hours **c. 28 hours** d. 36 hours
116. What allele in Holsteins causes a short hair coat and, subsequently, lower body temperatures?
a. COOL3 b. HEAT2 c. SHORT **d. SLICK1**
117. Most pregnancy losses occur before what day of gestation?
a. Day 21 b. Day 35 **c. Day 42** d. Day 7
118. A bull's semen fertility, as measured by sire conception rate, typically follows what trend as the bull gets older?
a. Declines
b. Declines for a few years then stagnates
c. Improves
d. Stagnates
119. The Jersey breed originated on the Isle of Jersey, which sits off the coast of what nation?
a. **France** b. Ireland c. Netherlands d. Spain

120. It was recently announced that the first calf gene-edited to be resistant to what destructive cattle virus was born in 2021?
- Bovine viral diarrhea**
 - Johne's
 - Mad cow
 - Tuberculosis
121. What state is home to the most organic dairy farms?
- New York**
 - Oregon
 - Tennessee
 - Wisconsin
122. Roughly what share of the U.S. milk supply was exported in 2022?
- 12%
 - 18%**
 - 24%
 - 28%
123. When comparing milk production to population, which state produces the most milk per person?
- California
 - Idaho**
 - New Mexico
 - Pennsylvania
124. Milk produced by U.S. dairy cows set a new record for average butterfat content last year at what level?
- 3.79%
 - 3.96%
 - 4.08%**
 - 4.19%
125. When was the Dairy Margin Coverage (DMC) program first created?
- 2013 Farm Bill
 - 2018 Farm Bill**
 - CARES Act of 2020
 - Inflation Reduction Act of 2022
126. What share of U.S. cheese was produced in Wisconsin in 2022?
- 16%
 - 25%**
 - 33%
 - 8%
127. Which Canadian province is home to the most dairy farms?
- Alberta
 - Manitoba
 - Ontario
 - Quebec**
128. What dairy cooperative marketed the most milk in 2022?
- California Dairies Inc.
 - Dairy Farmers of America**
 - Edge Dairy Farmer Cooperative
 - Land O'Lakes
129. What was the most-produced cheese in the U.S. in 2022?
- American
 - Cheddar
 - Mozzarella**
 - Swiss
130. What share of the world's milk comes from cows?
- 81%**
 - 86%
 - 92%
 - 97%
131. Preliminary incubation (PI) count identifies what type of bacteria in milk?
- Cold-tolerant**
 - Coliforms
 - Gut bacteria
 - Heat-tolerant

132. Milk fatty acids that are synthesized in the udder are referred to as what?
a. **De novo** b. Preformed c. Saturated d. Unsaturated
133. When a cow has a left displaced abomasum (DA), the abomasum has slid under what other organ?
a. Heart b. Lungs c. Omasum **d. Rumen**
134. What hormone mobilizes calcium from the bone?
a. Cortisol
b. Growth hormone
c. Oxytocin
d. Parathyroid hormone
135. About half of the cost of a case of clinical mastitis is related to what?
a. Additional labor
b. Discarded milk
c. Milk culturing
d. Treatment
136. What carcass quality concern is more prevalent in dairy-beef animals than conventional beef animals?
a. Fattiness
b. Liver abscesses
c. Poor marbling
d. Toughness
137. Roughly how long should a wrap stay on a hairy heel wart?
a. 1 week **b. 24 hours** c. 3 days d. 48 hours
138. Which of the following is not an environmental mastitis pathogen?
a. E. coli
b. Klebsiella
c. Prototheca
d. Staph. Aureus
139. The highest incidence of subclinical ketosis often occurs within the first how many days postpartum?
a. 21 b. 30 c. 60 **d. 7**
140. Why might you ultrasound a calf's lungs?
a. To detect hardware disease
b. To detect pneumonia
c. To discover cause of death
d. To monitor growth
141. The leading environmental issues facing farmers are contamination of ground and surface waters by which two nutrients?
a. Nitrogen (N) and Potassium (K)
b. Potassium (K) and Phosphorus (P)
c. Nitrogen (N) and Chlorine (Cl)
d. Nitrogen (N) and Phosphorus (P)

142. Which measure on a feed analysis report is used as a predictor of feed intake
a. **NDF** b. Dry Matter c. Protein d. TDN
143. Which of the following factors influence the amount of water dairy cattle consume?
a. Body size
b. Water quality
c. Milk production
d. All of the above
144. Which solutions are commonly used as teat tips on dairy farms?
a. Hydrogen peroxide
b. Chlorhexidine
c. Iodine
d. All of the above
145. According to the PDCA Cow Unified Scorecard, which of the following is NOT a category on the scorecard?
a. Body Capacity 10 pts
b. Udder 40 pts
c. Feet and Legs 20 pts
d. Dairy Strength 25 points
146. One of your recently fresh cows is ill. She has been receiving a high grain, low roughage diet. The consistency of the small amount of manure she produces is "putty-like." Your veterinarian detects a "pinging" sound when using his stethoscope. What is the most likely diagnosis?
a. Left Displaced Abomasum
b. Milk Fever
c. Ketosis
d. Rumen Acidosis
147. Dr. Gustaf de Laval was credited with inventing what important piece of equipment?
a. Centrifugal cream separator
b. Calf hutch
c. Semen Tank
d. Rotary milking parlor
148. Which of the following is a part of the teat that milk passes through?
a. Streak canal b. Cervix c. Pituitary d. Oxytocin
149. An example of a Class IV use for milk would be to make
a. Hard cheese b. Ice cream c. Chocolate Milk **d. Butter**
150. One effective method to prevent milk fever in dry cow rations is to supplement with anionic salts. What type of electrical charge does an anion have?
a. Positive b. Neutral **c. Negative** d. They do not have a charge

151. What is one challenge to successfully applying anionic salts to dry cow diets?
- Poor palatability**
 - Add too much energy to the diet
 - Results in the cow calving early
 - Decreases milk production
152. The ruminant stomach is comprised of 80% of this first compartment.
- Reticulum
 - Omasum
 - Rumen**
 - Abomasum
153. Which dairy breed produces milk with the highest fat and protein content?
- Ayrshire
 - Brown Swiss
 - Jersey**
 - Holstein
154. What is the name of the organization that resulted from the collaboration among industry partners, breed associations, AI companies, DHIA testing organizations and the dairy records processing centers?
- World Dairy Expo
 - Animal Improvement Programs Laboratory
 - Dairy Business Association
 - Council on Dairy Cattle Breeding**
155. The local veterinarian has invited you to do a herd visit with him to determine why calves are experiencing illness. You are asked to observe the calves housed outside in individual calf hutches. Calves appear to be lethargic and dehydrated. You notice calves have watery stools that are brown, grey, or yellow in color. Calves are weak and depressed. Upon reviewing birth information, the most seriously affected calves average 2-4 days of age. The bedding appears wet and dirty in both the calf hutches and the maternity pen. The most likely cause for this condition is which of the following:
- Too much milk being fed
 - E.coli bacteria causing scours**
 - Antibiotic residues
 - Too much protein in the milk replacer
156. The dehydrated calves in #155 should be supplemented with which of the following:
- Fat
 - Protein
 - Electrolytes**
 - None of the above
157. One way to help prevent the incidence of the sick calves in #155 is to:
- Group calves together
 - Provide clean, dry, well-bedded calving pens and calf hutches**
 - Let the calf nurse on the cow immediately after calving
 - Feed more milk
158. Which of the following is NOT considered a micromineral?
- Phosphorus**
 - Cobalt
 - Zinc
 - Iodine
159. The record of an animal's ancestry that provides genetic and performance information on an animal and its ancestors is commonly referred to as a?
- Family tree
 - Registration Paper
 - Breeding Chart
 - Pedigree**

160. What hormone can interfere with milk letdown when a cow becomes frightened or upset?
- Prolactin
 - Progesterone
 - Adrenaline (epinephrine)**
 - Oxytocin
161. In 2023, FFA Dairy will maintain an average SCC of 125,000 cells/ml in all 1st lactation cows. In this SMART goal, 125,000 cells/ml SCC, represents which part of the acronym?
- Specific
 - Measurable**
 - Attainable
 - Realistic
162. You call your local veterinarian to evaluate the reproductive status of your dairy cows. He uses an ultrasound machine to help determine what?
- Pregnancy
 - Sex of the embryo
 - Monitor cystic ovaries
 - All of the above**
163. If the MUN level is considered high, which nutrient is likely to be in excess?
- Carbohydrates
 - Vitamins
 - Minerals
 - Protein**
164. Recently, your cows have been experiencing less production, lower butterfat, and sick cows that never seem to recover. What could be the cause of these symptoms?
- Ketosis
 - Milk Fever
 - Johne's
 - Rumen Acidosis**
165. This vitamin is derived from carotenoids found in plants and serves a wide range of functions for the animal.
- Vitamin D
 - Vitamin C
 - Vitamin B12
 - Vitamin A**
166. Corn silage harvest was recently completed. Your nutritionist arrived to take a forage sample for analysis to determine a new ration formulation. You received the test report back. One number in particular that you are interested in knowing is the ADF value. What does ADF stand for?
- Area Dairy Forage
 - Active Digestible Fiber
 - Acid Detergent Fiber**
 - Available Digestible Forage
167. What does ADF measure in feed?
- Dry matter
 - How much cellulose, hemicellulose, and lignin are in the feed
 - How much water is in the feed
 - How much cellulose, lignin, and lignified nitrogen components are in the feed**
168. Ideally, how much ADF should make up a high-producing cow's ration?
- 18-21%**
 - <10%
 - 30-40%
 - >50%
169. What is the target for body condition score at calving and dry-off?
- 2.75
 - 3.0-3.25**
 - 4.0-4.25
 - 2.5

170. What is the most likely limiting nutritional requirement for a high-producing dairy cow?
a. Water b. Vitamins c. Minerals **d. Energy**
171. Volatile fatty acids are the main products of carbohydrate digestion by rumen microorganisms. Which of the following are volatile fatty acids produced in the rumen?
a. Acetate and Propionic acid
b. Butyric and Hydrochloric Acid
c. Methionine and Acetate
d. Butyric Acid and Phosphorus
172. In early summer, you select the heifers you want to show. As you examine the animals, you notice signs on the face, neck and ears of what you believe to be a contagious disease caused by a fungus leading to an infection outside of the immune system of the heifers. This disease that invades the hair follicles and the outer layer of skin is commonly known as:
a. Shipping Fever
b. Ringworm
c. Black Leg
d. Pinkeye
173. The age of cattle most susceptible to the disease in #172 is?
a. 1st lactation cows
b. Mature Bulls
c. Mature Cows
d. Young animals (calves and heifers)
174. Raw milk produced on the farm has which of the following milk quality tests performed at the milk plant?
a. Sediment test
b. Antibiotic test
c. Preliminary incubation (PI) count
d. All of the above
175. FFA Dairy recently began making cheese on the farm. In order to get the milk to curdle, what coagulant made from an enzyme found in the inner lining of a calf's stomach is added to the milk?
a. Coccidiosis
b. Rennet (Rennin)
c. IBR
d. Lactose
176. The purpose of this program is to show customers that the dairy industry is taking the very best care of cows and the environment, producing safe and wholesome milk, and adhering to the highest standards of workforce development. The name of the program is:
a. National Dairy FARM Program
b. Farm Bill Program
c. Dairy Margin Coverage Program
d. Precision Dairy Farming

177. Through what process is carbon dioxide taken from the atmosphere and fixed as carbohydrates in plant material?
- Respiration
 - Transpiration
 - Photosynthesis**
 - Photoperiod
178. Factors affecting a dairy herd's conception rate include which of the following?
- All of the following**
 - Heat detection accuracy
 - Semen (bull) fertility
 - Herd (cow) fertility
179. Budgets, balance sheets and cash flow projections are valuable and essential management tools, but they do not tell the manager if the business is profitable. What is the only tool of farm business analysis that measures profitability?
- Bank Statement
 - Equity Statement
 - Income Statement**
 - Schedule F
180. During a recent visit with your A.I. salesman, you are discussing the new bull proofs with her and want her help in selecting the best bulls to use on your heifers to improve PL. What does the acronym PL stand for?
- Production Lifetime
 - Productive Life**
 - Predicted Lifetime
 - Predicted Longevity
181. Consequences of inbreeding in dairy cattle are:_____.
- Decreased milk production
 - Decreased reproductive performance
 - Increased calf mortality
 - All of the above**
182. What are the two most common minerals used in footbaths on dairy farms that are actively involved in the formation of hard keratin in hooves?
- Copper and Zinc**
 - Copper and Biotin
 - Zinc and Iodine
 - Zinc and Calcium
183. Stephen Babcock was responsible for developing the Babcock Test in 1890 to detect what in milk?
- SCC
 - Protein
 - White blood cells
 - Milk fat content**

184. The USDA recently announced their Climate-Smart Agriculture and Forestry Partnership Initiative to fund \$1 billion in climate-smart practices from the CCC. What does CCC stand for?
- Climate Clean Corporation
 - Climate Central Committee
 - Climate Commodity Corporation
 - Commodity Credit Corporation**
185. What is a factor that influences the amount of water consumed by dairy cattle?
- Calving ease
 - Udder cleft
 - Water temperature**
 - Estrus
186. Your milk hauler has just completed picking up milk from your farm and the bulk tank is now empty. How often should the bulk tank be cleaned and disinfected?
- Every day
 - Every time it is emptied**
 - Twice a day
 - After every milking
187. Which of the following factors can cause variation in conception rates on a dairy farm?
- Heat Detection
 - Cow health
 - Semen handling
 - All are factors that cause variation in conception rates**
188. One of the common steps of preparing a cow to milk is forestripping because it helps to release oxytocin and aids in the detection of what type of mastitis?
- All forms of mastitis
 - Clinical**
 - Sub-clinical
 - Mycoplasma
189. It is your job on the farm to mix the milk replacer to feed the calves. Temperature is a critical component of mixing it properly. How should you check to make sure it has been mixed at the proper temperature?
- Feel
 - Brix-Refractometer
 - Colostrometer
 - Thermometer**
190. The National Animal Health Monitoring System surveyed dairy farmers to determine what the most common criteria used for weaning a calf was. The results found which of the following criteria to be most common?
- Weight
 - Height
 - Age**
 - Outside Temperature
191. 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?
- Photoperiod
 - Respiration
 - Estrus zone
 - Thermoneutral zone**
 - None of the above

192. A DHIA milk production record may be terminated if what has happened to the cow?
- Sold at the sale barn as a cull cow
 - Aborted
 - Died
 - All of the above are correct**
193. After reviewing your recent breeding history for the past month, you contact your nutritionist because you have identified the need to improve conception rates in your herd. She suggests you add what to your rations to improve conception rates because of larger ovarian follicles capable of producing more estrogen, larger corpus luteum and a decrease in embryonic loss?
- Fats**
 - Carbohydrates
 - Vitamins
 - Minerals
194. If the heat detection rate is 40% and the conception rate is 20%, what is the pregnancy rate?
- 15%
 - 20%
 - 60%
 - 8%**
195. In U.S. dairy herds the number 1 reason for culling dairy cows is?
- Low milk production
 - Lameness
 - Mastitis
 - Reproductive failure**
196. Which compartment of the ruminant stomach main function is the dehydration of partially digested feed?
- Reticulum
 - Omasum**
 - Rumen
 - Abomasum
197. Which of the following dairy breeds originated from a British Channel Island?
- Ayrshire
 - Brown Swiss
 - Guernsey**
 - Holstein
198. Gestation length in dairy cattle can vary due to which of the following factors?
- Breed of the cow
 - Season of the year
 - Number of calves carried
 - All of the following**
199. During a dairy farm visit with your FFA advisor, the dairy farmer asks you what might be wrong with his pre-weaned calves. He provides the following information for you from calves experiencing problems: black feces that looks like engine oil, loose stools, and a few calves have died as a result. Based on these symptoms and signs, you suspect which issue to be causing the problem?
- Abomasal ulcers**
 - Ketosis
 - Displaced abomasum
 - Feed Refusal
200. BioPRYN blood test used to determine what in dairy cattle?
- Pregnancy**
 - Nitrate toxicity
 - Mastitis
 - Dystocia