

1. Subcutaneous injections are given:
 - a. in the muscle
 - b. orally
 - c. in the ear
 - d. under the skin

2. The breed of cattle that was developed on the King Ranch in Texas and consists of $\frac{3}{8}$ Brahman and $\frac{5}{8}$ Shorthorn is called:
 - a. Limousin
 - b. Shorthorn
 - c. Santa Gertrudis
 - d. Brangus

3. A breed of cattle that originated in Scotland, that has a smooth hair coat, black in color, polled, and is one of the most popular breeds in the United States today:
 - a. Red Angus
 - b. Angus
 - c. Polled Hereford
 - d. Devon

4. Smallest part of a ruminant's stomach
 - a. rumen
 - b. omasum
 - c. reticulum
 - d. abomasum

5. Swine are in a class of animals which consume both plants and meat, known as:
 - a. Omnivores
 - b. Herbavores
 - c. Ruminants
 - d. Carnivores

6. The critical stage of production in livestock when giving birth to their livestock is:
 - a. gestation
 - b. parturition
 - c. pregnancy
 - d. palpation

7. The expected yield of a hog with a USDA quality grade of No. 1 is:
 - a. 52 to 54.4%
 - b. 54.4 to 57.3%
 - c. 57.4 to 60.3%
 - d. 60.4% or greater

8. The most important whole-sale cut of lamb is:
 - a. shoulder
 - b. foreshank
 - c. leg
 - d. rib

9. The secretion and production of milk in sheep, cattle, and swine is known as:
 - a. lactation
 - b. ovulation
 - c. anestrous
 - d. fertilization

10. The breed of swine which is white in color with erect ears and used extensively in commercial operations for the maternal characteristics is the:
 - a. Landrace
 - b. Chester White
 - c. Yorkshire
 - d. Berkshire

11. The first milk production after giving birth is known as:
 - a. lactose
 - b. colostrum
 - c. buttermilk
 - d. skim milk

12. The age of the beef animal and the amount of marbling in the carcass affect the _____ of the carcass:
- a. yield grade
 - b. dressing percentage
 - c. hot carcass weight
 - d. quality grade
13. The breeds of cattle with origin in Europe such as Charolais, Simmental, Limousin are usually referred to as:
- a. Maternal breeds
 - b. British breeds
 - c. Commercial breeds
 - d. Continental breeds
14. A disorder characterized by gas distention in the rumen, seen on the animal's left side is commonly referred to as:
- a. brucellosis
 - b. woody tongue
 - c. bloat
 - d. ketosis
15. A cattle producer that produces breeding stock including bulls and females for cow-calf operations is commonly called a:
- a. feedyard manager
 - b. commercial cattle man
 - c. seedstock/purebred breeder
 - d. stocker operator
16. The record of the ancestors of a particular animal is recorded in its:
- a. performance record
 - b. pedigree
 - c. phenotype
 - d. genetic map
17. The amount of fat cover on a market lamb is referred to as:
- a. carcass merit
 - b. fleshing
 - c. quality
 - d. finish
18. Feed that is provided to young lambs as an extra ration and is fed in an area that mature ewes cannot access is called a:
- a. lactation ration
 - b. finishing ration
 - c. creep feed
 - d. maintenance feed
19. The most prevalent fine-wool breed of sheep in the United States is the:
- a. Rambouillet
 - b. Leicester
 - c. Columbia
 - d. Hampshire
20. The most important factor in formulating a ration of livestock is:
- a. feed cost
 - b. size of the animal
 - c. total digestive nutrients
 - d. availability of food
21. The gestation time for sheep is:
- a. 114 Days
 - b. 148 Days
 - c. 283 Days
 - d. 336 Days

22. Administrating an medicinal agent to livestock that requires placement directly into the bloodstream is a(n) _____ injection:
- a. subcutaneous
 - b. intramuscular
 - c. intravenous
 - d. intrarumen
23. An objectionable inherited defect in swine known as a whorl is actually a(n):
- a. hair disturbance
 - b. extra dewclaw
 - c. inverted teat
 - d. defective color
24. Heifers most commonly reach puberty at the age of:
- a. 3-4 Months
 - b. 6-8 Months
 - c. 10-14 Months
 - d. 24 Months
25. Estrus in cattle usually occurs every:
- a. 12 Days
 - b. 21 Days
 - c. 30 Days
 - d. 60 Days
26. EPD stands for:
- a. Expected Product Differential
 - b. Express Package Delivery
 - c. Extra Production Difference
 - d. Expected Progeny Difference
27. A market where cattle are sold by public bidding with the animals going to the highest bidder is known as a(n):
- a. contract market
 - b. electronic market
 - c. auction market
 - d. internet market
28. In swine, a male that has been castrated before reaching sexual maturity is called a:
- a. wether
 - b. stag
 - c. boar
 - d. barrow
29. The presence and distribution of fat in a cut of meat is described as:
- a. marbling
 - b. yield
 - c. condition
 - d. finish
30. Cattle that are generally between six months and one year old are sold to people who fatten them for market are commonly referred to as:
- a. veal cattle
 - b. feeder cattle
 - c. slaughter cattle
 - d. packer cattle
31. Cattle can generally lose from one to five percent of their weight when transported. The loss of weight that occurs when cattle are moved to market is referred to as:
- a. fillback
 - b. sale weight
 - c. shipping weight
 - d. shrinkage

32. The class of sheep that are evaluated more on the quality of their fleece than other sheep are known as:
- a. long wool breeds
 - b. medium wool breeds
 - c. mutton breeds
 - d. fine wool breeds
33. One common characteristic between Hampshire, Yorkshire, and Berkshire swine is:
- a. color
 - b. maternal qualities
 - c. erect ears
 - d. terminal qualities
34. A swine disease causing degeneration of the turbinate bones in the snout and the twisting of the snout is:
- a. erysipelas
 - b. pseudorabies
 - c. parvovirus
 - d. rhinitis
35. A system that is used for trading contracts for future delivery of cattle is known as:
- a. auction market
 - b. futures market
 - c. order buying
 - d. internet auction
36. In 1985, a one dollar per head check off for every head of beef sold in the United States was established as a result of the passage of the:
- a. packers and stockyard act
 - b. beef quality assurance act
 - c. beef promotion and research act
 - d. livestock marketing tax
37. The process of placing sperm in the female reproductive tract by some other means than natural mating is known as:
- a. embryo transfer
 - b. estrous synchronization
 - c. pregnancy testing
 - d. artificial insemination
38. The process of preparing calves for the stress of being moved into the feed lot is called:
- a. preconditioning
 - b. finishing
 - c. stockering
 - d. stretching
39. Cattle generate more dollars than any other agricultural enterprise. Cattle account for approximately _____ percent of all commodity receipts in the United States.
- a. 22
 - b. 38
 - c. 50
 - d. 65
40. A cow that swallows a nail, the object could be held in the
- a. rumen
 - b. reticulum
 - c. omasum
 - d. abomasum

51. Refers to the lack of roughness in finish or bone structure in beef cattle:
a. Condition
b. Smoothness
c. Breed Character
d. Type
52. Which of the following swine health problems is caused by a nutritional deficiency?
a. anemia
b. pseudorabies
c. influenza
d. erysipelas
53. What is the basic energy feed used in hog rations?
a. soybean meal
b. alfalfa meal
c. oats
d. corn
54. The gestation time for swine is:
a. 148 days
b. 333 days
c. 114 days
d. 104 days
55. When evaluating swine performance data, litter weights are adjusted to a standard of how many days?
a. 15 days
b. 21 days
c. 28 days
d. 12 days
56. The most common swine identification system is:
a. ear tags
b. ear notching
c. tattooing
d. freeze branding
57. The mating of animals of different family lines within the same breed is:
a. out crossing
b. inbreeding
c. line breeding
d. crossbreeding
58. Which major swine breed originated in England, with the major development of the breed occurring in Kentucky? Originally known as the thin rind.
a. duroc
b. chester white
c. Hampshire
d. Poland China
59. Abortion early in the gestation period is a common symptom of:
a. edema
b. erysipelas
c. brucellosis
d. SMEDI
60. One common characteristic between Yorkshire, Landrace, and Chester Whites is:
a. maternal qualities
b. terminal qualities
c. ear shaped
d. color
61. Which state produces the most hogs?
a. Texas
b. Iowa
c. Illinois
d. Oklahoma

62. The jowl on a swine is located in the:
a. Ham area
b. Loin area
c. Flank area
d. Throat area
63. Feed additives in Swine rations that control internal parasites are:
a. anthelminites
b. antibiotics
c. vitamins
d. amino acids
64. The testes produce sperm cells and the male sex hormone:
a. progesterone
b. estrogen
c. testosterone
d. infundibulum
65. The age at which an animal reaches sexual maturity is:
a. puberty
b. adolescence
c. heterosis
d. parturition
66. The process of taking food nutrients through the intestinal wall is:
a. mastication
b. absorption
c. assimilation
d. regurgitation
67. The reflex and response that an animal has at birth is:
a. conditioning
b. intelligence
c. instinct
d. reasoning
68. The normal body temperature of sheep and swine is:
a. 98.6 °F
b. 100 °F
c. below 97 °F
d. above 102 °F
69. Sheep and Cattle both have multiple stomachs referred to as a(n):
a. ruminant
b. intestine
c. colon
d. omasum
70. The amount of fat cover on a market steer is referred to as:
a. finish
b. fleshing
c. marbling
d. carcass merit
71. When animals band together in a herd or flock, the behavior is known as:
a. investigate
b. agonistic
c. allelomimetic
d. gregarious
72. Which state produces the most beef cattle?
a. Kentucky
b. Texas
c. Nebraska
d. California

83. The first milk produced by a ewe after giving birth is known as:
a. buttermilk
b. lactose
c. colostrum
d. lecithin
84. The only sheep native to North America
a. bighorn
b. fine-wool
c. medium-wool
d. fur-sheep
85. Wheat bran and animal fat are feed concentrates that are classified as:
a. grains
b. plant proteins
c. processing by-products
d. animal proteins
86. Which protein concentrate is limited to use by ruminants?
a. molasses
b. soybean meal
c. meat scraps
d. urea
87. The physical appearance of an animal is known as:
a. genotype
b. pedigree
c. performance
d. phenotype
88. Most of the problem with food-born illnesses are a result of
a. parasitic
b. chemical
c. viral
d. bacterial
89. Administering a medical agent to livestock that requires placement into the skin is a(n) _____ injection.
a. intradermal
b. intravenous
c. intramuscular
d. intramammary
90. Disease caused by an organism that mainly affects the lungs:
a. brucellosis
b. erysipelas
c. tuberculosis
d. leptospirosis
91. Diseases caused by a virus or bacteria are classed as:
a. nutritional
b. physiological
c. morphological
d. pathogenic
92. A nutritional problem characterized by a swollen abdomen on the left side, labored breathing, profuse salivation, groaning, lack of appetite, and stiffness.
a. bloat
b. founder
c. colic
d. anemia
93. Helminths are of major economic importance to the livestock industry in regard to the management of:
a. external parasites
b. internal parasites
c. viruses
d. disease

94. The most popular breed of medium wool breed of sheep in the United States is the:
a. Suffolk
b. Southdown
c. Shropshire
d. Hampshire
95. More than 1/2 of all the crossbred sheep in the U.S. carry some percentage of the particular breed.
a. Dorset
b. Rambouillet
c. Columbia
d. Merrino
96. The record of the ancestors of a particular animal is recorded in its:
a. performance record
b. pedigree
c. phenotype
d. genetic map
97. Breeds of cattle that are used for both milk and meat production are considered to be:
a. maternal breeds
b. terminal breeds
c. dual-purpose breeds
d. continental breeds
98. Animals that through selection and breeding have come to resemble one another and pass those traits uniformly to their offspring are defined as:
a. a breed
b. progeny
c. a hybrid
d. genetics
99. What is an animal resulting from the mating of two different breeds?
a. purebred
b. crossbred
c. inbred
d. feral
100. Which common breed of swine was imported to the U.S. from Denmark?
a. Landrace
b. Chester White
c. Hampshire
d. Yorkshire
101. The majority of composite breeds of cattle in the U.S. use what breed as a foundation?
a. Charolais
b. Simmental
c. Angus
d. Brahm
102. Modern domestic cattle evolved from what single early ancestor?
a. Aurochs
b. Bos Taurus
c. Bos indicus
d. Brahm
103. Foot rot is a _____ disease.
a. bacterial
b. nutritional
c. viral
d. fungal

104. Known as the “blind gut”-
a. rumen
b. secum
c. lipase
d. small intestine
105. Feedstuffs such as hay and silage are classified as:
a. proteins
b. concentrates
c. roughages
d. vegetative
106. Amino acids are the building blocks of:
a. fats
b. sugars
c. starches
d. protein
107. The ability to initiate, sustain, and support reproduction.
a. breeding
b. parturition
c. gestation
d. fertility
108. How well an animal likes or accepts a feed is referred to as the:
a. digestibility
b. palatability
c. balance
d. composition
109. What is the most important nutrient in a swine ration?
a. soybean
b. water
c. corn
d. milk
110. The total protein contained in a feed is _____ protein.
a. crude
b. non-digestible
c. digestible
d. plant
111. Which of the following elements is not a component of a carbohydrate?
a. Carbon
b. Nitrogen
c. Hydrogen
d. Oxygen
112. Which of the following feeds is highest in total digestible nutrients (TDN)?
a. soybean meal
b. sudangrass
c. silage
d. coastal Bermuda
113. Feed additives used to prevent disease and promote growth are:
a. antibiotics
b. anthelmintics
c. hormones
d. antioxidants
114. Carbohydrates make up approximately _____ percent of a ration:
a. 50%
b. 90%
c. 25%
d. 75%
115. The removal of the testicles from a male animal is:
a. vaccination
b. dehorning
c. insemination
d. castration

116. The degree to which crossbreed offspring out performs its purebred parents is:
a. hybrid vigor
b. ration condition
c. high performance
d. phenotype
117. The average gestation time for cattle is:
a. 383 Days
b. 283 Days
c. 248 Days
d. 350 Days
118. Which of the following traits is considered undesirable when judging market lambs:
a. harder handling
b. early maturing
c. heavier muscled
d. longer hind-saddle
119. The gestation time for swine is:
a. 141 Days
b. 121 Days
c. 114 Days
d. 104 Days
120. When evaluating swine performance data litter weights are adjusted to a standard of how many days:
a. 14 Days
b. 21 Days
c. 28 Days
d. 12 Days
121. External fat on a lamb carcass is measured between which two ribs:
a. 11 & 12
b. 9 & 10
c. 13 & 14
d. 12 & 13
122. The tube that carries air to an animal's lungs:
a. trachea
b. turbinate
c. esophagus
d. epidermal
123. A 130 pound wether will have a carcass weight of
a. 65
b. 80
c. 95
d. 100
124. The leg and the loin of a lamb are the primary wholesale meat cuts that come from the:
a. rib
b. fore-saddle
c. hind-saddle
d. rack
125. Traces of marbling within the carcass would best indicate what quality grade?
a. standard
b. cutter
c. prime
d. choice

126. Morphological defects in livestock are caused by:
a. genetics
b. pathogens
c. mutations
d. accidents
127. Enterotoxemia is a _____ disease:
a. bacterial
b. viral
c. nutritional
d. fungal
128. This breed originated in Southern England and was used in the formation of most medium wool breeds:
a. Suffolk
b. Southdown
c. Cotswold
d. Merino
129. The most common form of identification used in the swine industry is:
a. tattooing
b. ear notching
c. ear tagging
d. freeze branding
130. What is the basic protein source used in most livestock rations:
a. soybean meal
b. corn
c. fishmeal
d. chromium
131. The average dressing percentage of swine:
a. 80%
b. 70%
c. 60%
d. 45%
132. Feed additives in swine rations that control internal parasites are:
a. antibiotics
b. amino acids
c. anthelmintics
d. vitamins
133. This breed of swine has an exceptionally high lean-to-fat ratio:
a. Chester White
b. Pietrain
c. Duroc
d. Hampshire
134. The primary use of nutrients in a ration for livestock is for:
a. reproduction
b. growth
c. maintenance
d. fat
135. A major change in the swine industry has been the rapid growth of:
a. farrow-to-finish
b. vertical integration
c. grade and yield
d. feeder pig production
136. Most of the breeds of hogs raised in the United States were developed in:
a. United States
b. England
c. Denmark
d. Ireland

147. Abundant marbling within a carcass should indicate a quality grade of:
a. standard
b. select
c. prime
d. cutter
148. The average length of estrus in the sow is:
a. three days
b. 16 to 18 hours
c. 21 days
d. 30 hours
149. The following specific term refers to shearing around the udder, between the legs, and around the dock of sheep:
a. shearing
b. clipping
c. blocking
d. tagging
150. Ideally, desirable market lambs weigh between:
a. 70 to 90 pounds
b. 120 to 135 pounds
c. 90 to 110 pounds
d. 140 to 160 pounds
151. Generally in market animals the leaner the animal is, the:
a. lower the numerical yield grade
b. higher the numerical yield grade
c. higher the quality grade
d. yield and quality are equal
152. This breed of swine originated from the eastern United States and is known for its growth rate and feed conversion efficiency.
a. Hampshire
b. Duroc
c. Chester white
d. Yorkshire
153. Breed of cattle originating from Switzerland and known for being docile having rapid growth and thick musculing.
a. Simmental
b. Hereford
c. Shorthorn
d. Brahman
154. The normal body temperature of cattle is:
a. 101.5 degrees F
b. 98.5 degrees F
c. above 102 degrees F
d. 103.5 degrees F
155. This disease is a chronic infection of cattle that causes a thickening of the wall of the intestine:
a. Johne's disease
b. Lumpy jaw
c. Foot and mouth disease
d. BVD
156. The highest quality grade for steers and heifers.
a. choice
b. select
c. prime
d. commercial

168. What is the first step in balancing a ration for cattle, sheep, or swine?
- choose the feeds to be used in the ration
 - consult a table of nutrient requirements
 - identify the age, weight, and function of the animal being fed
 - calculate the amounts of each feed to use in the ration
169. What breed of beef cattle is the leader in total number registered since 1970 in the U.S.?
- Charolais
 - Limousin
 - Hereford
 - Angus
170. Which of the following breeds has the highest standard birth weights used in performance testing programs?
- Hereford
 - Angus
 - Shorthorn
 - Charolais
171. When judging a market class of beef cattle, the term referring to the natural fleshing of the animal is:
- type
 - muscling
 - finish
 - balance
172. Feeding programs for beef cow-calf herds are based on the use of:
- roughages
 - concentrates
 - grains
 - protein
173. Yearlings are feeder calves between one and two years old, usually weighing about:
- 100-250 pounds
 - 240-400 pounds
 - 400-550 pounds
 - 550-700 pounds
174. What type of identification is commonly used especially with large herds and required by law in most western states?
- tattooing
 - neck chains
 - branding
 - ear tags
175. At one time _____ was one of the most serious of all hog diseases. Now it is said to be eradicated:
- Cholera
 - Pneumonia
 - Edema
 - Swine Flu
176. Which of these states produce the most swine?
- Georgia
 - Kentucky
 - North Carolina
 - South Carolina

197. Which is **NOT** correct about livestock classified as mammals?
a. Warm blooded
b. Diaphragm between chest & abdominal cavities
c. Three chambered heart
d. mammary glands
198. Number of animals that can be grazed in a pasture is referred to:
a. herd
b. carrying capacity
c. feedlot number
d. field amount
199. Which of the states listed has the highest total of cash receipts from livestock?
a. California
b. Wisconsin
c. Colorado
d. Alabama
200. Breed of swine developed in Pennsylvania:
a. Duroc
b. Hampshire
c. Yorkshire
d. Chester White
201. Vertebrae bones are classified as:
a. long
b. irregular
c. flat
d. short
202. The bones in the front legs of an animal make up the:
a. Axial Skeleton
b. Pectoral Limbs
c. Vertebral column
d. Pelvic limbs
203. Air is down into the respiratory system through the:
a. trachea
b. pharynx
c. bronchioles
d. nostrils
204. The kidneys and bladder are major components of the:
a. urinary system
b. lymphatic system
c. nervous system
d. endocrine system
205. The digestive system in swine begins with the:
a. stomach
b. esophagus
c. small intestine
d. mouth
206. In cattle and sheep the rumen and reticulum make up what percent of the stomach?
a. 85
b. 66
c. 50
d. 25
207. Which division of the ruminant stomach is the true stomach?
a. rumen
b. reticulum
c. omasum
d. abomasum

208. The key to absorption is the small finger like projections on the walls of the small intestine called:
- a. hairs
 - b. cecum
 - c. duodenum
 - d. villi
209. Feed nutrients made of sugars and starches are:
- a. complex carbohydrates
 - b. simple carbohydrates
 - c. amino acids
 - d. vitamins
210. Which amino acid is classified as essential for swine?
- a. lysine
 - b. alanine
 - c. tyrosine
 - d. proline
211. Which feed nutrients have the highest energy value?
- a. carbohydrates
 - b. fats
 - c. proteins
 - d. minerals
212. Which vitamin will dissolve in water:
- a. Vitamin A
 - b. Vitamin C
 - c. Vitamin E
 - d. Vitamin K
213. A deficiency of what mineral in baby pig rations will cause anemia:
- a. Iodine
 - b. Calcium
 - c. Iron
 - d. Zinc
214. Which of the following minerals is classified as a trace mineral:
- a. Potassium
 - b. Calcium
 - c. Salt
 - d. Phosphorus
215. Which feed nutrient is the most important on a daily basis for livestock:
- a. Proteins
 - b. Energy Nutrients
 - c. Water
 - d. Vitamins
216. When trying to control worm infestation in livestock, which feed additive would be incorporated into the ration:
- a. Anthelmintics
 - b. Antimicrobials
 - c. Antibiotics
 - d. Hormones
217. The length of time an implant is effective is related to:
- a. Age of the animal
 - b. Strength of the implant
 - c. Size of the animal
 - d. Proper technique in applying
218. Livestock feeds that contain more than 18% crude fiber when dry are called:
- a. Roughages
 - b. Concentrates
 - c. Palatable
 - d. Legumes

219. Protein supplements are livestock feeds containing what percent protein:
a. 6-8
b. 10-12
c. 16-18
d. 20 or more
220. A ration that tastes good to the animal which promotes consumption is said to be:
a. Balanced
b. Palatable
c. Concentrated
d. Nutritional
221. The average length of estrus in cattle is:
a. 16-18 hours
b. 24-36 hours
c. 3 days
d. 5 days
222. The length of gestation for swine is:
a. 98 Days
b. 114 Days
c. 148 Days
d. 283 Days
223. The process of giving birth to a new animal is:
a. Gestation
b. Parturition
c. Fertilization
d. Ovulation
224. The first successful cloning of livestock was done in 1996 with:
a. Sheep
b. Swine
c. Cattle
d. Goats
225. The mating of animals of different families within the same breed is:
a. Inbreeding
b. Crossbreeding
c. Grading Up
d. Out-crossing
226. What is the most common disqualification in rules for registering livestock in an association?
a. Weight
b. size
c. Color Markings
d. Eyes
227. When judging market class steers, what term is used to describe the amount of fat cover on the animal:
a. Condition
b. Finish
c. Carcass merit
d. Quality
228. Which judging term refers to the general structure and proportion of the animal's body:
a. size
b. muscling
c. Type
d. balance

239. Which trait for beef cattle has the highest heritability estimate?
a. confirmation score at weaning b. birth weight
c. rib eye area d. fat thickness
240. Which trait in swine has the lowest heritability estimate?
a. age at puberty b. loin muscle area
c. percent ham d. birth weight
241. Genotype refers to the:
a. combination of genes b. placing of genes
c. number of genes d. splicing of genes
242. When chromosomes pairs are divided in such a manner that each gamete has one type of chromosome, the process is called:
a. meiosis b. mitosis
c. sequencing d. cell division
243. The characteristics of an animal that are inheritable are passed from one generation to the next by:
a. sperm cells b. egg cells
c. diploids d. genes
244. Sperm cells are produced in the:
a. epididymis b. testicles
c. scrotum d. vas deferens
245. The average gestation length for sheep is:
a. 114 days b. 148 days
c. 220 days d. 283 days
246. The length of estrus cycle for sheep is:
a. 16 days b. 21 days
c. 28 days d. 35 days
247. The diploid number (pair of chromosomes) for sheep is:
a. 27 b. 36
c. 19 d. 12
248. Breed of beef cattle that combines Hereford, Shorthorn, and Brahman genetics is known as:
a. Braford b. Brangus
c. Beef master d. Barzona

249. The first successful cloning of a vertebrate organism from mature body cells occurred in 1996 with which species?
- a. cow
 - b. pig
 - c. sheep
 - d. goat
250. Which is not a potential benefit of genetic engineering in livestock production?
- a. developing disease resistant animals
 - b. developing new species of livestock
 - c. specifying the sex of an animal before conception
 - d. developing new drugs and vaccines
251. The process of including cows to produce several oocytes during each estrus cycle is:
- a. super ovulation
 - b. embryo transfer
 - c. artificial insemination
 - d. bio-breeding
252. Porcine somatotropin (pST) is a protein produced in which gland of the pig?
- a. lymph
 - b. pituitary
 - c. reproductive
 - d. endocrine
253. Mating animals of the same breed is called:
- a. line breeding
 - b. crossbreeding
 - c. inbreeding
 - d. straight breeding
254. The mating of two animals that can be traced back to one common ancestor is:
- a. close breeding
 - b. line breeding
 - c. out crossing
 - d. grading up
255. What is a common disqualification in rules for registering animals in a breed association?
- a. weight
 - b. size
 - c. color markings
 - d. eyes
256. The majority of beef cow herd operations of how many cows?
- a. 1-49 head
 - b. 50-99 head
 - c. 100-499 head
 - d. over 500 head
257. Which factor does not affect the demand for beef?
- a. the number of head
 - b. availability of imported beef
 - c. income per person
 - d. meat preferences
258. What is a disadvantage of raising beef?
- a. high death losses
 - b. demand for beef
 - c. beef nutrition requirement for roughages
 - d. time required to develop a cattle herd

259. Which of the listed regions of the United States produces the most beef cattle?
a. Pacific
b. Cornbelt
c. North Plains
d. Southeast
260. How many breeds of beef cattle are available to producers in the United States?
a. 12
b. 20
c. 33
d. 50+
261. The Simmental breed of beef cattle which dates back to the Middle Ages, originated in which country?
a. France
b. Australia
c. Switzerland
d. Germany
262. Which breed of cattle was the first to be imported to the United States?
a. Shorthorn
b. Hereford
c. Angus
d. Charolais
263. Which breed of cattle is classified as a Box indicus type?
a. Pinzgauer
b. Simmental
c. Galloway
d. Brahman
264. Approximately what percent of cash income from livestock and crops come from beef in the United States?
a. 7%
b. 18%
c. 22%
d. 31%
265. Which breed of cattle was in existence in Italy before the time of the Roman Empire?
a. Devon
b. Chianina
c. Beef master
d. Brahman
266. In 1927, the United States Congress appropriated money for which breed of cattle that were almost extinct?
a. Polled Hereford
b. Red Angus
c. Santa Gertrudis
d. Texas Longhorn
267. The Beef Promotion and Research Act of 1985 established a check-off amount for every head of beef sold in the United States of:
a. \$.50
b. \$ 1.00
c. \$ 2.00
d. \$ 5.00

268. The method of marketing where cattle are sold by public bidding to the highest bidder is:
- a. public stockyards
 - b. contract sales
 - c. auction markets
 - d. terminal markets
269. Shrinkage of cattle as they are moved to market is **NOT** affected by:
- a. market price
 - b. weather
 - c. sex of the animal
 - d. length of the fill-back period
270. The country of origin labeling became mandatory in what year?
- a. 1942
 - b. 1986
 - c. 1999
 - d. 2004
271. A beef carcass with slightly abundant marbling with a maturity level A will be what grade?
- a. Prime
 - b. Choice
 - c. Select
 - d. Cutter
272. Which beef cattle yield grade indicates the highest yield of lean meat?
- a. Yield Grade 4
 - b. Yield Grade 5
 - c. Yield Grade 3
 - d. Yield Grade 1
273. Which of the following states produces the most swine?
- a. Missouri
 - b. Minnesota
 - c. North Carolina
 - d. Oklahoma
274. A 200lb market hog would drink approximately _____ gallons of water a day:
- a. 2.5
 - b. 7.5
 - c. 5.0
 - d. 10.0
275. Which breed of swine was developed in the United States?
- a. Berkshire
 - b. Poland China
 - c. Yorkshire
 - d. Pietrain
276. Approximately what percent of the market hogs sold in the United States are priced on the basis of carcass merit?
- a. 25%
 - b. 45%
 - c. 70%
 - d. 90%
277. A futures contract for marketing hogs is based on units. One trading unit equals:
- a. 10,000 pounds
 - b. 20,000 pounds
 - c. 30,000 pounds
 - d. 40,000 pounds
278. The traditionally recommended weight for marketing slaughter hogs has been:
- a. 150-180 pounds
 - b. 180-200 pounds
 - c. 200-220 pounds
 - d. 230-260 pounds

279. Which states produces the most sheep and lambs?
a. California
b. Wyoming
c. Oklahoma
d. Ohio
280. The majority of Sheep operations produce:
a. less than 100 head
b. 100 to 499 head
c. 500 to 1000 head
d. more than 1000 head
281. Which breed of sheep is classified as a fine wool breed?
a. Hampshire
b. Rambouillet
c. Southdown
d. Corriedale
282. Lambs under three months of age weighing less than 60 pounds sold in specialty markets between Christmas and Easter are called:
a. Hothouse lambs
b. Spring lambs
c. Veal lambs
d. Holiday lambs
283. Lambs prices average higher during which period of the year?
a. June through August
b. September through November
c. December through February
d. March through May
284. The thickness of fat over the rib eye determines the yield grade for all slaughter sheep. A slaughter sheep with 0.26 to 0.35 inches of fat will grade:
a. Yield Grade 2
b. Yield Grade 3
c. Yield Grade 4
d. Yield Grade 1
285. What organ in the animal's body produces bile?
a. Gall Bladder
b. Pancreas
c. cecum
d. liver
286. Which nutrients have the highest energy value?
a. proteins
b. calcium
c. copper
d. fats
287. Which major mineral is often lacking in animal rations is:
a. selenium
b. calcium
c. copper
d. iodine
288. Which trait in beef cattle has the highest heritability estimate?
a. rib eye area
b. birth weight
c. carcass grade
d. dressing percent

310. Which of the following beef breeds would have the lowest standard birth weight?
a. Limousin
b. Simmental
c. Charolais
d. Angus
311. What is the period of time when a female will accept the male for breeding?
a. gestation
b. Estrus
c. Conception
d. ovulation
312. The sudden death of heavily muscled hogs is referred to as:
a. Avian Tuberculosis
b. Atrophic Rhinitis
c. Porcine Stress Syndrome
d. Eperythrozoonosis
313. The leading state for sheep production is;
a. Wyoming
b. Texas
c. Montana
d. Illinois
314. The American Merino breed of sheep is classified as a:
a. fine wool breed
b. fur sheep breed
c. long wool breed
d. carpet wool breed
315. Which breed of sheep was developed in France?
a. Debouillet
b. Southdown
c. Rambouillet
d. Delaine Merino
316. Ideally calving season for a cow-calf producer should last:
a. approx. 60 days
b. approx. 110 days
c. approx. 90 days
d. approx. 140 days
317. Which is **NOT** a function of the skeletal system?
a. strength
b. mineral storage
c. blood storage
d. protection
318. Hormones are organic catalysts that influence the growth and development of the body is produced in the:
a. lymphatic system
b. urinary system
c. endocrine system
d. digestive system
319. In what part of the respiratory system are the passages from the nostrils and the mouth joined?
a. pharynx
b. trachea
c. bronchi
d. alveoli

320. Breed of swine known for its brownish-red color:
a. Duroc
b. Hampshire
c. Yorkshire
d. Poland China
321. The release of the egg from the ovary is called:
a. fertilization
b. ovulation
c. parturition
d. reproduction
322. Which region of the United States produces the most beef cattle?
a. Pacific
b. Cornbelt
c. Southwest
d. Lake States
323. The Chianina breed of beef cattle which is one of the oldest originated in which country?
a. France
b. Australia
c. Italy
d. Egypt
324. Which breed of cattle is classified as a *Bos Indicus* type?
a. Pinzgauer
b. Simmental
c. Galloway
d. Brahman
325. What is the standard number of days that beef cattle weaning weights are adjusted to?
a. 180
b. 205
c. 225
d. 260
326. Adapting the behavior of animals to fit the need of humans is called:
a. training
b. domestication
c. breeding
d. culling
327. Which species of livestock does **NOT** belong to the family Bovidae?
a. sheep
b. cattle
c. swine
d. goats
328. Average beef consumption in the United States ranges from _____ pounds per person per year:
a. 25-35
b. 40-50
c. 60-70
d. 85-95
329. According to the USDA, the greatest expense in the production of livestock is:
a. contract and hired labor
b. livestock purchased
c. fuel and electricity
d. feed purchase

330. Which of the following states is in the top ten of the production of beef cattle, sheep, and swine?
a. Texas
b. Nebraska
c. California
d. Iowa
331. Joints in the skeleton of animals that allow free movement and have fluid filled cavity are called:
a. Fibrous Joints
b. diarthroses joints
c. Amphithroses joints
d. cartilaginous joints
332. Swine breed known for its belted coloration:
a. Berkshire
b. Yorkshire
c. Land Race
d. Hampshire
333. A burdizzo is a tool used in;
a. castration
b. feet trimming
c. worming
d. dehorning
334. The ventricles and the atria are part of which system in the animal's body?
a. Circulatory
b. respiratory
c. muscle
d. digestive
335. Progesterone and estrogen are both hormones produced in which gland?
a. testes
b. adrenal
c. pancreas
d. ovary
336. In the ruminant digestive system, where is hydrochloric acid produced?
a. rumen
b. omasum
c. reticulum
d. abomasum
337. Which amino acid is essential in swine rations?
a. Cytosine
b. lysine
c. glycine
d. proline
338. Which fat soluble vitamin is associated with good bone development?
a. vitamin A
b. vitamin D
c. vitamin E
d. vitamin K
339. Which vitamin do animals tend to produce enough of so that it does not need to be included as a specific nutrient in their rations?
a. vitamin A
b. vitamin C
c. vitamin D
d. vitamin E
340. The diseases present in the animal's body at levels too low to produce visible effects are:
a. sub therapeutic
b. chemobiotics

- c. probiosis
d. subclinical
341. Feed additives used to control worms and other internal parasites are:
a. coccidiostats
b. anthelmintics
c. probiotics
d. antimicrobials
342. _____ is a synthetic hormone feed additive that suppresses estrus.
a. monesin
b. melengestrol acetate
c. bovetec
d. estrogen
343. Which agency regulates the use of feed additives in the United States?
a. United States Department of Agriculture (USDA)
b. Federal Register (FR)
c. Food and Drug Administration (FDA)
d. Animal Health and Production Division (AHPD)
344. Breed of swine that is black with six white points:
a. Duroc
b. Berkshire
c. Land Race
d. Yorkshire
345. Which is NOT a consideration for the use of feed additives?
a. increased nutrient content
b. improved feed efficiency
c. promote faster gains
d. improved animal health
346. _____ was one of the exotic breeds of cattle from Europe introduced into the United States in the 1960s and the 1970s.
a. red angus
b. Murray grey
c. chianina
d. Santa gertrudis
347. Which breed of cattle is the most popular in Europe?
a. Angus
b. Maine Anjou
c. Simmental
d. shorthorn
348. Which breed of cattle was originally developed as a draft or work animal?
a. Maine Anjou
b. Galloway
c. Brahman
d. hays converter
349. Which breed of cattle is believed to have descended from *Bos longifrons*, a small type of aboriginal cattle in Britain?
a. pinzgauer
b. gelbvieh
c. shorthorn
d. Devon
350. Which breed is classified as a “dual-purpose” breed (milk and meat)?
a. highland
b. south Devon
c. romagnola
d. limousin

351. Frame score is a measurement based on observation and height measurement when calves are evaluated at _____ days of age.
- a. 125
 - b. 205
 - c. 285
 - d. 305
352. _____ is a measure of the degree of difference between the offspring of a specific bull and the offspring of the average bull of the breed and the trait being measured.
- a. MPV
 - b. SPF
 - c. OSB
 - d. EPD
353. The carcass merit of cattle is expressed by yield grade. Which yield grade is assigned when a carcass yields from 50.1 % - 52.3%?
- a. yield grade 1
 - b. yield grade 2
 - c. yield grade 3
 - d. yield grade 4
354. Which of the following terms should only be used when talking reasons for breeding cattle and not for market classes?
- a. muscling
 - b. balance
 - c. condition
 - d. finish
355. A chronic degenerative disease that affects the central nervous system of cattle (also called “mad cow disease”):
- a. bovine spongiform encephalopathy
 - b. bovine respiratory syncytial virus
 - c. infectious bovine rhinotracheitis
 - d. keratoconjunctivitis
356. Brisket disease affects the _____ in cattle?
- a. heart
 - b. brain
 - c. lungs
 - d. stomach
357. Which breed of swine has an average litter size ratio of 100 when compared to other breeds?
- a. Berkshire
 - b. Duroc
 - c. Hampshire
 - d. Yorkshire
358. Breed of beef cattle that originated on the King’s Ranch in Texas:
- a. Angus
 - b. Hereford
 - c. Brahman
 - d. Santa Gertrudus
359. Which disease affects the turbinate bones in swine?
- a. Actinobacillus
 - b. Eperythrozoonosis
 - c. Atrophic Rhinitis
 - d. Leptospirosis

360. Known as the “true stomach” of a Ruminant:
a. Rumen
b. Reticulum
c. Abomasum
d. Omasum
361. Known as the White Faced breed of cattle:
a. Hereford
b. Angus
c. Galloway
d. Devon
362. A chemical element or compound that aids in the support of life:
a. nutrient
b. acid
c. bile
d. carbohydrates
363. The dry weight of most roughage in grains contains _____ % carbohydrates.
a. 20–25%
b. 40-50%
c. 60-80%
d. 90-100%
364. Organic compounds made up of amino acids:
a. sugars
b. starches
c. proteins
d. carbohydrates
365. If an animal takes in more protein than it needs it will pass it on through
a. feces
b. gas
c. urine
d. gas and feces
366. Feed additives became common around
a. 1950
b. 1970
c. 1990
d. 2000
367. Livestock feeds which contain less than 18% Crude fiber
a. roughage
b. grass
c. nodule
d. concentrate
368. Plants which take nitrogen from the air
a. roughage
b. legume
c. nodule
d. grass
369. Fats stored within the muscle
a. marbling
b. loxin
c. concentrate
d. vitamin
370. What is an un-born animal still in mothers’ womb?
a. loxin
b. uterus
c. fetus
d. feces

371. Amount or difference of traits passed from parents to young
a. genetics
b. heredity
c. traits
d. phenotype
372. The father of genetics
a. Wilson
b. Smith
c. Mendel
d. Fendler
373. Mating of the male and female
a. fertilization
b. copulation
c. partuaction
d. sex
374. Outer most part of the female reproductive tract
a. Cervix
b. Vagina
c. Vulva
d. Uterus
375. Place where the fetus grows
a. stomach
b. uterus
c. cervix
d. vulva
376. Best indication of estrus in swine
a. grunting
b. mounted by others
c. nervousness
d. squealing
377. Best indication of estrus in cattle
a. urinating
b. mounting by others
c. mooing
d. restlessness
378. Release of the egg from the ovary
a. fertilization
b. ovulation
c. copulation
d. estrus
379. Common growth implant used in beef cattle:
a. Loxin
b. Ralgro
c. Anthelmintics
d. Minerals
380. A PH of _____ is considered to be very acidic:
a. 7
b. 6.5
c. 6.3
d. 4.8
381. Approximately ___% of US beef is imported.
a. 1%
b. 10%
c. 20%
d. 30%

382. The US is developed into _____ cattle growing regions.
a. 4
b. 6
c. 8
d. 10
383. _____ is the cattle breed originating in Italy.
a. Devon
b. Chianinia
c. Hereford
d. Angus
384. Developed from the four yellow breeds:
a. Devon
b. Galloway
c. Limousins
d. Gelbvieh
385. Probably the first breed of cattle on North America:
a. Herefords
b. Texas Longhorns
c. Angus
d. Chianinia
386. Frame scores range from:
a. 0-7
b. 1-7
c. 0-9
d. 1-9
387. Body condition scores range from:
a. 0-7
b. 1-7
c. 0-9
d. 1-9
388. Henry Clay of Kentucky was first to import this beef breed:
a. Hereford
b. Angus
c. Brahman
d. Devon
389. Beef breed that originated in Scotland:
a. Hereford
b. Polled Hereford
c. Galloway
d. Brahman
390. Vitamins most commonly feed to cattle include all but _____.
a. A
b. D
c. C
d. E
391. Poland China hogs originated in:
a. Europe
b. Ohio
c. Russia
d. France
392. One precaution in allowing too much intake of legumes is:
a. overeating
b. bloat
c. blackleg
d. gas

393. Grass tenancy is common when cattle are deficient of:
a. oxygen
b. calcium
c. magnesium
d. iron
394. Derived from the bos indicus type of cattle:
a. Brahman
b. Shorthorn
c. Angus
d. Hereford
395. Duroc hogs have originated in the:
a. Virgin Isles
b. Bahamas
c. US
d. Florida Panhandle
396. Litter numbers are put in the pigs:
a. right ear
b. left ear
c. both ears
d. lips
397. Respiration rate of swine:
a. 8-13
b. 20-28
c. 35-45
d. 50-60
398. Pork pieces are usually higher in:
a. spring
b. summer
c. fall
d. winter
399. The growing and feeding of calves from weening to feedlot:
a. Backgrounding
b. Pre-Conditioning
c. Marketing
d. Pasturing
400. Processing a feed through a hammer mill:
a. Grinding
b. Rolling
c. Pelletting
d. Fermenting
401. Protein supplements contain what percent protein:
a. 15%
b. 18%
c. 20%
d. 30%
402. Fee charge for the use of stockyard facilities:
a. Consignment
b. Yardage
c. Terminal Charge
d. Broker's Fee
403. Which is **NOT** a USDA quality grade?
a. Choice
b. Prime
c. Good
d. Select

426. Normal respiration rate of beef cattle:
a. 10-30
b. 40-50
c. 60-70
d. greater than 70
427. The state that leads in cattle production:
a. California
b. Texas
c. Indiana
d. Iowa
428. Diets for beef cattle consist mainly of:
a. corn
b. wheat
c. roughages
d. concentrates
429. Exotic breeds of cattle include all these except:
a. Hereford
b. Maine-Anjou
c. Limousin
d. Simmental
430. First exotic breed to be brought into the U.S.:
a. Charolais
b. Maine-Anjou
c. Pinzgauer
d. Brahman
431. Polled Herefords originated in what state?
a. Alabama
b. Iowa
c. Kansas
d. Georgia
432. Herefords originated in:
a. France
b. England
c. U.S.
d. Germany
433. Simmental cattle originated in:
a. France
b. England
c. Switzerland
d. Germany
434. The Barzona breed was developed in:
a. France
b. Kentucky
c. Arizona
d. Florida
435. Beef cattle have multiple stomachs the largest one is the:
a. omasum
b. reticulum
c. rumen
d. abomasum
436. Beef master cattle are derived from crossing Brahman, Shorthorn, and:
a. Angus
b. Shorthorn
c. Salers
d. Hereford

437. Muscling in slaughter steers is best observed from what view?
a. front
b. front at 45 degree angle
c. side
d. rear
438. Difficult birth is known as:
a. lactation
b. parturition
c. dystocia
d. insemination
439. The ideal age for a heifer to calve is:
a. 20 months
b. 24 months
c. 28 months
d. 36 months
440. Highest possible quality grade:
a. choice
b. select
c. good
d. prime
441. The “best” yield grade is:
a. 1
b. 2
c. 3
d. 4
442. Blackleg is a disease caused by bacteria caused by the absence of:
a. sun
b. light
c. moisture
d. oxygen
443. Enteritis is also called or referred to as:
a. blackleg
b. scours
c. dystocia
d. pneumonia
444. A heart disease of cattle that occurs at a high altitude:
a. founder
b. brisket disease
c. bloat
d. flourosis
445. The least amount of beef cattle would be found in the _____ region
a. SW
b. SE
c. NE
d. N Plains
446. These cattle are red, white, or roan in color:
a. Pinzguar
b. Hereford
c. South Devon
d. Shorthorn
447. Avg. dressing % of a beef carcass:
a. 40%
b. 50%
c. 60%
d. 70%

448. Record of the ancestry of an animal:
a. history
c. pedigree
b. genetics
d. genealogy
449. Scrotal circumference is measured in:
a. in²
c. cm²
b. cm
d. in
450. "Soundness" is a judging term used to describe:
a. harder handling
c. freedom of movement
b. thickness
d. internal volume
451. When judging breeding animals what term is used to describe fat?
a. condition
c. merit
b. finish
d. quality
452. Grass tetany occurs most often in cattle during what period?
a. Pregnancy
c. Finishing
b. Weaning
d. Lactating
453. White muscle disease is caused by lack of?
a. copper
c. calcium
b. selenium
d. iron
454. Percent of sheep produced on range:
a. 25%
c. 70%
b. 50%
d. 90%
455. State with the largest # of sheep:
a. Ks.
c. Tex.
b. Co.
d. Mo.
456. Fine wool breeds of sheep include all of these except:
a. Rambouillet
c. Debouillet
b. American Merino
d. Columbia
457. Fine wool breeds of sheep are known for their:
a. meat
c. wool
b. yolk
d. ranging ability
458. Medium wool breeds were developed mainly for their:
a. meat
c. yolk
b. wool
d. ranging ability
459. Long woolled breeds were developed in:
a. Germany
b. England

493. Normal respiration rate of a sheep:
a. 12-20
b. 40-50
c. 80-90
d. Greater than 90
494. Most serious health problems of sheep:
a. flies
b. gnats
c. internal parasites
d. foot scald
495. Most sheep are sold:
a. auctions
b. directly to packers
c. locally
d. privately
496. Refers to the yield of closely trimmed retail cuts:
a. cutibility
b. grade
c. yield grade
d. marbling
497. Wool prices are usually lowest in:
a. spring
b. summer
c. fall
d. winter
498. Difficulty in passing feces:
a. bloat
b. pinning
c. constipation
d. tagging
499. Wool prices are usually highest in:
a. winter
b. late spring
c. early fall
d. late fall
500. Meat from a two year old sheep or older:
a. mutton
b. lamb
c. veal
d. hamburgers