

2020 Junior Dairy Quiz Bowl Questions

Round 01

Phase B 5 Questions Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. Name 3 management practices that should be considered in regard to cow safety or comfort in the holding pen area.

ANS: Minimize the time spend in the holding area to less than an hour; safe footing (floor grooves); proper use of crowd gate; ventilation/ cooling of cows with fans or sprinklers; water availability before and after the holding area and parlor.

2. Name 4 things that a dairy judge is looking for when judging a showmanship contest.

ANS: Animal condition; cleanliness; clipping; grooming; appearance of exhibitor; leading the animal; posing the animal correctly; showing the animal to the best of its advantage; alertness and poise of exhibitor; correct show halter

3. If a cow were to need more calcium, what are three ways you could provide it to her?

ANS: IV; oral bolus; drenches; subcutaneously

4. Name 3 of the 4 critical factors of colostrum management.

ANS: quality; quantity; timing; cleanliness

5. Name three types or methods of storage facilities for silage.

ANS: bunker silo; trench silo; upright or tower silo; oxygen limiting silo; plastic bag

Phase C 20 Questions Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. Acidosis is caused by the overfeeding of what?

A) Grain B) Hay C) Calcium

ANS: A) grain

2. Teat dipping is used to help prevent what?

A) Metritis B) Laminitis C) Mastitis D) Rumenitis

ANS: C) Mastitis

3. On the PDCA Dairy Cow Unified Score Card, how many points are allotted to the udder?

A) 15 B) 40 C) 20 D) 10

ANS: B) 40

4. At what temperature should milk be held in the farm bulk tank?

A) 48 degrees F B) 38 degrees F C) 60 degrees F

ANS: B) 38 degrees F

5. In order to calve at 22 to 24 months of age, when must a heifer be bred?

A) 7-10 months of age B) 10-12 months of age C) 13-15 months of age

ANS: C) 13-15 months of age

6. The "ring test" conducted on milk samples is a screening test for what cattle disease?

ANS: Brucellosis (also known as Bangs disease)

7. Calcium and phosphorus are examples of:

A) Fiber sources B) Protein sources C) Energy sources D) Minerals

ANS: D) minerals

8. **A primary source of protein in dairy cattle diets is:**

A) Soybean meal B) Corn grain C) Calcitic limestone D) Sodium bicarbonate

ANS: A) soybean meal

9. **What does it mean if a heifer is “overconditioned”?**

A) She is too old B) She is too fat C) She is too thin D) She needs to gain weight

ANS: B) She is too fat

10. **What conditions often occurs in cows that graze alfalfa or clover?**

ANS: Bloat

11. **When a calf nurses milk, what stomach compartment receives the milk directly?**

A) Rumen B) Reticulum C) Abomasum D) Omasum

ANS: C) Abomasum

12. **A low milk fat test is an indication of a deficiency of what?**

A) Energy B) Protein C) Effective fiber

ANS: C) Effective Fiber

13. **What is an infection and inflammation of the mammary gland called?**

ANS: mastitis

14. **The condition in which a cow is receptive to be bred is called:**

A) Lactation B) Gestation C) Dry period D) Estrus or heat

ANS: D) Estrus or heat

15. **Name the hormone that causes the alveoli to begin to secrete milk as a cow nears the time of giving birth.**

A) Prolactin B) Estrogen C) Oxytocin

ANS: A) Prolactin

16. **When referring to milk, what do the letters FCM stand for?**

ANS: Fat Corrected Milk

17. **Which nutrient is essential for good muscle development?**

A) Fat B) Protein C) Carbohydrates

ANS: B) Protein

18. **What is the best age to dehorn calves?**

A) 2-8 days B) 10-16 weeks C) 2-8 weeks D) Anytime over 6 months

ANS: C) 2-8 weeks

19. **What is the name of the mineral that is fed or injected in small amounts that helps to prevent retained placenta?**

ANS: Selenium

20. **How many upper front teeth does a cow have?**

A) 12 B) 20 C) 32 D) none

ANS: D) none

Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.

1. During “milk fever,” there is a large decrease of this mineral in the blood:

A) Zinc B) Selenium C) Calcium

ANS: C) calcium

2. The normal estrus cycle in a dairy cow is about:

A) 1 week B) 3 weeks C) 2 weeks D) 4 weeks

ANS: B) 3 weeks

3. Which of the following feeds is a by-product of an ethanol fuel production facility?

A) Alfalfa B) Fescue C) Distillers grains D) Clover

ANS: C) Distillers grains

4. In North Carolina, which one of the following is a weather-related management issue that has a great effect on milk production, especially during the summer?

A) Scours B) Acidosis C) Rainfall D) Heat stress

ANS: D) heat stress

5. In the udder, where does the milk go just before it goes out into the milking machine?

A) Teat cistern B) Lumen C) Myoepithelial cells D) alveoli

ANS: A) Teat cistern

6. Which compartment in the cow’s stomach collects hardware such as nails or pieces of metal that the cow may eat?

A) Rumen B) Reticulum C) Abomasum D) Omasum

ANS: B) Reticulum

7. What vitamin is needed for blood clotting?

A) Vitamin B B) Vitamin K C) Vitamin A C) Vitamin D

ANS: B) Vitamin K

8. **Feeding too much of this chemical compound found in whole cottonseed can be toxic to cattle. What is the name of this compound?**

ANS: Gossypol

9. **Chromosomes are found in what part of the cell?**

ANS: Nucleus

10. **What is the average duration of standing heat in a dairy cow?**

A) 6-12 hours B) 12- 18 hours C) 18-24 hours D) 24-36 hours

ANS: B) 12-18 hours

2020 Junior Dairy Quiz Bowl Questions Round 02

Phase B5 Questions Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. **What are three classic symptoms of hypocalcemia?**

ANS: Staggering; cold ears; lying in tucked head position; S-shape of neck when lying down; unable to stand; body temperature below 100 degrees F

2. **Name three of the five major components of milk.**

ANS: Protein (casein); fat; water; lactose; vitamins and minerals

3. **Name three signs of illness in calves.**

ANS: decreased appetite; coughing; heavy breathing; nasal discharge; watery manure; droopy ears; elevated temperature; sunken eyes

4. **Name 3 diseases calf hood vaccinations should be considered for.**

ANS: Blackleg; brucellosis; BVD: Clostridia; IBR; leptospirosis; malignant edema; scours

5. **Name 3 of the 4 major factors that affect a dairy herd's pregnancy rate when using artificial insemination.**

ANS: heat detection rates; herd fertility rates; semen fertility; inseminator proficiency

Phase C20 Questions Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other

team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. **What is the main reason that a cow may refuse to use a free stall?**

ANS: It is the incorrect size

2. **What is the approximate percentage of Holsteins in the dairy cow population?**

A) 10% B) 50% C) 90%

ANS: C) 90%

3. **How much colostrum should a calf receive in the first feeding?**

A) 2 pints B) 3 to 4 quarts C) 1 pint D) 2 quarts

ANS: B) 3 to 4 quarts

4. **When a bull is mated to his daughter, the resulting offspring is said to be what?**

ANS: Inbred

5. **The amount of time between calvings is called what?**

ANS: Calving interval

6. **Grade A milk is considered:**

A) Fluid milk B) Manufactured milk C) Processed cheese

ANS: A) Fluid milk

7. **What does the USDA stand for?**

ANS: United State Department of Agriculture

8. **In judging, fitting and showmanship classes, how many points on the PDCA scorecard are allotted to the exhibition of the animal in the ring?**

A) 20% B) 40% C) 60%

ANS: 60%

9. **The Brown Swiss breed originated in Switzerland, where did the Ayrshire breed originate from?**

ANS: Scotland

10. **Which age group on the dairy farm generally has the highest incidence of dystocia?**

A) Heifers B) 2nd Lactation Cows C) 3rd Lactation Cows

ANS: A) Heifers

11. **What is the name of the process which breaks down the fat globules in milk, so they will stay in suspension and not rise to the top?**

ANS: Homogenization

12. **In what year was the first successful embryo transfer in dairy cattle reported?**

A) 1922 B) 1952 C) 1972

ANS: B) 1952

13. What is the first sign of Ketosis?

ANS: Goes off feed

14. Which is the largest compartment of a ruminant stomach?

A) Rumen B) Reticulum C) Omasum D) Abomasum

ANS: A) Rumen

15. What part of farming does agronomy deal with?

ANS: Crop production

16. When the outside temperature gets colder, which nutrient do calves need more of in their diets?

A) Protein B) Minerals C) Energy

ANS: C) Energy

17. In reference to the dairy cow, which one of the following is located between the dew claw and the thigh?

A) Thurl B) Knee C) Hock D) Pastern

ANS: C) Hock

18. Who funds the National Dairy Council?

A) State Government B) Farmers C) Federal Government

ANS: B) Farmers

19. As the reproductive tract is traced forward, what follows the vagina?

A) Cervix B) Ovary C) Uterus

ANS: A) Cervix

20. Where do you measure when using a weight tape?

A) Around the leg B) Around the heart girth C) Around the neck

ANS: B) Around the heart girth

Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.

1. Where would you find a crowd gate on a dairy farm?

A) On Pasture B) In the holding pen C) Freestalls

ANS: B) In the holding pen

2. **When discussing farm quality control, what do the initials HACCP stand for?**

ANS: Hazard Analysis of Critical Control Points

3. **What volatile fatty acid is used by the liver to make glucose?**

A) Propionate B) Acetate C) Butyrate

ANS: A) Propionate

4. **When breeding cows, what type of trait has the highest heritability?**

A) Reproduction B) Milk yield C) Stature

ANS: C) Stature

5. **What term describes an animal infected with a disease that show no clinical symptoms?**

ANS: Carrier

6. **What is defined as the distance from the udder floor to the point of the hock?**

ANS: Udde

7. **What structure connects muscle to bone?**

A) Tendon B) Ligament C) Blood

ANS: A) Tendon

8. **How many quarts of saliva does a mature dairy cow produce daily?**

A) 30-50 quarts B) 50-80 quarts C) 80-100 quarts

ANS: B) 50 to 80 quarts

9. **What practice is used to reliably learn the nutrient content of a farm's forages?**

ANS: Forage Testing

10. **What number range is used when assigning dairy animals a body condition score?**

A) 1 to 3 B) 1 to 5 C) 1 to 10

ANS: B) 1 to 5

2020 Junior Dairy Quiz Bowl Questions Round 03

Phase B5 Questions Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. **Name 3 benefits to using renewable energy on a dairy farm.**

ANS: decrease in farms carbon footprint; lowering farm expenses; recycle farm waste output; tax credit

2. **In business planning, a SWOT analysis allows a farm to assess their current situation**

and plan for the future. What does SWOT stand for?

ANS: Strengths, Weaknesses, Opportunities, Threats

- 3. Name 3 common areas of the dairy farm on which you could implement standard operating procedures.**

ANS: parlor; calving/maternity area; fresh cow monitoring; parlor; feeding

- 4. Name 4 tests a milk processor will perform on a milk sample taken from the bulk tank on the farm to determine quality and standards.**

ANS: Standard plate count (SPC); Coliform count (CC); Somatic cell count (SCC); Preliminary incubation (PI); Lab pasteurization count (LPC); Cyroscope (test of water in the milk); Delvo; Babcock (butterfat test)

- 5. Name 3 nutrients found in corn fertilizer.**

ANS: Nitrogen, Phosphorous; Potassium; Boron; Sulfur

Phase C20 Questions Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

- 1. In regards to dairy cattle digestion, what do the initials HBS stand for?**

Hemorrhagic Bowel Syndrome

- 2. What is the term describing a basic unit of inheritance?**

A) Chromosome B) Gene C) Allele

ANS: B) Gene

- 3. What is the most common reason a farmer might cull an animal in a U.S. dairy herd?**

A) Reproductive Failure B) Disease C) Feet and Leg Issues

ANS: A) Reproductive Failure

- 4. What is the most effective management practice to control flies on a dairy?**

ANS: proper sanitation

- 5. What is the most common type of manure storage on dairy farms?**

ANS: Slurry manure storage

6. **Where on your cow would you find her jugular vein?**
A) Tail B) Stomach C) Neck
ANS: C) Neck
7. **In what year was the first commercial cheese factory of the U.S. established?**
A) 1851 B) 1888 C) 1902
ANS: A) 1851
8. **What is the name of the only smooth muscle cells in the udder that oxytocin interacts with?**
ANS: Myoepithelial cells
9. **How many points are assigned to the Dairy Strength category of the PDCA Dairy Cow Unified Scorecard?**
A) 15 points B) 25 points C) 40 points
ANS: B) 25 points
10. **What is the term for a substance that can reduce changes in pH when an acid or alkali is added?**
ANS: Buffer
11. **In order to have sufficient stimulation of the teats, how many strips from each teat is necessary to obtain oxytocin release and efficient milk letdown?**
A) 1 to 2 strips B) 3 to 4 strips C) 5 to 6 strips
ANS: B) 3 to 4 strips
12. **What is the name of the hormone that is produced by the pancreas and promotes cell growth and division?**
A) Insulin B) Oxytocin C) Prolactin
ANS: A) Insulin
13. **What reproductive structure, also known as the yellow body, is a temporary gland that forms on the ovary after the ovum is released?**
A) Follicle B) Oviduct C) Corpus luteum
ANS: C) Corpus luteum
14. **Where is the Purebred Dairy Cattle Association office located?**
ANS: Brattleboro, VA
15. **What is the term for the process, in the presence of light, plants convert carbon dioxide and other elements into simple carbohydrates and oxygen?**
ANS: Photosynthesis
16. **What breed of cattle can be roan, red, white or red and white?**
A) Holstein B) Milking Shorthorn C) Guernsey
ANS: B) Milking Shorthorn
17. **What type of diet is often fed to close-up dry cows to help prevent milk fever?**
ANS: Anionic diet
18. **What substance can cause toxic levels in the lower section of the corn plant stalk after prolonged period of drought?**

A) Nitrate B) Phosphorous C) Calcium

ANS: A) Nitrate

19. What is the term commonly used to refer to one-hundred pounds of milk?

ANS: Hundredweight (or cwt)

20. Which of the following is not part of the cow's digestive system?

A) Rumen B) Small intestines C) Esophagus D) Pasterns

ANS: D) Pasterns

Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.

1. If a farmer ask you to disinfect yours boots before you step onto his farm, what management practice is he or she enforcing?

ANS: Biosecurity

2. How many pounds of whole milk does it take to make a gallon of ice cream?

A) 5 pounds B) 10 pounds C) 12 pounds

ANS: C) 12 pounds

3. What term is defined as the loss of feed from the point of harvest or delivery, to what is actually consumed by the cows?

ANS: Feed Shrink

4. What is another name for the skin condition known as papillomas?

ANS: Warts

5. During which season of the year is pinkeye most common?

A) Winter B) Fall C) Spring D) Summer

ANS: D) Summer

6. What process is used to remove solid impurities from milk prior to pasteurization?

ANS: Clarification

7. What organelle is known as the powerhouse of the cell?

A) Mitochondria B) Ribosome C) Golgi Apparatus

ANS: A) Mitochondria

8. A deficiency of what vitamin causes white muscle disease?

A) Vitamin A B) Vitamin E C) Vitamin D

ANS: B) Vitamin E

9. **What is the term for the milk-mineral deposit found on manure handling equipment?**

ANS: Milk stone

10. **What does the acronym CAFO represent?**

ANS: Concentrated Animal Feeding Operation

2020 Junior Dairy Quiz Bowl Questions Round 04

Phase B5 Questions Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. **Name the 4 classes of cheese.**

ANS: soft; semi-soft; hard; very hard

2. **Name 3 reasons for modifying free stall barns to prevent birds from roosting in them.**

ANS: Keep birds from eating feed; keep cows cleaner; prevent spread of diseases; prevent damage to barn wiring or insulation

3. **OSHA Inspectors began inspecting dairies in 2014. Name 3 areas on the “dairy dozen” list that inspectors look at.**

ANS: manure storage and collection facilities; bull/cow handling facilities; electrical systems; skid steer operations; tractor operations; PTO guards; power transmission/functional component guards; posted hazard warning; confined spaces; bunker silos; noise; hazardous energy control during equipment maintenance.

4. **Greenhouse gases from dairies have received much attention in recent years. Name 2 of the 3 most important greenhouse gases in animal agriculture**

ANS: Carbon dioxide, methane, nitrous oxide

5. **Name 3 facts that must be sent to a breed association before it will register your calf.**

ANS: Name; sire; dam; date of birth; owner; breeder

Phase C20 Questions Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus

questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. **What animal feeding system uses grass paddocks, reels, electric fences, water, and rest period for the paddocks?**

ANS: Rotational Grazing

2. **The CME is where block and barrel cheese, butter futures, and Class III and Class IV milk futures are traded. What do the initials CME stand for?**

ANS: Chicago Mercantile Exchange

3. **On average, how much time does a dairy animal spend ruminating or chewing cud per day?**

A) 3-5 hours B) 7-10 hours C) 12-15 hours

ANS: B) 7-10 hours

4. **What part of the cow does founder affect?**

A) Feet and legs B) Shoulders C) Small intestines

ANS: A) Feet and legs

5. **When looking at a pedigree, which parent is considered paternal?**

ANS: Sire or bull

6. **Which mineral is needed by the thyroid gland and is identified by an I?**

ANS: Iodine

7. **Which part of the plant normally has a higher percent of protein?**

A) The stem B) Roots C) Leaves

ANS: C) Leaves

8. **What is the minimum number of daughters that a bull is required to have for a bull proof to be published?**

A) 5 B) 10 C) 15 D) 20

ANS: B) 10

9. **Does coccidiosis affect the reproductive, digestive or skeletal system?**

ANS: Digestive system

10. **How many glasses of milk does the average cow produce per day?**

A) 20 glasses B) 50 glasses C) 90 glasses

ANS: C) 90 glasses

11. **25% of all cheese consumed nationally is found on top of what popular food?**

ANS: Pizza

12. **What is another name for fats?**

ANS: Lipids

13. **On the farm, where is copper sulfate most commonly used?**

ANS: In a foot bath

14. What is the respiratory rate in a dairy cow?

A) 15 breaths per minute B) 30 breaths per minute C) 45 breaths per minute

ANS: B) 30 breaths per minute

15. If cattle are on a dry lot, how many square feet should they have per animal?

A) 50-75 square feet B) 75-100 square feet C) 125-200 square feet

ANS: C) 125-200 square feet

16. What is the term for using a drug in a way that is not specifically shown on the label?

ANS: Extra label

17. At what temperature should milk be heated at for high temperature, short term or HTST pasteurization?

A) 161 degrees B) 172 degrees C) 183 degrees

ANS: A) 161 degrees

18. What common feedstuff is dark brown, has a sweet smell, is high in sugar and is often added to calf starter?

ANS: Molasses

19. The first National Dairy Show was held in what city in 1906?

A) Madison, WI B) Chicago, IL C) Charlotte, NC

ANS: B) Chicago, IL

20. How many months after a cow is bred is the calf born?

A) 3 months B) 5 months C) 9 months

ANS: C) 9 months

Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.

1. How many calories does a serving of whole milk have?

A) 120 B) 160 C) 200

ANS: B) 160

2. What is the name of the feed material found in the small intestine of the dairy cow?

ANS: Chyme

3. What is the name of the process when a farmer fluffs the hay so that air can get in and dry it faster?

ANS: Raking

4. **Who is the Commissioner of Agriculture in North Carolina?**

ANS: Steve Troxler

5. **Where on a cow would you find a white line lesion?**

A) Hoof or sole B) Tail C) Neck

ANS: A) Hoof or sole

6. **When balancing a dairy cow's ration, is silage considered a roughage or a concentrate?**

ANS: Roughage

7. **What is the common name for calf diarrhea?**

ANS: Scours

8. **The crude protein in a feed is determined by multiplying the nitrogen content of the feed by what number?**

A) 3 B) 4.5 C) 6.25

ANS: C) 6.25

9. **In inches, what is the minimum amount of silage that should be removed from the exposed surface of a trench silo each day to prevent spoilage?**

A) 6 inches B) 8 inches C) 10 inches

ANS: A) 6 inches

10. **What does the acronym ECL stand for when referring to CAFO standards?**

ANS: Environmental Conservation Law

2020 Junior Dairy Quiz Bowl Questions Round 05

Phase B5 Questions Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

- 1. Name 2 methods for identifying calves.**

ANS: Ear tag, Photo, Sketch, tattoo, freeze branding

- 2. Name 3 factors that can be used to determine the nutrient requirements of a lactating cow.**

ANS: Body weight; age; milk production level; fat test; stage of lactation; reproductive status; body condition; environmental temperature

- 3. Name 2 signs of a malfunctioning milking system.**

ANS: Excessive vacuum fluctuation; teat cups fall off; squawking teat cups; slow milking; flooded milk lines; uneven milk flow

- 4. Name 2 reasons that antibiotic residues are not allowed in milk for human**

consumption.

ANS: Some people are allergic to antibiotics; milk that contains antibiotic residues is not good for cheese making; bacteria may become resistant to antibiotic; antibiotic are not a natural part of milk

5. Name 3 examples of precision dairy farming.

ANS: Daily milk yield monitoring; milk component monitoring; pedometers; accelerometers; automatic temperature recording devices; milk conductivity indicators; automatic estrous detection monitors; daily body weight measurements

Phase C20 Questions Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. If a cow has produced 3 bull calves, what is the chance that her next calf will be a heifer?

A) 25% B) 50% C) 75%

ANS: B) 50%

2. What factor has the most effect on the amount of cheese that you can get from a pound of milk?

A) Protein B) Fat C) Water content

ANS: A) Protein

3. Other than water, what is the largest single solid component in normal milk?

ANS: Lactose

4. What is the highest grade butter sold in the United States?

ANS: Grade AA

5. The parotid, submaxillary, buccal and palatine are what type of gland?

A) Reproductive B) Digestive C) Salivary

ANS: C) Salivary

6. What tissue is monitored for residual drug levels at slaughter?

A) Brain B) Kidneys C) Stomach

ANS: B) Kidneys

7. What is the solid portion of milk remaining after the removal of whey called?

ANS: Curd

8. What kind of bedding supports the least amount of bacteria?

A) Sand B) Shavings C) Sawdust

ANS: A) Sand

9. How much feeding space should be provided for recently weaned heifers?

A) 15 inches B) 18 inches C) 25 inches

ANS: B) 18 inches

10. What is the recommended maximum number of calves per nipple in an automated calf feeding system?

A) 25 calves B) 15 calves C) 10 calves

ANS: A) 25 calves

11. Everything that affects an animal's performance that is not inherited is said to be due to the effects of what?

ANS: Environment

12. What feedstuff commonly used in the dairy industry is a by-product of the sugar beet industry?

ANS: Beet pulp

13. What term describes a dairy cow's vision?

A) Monocular B) Binocular C) Panoramic

ANS: C) Panoramic

14. The NRC creates nutritional requirement information for dairy animals at different stages of life. What does NRC stand for?

ANS: National Research Council

15. What is printed on a carton of milk to ensure that it is a fresh dairy product?

ANS: Expiration Date

16. What is the minimum amount of fat that butter must contain?

A) 70% B) 80% C) 90%

ANS: B) 80%

17. What Class of milk include beverage milks?

A) Class I B) Class II C) Class III D) Class IV

ANS: A) Class I

18. According to the American Veterinary Medical Association, what is the term that is the

ethical responsibility of ensuring animal well-being?

ANS: Animal Welfare

19. Typically, how many follicular waves occur during each estrous cycle in cattle?

A) 1 to 2 waves B) 2 to 3 waves C) 3 to 4 waves

ANS: B) 2 to 3 waves

20. What is the most important feature when selecting tags or brands for identification in a herd?

ANS: Visibility

Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.

1. After fertilization in the oviduct, the zygote travels where for further growth?

A) Cervix B) Vagina C) Uterus

ANS: C) Uterus

2. What are the substances called that are foreign to the blood stream and stimulate the production of a specific antibody and then react with it?

ANS: Antigen

3. What are forages that are harvested by grazing animals called?

ANS: Pasture

4. What is the term used to describe a mature oocyte or sperm?

A) Gamete B) Zygote C) Follicle

ANS: A) Gamete

5. If the farm price received for milk is \$14.00 per hundredweight, what is the price received per pound of milk?

A) 14 cents B) \$1.40 C) \$140.00

ANS: A) 14 cents

6. What is the most common grain fed to dairy cows in the United States?

A) Brewers Grains B) Corn C) Cottonseed

ANS: B) Corn

7. What type of cheese is used for the purpose of calculating Cheese Yield Dollars?

A) Mozzarella B) Swiss C) Cheddar

ANS: C) Cheddar

8. Who is considered to be the first person to discover the cause of food spoilage and disease and invented pasteurization?

ANS: Louis Pasteur

9. What is the term used to describe forage that is harvested in the field and fed directly to livestock?

ANS: Green chop

10. What is often added to fat free milk to whiten the milk?

ANS: Titanium dioxide

2020 Junior Dairy Quiz Bowl Questions Round 06

Phase B5 Questions Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. Name 3 recommended protein sources for milk replacers.

ANS: Casein; dried skim milk; dried whey; dried whey product; dried whey protein concentrate; modified wheat protein; protein modified soy flour; soy protein concentrate; soy protein isolate

2. Name 3 costs related to mastitis.

ANS: Reduced milk production; discarded milk; early cow replacement cost; reduced cow sale value; drugs; veterinarian; labor; lost milk premiums

3. Name 2 parts of a freestall.

ANS: Support post; neck rail; stall surface (bedding, mattress); stall partition; brisket board (tube); rear curb

4. Give 2 reasons that an ultrasound might be used in a reproductive management program.

ANS: Pregnancy determination; determine if twins are being carried; determine sex of embryo; determine embryonic losses; monitor cystic ovaries

5. Give 3 consequences of inbreeding.

ANS: Decreased general vigor; decrease reproductive performance; increasing similarity between animals; more recessive genes exposed; decreased production; increased calf mortality; smaller mature size; slower growth rate

Phase C20 Questions Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. What is the term used to describe the position that a given gene occupies on a chromosome?
A) Allele B) Phenotype C) Locus
ANS: C) Locus
2. A calving ease score of what would indicate an extremely difficult calving?
A) 5 B) 3 C) 1
ANS: A) 5
3. What is the normal temperature of an adult dairy cow?
A) 100 degrees F B) 101.5 degrees F C) 102.5 degrees F
ANS: B) 101.5 degrees F
4. What is the common name for the disease Brucellosis?
ANS: Bang's disease
5. What is the term used to describe a plan for the land application of manure and fertilizer to meet crop needs?
ANS: Nutrient management plan
6. When milk is pasteurized, it is heated to 161 degrees for how many seconds?
A) 10 seconds B) 15 seconds C) 20 seconds
ANS: B) 15 seconds
7. When was the milk bottle invented?
A) 1804 B) 1844 C) 1884
ANS: C) 1884
8. True or False: Massaging the teat end is one of the most important functions of the teat cup liner.
ANS: True
9. In which country is the cow considered to be Holy?

ANS: India

10. **What term describes a cow's habit of choosing certain portions of a total mixed ration over other particles?**

ANS: Sorting

11. **When a cow's teats point outward too far, what is this called?**

ANS: Strutting

12. **Healthy cows will have how many rumen contractions per minute?**

A) 1 to 2 per minute B) 3 to 4 per minute C) 5 to 6 per minute

ANS: A) 1 to 2 per minute

13. **How much time is required after milking for the teat end to close entirely?**

A) 10 minutes B) 1 hour C) 12 hours

ANS: B) 1 hour

14. **A dry cow requires the largest quantity of which mineral?**

A) Calcium B) Potassium C) Magnesium

ANS: B) Potassium

15. **What is the term describing a farm's total assets minus its liabilities?**

ANS: Equity or net worth

16. **When should a necropsy exam occur?**

A) When a calf is healthy B) When a calf is sick C) When a calf has died

ANS: C) When a calf has died

17. **At first breeding, heifers should be what percent of their dam's mature body weight?**

A) 55% B) 75% C) 95%

ANS: A) 55%

18. **Dairy farmers calculate IOFC to help evaluate their profitability. What does the abbreviation IOFC stand for?**

ANS: Income Over Feed Costs

19. **Foot baths should be used at least how many days per week on a farm?**

A) 1 to 2 days B) 2 to 3 days C) 3 to 4 days

ANS: C) 3 to 4 days

20. **What tool can be used on a farm to safely and evenly remove silage from the face of the bunker silos for feed out?**

ANS: Defacer

Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or

answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.

1. **True or false: All cows contribute somatic cells to the bulk tank.**
ANS: True
2. **What is the name for the human health condition characterized by inadequately digesting the sugar found in dairy products?**
ANS: Lactose intolerance
3. **In regards to dairy cattle reproduction, what does the acronym CIDR represent?**
ANS: Controlled Internal Drug Release
4. **Cows milked three times a day produce what percent more milk than cows milked twice?**
A) 1-5 % B) 8-15% C) 20-25%
ANS: B) 8-15%
5. **What is the adult cow's body structure through which an unborn fetus receives its nutrients?**
ANS: Placenta
6. **When is the peak period of silo gas formation?**
A) Directly after filling B) 1 week after filling C) 2 to 3 weeks after filling
ANS: C) 2 to 3 weeks after filling
7. **Rumen bacteria digest carbohydrates to produce volatile fatty acids (VFAs). After they are absorbed into the blood, what are they used for?**
ANS: Energy
8. **What tool should be used to measure particle length of chopped forages?**
ANS: Shaker box or particle separator
9. **In dairy cattle, what is the most commonly used reproductive technology?**
A) Artificial Insemination B) Estrous synchronization C) Embryo Transfer
ANS: A) Artificial Insemination
10. **How often should a bulk tank be washed and sanitized?**
ANS: Every time it is emptied

2020 Junior Dairy Quiz Bowl Questions Round 07

Phase B5 Questions Correct answers are worth 10 points each.

Only the team being asked the questions is to be in the room. Each team will be asked these 5 questions. Answers are to be given by a team captain, but assistance may come from any team member. A question may be repeated only once. Answers must be started within 20 seconds. Partial credit may be given at the discretion of the judges. After one team has been questioned, the other team will enter the contest room and be asked the same 5 questions.

1. Name 3 diseases in dairy cattle that are caused by a virus.

ANS: Blue tongue; BLV; BRSV; BVD; cow pox; IBR; PI-3; Warts

2. Name 3 factors that affect the nutritive value of manure.

ANS: amount of added feed, bedding and water; crop; method of collection; soil characteristics; type of feed ration; climate; method of application; method of storage; time of application

3. Name 3 of the 5 parts of a milking unit.

ANS: Claw; milk tube; short air tube; teat cup shell; teat cup liner or inflation

4. What do the 4 Hs of 4-H stand for?

ANS: Head; Hands; Heart; Health

5. Zoonoses are diseases and infections that are transmitted between vertebrate animals and human beings. Name 3 zoonoses that may be transmitted from cattle to humans.

ANS: Brucellosis; Cow pox; Cryptosporidiosis; Leptospirosis; Listeriosis; Q-fever; Rabies; Ringworm; Salmonellosis; Tuberculosis

Phase C20 Questions Correct answers are worth 15 points each.

Both teams are in the room for Phase C. The first contestant to signal will answer the question within 5 seconds after being acknowledged by the moderator. Failure to do so will cost that team 10 points. Any contestant answering a question without being acknowledged by the moderator will lose 10 points. If an answer is incorrect, members of the other team will have the opportunity to answer the question without having it reread except for true/false, either/or and yes or no type questions. If an answer is given in these types of questions, the question will be replaced with a tie breaker question, and given to the other team. No points are deducted for giving an incorrect answer. Team members are not allowed to discuss the answers in this phase. No partial credit is available in Phase C, except for bonus questions. If neither team can offer an answer to the question within 10 seconds, the moderator will give the answer and the question will be dropped but neither team will forfeit points.

1. What is the process of planning a farm business transition of ownership from a senior generation member to the next generation?

ANS: Succession planning

2. Due to cortisol's effect on the immune system, veterinarians recommend that vaccinations should be given at what point after calving?

A) 3 to 4 days B) 3 to 4 weeks C) 3 to 4 months

ANS: B) 3 to 4 weeks

3. To maximize efficiency, soil samples should be taken at least every how many years?

A) 1 year B) 2 years C) 3 years

ANS: C) 3 years

4.

5. **When was the ADSA, or the American Dairy Science Association, founded?**

A) 1906 B) 1916 C) 1926

ANS: A) 1906

6. **What is the scientific name for milk fever?**

ANS: Hypocalcemia or Parturient paresis

7. **How much of the dairy cattle population will develop cystic ovaries over their lifetime?**

A) 5% B) 10-40% C) 90%

ANS: B) 10-40%

8. **What program was developed by the Environmental Protection Agency, the EPA, to protect the nation's agricultural workers from pesticides?**

ANS: The Worker Protection Standard

9. **If the milk to rest pulsation rate is set at 55:45 on a milking machine, what percent of the time is the inflation open?**

ANS: 55%

10. **In reference to digestion and metabolism, which one of the following best describes Beta hydroxybutyrate?**

A) A mastitis pathogen B) An amino acid C) A ketone body

ANS: C) A ketone body

11. **In what city and state is the Hoard's Dairyman Headquarters located?**

ANS: Fort Atkinson, Wisconsin

12. **What is the name given to the process of squeezing 2 or 3 streams of milk by hand from the teat before putting on the milking machine?**

ANS: Fore stripping

13. **If you breed a cow in March, what month will you expect her to freshen or have her calf?**

A) December B) June C) October

ANS: A) December

14. **What is the taste or likability of a feedstuff called?**

ANS: Palatability

15. **What percent fat is low-fat milk?**

A) 0% B) 1% C) 2%

ANS: B) 1%

16. **In the life cycle of the fly, what is the first phase?**

ANS: Egg

17. True or false: No till cropping programs help reduce soil erosion.

ANS: True

18. What is the actual amount of energy the body can use for growth, lactation, reproduction, and body maintenance?

A) Gross Energy B) Digestive Energy C) Net Energy

ANS: C) Net Energy

19. At what temperature should semen be thawed?

A) 95 degrees F B) 45 degrees F C) 75 degrees F

ANS: A) 95 degrees F

20. In the area of business management, what is the name given to an estimate of the revenue, costs, and net income of a farm unit or enterprise?

ANS: Budget

Bonus questions may be earned in the toss-up round. To receive a bonus question, 3 different team members must correctly answer the toss-up questions. Bonus questions are not passed to the other team, nor are points deducted for an incomplete or incorrect answer to the question. Bonus question will be asked whenever 3 team members have answered toss-up questions correctly with the count kept individually for both teams within a match. Eligibility for bonus questions does not carry over to another match. The answers must come from the team captain but assistance can come from the other team members. Only the number or answers required by the bonus question will be accepted. Example: If the bonus has a four-part answer - the first four answers given by the team will be accepted. Answers to a bonus question must start within 20 seconds and be completed within 60 seconds.

1. Why is colostrum from older cows normally higher in antibody concentration than colostrum from first calf heifers?

Older cows have had more exposure to disease and have developed more antibodies

2. Mange or scabies is a contagious skin disease caused by what type of organism?

A) A mite B) A protozoa C) A flea

ANS: A) A mite

3. What is the primary acid found in the abomasum?

ANS: Hydrochloric acid or HCl

4. What is the term used to describe the study of goats and goat husbandry?

ANS: Capriculture

5. What was the first state to make tampering with show cows a crime?

A) Wisconsin B) Ohio C) North Carolina

ANS: B) Ohio

6. Cellulose, hemicellulose, and lignin are the components of:

A) Acid Detergent Fiber (ADF) B) Crude protein C) Neutral Detergent Fiber (NDF)

ANS: C) Neutral Detergent Fiber

7. What device is used between the cluster and the milk line for measuring all the milk from an individual animal?

ANS: Milk meter

8. Why are pigmented milk cartons used?

ANS: To prevent an oxidized flavor

9. At least how much milk fat must cream contain?

A) 10% B) 18% C) 24%

ANS: B) 18%

10. What hormone is produced by the follicle and is necessary for behavioral estrus and peaks at the onset of standing estrus?

A) Estrogen B) Progesterone C) Prostaglandin

ANS: A) Estrogen

