

**2018 NYS Junior Dairy  
Bowl Competition  
Rounds 1-10**

## Round 1

### INDIVIDUAL

1a. What are you trying to estimate when you measure the heart girth of a dairy heifer?

Body weight

2a. Why do dairy farmers often place a KAMAR detector on the rump of their cows?

Estrus or heat detection

3a. Prototheca is a colorless algae that can cause which disease in dairy cattle?

**Mastitis**

4a. What hormone is required for the maintenance of pregnancy in a dairy cow?

Progesterone

---

4b. What is the common name for the disease called traumatic gastritis?

Hardware disease

2b. What process is used to distribute the fat evenly in the milk?

Homogenization

3b. What ligament divides the udder into a right and left side and provides the main support for the udder?

Median suspensory ligament

4b. What is the minimum number of daughters that a bull is required to have for a bull proof to be published?

10 daughters

---

1c. What term is used to describe a transition cow with a body condition score of 4 or above?

**Over-conditioned, Obese, Fat**

2c. On a feed ration report, you see the letters ppm. What does ppm stand for?

Parts per million

3c. The Holstein breed arrived in the US in 1852, from what country does the Holstein breed originate from?

Netherlands or Germany

4c. What pathogen can be described as a large and complex protein material that is capable of causing disease and that reproduces only inside a host cell?

A virus

---

### **TOSS UP**

1. Of all the costs associated with Mastitis, which has the greatest impact on the farmer?

Reduced milk production

2. Information about which side of the family is shown on the bottom half of the pedigree?

The maternal side (dam ancestry)

3. What percent of heifers born twin to a bull are sterile?

90%

4. On average, typical rubber milking unit inflations should be replaced after approximately how many milkings?

1200

5. What is the standardized lactation length on DHIA records?

305 days

6. What is the name for the tube that connects the mouth to the rumen?

Esophagus

7. What does "RUP" stand for in reference to dairy cattle nutrition?

Rumen undegradable protein

8. Adding which acid to a TMR will slow down the heating process while retarding the growth of yeast and molds?

Propionic acid

9. What is the name of the blister-like structure on the ovary that contains the egg before ovulation?

Follicle

10. Who was responsible for developing the butterfat test that was the basis for DHIA testing?

S.M Babcock

11. In reference to the dairy industry, what does ADSA stand for?

American Dairy Science Association

12. Rennet is the name of the enzyme that is added to milk to make what dairy product?

Cheese

13. What is the technical term for the class of chemicals used to kill internal parasites in cattle?

Anthelmintics

14. What is the term used to describe “a difficult or abnormal calving”?

Dystocia

15. Bovine spongiform encephalopathy or BSE is more commonly known as what disease?

Mad cow disease

16. How long is the life cycle for a fly, from egg to adult?

10 days

---

## Round 2

### INDIVIDUAL

1a. At what stage of lactation can body condition be most efficiently restored in dairy cows?

In late lactation

2a. What is the second stage of silage fermentation that begins once oxygen is depleted from the pile and features lactic acid-producing bacteria?

Anaerobic Phase

3a. What is parturition?

The act of giving birth or Calving

4a. At approximately what age (in weeks) does a dairy calf begin to chew its cud?

2 to 3 weeks

---

1a. What substance in colostrum provides calves with passive immunity?

**Immunoglobulins or Antibodies or IGG**

1b. What is the approximate percentage of solids in normal milk?

**12-14%**

1c. When clipping a cow, do you generally clip in the direction the hair lays or in the opposite direction?

**Opposite direction**

1d. Who is the editor of the *New York Holstein News*?

**(Michael) McCaffrey**

---

1c. What term describes semen that is thawed and then subjected to cool temperatures before reaching the cow?

Cold shocked

2c. What is determined by multiplying the nitrogen content of a feed by 6.25?

Crude protein

3c. Dairy farmers calculate IOFC to help evaluate their profitability. What does the abbreviation IOFC stand for?

Income Over Feed Cost

4c. Cellulose, hemicellulose and lignin are the components of what?

Neutral Detergent Fiber or NDF

---

### **TOSS UP**

1. Farms in Wisconsin have been offering what fruit as an economical source of potassium to give to calves?

**Bananas**

**(Dairy Herd Management 2011)**

2. What breed of dairy cattle is Holstein Association now classifying in 2018 other than Holstein?

**Guernsey**

3. What is the name given to the small projections that line the inside of the rumen?

**Papillae**

4. Who is the editor of the *Holstein Pulse*?

**Lindsey Worden**

5. What is the Delvo test used for?

**Testing for antibiotics in milk**

6. How often is a cow who is classified as Excellent eligible for an additional "E"?

**Every three years**

7. How much does a gallon of milk weigh?

**8.6 Pounds**

8. What does the acronym ME stand for?

**Mature Equivalent**

9. In the field of Nutrient Management, what do the letters BMP stand for?

**Best Management Practice**

10. Trials have shown that biotin improves what kind of health in dairy cattle?

**Hoof health**

11. Which class is Grade A milk that is used for fluid consumption assigned?

Class 1

12. What is the minimum amount of silage that should be removed from the exposed surface of a trench silo or bunk silo each day to prevent spoilage?

6 inches

13. The time period after calving when you choose not to breed a cow is abbreviated VWP. What does VWP stand for?

Voluntary Waiting Period

14. In regards to milking equipment, what do the initials RMS stand for?

Robotic Milking System

15. The process of flushing fertilized eggs from donor cows and implanting them in recipient cows is called what?

Embryo transfer

16. A young calf needs energy to maintain body functions under normal conditions, which ranges from 50 degrees F to 78 degrees F. What is this temperature range referred to as?

Thermal-neutral zone

---

### **Round 3**

#### **INDIVIDUAL**

1a. What is the term for a completely hydrogenated fat that contains no double bonds?

Saturated fat

2a. In the reproductive system of a dairy cow, progesterone is the name of the hormone that is secreted by the structure often called a “yellow body”. What is the proper name for this “yellow body”?

Corpus luteum

3a. What percentage of normal whole milk is water?

87.5%

4a. As corn silage ferments properly in the silo, what happens to the pH of the silage?

It decreases

---

1b. Which stomach compartment is located closest to the heart?

**Reticulum**

2b. Dehydration of partially digested feed is the primary function of which stomach compartment?

**Omasum**

2c. Which stomach compartment is often referred to as the “true stomach”?

**Abomasum**

2d. Which stomach compartment is often referred to as the “honeycomb”?

**Reticulum**

---

1c. What is the term for the disease “brucellosis” when it affects humans?

Undulant fever

2c. What is the recommended length for a dry period in first lactation dairy cattle, that will help maximize milk production in the following lactation?

60 days

3c. On average, cows have a flight zone of how many feet?

5 feet

4c. What is a fat source called that is either chemically treated or physically encapsulated so that it is not degraded in the rumen, but is still available for digestion in the small intestine?

Rumen-protected or Rumen-inert or Rumen Bypass

---

### **TOSS UP**

1. In young ruminants, what is the name of the anatomical structure that sends milk from the esophagus to the abomasum?

Esophageal groove

2. It takes approximately how many pounds of milk to make one pound of cheese?

10 pounds

3. Which compartment of the ruminant stomach functions to trap foreign objects such as wire or nails that may be eaten?

Reticulum

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

Clean In Place

5. During nutrient metabolism, what is the term for a protein that acts as a catalyst in starting or speeding up certain chemical reactions?

Enzyme

6. Which section of the reproductive tract does the A.I. inseminating rod pass through immediately before the semen is deposited?

Cervix

7. It is recommended in how many days that a Holstein calf should double their body weight?

56-60 days

8. Which of the following causes ringworm on dairy cattle?

Fungus

9. What is the term used in dairy cattle judging when a cow is close at the hocks?

Cow-hocked or Hocks-in

10. In reference to veterinarians, what do the letters AABP stand for?

American Association of Bovine Practitioners

11. What was the name of the first cow to be registered?

**Vincent Maid**

12. What is the cyclic opening and closing of the teat cup liner also known as?

**Pulsation**

13. If a cow has no systematic signs of illness, but has an offensive smelling uterine discharge within 21 days in milk, what post-calving disease does she most likely have?

**Metritis**

14. What do the letters USDA stand for?

**United States Department of Agriculture**

15. A somatic cell count is generally used as an indicator of what disease?

**Mastitis**

16. How many pairs of chromosomes do cows have?

**30**

---

## Round 4

### INDIVIDUAL

1a. When was the milk bottle invented?

1884

2a. What is the name for the technique in which sperm fertilizes the ovum in a laboratory dish, grows into an embryo in the lab, and is then transferred to a cow?

In vitro fertilization

3a. Which enzyme is needed for rapid lactose breakdown?

Lactase

4a. What functions to alternate vacuum and atmospheric pressure between the liner and the teat cup shell of a milking machine?

Pulsator

---

1b. Which company is the largest dairy producer in the United States?

Nestle

2b. Define the term morbidity rate.

Percentage of sick or treated animals in a given time frame

3b. What does the acronym OSHA stand for when referring to work place safety?

Occupational Safety and Health Administration

4b. How often should the bulk tank be washed?

Every time it is emptied

---

1c. What is the enzyme that breaks down butterfat, leading to rancidity?

Lipase

2c. According to the Smarter Lunchrooms Movement, it is recommended that white milk accounts for what amount of drinks displayed in school lunchroom coolers?

One-third

3c. How many pounds of whole milk does it take to make one gallon of ice cream?

12 pounds

4c. True or false: All cows contribute somatic cells to the bulk tank.

True

---

### **TOSS UP**

1. What U.S. state claims the most farms and the most acres in farming?

Texas

2. When producers suspect mycotoxins are present in feed, what is the first course of action they should take to confirm their presence?

Test feed samples

3. What is another name for extra teats?

Supernumerary teats

4. High-disease immunity cows have what percent better resistance than average herd mates?

19 to 30 %

5. What is the correct name for swelling of the udder?

Udder edema

6. What is the name of the large blood vein visible in the neck of the cow that the veterinarian can use to draw blood from or put in fluid?

Jugular vein

7. What is the name of the common metabolic disorder that can occur in early lactation dairy cows and mild cases are often treated with propylene glycol?

Ketosis

8. What is the unit of measurement used when injecting vaccine in dairy cattle?

CC's or milliliters

9. DCAD is a helpful tool to prevent milk fever. What does DCAD stand for?

### **Dietary Cation-Anion Difference**

10. What is the milk called that remains in the mammary gland following completion of milking?

### **Residual milk**

11. How many gallons of water does a lactating cow consume per day?

### **20 to 50 gallons**

12. What is the more common name for ruminal tympany?

### **Bloat**

13. What is the name of the sugar found in semen?

### **Fructose**

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

### **Environment**

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

### **Beet Pulp**

16. What is the branch of biotechnology which is concerned with applying molecular biology to the genetic mapping and DNA sequencing of genes?

### **Genomics**

## **INDIVIDUAL**

1a. A 200 pound bag of 15-10-8 fertilizer contains how many pounds of nitrogen?

30

2a. In herd management, what is the period of time from one calving to the next called?

Calving Interval

3a. What is the term for the fetal membrane which immediately surrounds the developing calf?

Amnion

4a. In a cow's diet, her major source of energy comes from what class of nutrients?

Carbohydrates

---

1b. What is the name for the human health condition characterized by inadequately digesting the sugar found in dairy products?

Lactose intolerance

2b. How much colostrum should a calf receive in the first feeding?

3 to 4 quarts

3b. What is the term for the rate of decline in a cow's production after she reaches her peak milk production for a lactation?

Persistency

4b. What term describes a cow's habit of choosing certain portions of a total mixed ration over other particles?

Sorting

---

1c. Define green-chop.

**Direct cut forages, or harvested without wilting, and fed directly to livestock**

2c. True/False: Vetch is a grass.

**False**

3c. What is the most desirable acid produced during ensiling?

**Lactic acid**

4c. In regards to plants, define the term 'annuals'.

## Plants which must be seeded every year

---

### TOSS UP

1. What is the common name for Brucellosis?  
Bang's disease
2. What is the name of the milk promotion campaign, launched by MilkPEP, that replaced the "Got Milk" campaign in 2014?  
Milk Life
3. When a cow's teats point outwards too far, what is this called?  
Strutting
4. Other than clipping, what is a common method used to control udder hair length?  
Singeing
5. What key characteristic of alfalfa allows it to help restore subsoil that has been compacted?  
Deep rooting systems
6. What is the scientific name for a fertilized egg?  
Zygote
7. How much time is required after milking for the teat end to close entirely?  
1 hour
8. What is the adult cow's body structure through which an unborn fetus receives its nutrients?  
The placenta
9. When is the most effective time to treat a cow for mastitis infections?  
**At dry-off**
10. Who founded the *Hoard's Dairyman* magazine?  
**W.D. Hoard**
11. The three parts of the small intestine are the Ileum, the Jejunem, and what else?  
**Duodenum**
12. Total Plate Count in a good quality colostrum should be less than how many colony forming units per milliliter?

**100,000 cfu/ml**

13. How many standard amino acids are there?

**20**

14. Regarding milk quality, what do the letters BTSCC stand for?

**Bulk Tank Somatic Cell Count**

15. When milking, what is the ideal vacuum level at the teat end?

**12-13 inches above Mercury**

16. What is the process that turns cream into butter?

**Churning**

---

### **Round 5**

#### **INDIVIDUAL**

1a. A deficiency of what vitamin causes white muscle disease?

Vitamin E

2a. What part of the plant takes up the nutrients?

The roots

3a. What is the definition of a Parabone Milking Parlor?

Herringbone with rapid exit

4a. What do the letters CNMP stand for in reference to CAFO legislation?

Comprehensive Nutrient Management Plan

---

1b. What is the simple definition of a liability?

Something you owe

2b. Which of the following: pasture, alfalfa, soybeans, or corn silage, produces the most energy per acre per year?

Corn silage

3b. What does NMC stand for?

National Mastitis Council

4b. What term refers to the lifespan of a cow?

Longevity

---

1c. Drinking water satisfies 80-90% of a dairy cow's total water needs. What is the source of the remainder of her water requirement?

Feedstuff

2c. A vessel between the milk and air system that limits the movement of liquids and other containments in the vacuum system is called what?

Sanitary trap

3c. What hormone is injected into dairy cattle to cause superovulation?

Follicle Stimulating Hormone (FSH)

4c. Diarrhea is one of the most common diseases during the first how many days of a calf's life?

7 to 14 days

---

### **TOSS UP**

1. When monitoring for heat stress, what symptom can be observed in cattle before an increase in body temperature?

Increased respiration rate

2. What is a herbicide used for on a dairy farm?

Weed control

3. A low fiber ration can often cause a DA in early lactation cows. What does DA stand for?

Displaced Abomasum

4. BMR or Brown MidRib Corn, compared to conventional corn is lower in which fiber component?

Lignin

5. What is the name for the category of mastitis in which there is not a detectable change in the udder itself and no observable abnormalities of the milk?

Subclinical

6. What is the name of the cow that won Supreme Grand Champion at the Great New York State Fair in 2017?

Cedarcut Burdette Clove Colata

7. What is colostrogenesis?

**The process of making colostrum**

8. Most cows will naturally form what kind of plug after dry-off to help prevent bacteria from entering the teat canal?

**Keratin**

9. What instrument is used to test the freezing point of milk to determine if water has been added?

**Cryoscope**

10. . For optimal performance, fan blades and housings should be cleaned how often?

**Once a year**

11. In what process is the nucleus removed from an unfertilized oocyte and replaced by a nucleus of another cell?

**Cloning**

12. The detoxification of metabolites and production of bile is the function of what organ?

Liver

13. Who was named the Active Master Breeder at the 2018 New York State Holstein Convention?

Tom Kugler

14. What is the name for the food material found in the small intestine of a dairy cow?

Chyme

15. In the area of herd management, what does the acronym DNB stand for?

Do Not Breed

16. What is an elevation in the normal core body temperature of an animal called?

Fever

---

## Round 6

### INDIVIDUAL

1a. What do you call the process in ruminants when semi-liquid ingested feed is regurgitated into the esophagus, re-chewed, and re-swallowed for further digestion?

Rumination

2a. What is generally considered the best material for covering a bunker silo?

Plastic

3a. Who was the first woman classifier?

Patsy Gifford

4a. Besides corn silage, what forage contains the BMR gene?

Sorghum-Sudan grass

---

1b. What is a milk mineral deposit on milk handling equipment called?

Milk Stone

2b. What replaces the milk fat content in 2% liquid milk?

Sugar

3b. Which state won the National 4-H Dairy Bowl Competition in Louisville, KY in 2017?

New York

4b. Which stud are we referring to when we have a stud code of 11?

Alta Genetics

---

1c. Which trait has the highest heritability of any of the type traits?

Stature

2c. Cows have a field of vision of how many degrees?

300 degrees

3c. In regards to animal identification, what do the initials RFID stand for?

Radio Frequency Identification

4c. As a cow gets nervous, what happens to her flight zone?

It increases

---

## **TOSS UP**

1. What are you trying to determine when rolling the bottom of a calf's eyelid back, checking for a gap between the eyelid and the eyeball?

Dehydration

2. Modified live and killed are two types of what, that are administered for disease prevention?

Vaccines

3. What it called at birth when the tail of the calf is presented first?

A true breech (accept breech)

4. Vaccines give cattle what type of immunity?

Active

5. What disease in dairy cattle are we trying to determine with the Milk Ring Test?

Brucellosis

6. What is the normal body temperature of a dairy cow?

Accept between 99 to 103degrees

7. BHBA or Beta Hydroxybutyrate measured in blood, is used to diagnose what metabolic disease in cattle?

Ketosis

8. What hoof disorder is characterized by a dark discoloration and separation of the white line area between the sole and hoof wall?

Sole ulcer

9. What is an infection of the uterus?

Metritis or Pyometria

10. The average cow rests for how many hours per day?

12 to 14 hours

11. In refence to dairy cattle genetics, a fatal recessive gene is abbreviated by HCD. What does HCD stand for?

Haplotype for Cholesterol Deficiency

12. Where do cows typically experience the most heat stress?

In the holding area

13. Covering floors with what material has been shown to increase cow comfort?

Rubber

14. To increase the accuracy of heat detection in precision dairying, heat detection is associated with an increase in activity and a decrease in what other function?

Rumination

15. Lipids are more commonly known as what?

Fats

16. What is left over after the water is removed from feedstuffs?

Dry matter

---

**Round 7**

## **INDIVIDUAL**

1a. How many pairs of ribs does a cow have?

13

2a. What term describe areas of grassland installed between cropland or feedlots and waterways to take up nutrients and prevent them from running off into water?

Buffer strips or Filter Strips

3a. What milk production measurement does the term RHA stand for?

Rolling Herd Average

4a. Where on the corn plant is the milk line found?

Kernel

---

1b. A mature cow can produce how many gallons of saliva per day?

12 to 20 gallons

2b. For what length of time should predip solution remain on the udder to assure bacteria has been reduced?

25 to 30 seconds

3b. Cows will tend to sort out long, course, forage particles if they exceed how many inches in length in a TMR?

2 to 3 inches

4b. In regards to stall design what is a cow's imprint length?

The space a cow occupies when she is lying down – (from knee to tail)

---

1c. Free-Flow or Guided-Flow are terms associated with what type of milking system?

Robotic or RMS

2c. What restaurant chain set a single-day digital sales record on Super Bowl Sunday 2017?

Pizza Hut

3c. Which trait evaluation system serves as the basis of all modern dairy cattle type classification systems?

Linear type traits

4c. Excessive rates of pneumonia in dairy herds are not typically due to cold weather or drafts, but often due to what?

Inadequate ventilation

---

### **TOSS UP**

1. What percent of all dairy cattle hoof lesions occur in the rear limbs?

94 to 96%

2. What is the term for a firm that is owned by its members, is operated for their benefit, and distributes earnings on the basis of patronage?

Cooperative

3. What is the term describing a basic unit of inheritance?

Gene

4. Which feedstuff is a byproduct of ethanol production?

Distillers grain

5. What is the most effective management practice to control flies on a dairy?

Proper sanitation

6. At what point during the dry period does a cow's colostrum production stop?

At the start of labor or calving

7. When taking soil samples, it is recommended to take them at a depth how many inches?

6 to 8 inches

8. Propionate, Acetate, and what other VFA is produced in the Rumen?

Butyrate

9. When a cow is stressed, it takes how long for her heartbeat to slow down?

20 to 30 minutes

10. Which part of the digestive tract is responsible for reabsorption of water?

Large intestine

11. How many inches of bunk space is recommended for pre and post fresh cows?

30-32 inches

12. What locomotion score indicates no lameness?

**1 or 2**

13. What organ in the dairy cow produces urine?

**Kidney**

14. What metabolic disorder in cattle is associated with a magnesium deficiency?

**Grass Tetany**

15. 80 to 90% of displaced abomasums occur on which side?

**The left side**

16. What symptom of scours in calves causes the most critical concern?

**Dehydration**

---

**Round 8**

**INDIVIDUAL**

1a. Define Mortality rate.

**The number of dead animals during a specified period of time**

2a. The amount of cheese that can be manufactured from one pound of milk is most affected by which component of the milk?

**Protein**

3a. What enzyme is added to milk to make cheese, causing the milk to coagulate and separate into curds and whey?

**Rennet**

4a. What is the term for the inflammation of vascular hoof tissue?

**Laminitis**

---

1b. What is the most common item used to bring in fresh air, while removing moisture, dust and gases in warm weather?

Fan

2b. What is the name of the nation's largest cooperative of organic farmers?

Organic Valley Cooperative

3b. A silage that is well packed and sealed, the average temperature should not exceed above the ambient temperature by how many degrees Fahrenheit?

10-20 degrees

4b. Manure dropped from a healthy standing cow should form a pile roughly 8 inches in diameter and 2.5 inches high with what in the center?

Dimple

---

1c. Genetic Evaluations are conducted three times a year by the CDCB. What does CDCB stand for?

Council on Dairy Cattle Breeding

2c. Typical stubble height for corn silage is 4-6 inches. What is the stubble height for high cut corn silage?

15-18 inches

3c. What U.S. state accounted for over 25% of the cheese produced in 2014?

Wisconsin

4c. What is the name of the fund that was initiated by the Holstein Foundation to help support young dairy producers in attending the Young Dairy Leaders Institute?

Horace Backus (Scholarship) Fund

---

**TOSS UP**

1. What the name for the corn forage is harvested from the ear up?

Snaplage

2. It is recommended that calves should wear calf jackets when the temperature drops below what temperature?

40 degrees F

3. If a cow is getting adequate effective fiber in the diet, her rumination time should be how many minutes per day?

450-500 minutes

4. What is the name of the process performed on a windrow to enhance drying?

Tedding

5. What structure of the bulk tank stirs the milk to help with cooling and to ensure a uniform product mixture for sampling?

Agitator

6. What flavoring is added to cheese and butter to improve its taste?

Salt

7. What does NDC stand for?

National Dairy Council

8. When using automated teat scrubbers, it takes approximately how many seconds of contact time per teat to complete cleaning?

2 to 4 seconds

9. For dairy cattle, water should be presented how many inches above the floor?  
24 to 32 inches
10. What is the term for a quarter of the udder that permanently does not secrete milk?  
Blind quarter
11. Which body structures the carry blood from the body back to the heart?  
Veins
12. Which U.S state ranked number one for tons and acres of alfalfa produced in 2015 with more than 7.5 million tons and 2.1 million acres?  
Wisconsin
13. What is a teat canula used for?  
To drain milk from an injured teat or to open it
14. Founder disease is the more common name for what dairy cattle disease?  
Laminitis
15. On the average dairy farm, what is the second largest use of electricity, consuming twenty percent of electricity used on-farm?  
Lighting
16. Where in the cell is DNA found?  
Nucleus
- 

## **Round 9**

### **INDIVIDUAL**

- 1a. Who is the current convention chair on the Junior Executive Committee?  
Stephanie Bishop

2a. what locomotion score would a cow receive that stands and walks with an arched back and short stride with slightly sinking of the dewclaws?

3

3a. Peak milk is the highest daily milk production for a test day prior to how many days in milk?

150 days

4a. What is the most common measurement of silage fermentation?

pH

---

1b. Which udder trait receives the most emphasis in the udder composite index?

Udder depth

2b. What chair does Rachel Hoffer occupy on the Junior Executive Committee?

Dairy Jeopardy

3b. what is a common result of a cow being infected with Neospora?

Abortion

4b. Who is the current Activities chair on the Junior Executive Committee?

Jonathan King

---

1c. A pH of 7 is considered neutral. What does a pH higher than 7 indicate?

Basic or alkaline

2c. Which vitamin is essential for normal calcium or phosphorus metabolism?

Vitamin D

3c. What chair does Kristen Gallagher occupy on the Junior Executive Committee?

Showmanship and Judging

4c. What does THI stand for?

Temperature Humidity Index

---

**TOSS UP**

1. What are the clusters of milk secreting cells called?

Alveoli

2. A cow's labor is divided into how many stages?

Three stages

3. Where are subcutaneous injections given?

Under the skin

4. Cryptosporidiosis (Crypto) affects which part of the digestive system?

Small intestine

5. What is the more common name for bovine respiratory disease?

Pneumonia

6. Vitamin D helps prevent what disorder in calves?

Rickets

7. What percentage of the females ova are in a mature cow's ovary at birth?

100%

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

U.S. Grade AA

9. What piece of equipment is used to fill the rows of white plastic bags that are filled with silage?

Ag-bagger

10. What is the common term for the amount of money one owes to creditors?

Debt

11. What is the name of the movie directed by James Moll that depicts the everyday life of 6 farmers and was in movie theaters across the country?

Farmland

12. The governor of New York has declared what dairy product as the official state snack?

Yogurt

13. What is the genetic code used for tested heterozygous polled?

PC

14. What term is used to compare a farm business with industry standards?

Benchmarking

15. The rectum, colon, and what else make up the hindgut of the digestive system?

Cecum

16. Cows infected with the organism that causes Johne's disease often will begin shedding the organism at about what age?

2 years

---

## **Round 10**

### **INDIVIDUAL**

1a. OSHA has increased inspections of dairy farms in New York State recently. What does OSHA stand for?

Occupational Safety and Health Administration

2a. How many cells are there in an embryo after 4 cell divisions?

16

3a. What must be fed with calf starter to help with the rumen development in calves?

Water

4a. Which professional sports league is partnering with the dairy check-off to promote child nutrition and fitness?

National Football League (NFL)

---

1b. Which rear udder trait is measured horizontally across the top of the milk secreting tissue where the udder attaches to the body wall?

Rear Udder Width

2b. What nutrient is found in the nodules on the roots of legumes such as alfalfa?

Nitrogen

3b. What is another name for premature luteolysis?

Short estrus cycles

4b. What structure connects muscle to bone?

Tendon

---

1c. Which stomach compartment is largest in the newborn calf?

Abomasum

2c. What is the name of the large bony ring to which the hind legs are attached?

Pelvis

3c. What is the term used to describe the act of managing a business's labor source?

Human Resource Management

4c. In addition to ammonia and methane, what other gas is produced in the rumen?

Carbon dioxide

---

### **TOSS UP**

1. In the reproductive tract of a dairy cow, how many uterine horns are there?

Two

2. What part of the cell is known as the powerhouse of the cell because of the amount of energy produced in this part?

Mitochondria

3. The broad ligament holds the ovaries and what other structure in their proper position?

Uterus

4. What is the process called in which the udder tissue reverts to a non-milk producing state after drying off?

Involution

5. When reviewing an animal's performance records, what does ADG stand for?

Average Daily Gain

6. What is the recommended temperature for washing the bulk tank?

160 degrees F

7. What milk component is the major determinant of the amount of cheese yield from milk?

Protein

8. What does PL stand for in regards to genetics and breeding?

Productive Life

9. What does the g in gTPI stand for?

Genomic

10. In a newborn calf, in which part of the digestive system are the majority of immunoglobulins from colostrum absorbed?

Small Intestine

11. What is the third largest expense in a typical American household?

Food

12. If you want to check to see if a cow already has a magnet hold what device behind the animal's left elbow and the magnet will deflect?

Compass

13. What is the most common cause of dystocia in dairy animals?

The calf is too large to fit pelvis of mother

14. Who was the 2017 recipient of the Klussendorf Trophy?

Harry Papageorge

15. What is the name of the component in a milking system that serves to remove air from a partially closed system and therefore creates a partial vacuum?

Vacuum Pump

16. Name the inventor that discovered that heating beer, wine and milk to a particular temperature could kill most bacteria that cause spoilage, thus preventing these beverages from turning sour.

Louis Pasteur

---

