

2017 Junior District Dairy Bowl Contest

Junior Packet 1, Phase A

1) What is the name for the term that describes the movement of nitrates through the soil to groundwater?

Leaching

2) In relation to animal health, what does the acronym ELISA stand for?

Enzyme-Linked Immunosorbent Assay

3) What is the term used for the taste or likeability of a feedstuff?

Palatability

4) Who is the New York State Commissioner of Agriculture and Markets?

Richard Ball

Junior Packet 1, Phase B

1) Name 3 diseases of dairy cattle with a color in their name

Red water

Red nose

Black leg

Blue tongue

White muscle disease

Pink eye

White heifer disease

2) What are the two main gases produced in the rumen?

Methane and Carbon Dioxide

3) Name 3 items that are important for tractor safety

Good tires

Slow moving vehicle sign

Seat belt

Roll over protection bars

Lights

PTO shield

Sound protection

Brakes

No riders

4) What are the 3 volatile fatty acids produced by microorganisms in the rumen that are absorbed through the rumen walls?

Acetate (acetic acid)

Butyrate (butyric acid)

Propionate (propionic acid)

Junior Packet 1, Phase C

- 1) During hot weather, a cow's body temperature often peaks at what time of day?
 - Midnight
- 2) Which nutrient is considered the most essential of all nutrients, and is required for all bodily functions?
 - Water
- 3) Which type of mastitis causing bacterial infection typically responds to antibiotic therapy?
 - Gram positive
- 4) What is used as a reference point to determine the height of the udder floor?
 - The Hock
- 5) What is the official state snack of New York?
 - Yogurt
- 6) What is the most frequent cause of high bacteria in milk?
 - Dirty equipment
- 7) When calves are born, what two portions of their digestive system are not fully developed?
 - Reticulum and rumen
- 8) Mulefoot is the common name that is given to the genetic abnormality in cattle where the hoof has fused into what?
 - Single toe
- 9) When rumen pH drops below 5.9, what is it considered?
 - Acidotic
- 10) Cows are most likely to express estrus when housed on what type of surface?
 - Earthen/dirt
- 11) Naturally ventilated barns need to be positioned in which direction?
 - East-West

- 12)** In calves, which disease is caused by a deficiency of vitamin E and selenium?
- White muscle disease
- 13)** A prolapsed uterus in older cows can often be tied to low levels of what mineral?
- Calcium
- 14)** What is the name of the official written documentation of a veterinarian's interaction with a given dairy farm?
- Veterinary Client Patient Relationship
- 15)** In reproduction, what is another name for the yellow body?
- Corpus Luteum
- 16)** What does NMC stand for?
- National Mastitis Council

2017 Junior District Dairy Bowl Contest

Junior Packet 2, Phase A

- 1) Where is follicle stimulating hormone (FSH) produced??
 - Pituitary gland
- 2) What metabolic disorder is associated with magnesium deficiency?
 - Grass tetany
- 3) Which breed of cow remains in negative energy balance for longer, a Holstein or a jersey?
 - Holstein
- 4) What month is National Grilled Cheese Month?
 - April

Junior Packet 2, Phase B

1) Name the four stages of the estrus cycle

- - Estrus
- - Metestrus
- Diestrus
- Proestrus

2) What are 2 main functions of the large intestine?

- Water absorption
- Storage of waste materials
- Excrete

3) Name the four critical factors in colostrum management

Quality

Quantity

Timing

Cleanliness

4) Name 5 reasons for culling a cow from the herd

- Low production
- Mastitis
- Reproduction
- Udder
- Feet and Legs
- Disease
- Injury
- Disposition

Junior Packet 2, Phase C

1) What is usually the most widely fed forage in a dairy ration?

- Corn Silage

2) Long-day lighting provides at least how many hours of light exposure per day?

- 16 to 18 hours

3) What corn forage is typically harvested with a forage harvester equipped with an ear-snapper header?

Snaplage

4) What is morbidity rate?

- The number of sick animals during a specific period of time

5) What country is the world's largest exporter of milk?

- New Zealand

6) What is the first phase of fermentation, which takes place in packed silage while oxygen is still present?

- Aerobic phase

7) Which yogurt manufacturer pledged to no longer accept milk from cows fed grains from genetically modified organisms with a goal of full implementation by 2018?

- Dannon

8) Which factor is considered to be the most important in reducing lameness prevalence in robotic milking system herds?

Stall size

9) Conception rates can fall 20 to 40 percent due to what environmental issue usually in the summer months?

Heat stress

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

Keratin

11) What is the name of the new fluid milk beverage Coca Cola is producing with Select Milk Producers?

Fairlife

12) On the PDCA scorecard, which trait is allotted 40 points, more than any other characteristic?

Udder

13) What is the recommended number of servings of dairy per day?

3 servings

14) What structure provides major support for the udder?

Median Suspensory Ligament

15) What is a castrated bull called?

Steer

16) What enzyme is required for rapid lactose breakdown?

Lactase

2017 Junior District Dairy Bowl Contest

Junior Packet 3, Phase A

1) True or false: All cows contribute somatic cells to the bulk tank?

- True

2) What part of the alfalfa plant contains the highest percent protein?

- The leaves

3) Will the fiber content in a forage crop increase, decrease, or stay the same as it grows and matures?

- Increase

4) What is residual milk?

- Milk that remains in the udder after milking

Junior Packet 3, Phase B

1) What are 3 of the 5 major components of feedstuffs?

- Energy (carbohydrates, starch, fats)
- Protein
- Minerals
- Vitamins
- Water

2) List the 4 ways to store excess colostrum

- Add preservative acid
- Fermentation
- Freeze
- Refrigerate

3) Name 3 symptoms of a cow suffering from hardware disease

- Cow suddenly goes off of feed
- Drop in milk production
- Abnormal standing/posture
- Fever
- No rumen movements
- Less manure output

4) Name two types or methods of storage facilities for silage

- Bunker silo
- Trench silo
- Upright or tower silo
- Oxygen limiting silo
- Plastic bag

Junior Packet 3, Phase C

- 1) On average, cows have a flight zone of how many feet?
 - 5 feet
- 2) In reference to milk, what do the initials FCM stand for?
 - Fat Corrected Milk
- 3) In the reproductive tract of a dairy cow, how many uterine horns are there?
 - Two
- 4) Chocolate milk was invented in what year?
 - 1919
- 5) What is the planting process called when crops are planted without plowing or disking the field?
 - No-till
- 6) During High Temperature Short Time (HTST) pasteurization, milk is heated to what temperature for 15 seconds?
 - 161 degrees Fahrenheit
- 7) What does the acronym NDF stand for when talking about feedstuffs?
 - Neutral Detergent Fiber
- 8) How many pounds of blood are pumped through the udder to produce one pound of milk?
 - 400 pounds
- 9) Pneumonic pasteurellosis is another name for what respiratory disease?
 - Shipping fever
- 10) What is the most important factor to consider in determining when to breed a heifer for the first time?
 - Body size
- 11) What is the term used to describe the small projections in the small intestine?
 - Villi

12) Which vitamin functions to coagulate blood?

- Vitamin K

13) What is the name of the mechanism that stirs the milk in a bulk tank?

- Agitator

14) What is the name of the antibody found, in the largest quantity, in colostrum that a calf needs for immunity?

- Immunoglobulin G or IgG

15) What class of vitamins does niacin fall into?

- B vitamins

16) What term refers to the corn stalk after the ear is removed?

- Corn Stover

2017 Junior District Dairy Bowl Contest

Junior Packet 4, Phase A

- 1) Locomotion scoring is used to identify cows with what physical condition?
 - Lameness
- 2) What is the primary acid found in the abomasum?
 - Hydrochloric acid
- 3) What month is National Dairy Month?
 - June
- 4) Which of the following describes “the release of an egg from a follicle”:
Parturition, palpation, or ovulation?
 - Ovulation

Junior Packet 4, Phase B

1) Name 2 substances commonly used in a foot bath on a dairy farm

Copper sulfate

Zinc sulfate

Tetracycline

Formalin

2) Name 3 Class 1 Dairy Products

Chocolate milk

Whole milk

Reduced fat milk

Low fat milk

Fat free milk

3) Name 3 metabolic diseases in dairy cattle

Ketosis, Acidosis, Displaced Abomasum, Laminitis

Milk Fever, Grass Tetany, Retained Placenta

4) Name two methods for reducing heat stress in cattle

Shade

Ventilation

Cooling

Sprinklers

Fans

Free-choice water

Junior Packet 4, Phase C

- 1) Ideally, cows should not be in the holding pen for more than what length of time?
 - 1 hour
- 2) At what temperature should your water bath be for thawing semen?
 - 95 degrees Fahrenheit
- 3) What is another name for ascorbic acid?
 - Vitamin C
- 4) What is the name of the mineral matter present in feed?
 - Ash
- 5) Which class of dairy products includes fluid cream products, yogurt, and manufactured products?
 - Class II
- 6) In reference to the national dairy industry, what does ADSA stand for?
 - American Dairy Science Association
- 7) What is the proper name for milk fever?
 - Parturient paresis/Hypocalcemia
- 8) Where in the United States was the first commercial butter factory built?
 - New York
- 9) What is the best way to tell if a cow is in standing heat?
 - She allows other cows to mount her
- 10) In the dairy cow, where would you find the Islet of Langerhans?
 - In the pancreas
- 11) In what city and state is World Dairy Expo held?
 - Madison, Wisconsin
- 12) What animal feeding system uses grass paddocks, reels, electric fences, water, and rest periods for the paddocks?
 - Rotational grazing

- 13)** What is the common name for keratoconjunctivitis?
- Pink eye
- 14)** A gallon of milk weighs how many pounds to the nearest 10th of a pound?
- 8.6 pounds
- 15)** What is the portion of feed called that remains after water has been removed from the feed by drying it in an oven?
- Dry Matter
- 16)** What is the name of the section of the cow's back located between the chine and the rump?
- Loin

2017 Junior District Dairy Bowl Contest

Junior Packet 5, Phase A

1) True or false: Massaging the teat end is one of the most important functions of the teat cup liner

True

2) What is the name of the instrument used to give an animal a pill or bolus?

Balling gun

3) The letter in a bull's stud code number tells you what about him?

His breed

4) How many pounds of whole milk does it take to make one gallon of ice cream?

12 pounds

Junior Packet 5, Phase B

1) Name 2 ways for testing pregnancy in cows

Palpation

Testing hormones in milk

Testing hormones in blood

Ultrasound

2) Name two ways that a pathogen can gain entry into a calf's body

Mouth

Navel

Nose

3) Name 3 areas on the farm that contribute waste to the nutrient management plan

Feeding area

Housing area

Holding pen

Return alley

Foot baths

Milking parlor

Run-off areas

4) When dealing with mastitis, name 4 clinical symptoms of mastitis you could detect in the milk or udder

Flakes

Clots

Watery milk

Swollen/hot quarter

Blood

Stringy milk

Junior Packet 5, Phase C

1) What is the name of the fetal component of the placental attachment?

Cotyledon

2) What dairy expense is the most notable difference in costs between high-profit and low-profit organic herds?

Labor

3) What trait evaluation system serves as the basis of all modern dairy cattle type identification systems?

Linear type traits

4) A cow can smell up to how many miles away?

6 miles

5) Milk is composed of approximately what percent lactose?

5%

6) What is a teat cannula used for?

To drain milk from an injured teat or to open it

7) On the average dairy farm, what is the second largest use of electricity?

Lighting

8) Pollination of alfalfa flowers to create seeds depends on what insect?

Bee(s)

9) What is the technical term for belching?

Eructation

10) When training employees, you want to review several SOP's. What do the initials SOP stand for?

Standard Operating Procedures

11) Who is considered the "Father of Modern Dairying?"

W.D. Hoard

12) The consumption of what dairy product was correlated with a reduced risk of high blood pressure?

Yogurt

13) What does the acronym THI stand for?

Temperature Humidity Index

14) It is recommended that all crop fields be sampled for soil and pH fertility once every how many years?

3 to 4 years

15) What did Dr. Harvey Thatcher invent?

The milk bottle

16) What is the technical term for mad cow disease?

Bovine spongiform encephalopathy

2017 Junior District Dairy Bowl Contest

Junior Packet 6, Phase A

1) A bag of 15-0-5 fertilizer contains what percent nitrogen?

15%

2) What are the two leading causes of death in young calves?

Scours and pneumonia

3) What do the initials BCS stand for?

Body condition score

4) What is the term for forages harvested in the field and fed directly to livestock?

Green chop

Junior Packet 6, Phase B

1) Name 3 important points in selecting a calf as a project animal

- Age
- Breed
- Health
- Pedigree
- Conformation
- Cost
- Place to keep it and location
- Size

2) Name 3 factors that can influence the amount of water consumed by dairy cattle

- Body size
- Environmental temperature
- Water temperature
- Water quality
- Relative humidity
- Diet
- Milk production
- Stage of lactation

3) What are 4 things that must be on a feed company label?

- Ingredients list
- Nutrient analysis
- How much to feed (And directions)
- Any withdrawal times

4) Name 2 internal parasites that can be found in dairy cattle

- Lung worms
- Round worms
- Stomach worms
- Liver flukes
- Coccidia

Junior Packet 6, Phase C

1) What class of milk includes milk in dried form and butter?

Class IV

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

Extra label

3) What is the common name for mycobacterium paratuberculosis?

Johnes Disease

4) A mature cow has how many teeth?

32

5) What is the simple definition of a liability?

Something that you owe

6) What month is national ice cream month?

July

7) How old is a calf when it begins to chew its cud?

2 to 3 weeks old

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

Molasses

9) What is the sex chromosome combination for a male calf?

XY

10) Where is a subcutaneous injection given or placed?

Under the skin

11) How many calories does a serving of whole milk have?

160

12) Where on a cow would you find a white line lesion?

Hoof or sole

13) What season of the year is consumer demand for dairy products typically the lowest?

Summer

14) Where on the corn plant is the milk line found?

Kernel

15) What piece of feeding equipment is used to feed a calf milk when she will not drink on her own?

Esophageal feeder or tube feeder

16) Milk must be cooled to what temperature in degrees F before it can be transported?

45 degrees F

2017 Junior District Dairy Bowl Contest

Junior Packet 7, Phase A

1) Of the following feeds, which is the least desirable for a calf that is a week old: whole milk, corn silage, a coarse grain mix, or milk replacer?

Corn silage

2) When balancing a dairy cow's ration is silage considered a roughage or concentrate?

Roughage

3) What is the loose skin of the underside of the neck?

Dewlap

4) What is the name of the cow side test uses a four compartment paddle to test a sample of milk to identify cows with mastitis?

CMT

Junior Packet 7, Phase B

1) Name 3 of the 5 parts of a milking unit

Claw

Milk tube

Short air tube

Teat cup shell

Teat cup liner or inflation

2) Name 3 different base options that are installed in the bottom of cow stalls

Concrete

Rubber-filled mattresses

Rubber mats

Sand

Dual-chambered water beds

Recycled manure solids

Deep-bedded sawdust

3) Saliva is a major buffer for maintaining rumen pH. Name 3 functions of saliva

Moistens food

Lubricates food

Acts as a buffer

Provides fluid base for many nutrients

Provides proper environment for bacterial growth

4) What are the two most effective measures that can be used on the farm to prevent new mastitis infections?

Teat dipping

Dry cow antibiotic treatment

Junior Packet 7, Phase C

1) Who regulates the Federal Milk Marketing Orders?

The Secretary of Agriculture

2) How many phases are there in the ensiling process?

4

3) What is the piece of equipment called that divides solid manure components from liquid?

Manure separator

4) What is the standard lactation length (in days) on DHIA records?

305 days

5) How many amino acids are considered to be essential in the dairy cow?

10

6) Limestone contains high amounts of what mineral?

Calcium

7) How often does the USDA Agricultural Census take place?

Every five years

8) From the outside of the animal, what is the only part of the female reproductive tract you'll see?

Vulva

9) Footbaths should be used at least how many days a week?

3 to 4

10) In making cheese, milk is divided into solids and liquids. What are these two fractions called?

Curds and whey

11) What milk production measurement does the acronym RHA stand for?

Rolling herd average

12) What is the Babcock test used to measure?

Butterfat composition

13) In what year was the pulsator invented?

1895

14) Cows do not reach adult weight until which lactation?

Third lactation

15) What does the acronym CLA stand for?

Conjugated Linoleic Acid

16) What structure connects muscle to bone?

Tendon

2017 Junior District Dairy Bowl Contest

Junior Packet 8, Phase A

1) What is the term used to describe management practices that protect the herd from entry of new diseases and minimize the spread of diseases in the herd?

Biosecurity

2) What is the term for white blood cells and epithelial cells found in milk?

Somatic cells or leukocytes

3) Where do you measure when using a weight tape?

Around the heart girth

4) Name one vitamin that is fat soluble

A, D, E, K

Junior Packet 8, Phase B

1) A cow's day consists of 5 major activities. What are they?

- Eating
- Lying down
- Standing
- Milking
- Drinking

2) What two amino acids are considered to be first limiting or co-limiting for milk protein synthesis?

Methionine and lysine

3) Name 3 items that a judge looks for when judging a fitting and showmanship contest

- Animal's condition
- Cleanliness
- Clipping
- Grooming
- Appearance of exhibitor
- Leading the animal
- Posing the animal
- Showing the animal to the best advantage
- Poise
- Alertness
- Attitude

4) When hoof trimming, what 3 pieces of information should the trimmer write down about each cow being trimmed?

- Cow's name/ID number
- Date lesion and treatment was applied
- Location of lesion
- Severity of lesion
- Follow-up treatment needed
- Foot that is treated or abnormal

Junior Packet 8, Phase C

1) To maximize lactation performance and reduce rearing costs, a general recommendation is that average age at first calving be how many months?

22-24 months

2) When talking about animal identification, what do the initials RFID stand for?

Radio Frequency Identification

3) What is the ultimate factor affecting forage quality?

Maturity

4) Alfalfa is relatively sensitive to soil acidity and does best in what soil pH?

6.5-7.5

5) What is commonly known as milkfat and is a staple in the production of a variety of dairy products, including, cheese, butter, and ice cream?

Butterfat

6) What hormone should a cow with a luteal cyst be treated with?

Prostaglandin

7) What organization has oversight over all checkoff programs?

United States Department of Agriculture

8) Where in the small intestine do secretions from the pancreas, liver, and intestine enter?

Duodenum

9) How many weeks are usually required for corn silage to ferment?

8 to 10 weeks

10) In regards to dairy cattle, what do the initials HBS stand for?

Hemorrhagic Bowel Syndrome

11) Moisture and what else are the two primary sources of exposure to environmental pathogens that cause mastitis in cows?

Manure

12) Which cheese coagulant is made from an enzyme found in the inner lining of a calf's stomach?

Rennet

13) What piece of farm equipment is used to narrow the swath for a baler and to move the wetter material at the bottom of the windrow through the outside?

Rake or merger

14) For optimal performance, fan blades should be cleaned how often?

Once a year

15) What term refers to the reproductive lifespan of a cow?

Longevity

16) If you have to house mature and first-lactation cows together you should never go over what percent stocking rate?

100% stocking rate

2017 Junior District Dairy Quiz Bowl Extra Questions

Extra Questions-toss-up or individual

1) What is the unit of measurement used when injecting vaccine in dairy cattle?

CC's or milliliters

2) In order to qualify for international sales, somatic cell counts must be below how many cells per milliliter?

400,000 cells per ml

3) Immunoglobulins, or antibodies, cannot pass through what organ to reach the unborn calf?

Placenta

4) The U.S. Olympic Committee announced a long term partnership through the year 2020 with what yogurt maker?

Chobani

5) For dairy cattle, water should be presented at how many inches above the floor?

24 to 32 inches

6) What should be done to break up a windrow that has become dense and will not dry properly and is typically done after the morning dew is off?

Tedding

7) Whole plant corn silage is typically harvested by cutting the stalk right above what part of the plant?

The first node

8) What causes black leg in cattle: a fungus, a bacterium, or a virus?

Bacterium

9) Where did the Holstein cow originate?

Netherlands

10) As the reproductive tract is traced forward, what follows the vagina?

Cervix

11) What is the term for undulant fever when it occurs in dairy cows?

Brucellosis

12) What does the acronym TQM stand for?

Total Quality Management

13) What is the desired angle of a dairy cow's hoof?

45 degrees

14) Name the process in which udder tissue reverts to a non-milk producing state after drying off.

Involution

15) What is metritis?

An infection of the uterus

16) How many pounds of milk are required to make one pound of cheese?

10 pounds

17) What does the acronym PDCA stand for?

Purebred Dairy Cattle Association

18) Define pulsation rate

Number of times per minute that the pulsator opens and closes

19) Name the hormone that is critical in the initiation and maintenance of lactation

Prolactin

20) In a herd milked 3x, no cows should have a lag time, from the time the cow is stimulated to milker attachment, of less than how many seconds?

90 seconds

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

Carbohydrates

22) According to the PDCA dairy cow unified score card, how many points are allotted for dairy strength?

25 points

23) What are the two primary purposes of fore stripping prior to unit attachment?

Detection of abnormal milk and teat stimulation

24) During the cooler months, how many inches of silage from the bunker face should be removed per day?

6-12 inches

Team

1) What are 3 considerations for achieving adequate, effective cleaning of milking systems?

Time

Temperature

Concentration of cleaning solution

Covers entire system

2) Name 3 legumes used for grazing or hay

Alfalfa

Clover

Lespedeza

Vetch

Soybeans

Peanuts

Peas

Birds-foot trefoil

3) Name three of the major causes of calf scours

Inadequate colostrum

Poor quality colostrum

Poor quality milk replacer

Unsanitary calving conditions

Overfeeding

Overcrowding

Inadequate ventilation