

2011 NYS District Junior Dairy Quiz Bowl Contest

Junior Packet 1, Phase A

1. Which of the following describes “the release of an egg from a follicle”: parturition, palpation, or ovulation?

Ovulation

2. In dairy calf management, morbidity rate refers to; the number of death losses, the number of sick animals in a certain period of time, or the average daily gain of an animal.

The number of sick animals in a certain period of time

3. What is the name of the heating process used to kill bacteria in milk: Homogenization, fermentation, pasteurization, or pulsation?

Pasteurization

4. When a lactating dairy is frightened, what hormone is released to prevent the letdown of milk; epinephrine (or adrenaline), oxytocin, or progesterone?

Epinephrine (or adrenaline)

Junior Packet 1, Phase B

1. List 5 sources of on-farm milk contamination
 - Air (dust)
 - Antibiotics
 - Dirt (from outside of the cow)
 - Equipment
 - Feed
 - Insects
 - Interior of udder
 - Water

2. Name 4 signs of estrus (heat) in dairy cattle
 - Restlessness
 - Bellowing
 - Following and smelling other cow
 - Mounting other cows
 - Standing to be mounted
 - Discharge of clear mucus from the vulva
 - Vulva becomes red and swollen

3. What are 3 symptoms of clinical mastitis
 - Flakes
 - Clots
 - Presence of Blood
 - Stringy milk
 - Watery milk
 - Swollen quarter
 - Hot quarter
 - Ropy Milk-milk that contains strings of white blood cells

4. In order for the cow to produce one gallon of milk, approximately how many gallons of blood must pass through the udder?
 - 400-500 gallons

Junior Packet 1, Phase C

1. As corn is being planted, what is the ideal speed for the tractor and planter?

4.5 to 5.5 mph

2. A metabolic disorder that often occurs when a dairy cow eats too much grain refers to

Acidosis

3. What is churning?

The process of turning cream into butter

4. Total protein in feed is also known as,

Crude protein

5. What is the largest cost in milk production

Feed

6. The number one reason for culling a dairy cow in the U.S. is due to

Reproduction

7. What time of year is Pinkeye of Keratoconjunctivitis most prevalent?

Summer

8. Who is the US Secretary of Agriculture?

Tom Volsack

9. How many pounds of whole milk does it take to make a pound of butter?

21.2 pounds

10. What is the main reason that cows refuse to use free stalls?

Size

11. What is the location of the National Dairy Shrine?

Fort Atkinson, Wisconsin

12. How many points are allotted to a dairy heifer for feet and legs, according to the Dairy Heifer Score Card?

30 points

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

90%

14. Another name for an extra teat is

Supernumerary teat

15. How many seconds should pre-dip be left on before wiping off?

20-30 Seconds

16. Which of the four stomachs is often referred to as the honeycomb?

Reticulum

**2011 NYS District Junior
Dairy Quiz Bowl Contest**

Junior Packet 2, Phase A

1. A screening test for brucellosis, conducted on milk samples is called; Babcock Test, CMT, or the “Ring” test?

“Ring” test

2. When entering a show ring, what is the appropriate direction to lead your animal; clockwise or counterclockwise?

Clockwise

3. How much colostrum should a calf receive in the first feeding; 2 pints, 3 to 4 quarts, 1 pint, 2 quarts?

3 to 4 quarts

4. What is the proper site on the cow to administer intramuscular or I.M injections?

Neck

Junior Packet 2, Phase B

1. Put these body parts in order, starting from the front of the cow: Heart Girth, Muzzle, Loin, Hooks

Muzzle,
Heart Girth
Loin
Hooks

2. What are 4 other animals other than the cow used to produce milk for consumption throughout the world

Human
Goat
Sheep
Camel
Water Buffalo
Horse
Yak

3. What are the three major categories of carbohydrates that exist in feed?

Simple sugars (glucose)
Storage Carbohydrates (Starch)
Structures carbohydrates (Fiber)

4. Name four of the major components of milk

Protein, casein
Fat
Water
Lactose
Vitamin and minerals

Junior Packet 2, Phase C

1. The omasum is also called what?

Manyplies or stockman's bible

2. Whey is a by-product of what dairy food manufacturing process?

Cheese Making

3. Who is the Executive Secretary-Treasurer of American Guernsey Cattle Association?

Seth Johnson

4. An infection in the lungs is called?

Pneumonia

5. What is the term that is used to describe animals that give birth to live young and suckle their offspring after birth?

Mammals

6. What is colostrum?

First milk produced by a cow (3-5 days) after calving

7. It takes how many pounds of milk to make 1 pound of cheese?

10 pounds

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

Inbred

9. What products make up class III?

Hard cheese

10. What would a dairy producer be referring to if they used the term herringbone?

Milking parlor

11. If you breed a red and white Holstein cow to a known red carrier site, what is the chance you will get a red calf?

50%

12. What are the basic building blocks to proteins?

Amino Acids

13. How often should cows and heifers come into heat?

Every 21 days (-/+ 3 days)

14. What structure separates the udder into the right and left halves?

Median Suspensory Ligament

15. What is residual milk?

Milk left in the udder after a normal milking

16. The amount of time between calvings is called what?

Calving interval

**2011 NYS District Junior
Dairy Quiz Bowl Contest**

Junior Packet 3, Phase A

1. What part of the cow's back is located between the chine and the rump; brisket, thurl, dewlap, or loin?

Loin

2. Which of the following is classified as a legume; corn, alfalfa, triticale, or fescue

Alfalfa

3. Grade A milk is considered; manufactured milk, fluid milk, processed cheese.

Fluid milk

4. Blackleg is caused by which of the following; a virus, fungus, or bacterium?

Bacterium

Junior Packet 3, Phase B

1. Name 2 reasons why straw is added to a dairy cow's feed ration.

- Increase fiber content
- Slow down digestion rate
- Lower ration feed cost
- Expand gut

2. What are the 3 critical factors in colostrum management?

- Quantity
- Quality
- Timing

3. Name 3 ways a dairy cow excretes or loses water.

- Breathing
- Feces
- Milk
- Sweat
- Urine

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

- Name
- Sire
- Dam
- Date of birth
- Owner
- Breeder

Junior Packet 3, Phase C

1. Numerous abbreviations are used in communicating by way of email and other communicating devices. What does the acronym FYI stand for?

For Your Information

2. Of the many minerals in milk, which is the hardest to replace if milk and dairy foods are not a part of the diet?

Calcium

3. What does the USDA stand for?

United State Department of Agriculture

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

60%

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

Scotland

6. What is milk sugar called?

Lactose

7. What is the primary digestive activity that occurs in the large intestine?

Absorption of Water

8. What does TMR stand for?

Total Mixed Ration

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

Heifers

10. In the small intestine, nutrients are absorbed through what fingerlike projections?

Villi

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?

Homogenization

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

1952

13. Which of the following breeds were last to begin using linear classification: Ayrshire, Brown Swiss, Guernsey, Holstein, or Jersey?

Holstein

14. Where is the Purebred Dairy Cattle Association office found?

Brattleboro, VA

15. What is the first sign of Ketosis?

Cow goes off Feed

16. What is the primary reason for pasteurization of milk?

Kill pathogens

**2011 NYS District Junior
Dairy Quiz Bowl Contest**

Junior Packet 4, Phase A

1. What is the main reason newborn calves should be kept separate from each other; to prevent transmission of disease, reduce fighting or reduce labor costs?

To prevent transmission of disease

2. If a cow has mastitis, that cow should be milked first or last?

Last

3. True or False: Corn silage is generally high in protein compared to other roughage sources.

True

4. Your Veterinarian says that a cow is in the first trimester. What does that mean; the first three months of lactation, the first part of the dry period, or the first three months of pregnancy?

The first three months of pregnancy

Junior Packet 4, Phase B

1. Name 3 signs of pinkeye in a dairy animal.

- White spot in the center of the eye
- Blindness
- Very pink/red eye
- Animal tends to stay in the shade because sunlight cause pain and squinting
- Eye drainage
- Crusty, cloudy eye
- Swollen eye

2. Name 3 common methods of permanent to semi-permanent identification of calves.

- Plastic eartags
- Metal eartags
- Freeze branding
- Photo
- Sketch
- Tattoos

3. Give 4 examples of a farm's assets.

- Cows
- Land
- Tractors
- Equipment
- Feed
- Lumber
- Cash
- Buildings
- Stocks and bonds
- Co-op Equity

4. During the birthing process, what is the normal presentation of the calf?

Head (muzzle) and front feet first

Junior Packet 4, Phase C

1. What percent of dairy animals are artificially inseminated?

60%

2. In regards to Total fiber, what is the best measurement?

NDF (Neutral Detergent Fiber)

3. What is the best protein source for feeding baby calves?

Milk

1. What flavor is added to cheese and butter to improve the taste?

Salt

2. Define a Laceration

Cut

3. How many teeth does a mature dairy cow have?

32 Teeth

4. What stomach compartment is the largest?

Rumen

5. What is another name for a twisted stomach?

Displaced Abomasum

6. What fast food chain uses the largest amount of milk?

McDonalds

7. Which breed of dairy cows has the longest gestation period?

Brown Swiss

8. In regards to equipment, what does SMV stand for?

Slow-moving vehicle

9. What does DIP stand for relative to nutrition?

Degradable intake protein

10. Which mineral is used to build strong bones and teeth, in conjunction with calcium?

Phosphorus

11. What is the solid portion of cheese called?

Curd

12. When cleaning a milking system, what is the minimum temperature generally recommended for the chlorinated cleaner cycle?

140 Degrees Fahrenheit

13. When talking about diets, what do the letters RDA stand for?

Recommended Daily (dietary) allowances

14. What part of farming does agronomy deal with?

Crop production

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

Energy

16. How long should a straw of semen be in a hot water bath?

45 Seconds

**2011 NYS District Junior
Dairy Quiz Bowl Contest**

Junior Packet 5, Phase A

1. In reference to the dairy cow, which one of the following is located between the dew claw and the thigh: thurl, knee, hock, or pastern?

Hock

2. Bovine Somatotropin is used to: release a retain placenta, increase rumen pH, increase milk yields, or increase blood calcium?

Increase milk yields

3. There is the most production loss on a herd from what type of mastitis; subclinical or clinical?

Subclinical

4. Which of the following breeds originated from the US; Holstein, Jersey, Ayrshire, all of the above, or none of the above.

None of the above

Junior Packet 5, Phase B

1. What are 4 reasons for culling a dairy cow from the herd?

- Low production
- Mastitis
- Illness
- Reproduction
- Udder quality
- Poor feet and legs
- Lameness
- Disease
- Temperament
- Mobility
- High somatic cell count
- Age

2. Please list 3 of the top 5 considerations of superior calf housing.

- Ventilation
- Comfort
- Isolation or group housing
- Labor efficiency
- Cost

3. Name 3 different way you can administer an injection to a cow.

- IM
- IV
- Sub Q
- Intramammary

4. Name 2 major groups or types of dairy products that use bacterial culture to make them.

- Sour Cream
- Yogurt
- Cottage cheese
- Hard cheese
- Buttermilk

Junior Packet 5, Phase C

1. Dry matter is defined as what?

Material that remains after all of the water has been removed

2. What does the acronym ERPA stand for?

Estimated Relative Producing Ability

3. On an organic dairy farm, what percentage of the feed must be organic in order for the milk to be considered organic?

100%

4. On the average, how many hours per day does a cow spend eating?

8-9 hours

5. The World Dairy Expo is held in what city and state?

Madison, WI

6. During which month is National Agricultural Day celebrated?

March

7. Which is the oldest of the dairy breeds?

Brown Swiss

8. A sterile heifer that was born as a twin to a bull is known as?

Freemartin

9. Which breed of cows is affected by white heifer disease?

Milking Shorthorns

10. What is the ideal rumen pH?

6.2-6.8

11. What class of nutrient is the major source of energy in a cow's diet?

Carbohydrates

12. What year did cattle come to the Plymouth colony?

1624

13. What vitamin is contained in green forage?

Vitamin A

14. What is the largest component of butter?

Milk fat

15. Dr. Harvey D. Thatcher invented what?

The Milk Bottle

16. What two gasses are given off in the rumen?

Methane and Carbon Dioxide

**2011 NYS District Junior
Dairy Quiz Bowl Contest**

Junior Packet 6, Phase A

1. When should dehorning be done on an animal?

When button is visible or less than 3 weeks

2. What describes the process of flushing fertilized eggs from donor cows and implanting them in recipient cows; artificial insemination, embryo transfer, gestation, or ultrasound imaging?

Embryo Transfer

3. What is the approximate body condition score of a dry cow, 1.5-2, 2.5-3.0, 3.5-4, 4.5-5?

3.5-4

4. The term used for a calf's mother is?

Dam

Junior Packet 6, Phase B

1. What is the difference between animal rights and animal welfare?

Animal rights—animals have the same rights as humans.

Animal welfare—there is an overall concern for the treatment and the welfare of animals

2. What are 4 signs that a calf is ill?

Poor appetite

Cough

Watery manure

Nasal discharge

Drooping ears

Dull eyes

Lack of energy

Elevated temperature

3. Foot problems can have a big impact on a dairy: name 4 things that can be affected by cows with foot problems.

Increase cost of trimming

Increased vet bill/medication costs

Decreased dry matter intakes

Decreased milk production

Trouble with heat detection

Increase in injuries

Increase in cull rates

4. Name 4 advantages of feeding a TMR?

Eliminate selective eating

Consistent ration

Higher dry matter intake

Free-choice minerals not needed

Higher milk production

Lower percent fiber needed in ration

Easier to balance precisely

Fewer digestive upsets

Can feed a variety of by-products

Junior Packet 6, Phase C

1. What is a good source of starch in a Cows diet?

Grains, oats, corn

2. What can both the dairy cow and plants make from some form of nitrogen?

Protein

3. A mother of the calf is called a dam, what is the father called?

Sire

4. What is anaerobic?

Without air

5. Johne's disease affects what organ system?

Digestive

6. Milk is approximately what percent water?

87%

7. What is the hormone in cows that causes each alveolus to squeeze the milk down into small tubes that lead to the teat?

Oxytocin

8. During nursing of a newborn calf, milk bypasses the rumen via the esophageal groove, also known as what?

Reticular Groove

9. Which breed organization was the first to register and transfer animals by computer data processing?

American Guernsey Association

10. What does BST stand for?

Bovine Somatotropin

11. What are a bull's progeny?

Sons and Daughters

12. What does the word gestation mean?

The time a mother carries her calf

13. The characteristic creamy color seen in high butterfat milk is due to the presence of what substance in milk?

Carotene (carotenoid)

14. The normal body temperature of a dairy calf is

102.5 degrees Fahrenheit (accept 101.5-102.5)

15. What is used as the reference point to determine the height of the udder floor?

Hock

16. What is the danger to a person who enters an upright silo too soon after filling with silage?

Toxic silo gases

**2011 NYS District Junior
Dairy Quiz Bowl Contest**

Junior Packet 7, Phase A

1. What is a better way of storing butter, in the freezer or in the refrigerator?

The freezer (HD, 4/25/08, pg. 288)

2. Why is dipping a navel recommended over spraying?

Think of the navel like a straw, you dip it, make sure the inside and the outside is covered; you spray it, only the outside is covered. (DHM, 8/08, pg. 10) or better coverage

3. Which of the following describes soybean hulls and corn gluten feed; forages, bentonites, or by-product feeds?

By-product feeds

4. What is the name of the on-farm test that uses a white paddle and solution to detect subclinical mastitis?

California Mastitis Test

Junior Packet 7, Phase B

1. Name three systems calf housing.

Calf hutch
Greenshouse
Elevated stalls
Pens on the floor
Cold calf housing system
Counter-slope system(Virginia Study materials, pg. 26)

2. Name 3 micro-minerals required by dairy cows?

Cobalt, Copper, Iodine, Iron, Manganese, Selenium, Zinc
(Virginia study materials, pg. 9)

3. Ear tattoos are recognized as the preferred method of permanent identification in 3 dairy cattle breeds. Name 2 of them.

Brown Swiss
Jersey
Milking Shorthorn (Virginia study materials, pg. 33)

4. Name 4 recommended proper milking procedures.

Provide a clean, low stress environment for the cows
Check foremilk and udder for mastitis
Predip teats in an effective product and provide adequate contact time of 20 to 30 sec.
Dry teats completely with an individual towel
Attach milking unit within 1 minute after the start of stimulation
Adjust units as necessary for proper teat alignment
Shut off vacuum before removing the milking unit
Dip teats immediately after unit removal with an effective product
Washing equipment
Wear gloves
Pre and post dip

Junior Packet 7, Phase C

1. Who is the 2011 Commissioner of Agriculture?

Darrel Aubertine

2. Which vitamin is used to prevent white muscle disease?

Vitamin E

3. In the cow's reproductive tract, the cervix is characterized by rings of what?

Cartilage

4. Who was the founder of Hoard's Dairyman Magazine?

W.D. Hoard

5. What part of the milker unit is directly associated with massaging the teats?

Pulsator

6. What do we call a paper that accompanies a purebred animal and certified his or her parentage?

Registration Papers

7. What is the term used to describe 2 calves born to the same cow and resulting from 1 egg?

Identical twins

8. How many pounds are in a bushel of soybeans?

60 lbs.

9. What is parturition?

Calving

10. What is the name of the process of freezing semen from a bull and thawing it later to fertilize an egg?

Artificial Insemination

11. You purchase one ton (2000 lbs) of dairy feed with 400 pounds of protein, what percentage of the feed is protein?

20 Percent

12. What term refers to the corn stalk after the ear is removed?

Corn Stover

13. What vitamin, if fed extra before calving can help prevent milk fever?

Vitamin D

14. How much should a Holstein weigh at six months of age?

400 lbs. (350-450 lbs.)

15. On a sire proof what do the letters PTA stand for?

Predicted Transmitting Ability

16. What is the term used to describe what is left in a pasture when the cows are done grazing?

Stubble Residue

**2011 NYS District Junior
Dairy Quiz Bowl Contest**

Junior Packet 8, Phase A

1. Grade A milk must be cooled to what temperature or less within in 2 hours; 32 Degrees Fahrenheit, 60 Degrees Fahrenheit, 0 Degrees Fahrenheit, or 45 Degrees Fahrenheit

45 Degrees Fahrenheit

2. What direction should calf hutches be facing in the winter?

South

3. On a DHIA record, the term 305 ME stands for: 305-day mature equivalent, 305-day milk equivalent, or 305-pound milk efficiency.

305-day Mature Equivalent

4. Herringbone and side-by-side are both forms of a maternity pen design, a parlor design, a feeding system, or a freestall design?

Parlor Design

Junior Packet 8, Phase B

1. Name 3 factors that a dairy producer or manager may consider when grouping the milking herd.

- Body condition
- Lactation number
- Reproductive status
- Production
- Stage of lactation
- Stall size
- Availability of stalls
- Distance from the milking facility or parlor

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

- Copper sulfate
- Zinc sulfate
- Tetracycline
- Formalin

3. Name 3 different areas on the farm that contribute waste to their nutrient management program.

- Feeding area
- Housing or loafing area
- Holding pen
- Return alley
- Foot baths
- Milking parlor
- Run-off areas

4. Name 3 metabolic diseases in dairy cattle.

- Ketosis
- Milk fever
- Displaced abomasum
- Retained placenta
- Laminitis

Junior Packet 8, Phase C

1. The letters DMI stand for what organization

Dairy Management Inc.

2. The leading state for milk production is

California

3. For a dairy cow, what do we call the rest period between lactation periods?

Dry period

4. What gland produces eggs in a dairy cow?

Ovaries

5. What is the name of the organ within which the fetus or unborn calf develops?

Uterus

6. When evaluating sires, what does TPI stand for?

Type Production Index

7. All farm equipment should have the slow-moving vehicle (SMV) emblem on it. What color should it be?

Orange Center, Red Border

8. When was the Purebred Dairy Cattle Association (PDCA) formed?

1940

9. What structure connects one bone to another bone?

Ligament

10. A technique where sperm fertilizes the ovum in a laboratory dish, grows into a young embryo in the lab and then is transferred to a cow is called what?

In vitro fertilization

11. Which enzyme is needed for rapid lactose breakdown?

Lactase

12. What breed of dairy cows has the undesirable recessive trait called weavers?

Brown Swiss

13. What system does pneumonia primarily affect?

Respiratory

14. What is the proper name given to the contents of the large intestine that eventually leaves the body through the rectum?

Feces

15. What mineral decreases in the blood when a cow has milk fever?

Calcium

16. What term describes the appearance and performance characteristics of an animal?

Phenotype

2011 NY State District Junior Dairy Quiz Bowl-Extra Questions

1. When did dairy cows come to America?

With Christopher Columbus in 1493, second voyage

2. Which breed (breeds) object to solid colors?

Holstein and Guernsey

3. What is the process at the dairy plant that assures that the milk and dairy products will be uniform in protein and fat?

Standardization

4. Which bovine stomach compartment functions like a human's?

Abomasum

5. Feeding additional niacin during the last 2 weeks before calving can help control what disorder?

Ketosis

6. Dairy farmers supply what percentage of beef supply in the US?

25%

7. What is the major carbohydrate in milk?

Lactose

8. The term over condition in reference to a dairy heifer means

She is over weight

9. What is a castrated bull called?

A steer

10. The letters NDB stand for what organization?

National Dairy Board

11. What does per capita mean?

Per person

12. A common method for preventing hardware disease in dairy cattle is

Giving a magnet

13. How much genetics on average are received from the great-grand parents?

1/8

14. What is crossbred?

Animals that have parents from different breeds

15. At what age does a calf have a fully developed rumen?

4 months

16. If a farmer asks you to disinfect your boots before you step onto his farm, what management practice is he or she enforcing?

Biosecurity (Virginia study materials)

17. What is the name for two individual calves carried during the same pregnancy and developing from two separate eggs, each fertilized by a different sperm?

Fraternal twins

18. New born calves receive passive immunity from doing what management practice?

Feeding colostrum

19. If a heifer is overconditioned, what does that mean?

She is too fat (Virginia study materials)

20. On milk production records, what is meant by the term 3X?

Cows are milked 3 times a day (Virginia study materials)