
2000 STATE DAIRY BOWL QUESTIONS

JUNIOR

1. Restlessness, bellowing, clear mucus discharge from the vulva are all signs of what?

HEAT OR ESTRUS

2. What does DHIA stand for?

DAIRY HERD IMPROVEMENT ASSOCIATION

3. Removing fertilized eggs from one cow and implanting them in another is called?

EMBRYO TRANSFER

4. What toxin does wilted Cherry tree leaves and frosted Sudan grass have in common?

CYANIDE

5. When a calf nurses or is bottle fed, the milk goes directly to which stomach or compartment?

ABOMASUM

1. T OR F Blackleg is caused by the Clostridium bacteria and usually kills cattle that are over two years of age.

FALSE

2. Proper summer ventilation in a parlor will do which of the following?

- a. provide comfort to milkers and cows
- b. force heat from the area
- c. force moisture from the area
- d. all of the above

D. ALL OF THE ABOVE

3. Bulk Tank Somatic Cell Counts are a primary measure of :

- a. reproduction
- b. waste management
- c. udder health
- d. nutrition

C. UDDER HEALTH

4. Lactose is a milk

- a. protein
- b. sugar
- c. enzyme
- d. bacteria

B. SUGAR

5. T OR F Milk replacer fat levels should not exceed 10%.

FALSE

5. In milk pricing, Class II is _____

- a. fluid milk
- b. cheese
- c. soft products
- d. butter/nonfat dry milk

C. SOFT PRODUCTS

7. T OR F Farmers have twice the risk for skin cancer as the general population.

TRUE

8. For the calf to receive full benefits of immunoglobulins in colostrum, it must be consumed within what period of time?

- a. 10 minutes
- b. 12 hours
- c. 2 days
- d. one week

B. 12 HOURS

9. At calving, the body condition of a heifer should be

- a. 2.0
- b. 2.5
- c. 3.5
- d. 4.5

C. 3.5

10. What does CMT stand for?

- a. certified milk test
- b. culture milk tissue
- c. California Mastitis Test
- d. classified milk temperature

C. CALIFORNIA MASTITIS TEST

11. T OR F Eighty to 90% of displaced abomasums are left-sided.

TRUE

11. The recommended maximum level of fat in the cow's diet is?

- a. 2-3%
- b. 3-5%
- c. 5-7%
- d. 8-10%.

C. 5-7%

12. The US legal limit for somatic cell counts in raw milk and expressed as cells/ml. is?

- a. < 250,000
- b. < 400,000
- c. < 750,000
- d. < 900,000

C. < 750,000

13. Where are fats broken down in the digestive system?

- a. rumen
- b. abomasum
- c. small intestines
- d. large intestines

C. SMALL INTESTINES

14. T OR F Excessively high bacteria counts in raw milk are usually associated with refrigeration or nitration problems.

TRUE

15. The acronym bST refers to?

- a. blood serum
- b. bovine serum
- c. bovine somatotropin
- d. blood somatic test

C. BOVINE SOMATOTROPIN

16. T OR F Conception rates are increased during the summer because of the higher temperatures.

FALSE

17. On the PDCA Unified Scorecard for fitting and showmanship the appearance of the exhibitor is worth how many points:

- a. 10
- b. 30
- c. 60
- d. 80

A. 10

18. T OR F Unpasteurized waste milk contains large numbers of unwanted organisms and can be harmful to feed to calves.

TRUE

20. In the United States in milk production North Carolina ranks?

- a. #1
- b. #5
- c. #30
- d. #50

C. #30

1. Ingested metal collects in which one of the 4 stomach compartments of a cow.

RETICULUM

2. Food that cow has regurgitated and is being rechewed is called:

CUD

3. A blend of all feedstuffs into one ration is called a:

TMR (TOTAL MIXED RATION)

4. Name two of the three basic elements contained in carbohydrates:

CARBON, HYDROGEN, AND OXYGEN

6. The mature cow produces how many quarts of saliva per day, which is used to maintain proper rumen pH?

50-80 QUARTS

1. There are several different types of milking parlors that are found on dairy farms. Name the most common milking parlor.

Herringbone

2. The hormone that is produced when a cow is frightened or upset and interferes with milk letdown is?

Adrenaline or epinephrine

3. Which of the six major breeds of dairy cattle was developed in the last part of the eighteenth century in Scotland?

Ayrshire

4. What is the major reason for which dairy cows are culled from the herd?

Low production

5. The largest cost in milk production is due to which factor?

Feed

1. Mastitis in which there is not detectable change in the udder itself and no observable abnormality of the milk is known as:

- a. acute
- b. chronic
- c. clinical
- d. subclinical

d. subclinical

2. Which of the following is a sign that a cow is in heat?

- a. She stands to be mounted
- b. She mounts other cows
- c. She shows more vocal behavior
- d. all of the above

d. all of the above

3. A recent estimate of North Carolina's milk production per cow in pounds was?

- a. 14,400
- b. 16,658
- c. 21,000
- d. 24,000

b. 16,658

4. Fluid milk consumption is at its lowest level in which month?

- a. June
- b. July
- c. August
- d. September

a. June

5. Sperm can live for how many hours after being deposited in the cow's reproductive tract:

- a. 8 - 12 hours
- b. 13-15 hours
- c. 18-24 hours
- d. 24- 30 hours

d. 24- 30 hours

6. T/F Colostrum contains a higher level of protein than normal milk.

True

7. T/F Milk Urea Nitrogen (MUN) can be an important tool for determining the adequacy of fiber in the diet.

False - adequacy of protein

8. Cattle are most comfortable at what temperature range?

- a. 30 to 35 degrees F
- b. 50 to 55 degrees F

- c. 75 to 80 degrees F
- d. 95 to 100 degrees F

b. 50 to 55 degrees F

9. What do the letters MCP stand for in relation to calving ease?

- a. mating cows perfectly
- b. maternal calving process
- c. most complicated plan
- d. most can participate

b. maternal calving process

10. T/F For milk pipeline cleaning the temperature of the wash cycle water should be 135 degrees to 140 degrees at start of cycle.

False - should be 165 degrees to 170 degrees

11. Name the hormone involved in the milk letdown process.

Oxytocin

12. The waxy substance that is produced in the teat and serves as a plug between milking to aid in reducing the penetration of microorganisms into the teat is?

- a. casein
- b. carotene
- c. keratin
- d. none of the above

c. keratin

13. What is the average culling rate in the US each year in percentage?

- a. <5
- b. 10-15
- c. 30-35
- d. 50

b. Source: Hoard's Dairyman February 25 , 2000, p. 170

14. In the Federal Milk Marketing Order realignment, how many order areas do we currently have. They were reduced from 31 to ___.

- a. 5
- b. 11
- c. 25
- d. 30

b) 11

15. T/F Research has shown that small-framed cows have longer productive lives than large-framed cows.

True

16. T/F Most heat stress problems are in the humid southeast and arid southwest part of the US.

True

17. Ringworm is a contagious disease which can spread easily to other animals and is caused by?

- a. bacteria
- b. fungus
- c. virus

b. fungus

18. Which of the following states ranks #1 in milk production in 1999?

- a. North Carolina
- b. California
- c. New York
- d. Minnesota

b. California

19. DRMS, located in Raleigh, NC, stands for

- a. Dairy Records Management System
- b. Dairy Records Marketing System
- c. Dairy Records Makeup System
- d. Daily Reading Morning Session

a. Dairy Records Management System

20. How much bunk space per cow should a Holsteins

- a. 12 inches
- b. 18 inches
- c. 36 inches
- d. 24 inches

d. 24 inches

1. When milk is pasteurized it is heated to 161F for how many seconds.

15

2. Heifers should be bred to calve for the first time at how many months of age.

24

3. What does the acronym BVD stands for:

Bovine Viral Diarrhea

4. Cattle tend to spend approximately how many hours per day ruminating.

7 to 10

5. The "true stomach" of the ruminant digestive system is the:

Abomasum

1. What is a sterile heifer born twin to a bull is called?

Freemartin

2. A disease caused by ingested metal is called?

Hardware Disease

3. What is the portion of feed that remains after water has been removed from the feed?

Dry Matter

4. What is the term used for an animal born without horns?

Polled

5. What is the name of the vein in the neck of a cow that is used to draw blood or inject fluids?

Jugular

1. Total genetic merit is determined by inbreeding depression, dominance, and a third component. Name the third component.

- a. Predicted transmitting ability (PTA) of the offspring
- b. PTA of the sire and dam
- c. Type production Index of the sire
- d. TPI of the offspring

b. PTA of the sire and dam

2. The milk ring test is used to identify which disease in cattle.

Brucellosis

3. How many quarts of saliva are produced daily by a mature dairy cow?

- a. 10-30
- b. 30-50
- c. 50-80
- d. 80-100

c. 50-80 quarts

4. On the PDCA unified scorecard for fitting and showmanship, how many points are given to the appearance of the exhibitor?

10 points

5. How many pounds of blood must be pumped through the udder to produce one pound of milk?

- a. 100
- b. 200
- c. 300
- d. 400

d. 400

6. T/F Fats are broken down in the abomasum.

False

7. T/F Energy in the cell is produced in the mitochondria.

True

8. What is the total number of heifer classes in a dairy show?

- a. 6
- b. 7
- c. 8
- d. 10

b. 7

9. On the PDCA heifer score card, the total % allotted for frame is?

40%

10. When judging dairy cattle, dairy character accounts for how many points on the Unified scorecard?

- a. 5
- b. 10
- c. 20
- d. 30

c. 20

11. Most dairy cattle production records are based upon milk production over a period of time. How many days are standard for a lactation period?

- a. 305
- b. 309
- c. 315
- d. 325

a. 305

12. Mycotoxins come from:

- a. molds
- b. plants
- c. fungus
- d. none of the above.

a. molds

13. What does Net margin equals?

- a. total income minus total cost
- b. total assets minus total debts
- c. total cows minus total heifers
- d. total income plus total cost

a. total income minus total cost

14. Fatty liver syndrome is an accumulation of _____ in the cow's liver.

- a. protein
- b. glucose
- c. fat
- d. minerals

c. fat

15. What is a disease caused by the incomplete metabolism of body fat?

- a. Lameness
- b. Pneumonia
- c. Ketosis
- d. BVD

c. Ketosis

16. In milk, SCC levels refer to what?

- a. standard cell counts
- b. somatic cell counts
- c. serum cell counts
- d. standard calving counts

b. somatic cell counts

17. T/F Lameness is one of the top three reasons why cows are culled from dairies.

True

18. On the Dairy Unified Score Card, Frame is allotted what percentage?

15

19. The cause of Black leg is:

- a. a bacterium
- b. abuse
- c. an open infection
- d. unknown

a. a bacterium

20. T/F It is estimated that early embryonic death occurs in 15 to 30 percent of bovine pregnancies before 45 days of gestation.

True

1. Name two types of organisms that live in the rumen and digest feed.

Bacteria, , protozoa

2. A condition where cows cannot belch; may occur when animals are grazing rapidly growing legumes.

Bloat

3. Name the disease caused by the bacterium *Mycobacterium paratuberculosis* that infects the small intestines of ruminant animals.

Johne's Disease

4. Name the fly that is responsible for the spread of pinkeye.

Face fly

5. Name the Vitamin that is added to milk during the processing phase.

Vitamin D

1. Name two methods used to identify calves:

Eartags, freeze or electric branding, photos, sketch, tattoos

2. Milk Fever is caused by a shortage of which mineral in the blood.

Calcium

3. Homogenization is used to keep milk liquid from separating from the _____.

Fat

4. The color red in some Holsteins is a result of what type of gene action?

Recessive Genes

5. The lack of which nutrient will result in reduced growth or milk production the quickest?

Water

1. U.S. milk production in 1999 compared to 1998 was

- a. greater than
- b. less than
- c. equal to

a. greater than - up 3.4%

2. T/F North Carolina ranks in the top 15 in the nation in both milk per cow and number of cows.

False 22 in milk/cow, 31 in number of cows.

3. T/F Research suggests that delayed calving adds \$50 to \$75 in rearing costs per heifer for each month beyond 24.

True

4. A source of elevated bacteria levels in raw milk may be which of the following?

- a. slow or incomplete milk cooling
- b. unclean milk contact surfaces
- c. sediment in milk
- d. all of the above.

d. all of the above

5. High reproductive efficiency involves which of the following?

- a. high milk production
- b. more retained placentas.
- c. more incidences of abortions
- d. keeping cows pregnant

d. keeping cows pregnant

6. What is the current regulatory threshold on bulk tank SCC in cells/ml.?

- a. 250,000
- b. 400,000

- c. 750,000
- d. 1,000,000

c. 750,000

7. The cause of downer cow syndrome is:

- a. bacteria
- b. trauma
- c. stubbornness
- d. laziness

b. trauma

8. In 1999, the state with the most milk per cow was:

- a. California
- b. New York
- c. Washington
- d. Wisconsin.

c. Washington

9. The state with the most cows in 1999 was:

- a. California
- b. New York
- c. Pennsylvania
- d. Wisconsin.

a. California

10. T/F When trying to get cows bred following calving, the protein status of the cow influences ovarian activity and cycling.

False

11. T/F Ringworm is a contagious disease caused by a fungus.

True

12. Warts are contagious to other calves and are caused by a _____.

- a. bacteria
- b. touching frogs
- c. virus
- d. protozoa

c. Virus

13. The primary digestive process occurring in the rumen is _____.

Fermentation

14. Fats are broken down in which part of the digestive system of the dairy cow?

- a. small intestines
- b. rumen
- c. abomasum
- d. reticulum

a. small Intestines

15. What is the major buffer for maintaining optimum rumen pH?

Saliva

16. When looking at the PDCA heifer score card, what one of the two categories remained the same as the PDCA cow score card?

Dairy character or body capacity

17. According to the PDCA scorecard, the Barrel receives consideration in which category.

- a. dairy character
- b. frame
- c. feet and legs
- d. body capacity

d. body capacity

18. Name the smallest breed of dairy cattle.

Jersey

19. Which breed of dairy cattle produces the most milk.

- a. Ayrshire
- b. Brown Swiss
- c. Guernsey
- d. Holstein
- e. Jersey

d. Holstein

20. In a dairy show, a cow with a blind quarter would be:

- a. placed first
- b. placed last
- c. disqualified
- d. placed in the middle

c. disqualified

1. A feed material that is undigestible is called?

Lignin

2. Protein that goes through the rumen unchanged is called?

Bypass Protein

3. Name two of the three major volatile fatty acids produced in the rumen.

Acetic, propionic, and butyric

4. Name 2 fat soluble vitamins.

A, D, E, and K

5. Beta-carotene is found in most grasses and legumes and is the precursor to which Vitamin?

Vitamin A

1. Name two of the three places where pathogenic organisms may gain entry to a newborn calf's body.

Mouth, nose, and navel

2. Name the four compartments of a cow's stomach.

Reticulum, Rumen, Omasum, and Abomasum

3. As the mother prepares to be milked or to nurse, a hormone is released by the pituitary gland and causes milk letdown.

What is that hormone?

Oxytocin

4. Name the city and state where the National Dairy Shrine is located.

Fort Atkinson, Wisconsin

5. According to the PDCA scorecard, a mature Jersey weighs approximately how many pounds.

900

1. T/F The correct water bath temperature for thawing semen is 101.5 degrees F.

False

2. There are differences in the PDCA cow and heifer score card. Name at least one difference.

No udder on heifer

Frame increases from 15% to 40% with heifers

Legs increase to 30% with heifers

3. Acidosis or Founders is caused by overfeeding which of the following?

- a. calcium
- b. hay
- c. grain
- d. beet pulp

c. grain

4. If a dairyman said he was feeding a 16% dairy feed, the 16% refers to what?

Crude protein

5. T/F Inbreeding causes milk production depression

True

6. On the Dairy Unified scorecard, the trait Udder is allotted what percentage?

- a. 10
- b. 20
- c. 30
- d. 40

d. 40

7. T/F Higher fat milk replacer provides more energy to calves in cold weather.

True

8. The disease which infects the small intestine of ruminant animals causing diarrhea and weight loss is _____.

Johne's Disease

9. T/F It is best to store waste-milk that will be fed to calves at room temperature.

False

10. Dairy Character is what percentage on the Dairy Unified scorecard.

- a. 10
- b. 20
- c. 30
- d. 40

b. 20

11. T/F U.S. Holsteins have a 25% inbreeding level.

False

12. Parturition is another name for what?

birth

13. Milk should be held at what temperature in the farm bulk tank, in degrees F?

- a. 32
- b. 38
- c. 48
- d. 60

b. 38

14. Name the sugar originating only in milk.

lactose

15. During artificial insemination of the cow, where should the semen be deposited?

- a. in the fallopian tube
- b. in the ovary
- c. in the cervix
- d. in the uterine body

d. in the uterine body

16. Cottonseed hulls are a good source of what ration component?

fiber

17. If a feed sample is 35% dry matter, what percent is moisture?

65%

18. Failure to show signs of heat is called?

- a. rickets
- b. anestrus
- c. sterility
- d. milk fever

b. anestrus

19. To calve at 2 years of age, a heifer must have been bred when she was how many months of age?

- a. 6
- b. 9
- c. 12
- d. 15

d. 15

20. T/F The quality of forages increases as the plant matures.

false

1. The ability of the calf to directly absorb antibodies drops sharply after:

24 hours

2. The ratio of calcium to phosphorus in the ration of lactating cows should range from ____ to ____.

1.2:1 to 2:1

3. Most cows should be bred ___ days after calving.

45

4. A ___ month calving interval is the most profitable.

12 to 13

5. Ketosis is caused by not feeding enough _____ to meet the cow's needs for high milk production.

Energy

1. What is given to a cow to help prevent hardware disease?

Magnet

2. Name the city and state where the North American International Livestock Exposition is held.

Louisville, Kentucky

3. Name the two parts of a cow's anatomy that may be twisted to one side and called "wry".

Face and Tail

4. The average gestation length of a dairy cow is:

283 days

5. In ruminant digestion, the process of chewing food again is referred to as:

Remastication

1. Feet and Legs make up what percentage on the Dairy Unified scorecard.

- a. 5
- b. 10
- c. 15
- d. 20

c. 15

2. If an animal is said to be over-conditioned it is too what?

fat

3. T/F HACCP stands for Hazard Analysis Critical Control Point.

True

4. When examining a DHI record of a cow's milk production what does 2X or 3X indicate?

number of times milked per day

5. Rump is considered part of which category on the Dairy Unified scorecard.

- a. dairy character
- b. body capacity
- c. feet and legs
- d. frame

d. Frame

6. T/F Research has shown that the number of days to first breeding is greater for cows with clinical mastitis during this time.

True

7. The ability of a calf to absorb antibodies drops sharply after how many hours?

- a. 12
- b. 24
- c. 48
- d. 72

b. 24

8. T/F Ammonia is added to corn silage to increase the mineral content.

False

9. The optimum dry period is.

- a. 25-35
- b. 45-60
- c. 65-80
- d. 75-90

b. 45-60

10. A gallon of milk weighs how many pounds?

8.6

11. Abortion in the last third of pregnancy is a symptom of what infectious disease?

- a. blackleg
- b. brucellosis
- c. grass tetany
- d. bloat

b. brucellosis

12. The normal estrus cycle of a dairy cow in days is?

- a. 7
- b. 14
- c. 21
- d. 28

c. 21

13. T/F The loin and chine are both considered being parts of the back.

true

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

- a. protein
- b. energy
- c. effective fiber
- d. cold weather

c. effective fiber

15. What is the standard length, in days, of a DHIA milk record?

305

16. What is the primary reason a cow does not show estrus?

pregnancy

17. Whole cottonseed has a high energy content because it contains a large amount of:

- a. calcium
- b. fiber

- c. protein
- d. fat

d. fat

18. T/F Milk fever is caused by a low blood calcium level in the cow.

true

19. What is the most common type of injection?

intramuscular (IM)

20. To kill any harmful organisms in milk, the milk is heated and cooled in a process called:

- a. sterilization
- b. homogenization
- c. whipping
- d. pasteurization

d. pasteurization

1. If the official placing on a class of cows is 2-1-3-4 with cuts of 2-6-5, what would be the score on a placing of 2-3-1-4?

44

2. Which of the following would be considered a voluntary reason for culling a dairy cow?

- a. non-breeder
- b. mastitis
- c. crippled
- d. low production

d. low production

3. What direction do you lead your animal in the show ring?

clockwise

4. Spell the word Ayrshire.

A Y R S H I R E

5. What is the term used to describe two calves born to the same cow and resulting from one egg?

Identical twins

1. What is the name of the secretory cells in the mammary gland that are arranged in a grape-like structure?

Alveoli

2. What is the name for the stomach located closest to the heart.

Reticulum

3. A synthetic nitrogen source used in livestock feeds that is manufactured from air, water and carbon is called:

Urea

4. Heat detection is an important management practice in dairy operations. The best indication that a cow is in standing heat is

_____.

Allowing other cows to mount

5. What is the condition in which one of the four chambers of the stomach is out of place?

Displaced Abomasum

1. Mastitis is an infection or inflammation of the:

Udder or Mammary system

2. T/F Milk processing plants run an antibiotic test on each truck load of milk prior to processing

True

3. On the dairy unified scorecard how many points are assigned to the mammary system?

- a. 10
- b. 20
- c. 30
- d. 40

d. 40

4. Soybean meal is rich in which nutrient?

Protein

5. The normal delivery position when a calf is born is:

- a. back feet first
- b. front feet first
- c. head first
- d. tail first

b. front feet first

6. When a cow has hardware disease, what particular stomach compartment is the metal usually in?

- a. omasum
- b. rumen
- c. abomasum
- d. reticulum

d. reticulum

7. The water content of milk is what percentage?

87.5

8. The pedigree of a cow shows what?

ancestry or relatives

9. What process breaks up the fat globules in whole milk

Homogenization

10. The characteristics of one generation are passed to another by :

genes

11. Holsteins originated in what country?

- a. United States
- b. Canada
- c. Netherlands
- d. China

c. Netherlands

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

- a. oxytocin
- b. prolactin
- c. estrogen
- d. amylase

b. prolactin

13. In what main category might you hear descriptive terms longer neck, thinner in the thighs, sharper over the withers?

- a. body capacity
- b. udder
- c. dairy character
- d. frame

c. dairy character

14. Which of the following causes ringworm in calves?

- a. lice
- b. ticks

- c. bacteria
- d. fungus

d. fungus

15. What is the name of the hormone that maintains pregnancy?

progesterone

16. Which of the following diseases is caused by a virus?

- a. ringworm
- b. bloat
- c. hardware
- d. IBR

d. IBR

17. The deficiency of what trace mineral has been associated with retained placenta and white muscle disease in calves?

- a. copper
- b. iron
- c. selenium
- d. manganese

c. selenium

18. T/F Underfeeding heifers during the first year of life will delay breeding.

True

19. The lack of what nutrient will result in death of an animal the fastest?

Water

20. What muscle keeps the teat end closed and helps prevent organisms from entering the udder?

Sphincter muscle

1. What does the abbreviation NPN stand for when referring to nutrient requirement of dairy cattle?

Non-protein nitrogen

2. What is the procedure by which a cow is compared to the ideal for her breed?

Classification

3. Dehydration is a symptom of what digestive disorder?

Scours

4. When posing a dairy heifer to make her look her best, which feet should be on higher ground?

Front

5. A well ventilated, clean area, free of drafts, helps prevent what calfhood disease?

Pneumonia