2000 STATE DAIRY BOWL QUESTIONS

SENIOR

1. What must be done with milk contaminated with antibiotics?

It must be discarded in a regulated fashion (it can be put into the farm lagoon) or processed for animal feed

2. Name two (2) things that happen when silage or haylage is put into the silo too wet?

Lose nutrients Seep fluids (water)
Improper fermentation Produce undesirable fatty acids (butyric acid)
Lower palatability Lose energy value
Clostridium growth Produce amines

3. Immediately after a calf is born; the navel should be dipped in what solution?

Tincture of Iodine

4. Give two (2) reasons why is it important to feed dry cows separately from the milking herd.

To keep dry cows from becoming too fat
They have different mineral requirements
They do not need to go through the milking parlor
They have different nutrient requirements
They need a place to calve
They experience less stress if not in competition with the milking herd

5. Name two (2) ways protein is used in the cow's diet?

To make milk protein
Build muscle
Make other cellular proteins.
Energy
For hormones and enzymes
Provide amino acids
As ammonia donors

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

Recommended Daily (dietary) allowances

2. Milk fever is most common in which breed?

Jersey

3. What is the primary substance, that maintains rumen pH in the dairy cow?

Saliva (Buffer, Bicarbonate in saliva or diet)

4. They're classified into two groups: essential or nonessential and are the basic building blocks for protein. What are they?

a. amino acids
b. water
c. carbohydrates
d. fat

a. amino acids

5. T/F Lice can cause anemia in a heifer by sucking out blood.

True

6. What is the term for the disease brucellosis when it affects humans?

Undulant Fever

7. T/F Calves should not be fed hay until they are six (6) months old.

False

8. What two amino acids are most often considered to be first limiting or limiting for milk protein synthesis?

Lysine and Methionine

9. T/F Pneumonia may damage the calf's lungs.

True

10. In some herds a "gomer" bull may be used. What is his function in that herd?

Heat Detection

11. T/F The sire of a cow must be identified for her lactation record to be used in the National Sire Proving Program.

True

12. Where does the majority of pronounced flavor defects in milk originate?

a. on the farm
b. in the transport truck or
c. in the processing plant

a. On the farm

13. Immunoglobulins are organic chemicals classified as which of the following?

a. carbohydrates
b. protein
c. fats

b. protein

14. Frequent and complete milk removal does which of the following to a cow?

a. Wears a cow out
b. Is one of the strongest signals you can give cows to produce more milk
c. Is one of the strongest signals you can give cows to produce less milk

b. Is one of the strongest signals you can give cows to produce more milk

15. T/F: One of the most important functions of the teat cup liner is to massage the teat end.

True

16. What is the name for the study of insects?

Entomology

17. Dairy cattle utilize protein produced by microorganisms. The majority of useable microbial protein production occurs in
which stomach compartment?

Rumen

18. What milk component is most important in determining the amount of cheese one gets from a pound of milk?

Protein

19. In dairy cattle rations, how does the energy value change as the acid-detergent fiber (ADF) level decreases?

a. Increases
b. Decreases
c. does not change

a. Increases

20. What is the lowest classification score a Holstein cow can receive and still receive a classification rating of good?

75 points

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1. Your soil test indicates that you need to include magnesium when you apply lime to your fields. Which type of lime should
you use?

Dolomitic

2. What is another name for Bang's disease?

Brucellosis

3. What is the primary reason for lactation records from approved DHI testing plans being disqualified from use in the
calculations of USDA-DHIA Sire Summaries?

Lack of sire identification

4. Your milk handler holds a sample of your milk for 18 hours at 55o Fahrenheit and then plates it out for a bacteria count.
What type of bacteria count is being conducted?

Preliminary incubation (PI)

5. T/ F: Bulls that transmit genetics for increased milk production can be selected using their high type scores.

False

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1. What are two (2) sources of on-farm milk contaminations that affect milk quality?

Interior of udder
Air (dust)
Dirt (from the outside of the cow)
Equipment
Water
Insects
Antibiotics

2. Name two (2) perennial crops used for grazing.

fescue, perennial ryegrass, bermuda grass, orchard grass, timothy, alfalfa, clovers (ladino and red), bahia grass,
or bluegrass (also birdsfeet trefoil, crown vitch, sericea lespedizia, kudzu, redtop, rescue grass, switch grass,
flacid grass, dallis grass, gomo grass, bluestem Johnson grass)

3. The National Holstein Association combines bull proofs for type, fat and protein to form an index for ranking sires. What is
the name given to this index?

Type Production Index (TPI).

4. Name two (2) advantages of calf hutches.

Easily moved
Helps prevent spreading diseases from one calf to another
Ventilation
Prevents calves from sucking each other
Low cost

5. White muscle disease can be caused by a shortage of what vitamin and what mineral? (Your answer must include both)

Vitamin E and Selenium

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1. Do younger or older calves usually place higher in their class?

Older calves

2. T/F As we get more daughter information on a bull, we get a better estimate of his genetic merit.

True

3. If the knee of a cow corresponds to the elbow on a human, what part of the cow corresponds to the wrist?

Pastern

4. The deleterious recessive gene for rectovaginal constriction is most commonly associated with which dairy breed?

Jersey

5. T/F In order to make genetic progress in a trait, the trait must have variation.

True

6. Cull heifers and cows can be treated with hormones to cause them to become sexually active as heat check animals. What
is the primary hormone that is used to cause them to become sexually active?

Testosterone

7. T/F In the majority of surveys conducted, dairy producers list reproductive problems and cow fertility as major problems.

True

8. T/F The rumen is completely functional in the newborn calf.

False

9. What is the range of classification scores for a Holstein cow to be classified as good plus?

80 - 84 POINTS

10. Which compound in plants is a component of cell walls and is not digested and not absorbed by ruminant animals?

a. pectin
b. sucrose
c. lignin
d. starch

c. Lignin

11. T/F If a calf is born too weak to nurse you should wait 12 hours to see if it would be able to nurse on its own.

False

12. Which parent determines the sex of a calf?

The sire

13. T/F Ringworm is a contagious disease that can easily be spread to other animals.

True

14. What is the term for a sterile heifer calf born twin to a bull?

Freemartin

15. What is the correct name for a twisted stomach?

Displaced abomasum or abomasal torsion

16. The uniform score card for judging junior dairy fitting and showmanship contests awards what percentage for the
appearance of the animal?

a. 30%
b. 40%
c. 50%
d. 60%

b. 40%

17. When someone says they feed a TMR, what does TMR stand for?

Total mixed ration

18. The substance in colostrum that provides passive immunity to the calf is called:

a. somatic cells
b. antibodies or immunoglobulins
c. lactose

b. antibodies or immunoglobulins

19. T/F Compared to mature alfalfa hay, alfalfa hay that is harvested at the bud stage is higher in crude protein.

True

20. What is the common name for diarrhea in calves?

Scours

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1. What two breeds of dairy cattle originated on the channel islands off the coast of England?

Jersey and Guernsey

2. Moldy grain will likely be contaminated with?

Mycotoxins

3. What is the term used to describe the physical characteristics and performance of an individual?

Phenotype

4. The freezing point of milk is determined by a cryoscope and is used to determine the presence of this contaminant in milk?

Added Water

5. When comparing vacuum pumps, the term CFM is frequently used. What does this acronym stand for?

Cubic Feet Per Minute

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1. Give two (2) of the major causes of calf scours.

Unsanitary calving conditions, inadequate colostrum, poor quality milk replacer, overfeeding, poor quality colostrum, overcrowding, inadequate ventilation, bacteria, virus, protozoa

2. The Federal Government requires low-fat and nonfat milk products to be fortified with what two vitamins?

Vitamin A and Vitamin D

3. The following information is listed concerning a cow: 305, 2X, 18,685, 3.8, 710. What do these numbers mean or represent?

305-day lactation
Milked twice per day
Produced 18,685 pounds of milk
Milk contained 3.8% milk fat
Produced 710 pounds of milk fat during lactation

4. Which genetic recessive defect is characterized as causing death in calves during the neonatal period and is referred to by
the acronym BLAD?

Bovine Leukocyte Adhesion Deficiency

5. Mature equivalent (ME) factors are used to adjust lactation records to a mature basis for comparison. What are the two
(2) items for which a record is adjusted?

Age Freshening and Month of Calving

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1. The first organized cow testing association was first formed in which country?

a. Denmark
b. Netherlands
c. France
d. Ireland

a. Denmark

2. Which breed generally produces milk with the highest protein content?

Jersey

3. How soon after calving should the rebreeding of dairy cows begin?

a. 12 hours
b. 45-75 days
c. 20-30 days
d. 90-120 days

b. 45-75 days

4. Adding fat is a useful method of increasing the concentration of one component of a ration. Is the component protein,
energy, starch, vitamins or minerals?

Energy

5. T/F The ability to evaluate faults in an animal's conformation is important in showmanship.

True

6. How many days after a cow calves until her milk is considered acceptable for human consumption?

Three (3) days

7. What are the basic structural units of protein?

Amino Acids

8. A three (3) year old Jersey cow received a classification score of 83. What is her classification rating?

Very Good

9. T/F Generally the highest producing cows eat the most feed.

True

10. Compute the score using a 50-point maximum: official placing 1-2-3-4, cuts 2-5-7, placing 1-3-2-4.

45

11. For what purpose would you use an anthelminthic?

To control internal parasites or worms

12. T/F Some pesticides can be very rapidly absorbed through the skin.

True

13. How many points on the PDCA scorecard are allotted to dairy character?

20 Points

14. Which internal parasite uses mites as an intermediary host?

Tapeworm

15. If the thurl of a cow corresponds to the hip on a human, what part of the cow corresponds to the ankle?

Hock

16. Which of the following is the most effective method of eliminating or curing existing mastitis infections?

a. teat dipping
b. lactating cow treatment
c. dry cow treatment
d. back flushing

c. Dry Cow Treatment

17. Who is credited with perfecting, in 1890, the test for fat content of milk?

Dr. S.M. Babcock

18. Gossypol is a chemical compound, found in some feeds, which has been found to be toxic to some livestock when fed in
excess. Name a common feed ingredient that contains gossypol.

Cottonseed meal or Whole cottonseed

19. T/F When deciding which traits to breed for, the main consideration should be for the "economically" important traits such
as production and longevity.

True

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

Heifers

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1. Name two (2) of the buffers commonly used in dairy rations.

Sodium bicarbonate, Sodium sesqui carbonate, Magnesium oxide, Potassium carbonate/bicarbonate, Sodium
bentonite, Sodium carbonate, Limestone (calcium carbonate)

2. Give two (2) reasons why over conditioning is undesirable in young dairy heifers.

Expensive
Reduces subsequent milk production
More difficult to breed (conceiving)

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

Opposite Direction

4. T/F There are thousands of eggs present in the ovaries of a female calf at birth.

True

5. T/F High humidity is very harmful to calf health.

True

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1. Name the two major types of pathogens that cause mastitis?

Contagious and environmental

2. You enter the calving area and notice that a cow near calving is lying down with her head and neck in the shape of an
S". What is probably her problem?

milk fever; parturient paresis; calcium deficiency

3. For what purpose are tube coolers and plate coolers used on a dairy farm?

To cool milk prior to entering the bulk tank, reduce the cost of cooling milk

4. One of your recently fresh cows is ill. She has been receiving a high grain, low roughage diet. The consistency of the small
amount of manure she produces is "putty-like". Your veterinarian detects a "pinging" sound between the 9th and 13th rib
upon thumping that area when using his stethoscope. What is the diagnosis?

displaced abomasum (DA)

5. What is the common name for the cattle disease listeriosis, which is most likely, caused by consuming deteriorated silage?

circling disease

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1. What is the piece of equipment called which is used in a milking system to keep vacuum at a constant level?

vacuum controller or regulator

2. T/F Homogenization kills harmful bacteria in milk.

False

3. What is the general name for a chemical agent given to animals that kills or stops the growth of bacteria?

Antibiotic, Bacteriostat, Globulins.

4. A pH of 7 is considered neutral. What is a pH less than 7 considered?

a. acidic condition
b. hot condition
c. basic condition

a. acidic condition

5. Holstein heifers from birth to 24 months should gain on average how many pounds of body weight per day?

a. .25 to .50 pound
b. 1.1 to 1.2 pounds
c. 1.8 to 2.0 pounds
d. 3.1 to 4.0 pounds

c. 1.8 to 2.0 pounds

6. What is the most commonly recommended temperature for thawing frozen semen?

a. 85 – 90° F
b. 92 – 96° F
c. 97 – 102° F

b. 92 – 96° F

7. T/F Dry cows should be fed a ration that is identical to that fed to the lactating cows.

False

8. Which of the following is a calcium supplement?

a. Bovatec
b. Salt
c. Limestone
d. Water

c. Limestone

9. According to the NRC recommendations, the minimum level of TDN in the ration for the early dry period is:

a. 20%
b. 40%
c. 60%
d. 35%

c. 60%

10. T/F A Holstein cow with a classification score of 80 is classified as good?

False

11. Cows are most susceptible to ketosis during which month of lactation?

a. first month
b. fourth month
c. sixth month
d. ninth month

a. first month

12. What digestive disorder can occur in cows grazing pure alfalfa or clover and produces frothy gas?

bloat

13. What do the letters bST stand for?

bovine somatotropin

14. What is the name of the small, individual buildings, which are used to house calves?

calf hutches

15. The CMT is used to detect what type of infection?

mastitis

16. What is the most common grain fed to dairy cattle?

corn

17. Which of the following is not a primary organism associated with mastitis?

a. Staphylococcus aureus
b. Streptococcus agalactia
c. Streptococcus uberous
d. Brucella abortus
e. none of the above

d. brucella abortus

18. T/F PTA$ is another term for the suggested retail price of bull's semen.

False

19. At what age will properly fed Holstein dairy heifers reach puberty?

a. 4-6 months
b. 7-12 months
c. 15-18 months

b. 7-12 months

20. Which of the following is the most costly form of mastitis?

a. acute
b. chronic
c. clinical
d. subclinical
e. none of the above?

d. subclinical

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1. A 'by-pass' protein is a protein source that avoids breakdown in which portion of the digestive system?

rumen

2. What toxic substance is most likely to be found in drought stressed forages?

nitrates or nitrites

3. Fats are a very dense energy source and supply cows with fat-soluble vitamins. Name the four fat-soluble vitamins.

vitamins A, D, E, and K

4. T/F When posing a heifer, the exhibitor should place the animal's front feet on higher ground.

true

5. Which of the following has the highest heritability:

a. milk protein %
b. milk production
c. birth weight.

a. milk protein %.

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1. What are two (2) important points for a calf hutch or pen?

must be clean, prevent calves from touching neighbor, have dry bedding, must provide restraint, be free of drafts

2. Name two (2) fermented milk products.

buttermilk, cottage cheese, yogurt, acidophilus milk, sour cream, sour half-and-half, sour cream dips, cheese

3. What are the breakdowns on the Dairy Cow Unified Scorecard? Give names and percentages.

udder 40%
dairy character 20%
feet and legs 15%
frame 15%
body capicity 10%

4. Name the two (2) primary times in a cow's lactation cycle when a cow is most susceptible to becoming infected with mastitis.

at freshening (calving) and at drying off

5. Name two (2) parts of the dairy cow's reproductive tract.

cervix
ovaries
oviducts
uterus
vagina
vulva

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1. The first computers were developed and owned by state universities and the Federal Government. What was the first private dairy group to own and use a computer?

a. The Dairy Record Processing Center in Provo, Utah
b. The Dairy Record Processing Center in Raleigh, NC

c. The Holstein-Friesian Association
d. American Breeders Service

a. The Dairy Record Processing Center in Provo (Utah, 1951).

2. Name a commonly used non-protein nitrogen feed ingredient.

Urea Biuret, Ammonium phosphate, Ammonium chloride, Ammonium sulfate, Anhydrous ammonia

3. T/F: After the sperm fertilizes the egg, the embryo stays in the oviduct for about 4 days?

True

4. T/F: The U.S. government mandates a minimum or support price for milk.

True

5. When referring to "top dressing" silage, the words "top dressing" refers to what?

Putting anything one wants the cow to consume on the silage at feeding time.

6. How can the harvesting procedure be altered to reduce nitrate levels in drought stressed corn silage?

Raise the cutter bar

7. What general recommendation is often given to help prevent navel ill in newborn calves?

Dip the navel in iodine shortly after birth

8. What genetic evaluation term is used to express how much a cow is expected to produce as compared to other cows in the herd?

Estimated producing ability (EPA).

9. T/F: A dairy cow with a body condition score of five (5) on a 1-5 scale would be very thin.

False (very fat)

10. Name one (1) of the three (3) blood components used by the mammary gland to synthesize milk protein.

Acetic acid
Glucose
Amino acids

11. Fat separation from milk or 'churning' occurs in a bulk tank when the temperature of the milk rises above what point?

a. 40° F
b. 45° F
c. 50° F
d. 55° F

b. 45° F or 7° C

12. T/F: Once the reliability of a bull's proof is greater than 50%, it will always remain the same.

False

13. What percent of a cow's genes come from her dam?

50 percent

14. T/F: A well-fed heifer is normally in heat the first time at 24 months of age.

False

15. What is the percentage of Acid-detergent fiber recommended by the NRC for diets of lactating dairy cows?

19 to 21 Percent ADF

16. What is the alphabetical (chemical) symbol for potassium?

"K"

17. In general, what do high coliform counts in milk indicate?

Environmental contamination of the milking system through improper cleaning of cows and/or system.

18. After insemination, how long do sperm live in the cow's reproductive tract?

a. 20 – 45 minutes
b. 6 – 8 hours
c. 24 – 30 hours
d. 2 – 3 days

c. 24 – 30 hours

19. Name one (1) of the three (3) volatile fatty acids produced in the rumen.

Acetate
Prppionate
Butyrate

20. For what reason is Potassium carbonate sprayed on hay?

Reduce drying time

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1. Name the two (2) diseases, which cause the greatest losses in young calves

Pneumonia and scours

2. Name two (2) sources from which Reliability Estimates are calculated.

Pedigree, Performance, and Progeny

3. Name a respiratory disease for which calves are commonly vaccinated.

IBR (Infectious bovine rhinotracheitis
PI-3 (Parainfluinza type 3)

4. Little Miss Muffet sat on her tuffet, eating her curds and whey. How many pounds of cheese are produced from 10 pounds of milk?

1 Pound

5. The cow is homeothermic. What does the term homeothermic mean?

The body temperature that is maintained nearly constant at all times