

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 1, Phase A

1) What element must be absent in order for effective fermentation to occur in a silage pile?

- Oxygen

2) Which volatile fatty acid is associated with stimulation of rumen development in the young calf?

- Butyrate

3) What season is most likely to promote more ideal conditions that are favorable to bacterial growth in cows bedding?

- Summer

4) What is the name for an infection or disease that can be passed from an animal to human?

- Zoonotic

Senior Packet 1, Phase B

1) In the area of calf management, what does the acronym FPT stand for and what is the cause of this happening?

- Failure of passive transfer
- Happens when the calf does not receive adequate antibodies from the colostrum at birth

2) Name the 3 stages of labor in dairy cattle.

- Dilation of the cervix
- Delivery of calf
- Delivery of placenta

3) Name 3 of the 4 necessary economic inputs for a dairy operation.

- Land
- Labor
- Capital
- Management

4) Name 3 benefits to using renewable energy on a dairy farm.

- Decrease in farms carbon footprint
- Lowering farm expenses
- Recycle farm waste
- Tax credit

Senior Packet 1, Phase C

1) What substance is found in toxic levels in drought stressed forages?

- Nitrates

2) What is the approximate percentage of lactose in milk?

- 5%

3) What 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

4) Semen for artificial insemination should be thawed in clean water that is heated to what temperature in degree Fahrenheit?

- 95 degrees F

5) What category of fluid milk experienced 6% growth in sales in 2015?

- Flavored Milk

6) In degrees Fahrenheit what is the thermal neutral zone for calves?

- 60 to 75 Degrees F

7) What is the term for the sum total of all an individual organism's genes?

- Genome

8) It takes approximately how many seconds of contact time per teat to complete cleaning when using automated teat scrubbers?

- 2 to 4 seconds

9) During hot weather, what time of day does a cow's body temperature often peak?

- Midnight

10) How many pounds are in a hundred weight of milk?

100 pounds

11) In which trimester of pregnancy does the developing calf place the greatest nutritional demand on the cow?

-

- Last or 3rd trimester

12) Name the hereditary units that are passed onto the offspring via sperm and egg which influence the expression of specific traits like hair or eye color.

- Gene

13) How many inches of lunging space does a large cow require to rise with reasonable comfort?

- 30 to 40 inches

14) What dairy product must contain a minimum of 80% fat?

- Butter

15) What hormone is responsible for the aggressive behavior in bulls?

- Testosterone

16) How many pounds per cubic feet should forage be packed in a bunker silo?

- 50 pounds per cubic feet

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 2, Phase A

1) Which one of the following diseases is caused by clostridium bacteria: fatty liver, nitrate poisoning, blackleg or ketosis?

- Blackleg

2) What group of hormones, produced in the uterus, causes the regression of the corpus luteum and contractions of the uterus?

- Prostaglandins

3) What type of organism causes cryptosporidium: A virus, protozoa or bacteria?

- Protozoa

4) Red nose is another name for what viral infection: BVD, IBR, Brucellosis, or Leptospirosis?

- IBR

Senior Packet 2, Phase B

1) What USDA agency monitors the slaughter of cull cows for antibiotic residue?

- Food Safety Inspection Service

2) In business planning, a SWOT analysis allows a company or farm to assess their current situation and plan for the future. What does the acronym SWOT stand for?

- Strengths, Weaknesses, Opportunities, Threats

3) OSHA inspectors began inspecting dairy farms in 2014. Name 3 areas on the "Dairy dozen" list that inspectors look at.

- Manure storage and collection facilities
- Bull/cow handling facilities
- Electrical systems
- Skid steer operations
- Tractor operation
- PTO guards
- Power transmission/functional component guards
- Hazardous energy control during equipment maintenance
- Posted warnings of farm hazards
- Confined spaces
- Bunker silos
- Noise

4) Give 4 clinical symptoms of mycobacterium paratuberculosis>

- Diarrhea
- General unthriftiness
- Soft swelling in jaw
- Substantial drop in milk production
- Weight loss
- Death
- Susceptibility to other problems such as infertility

Senior Packet 2, Phase C

1) What Asian country ranks 2nd in the world behind the European Union in milk production?

- India

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

- One-third

3) What is the standardized milk fat percent of whole milk in most states?

- 3.25

4) What dairy coop had the most member farms and handled the most milk?

- Dairy Farmers of America (DFA)

5) Corn distiller's grain is high in what amino acid that is essential for milk production?

- Methionine

6) What is a more common name for erythrocytes?

- Red blood cells

7) Which phase of ensiling occurs after the silage is chopped and prior to silo sealing?

- Aerobic phase

8) What do we call the net income after operating expenses?

- Return on Equity or Return on Investment

9) What is the recommended temperature, in degrees Fahrenheit, when testing colostrum for quality?

- 72 degrees Fahrenheit

10) When using ultrasound for pregnancy confirmation, users should be wary of any test that is done before how many days of gestation?

- 30 days

11) When talking about hoof health, what is the name given to a rupture at the point of the pedal bone?

- Toe Ulcer

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

- Louis Pasteur

13) What insect is depended on for the pollination of alfalfa seeds?

- Bee's

14) What type of teat dips add an extra layer of protection with latex or acrylic?

- Barrier dips

15) Within how many hours after baling should baleage be wrapped?

- 12 hours

16) In reference to farm employees, what do the letters NIOSH stand for?

- National Institute for Occupational Safety and Health

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 3, Phase A

1) When there is an excess of ammonia being produced by the cow, it is usually the result of feeding too much what to the rumen microbes?

- Nitrogen or protein

2) What stomach problem in cows is associated with the animal having dark engine oil looking manure?

- Ulcer

3) What dairy breed has been noted to have the following strengths: high fertility, young age at first calving, calving ease, and excellent heat tolerance?

- Jersey

4) What stomach compartment contains many leaf-like tissues similar to pages in a book?

- Omasum

Senior Packet 3, Phase B

1) Name 3 of the 4 major factors that affect a dairy herd's pregnancy rate when using AI.

- Heat detection rates
- Herd fertility rates
- Semen fertility
- Inseminator proficiency

2) Name the two biggest enemies to a silage pile, which can be avoided by covering the pile quickly.

- Oxygen
- Water

3) In the area of farm safety, what does the acronym PASS stand for when utilizing a fire extinguisher?

- Pull, Aim, Squeeze, Sweep

4) If your farm purchased a 100 pounds of 16-24-20 fertilizer, how many pounds of Nitrogen, Potassium, and Phosphorus would be in it?

- 16 pound nitrogen
- 24 pounds of phosphorus
- 20 pounds of Potassium

Senior Packet 3, Phase C

1) In regards to machinery, what do the initials SMV stand for?

- Slow Moving Vehicle

2) What vitamin is nicknamed the sunshine vitamin?

-Vitamin D

3) What is the common name for nitrogen dioxide that can be found in upright silos?

- Brown Gas

4) What metabolic disease is caused by an accumulation of fat in the liver?

- Fatty liver

5) When a farm is using a presynch program for reproductive management, how many shots of prostaglandin are given prior to AI timed breeding and has proven to improve conception rates?

- 2 shots

6) What should the minimum standard plate count be for colostrum?

- 50,000CFU/ml

7) What is the single largest nutrient requirement for producing corn, which represents as much as 20% of the cost of growing the crop?

- Nitrogen

8) What percentage of corn that is processed for human food ends up as by-product feeds such as distiller's grain, corn gluten feed, and corn gluten meal?

- 50 %

9) In what year did sex-sorted semen produced by flow cytometry become commercially available?

- 2003

10) What is the base level coverage, in dollars, that is available to dairy farmers who are signed up for MPP-Dairy?

- \$4.00

11) What percentage of items on McDonald's menu include some form of dairy?

- 80%

12) In the reproductive tract of a cow, what is the name of the funnel-shaped opening of the oviduct?

- Infundibulum

13) What calving ease score would be recorded for a Holstein cow if the calving was extremely difficult?

- 5

14) In which organ in the dairy cow does most of the digestion and absorption of fat occur?

- Small Intestine

15) What tissue is monitored for residual drug levels at slaughter?

-Kidneys

16) What term describes a dairy cow's vision?

- Panoramic

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 4, Phase A

- 1) What hormone is critical for the initiation and maintenance of lactation?
 - Prolactin

- 2) What is an infection of the uterus called?
 - Metritis

- 3) What relationship is required for all prescription drugs that are used on a dairy farm?
 - Veterinarian Client Patient Relationship (VCPR)

- 4) What is the name of the on-farm tool, often used by dairy nutritionists, that is used to sort out feeds by particle length?
 - Penn State Particle separator

Senior Packet 4, Phase B

1) In regards to your dairy finances, what does the acronyms ROE and ROA stand for?

- Return on Equity
- Return on Assets

2) When amino acids are limited to the small intestine all protein synthesis is limited affecting milk protein and the value of the milk produced. What two amino acids have been identified as the most limiting for optimizing metabolizable protein?

- Lysine
- Methionine

3) What are the two major classifications of amino acids?

- Essential and non-essential

4) On a forage analysis name 2 things you could look at to check the fiber value in the feed.

- NDF
- ADF
- Crude Fiber

Senior Packet 4, Phase C

- 1) On a dairy farmers milk check what is the most valuable component?
 - Protein

- 2) What brings about an immune response by a specific antibody?
 - Antigen

- 3) What disease condition occurs when a foreign body penetrates the heart sac and causes an infection?
 - Hardware disease

- 4) According to the Food and Drug Administration's Pasteurized Milk Ordinance, milk must be cooled to what temperature or lower, in degrees Fahrenheit?
 - 45 * F

- 5) What state is the top corn silage producer?
 - Wisconsin

- 6) What is the name of the 18-carbon fatty acid present in milk which has been found to have cancer prevention effects?
 - Conjugated Linoleic Acid (CLA)

- 7) What is the name of the process where legume plants like alfalfa and clover convert atmospheric nitrogen into nitrogenous compounds that are useful to the plants?
 - Nitrogen fixation

- 8) What are anthelmintic used for in dairy cattle?
 - Kill internal parasites or deworming

9) What is the term for the rate of decline in a dairy cow's production after she reaches her peak milk production for a lactation?

- Persistency

10) What B vitamin can be added to feeds to help prevent ketosis in dairy animals?

- Niacin

11) What organ is responsible for the production of oxytocin?

- Hypothalamus

12) What kind of trait is mule foot in dairy genetics?

- Recessive

13) The National Milk Producers Federation board of directors voted unanimously that milk cooperatives must have all of the farms enrolled in what program by January 2017?

- FARM (Farmers Assuring Responsible Management)

14) Approximately what age do infected cows begin shedding the organism that causes Johne's disease?

- 2 years

15) According to studies, what management practice during milking will reduce the transmission of Staph Aureus from one cow to the next by nearly 50%?

- Wearing milker gloves

16) What disaccharide is formed from the combination of glucose and galactose?

- Lactose

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 5, Phase A

1) What happens to the nitrate levels of corn after it has been ensiled?

- It Lowers

2) What happens to the maintenance energy requirements of a cow as she moves from a thermo neutral state to a non-thermo neutral state?

- Increases

3) How is feed intake affected when the moisture level in the TMR increases from 45% to 60%?

- It decreases

4) T or F- Mycoplasma mastitis responds well to treatment with antibiotics.

- False

Senior Packet 5, Phase B

- 1) What 2 milk quality factors most affect milk flavor and shelf life?
 - Somatic Cell count
 - Bacteria counts

- 2) Ideally when grouping heifers they should be housed together within how many pounds of body weight to each other and within how many months of age to each other?
 - 200 pounds or less
 - 2 to 4 month of age

- 3) The rotational loafing lot management system consists of vegetated exercise and rest areas installed to replace dirt exercise lots. Name one of the benefits of using the rotational loafing lot management system.
 - Runoff and soil erosion reduced because grass growing on the lots uses nutrients
 - Helps stabilize the soil
 - Cows stay cleaner because of the grass or vegetation

- 4) Name the 3 main udder supports on a dairy cow.
 - Median suspensory ligament
 - Lateral suspensory ligament
 - Skin

Senior Packet 5, Phase C

- 1) What is the main characteristic of non-ambulatory cattle?
 - Animal is unable to move on their own

- 2) What is the name of the management practice that exposes cows to 8 hours of light followed by 16 hours of darkness?
 - Short-day photoperiod

- 3) What is the term that describes a farm's ratio of current assets to current liabilities?
 - Liquidity

- 4) A follicle will develop and mature in how many weeks?
 - 10 weeks

- 4) The Bt gene that has been inserted into corn in the process called transgenic protects the corn plant from what?
 - European Corn Borer

- 5) When corn silage is harvested at what percent dry matter do you get the best fermentation and preservation?
 - 35%

- 6) What is the name of the evaporative cooling system that intermittently applies and evaporates water from the cow's skin, drawing heat directly from her body and has the initials DEC?
 - Direct Evaporative Cooling (EDB, Jan 2016)

- 7) What does a cryoscope measure to determine if water has been added to milk?
 - Freezing point of milk

8) What effect does good pre-milking techniques have on mastitis incidences?

- Reduces mastitis

9) What soil pH does alfalfa do best in?

- 6.5 to 7.5 pH

10) What do tallow and whole soybeans provide in a dairy cow's ration?

- Fat or energy

11) What is the common name for the metabolic disorder that occurs at around calving and is caused by an imbalance between consumption and demand of calcium?

- Milk Fever

12) What fatal cattle disease destroys the intestinal lining of ruminants with the major symptom being diarrhea?

- Johne's disease

13) What is the major rumen VFA used for fat synthesis by the udder?

- Acetate

14) In degrees Fahrenheit, milk replacer should normally be mixed with clean water at what temperature?

- 110 degree F (HD)

15) Animals can become persistently infected in utero when they are exposed to a specific BVD strain at less than how many days in gestation?

- 125 days or first trimester

16) What breed now makes up 8.3% of all cows enrolled in a DHI program?

- Jersey

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 6, Phase A

- 1) Which of the following would be considered a voluntary reason for culling a dairy cow: a) non-breeder, b) mastitis, c) low production or d) crippled?
 - c) Low production

- 2) Of the following nutrients, which is the driver of milk production because it provides the glucose needed to make lactose and is used by the rumen bacteria to make microbial protein: a) Fructose, b) Starch, c) Protein, or d) fiber?
 - b) Starch

- 3) Which of the following is the best time to feed anionic salts for dairy cows to help prevent milk fever: a) at the beginning of the dry period, b) during the 2 weeks before calving, or c) during the 3 weeks after calving?
 - b) During the 2 weeks before calving

- 4) When comparing fertility in groups of dairy cows and heifers, which group is usually the most fertile?
 - Heifers

Senior Packet 6, Phase B

1) Fat Cow Syndrome is a disease caused when a cow gains too much weight during her late lactation or dry period and is frequently associated with other diseases or metabolic disorders at the time of calving or shortly after giving birth. Name 4 disorders or diseases that may result from Fat Cow Syndrome.

- Displaced abomasum
- Retained placenta
- Milk fever
- Ketosis
- Metritis
- Fatty liver Syndrome
- Mastitis
- Dystocia

2) Name three of the five steps recommended by AGCO (Your Agriculture Company) to do to your harvesting equipment to winterize it and make sure it is ready for spring.

- Fill tanks
- Adequately lubricate, oil
- Repair damage, replace parts
- Maintain and clean, wash
- Proper storage of equipment

3) Name the 2 hormonal products used with today's timed A.I. programs.

- Prostaglandin and GnRH

4) Give 3 reasons why it is more effective to treat cows for mammary infections at dry-off?

- Higher concentration of antibiotics
- Antibiotics remain in the udder longer
- No discarding of saleable milk, only need to do 1x
- Prevents new infections

Senior Packet 6, Phase C

- 1) In miles per hour, what is the preferred air speed in a dairy facility in the cow stalls, feeding and holding areas?
 - 3.5 to 5 miles per hour EDB, Jan 2016)

- 2) Days open is an economic measure of a herd's reproductive performance. Every day a cow could be pregnant but is still open costs the dairy producers how much money?
 - \$3 to \$5

- 3) What is the name of the clusters of secretory cells in the mammary gland that are arranged in grape-like structures?
 - Alveoli

- 4) What is the term used to describe the process when minerals, especially nitrogen, are removed from the soil by water?
 - Leaching

- 5) When is the optimal time to assess a cow's pregnancy status after she is bred when using either milk or plasma testing?
 - 32 days post breeding (Accept 30-35 days)

- 6) Where do you deposit the material if you are giving a cow an injection IM?
 - Into the muscle

- 7) Poloxalene can be used to prevent what condition in grazing cattle?
 - Bloat

- 8) Trichomonas can cause infertility, abortions and pyometria in dairy cows. How is it spread?
 - Through semen

9) What is the purpose of a vacuum regulator?

- Maintain a constant vacuum level within the milking system

10) What is the most common bacteria found in fermented colostrum?

- Lactobacillus

11) What mineral is required to establish legumes in the soil?

- Phosphorus

12) What is the primary source of coliform mastitis?

- Environment

13) What is a bio filter used for on the farm?

- Filter air or water to reduce farm pollution

14) What is the term for how well cows convert feed into milk?

- Feed efficiency

15) What is the name of the practice that is a financial incentive from the state or federal government to help farmers pay for equipment or practices that help reduce pollution?

- Cost Share

16) When an animal is releasing greater amounts of non-esterified fatty acids (NEFA's), she is responding to what metabolic state?

- Negative energy balance

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 7, Phase A

1) What is the most common characteristic of the disease coccidiosis in calves?

- Chronic diarrhea

2) In which part of the digestive system of a newborn calf are the immunoglobulins in colostrum absorbed?

- Small intestine

3) Of the following, which is not considered a legume: a) red clover, b) soybeans, or c) triticale?

- c) Triticale

4) When is the most costly period in raising heifers?

- Pre-weaning or when they are on a milk diet

Senior Packet 7, Phase B

1) Name two other names that refer to the metabolic disorder milk fever.

- Hypocalcemia
- Parturient paresis

2) Name 4 of the female reproductive hormones in regards to dairy cattle.

- Gonadotrophin releasing hormone(GnRH)
- Follicle stimulating hormone(FSH)
- Estrogen
- Luteinizing hormone(LH)
- Progesterone
- Prostaglandin

3) Name the two fluid amounts that frozen semen is packaged in.

- $\frac{1}{2}$ cc
- $\frac{1}{4}$ cc

4) Name 3 management practices that should be considered in regards to cow safety or comfort in the holding pen or area.

- Minimize time spent in the holding area to less than an hour
- Safe footing (Grooves in floor)
- Proper crowd gate usage
- Ventilation or cooling of cows(Fans, Sprinklers)
- Water availability before and after the holding area and milking parlor
- Lighting
- Cleanliness

Senior Packet 7, Phase C

1) Approximately how many times more in the protein percentage of first milking colostrum as compared to whole milk?

- 5 X

2) What is the purpose of adding titanium Dioxide to non-fat milk?

- Whitens the milk

3) A regulation issued by the Secretary of Agriculture that puts certain requirements on the handling of milk in a particular marketing areas is called what?

- Federal Milk Marketing Order

4) What distinct type of ruminal acidosis is generally defined by a rumen pH range between 5.0 and 5.5?

- Subacute ruminal acidosis (SARA)

5) What is the name of the maternal component of the placental attachment?

- Caruncles

6) What is the minimum number of hours a lactating cow should have access to the feed bunk?

- 20 hours

7) What organ in the dairy cow produces urine?

- Kidneys

8) What class of milk is used for the production of ice cream?

- Class II

9) What is enteritis?

- Scours or inflammation/infection of the intestines

10) Cattle nerves are like electrical wires and nerve impulses are only transmitted if there is “insulation” on the wires. What vitamin is needed to make the insulation that surrounds cattle’s nerve cells?

- Thiamine

11) On average most teat dips will effectively kill multiple strains of bacteria within how many seconds?

- 30 seconds

12) What formerly eradicated, or eliminated disease was confirmed in the past year in two Texas Panhandle dairy farms?

- Tuberculosis

13) What type of cheese is used for the purpose of calculating Cheese Yield Dollars?

- Cheddar

14) What is the name given to the holes in Emmentaler or Swiss cheese?

- Eyes

15) What is the name of the sugar which is found in semen?

- Fructose

16) In pounds, what is the average dry matter intake for a Holstein cow during the close-up dry period?

- 25 to 30 pounds

2017 Senior District Dairy Quiz Bowl Contest

Senior Packet 8, Phase A

1) What is the name of the by-products of the rumen bacteria that give the cow energy?

- Volatile Fatty acids (VFA's)

2) In the milking system, what is the function of the plate cooler?

- Cooling the fresh milk prior to entering the bulk tank

3) What is the term used to describe the percentage of cows eligible to become pregnant in a given time frame that actually become pregnant?

- Pregnancy rate

4) In addition to milk and water, a calf with scours should be supplemented with what oral treatment to help prevent dehydration?

- Electrolytes

Senior Packet 8, Phase B

- 1) What is the chemical formula for the common footbath substance, cooper sulfate that is used on dairy farms?
 - CuSO_4
- 2) If your herd is averaging 90 pounds of milk and you receive \$20 per hundred weight and it cost \$7 per day to feed your cows, what is your income of feed cost?
 - \$11 ($90/100 = .9 \times 20 = \$18 - \$7 = \11)
- 3) Name 4 test a milk processor will perform on a milk sample taken from the bulk tank on the farm to determine quality and standards.
 - Standard plate count (SPC)
 - Coliform count (CC)
 - Somatic cell count (SCC)
 - Preliminary Incubation (PI)
 - Lab pasteurization count (LPC)
 - Cryoscope (test of water in the milk)
 - Delvo
 - Babcock
- 4) A total mixed ration is a blend of all feedstuffs in one feed. Name 4 advantages of feeding a TMR.
 - Eliminate selective feeding
 - Consistent ration
 - Higher dry matter intakes
 - Easier to balance
 - Fewer digestive upsets
 - Greater potential for higher milk production
 - Less sorting
 - Ability to feed by-product feeds
 - Lower percent of fiber needed
 - Free choice minerals not needed

Senior Packet 8, Phase C

- 1) What milk component is the major determinant of the amount of cheese yield from milk?
 - Protein

- 2) In terms of heat stress, what does THI stand for?
 - Temperature Humidity Index

- 3) What is the name of the process in which white blood cells engulf microorganisms?
 - Phagocytosis

- 4) In which season are retained placenta's the highest?
 - Summer

- 5) What is the name of the organism that can be the cause of the diseases malignant edema, overeating disease, blackleg, and tetanus in dairy cattle?
 - Clostridia organism

- 6) What component in plants gives them their green color?
 - Chlorophyll

- 7) When rumen pH drops below 5.8 for an extended period of time, what metabolic disorder is occurring?
 - Acidosis

- 8) Which vitamin is essential for the efficient use of calcium and phosphorus in bone growth?
 - Vitamin D

9) What test is conducted by injecting a small amount of an antibody into the caudal fold of the tail of the dairy animal?

- Tuberculosis test

10) What is the name of the cheese which is said to be shaped like a cannon ball?

- Edam

11) A deficiency of hemoglobin, iron or red blood cells that prevent adequate transport of oxygen by blood to tissues is known as what?

- Anemia

12) Which breed passes on the lowest percentage of antibodies from dam to calf?

- Holstein

13) What is the recommended temperature for the pasteurization of waste milk for calves when using an on-farm batch pasteurizer?

- 145 degrees F

14) Following the completion of milking, what is the name of the milk that remains in the mammary gland?

- Residual milk

15) What diet energy term is being calculated when you subtract the energy lost in feces from the total energy in a feed?

- Digestible energy

16) Where in the dairy cow are B-complex vitamins and vitamin K produced?

- Rumen

Extra Questions for 2017 N.Y. State Senior Dairy Quiz Bowl Contest

1) Vitamin D helps prevent what nutritional disorder in calves?

- Rickets

2) In regards to herd management, what does the acronym DNB stand for?

- Do Not Breed

3) The mastitis causing organism that is an algae is called what?

- Prototheca

4) What part of the calf works as an insulator by trapping air and creating a boundary between the body and chilly outside air?

- Hair coat

5) Which vitamin deficiency in a lactating cow's diet causes an oxidized flavor in their milk?

- Vitamin E

6) A group of genetically engineered Holstein-Jersey cross dairy cattle has been genetically engineered with human DNA so their bodies produce human antibodies against what disease?

- Ebola

7) What carbohydrate in corn silage has improved digestibility by to 10 to 15 % if allowed to ensile for 3 to 5 months before feeding?

- Starch

8) Which continent of the world imports the most cheese from the United States?

- Asia (China)

9) What is the term for the feed material found in the small intestine of a cow?

- Chyme

10) What is the technical term for hybrid vigor?

- Heterosis

11) Dairy cows typically reach their mature weight in which lactation?

- Third

12) What is the condition being described by the thickened or jagged ring of keratin around the teat end?

- Hyperkeratosis

13) What metabolic disease is indicated when the cow has a noted smell of acetone on her breath and often times goes "off" feed?

- Ketosis

14) In the USDA, which Act regulates standards for human care and treatment of certain animals?

- Animal Welfare Act

15) What is spontaneous recovery in relation to dairy cow udder health?

- The ability of the cow to cure herself of an udder infection without the aid of antibiotics or other drugs

16) What is the scientific name for the pregnancy test performed by placing a fist on the cow's right flank and pushing against her to create a fluid wave to feel the fetus bump back and is also called "bumping the calf"?

- The Ballotement test

17) New farm technology has been developed to protect bunker silos in the form of OTR plastics. What does OTR stand for?

- Oxygen Transmission Rates

18) How many days does it take an egg to go through the oviduct of a cow?

- 4 days

19) When it comes to colostrum, what class of IG's is most important to passing on immunity and is found in the largest quantity?

- IgG

20) What is the name for the type of protein that passes through the rumen and is unchanged by microbes?

- Rumen undegradable protein or RUP (also accept bypass protein)

21) Where will the largest amounts of nitrate be found in drought-stunted corn?

- In the stalk...mostly the bottom

22) What is the name for the type of corn silage that is made by shredding the entire corn plant longitudinally while shattering the kernel and has a longer chop length?

- Shredlage

23) What is the DHI Hot sheet used for in dairy herd management?

- To help producers manage herd SCC(somatic cell counts)

24) What is the term used to describe the drying up of a dead fetus?

- Mummification

25) What is the name for an area of grassland between cropland or feedlots and waterways which takes up nutrients and prevents them from running off into waterways?

- Buffer strip

26) What becomes the physiologically limiting factor for feed intake as a cow moves into later lactation?

- Rumen fill

27) Name 2 of the functions of the hormone oxytocin for the dairy animal.

- Milk letdown
- Uterine contraction

28) Give 4 observations your dairy nutritionist should observe and take note of when visiting your farm.

- Manure consistency
- Body condition score of cows
- Cud chewing
- Foot health
- Barn conditions
- Resting behavior
- Water vat access and condition of water(cleanliness)
- Amount and condition of feed in the bunch

29) Give three common chemical agents used in footbaths to prevent warts and other diseases from being spread.

- Copper Sulfate
- Tetracycline
- Zinc
- Formaldehyde

30) Name three diseases that can cause abortions in dairy cattle.

Brucellosis, IBR, Vibriosis (Campylobacteriosis), Chlamydia, Leptospirosis, Listeriosis, Neospora, Trichomoniasis