

2007 N.Y.S. District Senior Dairy Quiz Bowl Contest

Senior Packet 1, Phase A

- 1) What is the most important factor in stimulating how well a calf's immune system can fight off diseases providing the dry cows have a good vaccination program?
 - Getting 1 gallon of good colostrum into a calf within the first six hours of birth (DHM, 6/05, pg. 15)
- 2) In New York, what governmental entity would you contact to become registered in the national animal identification system?
 - New York State Agriculture and Markets (HD, 12/05, pg. 814)
- 3) What metabolic disorder has an increased risk with high potassium forage diets?
 - Milk Fever, Downer cow
- 4) When a cow's dry period is shortened to 40 days, does the colostrum quality increase, decrease or stay the same?
 - Stay the same (NEDB, 12/05, pg. 24)

Senior Packet 1, Phase B

- 1) What are the 3 phases of the National Animal Identification System?
 - Premise identification
 - Animal identification
 - Animal tracking (NEDB, 9/05, pg. 21)

- 2) Name the 4 steps of rumination
 - Regurgitation
 - Remastication
 - Swallowing
 - Eructation

- 3) When trying to determine which milk replacer product to use to feed your calves, what are 4 items you might compare?
 - Crude protein
 - Fat content, energy content
 - Ingredients
 - Feeding instructions
 - Cost
 - Availability
 - Medications
 - Brand or company, background or references (HD, 2/06)

- 4) Name 4 management practices that can be used on farms that consistently show results in lower bulk tank somatic cell counts.
 - Clean cows & waterer's
 - Removal of udder hair/ synging udders
 - Clean free stalls/tie stall/ cow beds
 - Clean calving area
 - Clean milking equipment/parlors
 - Regular maintenance of milking systems
 - Post milking teat dip/predipping
 - Good dry cow program
 - Proper milking procedures
 - Wearing milker gloves
 - Vaccinations
 - Records on cows
 - Stripping
 - Culturing
 - Milking infected cows last
 - Backflushing

Senior Packet 1, Phase C

- 1) How many pounds per day is the recommended daily gain for heifers from 2 months to puberty?
 - 1.75 lbs to 2.0 lbs. (HD, 1/06, 2006)
- 2) Cooperatives Working together (CWT) is a dairy farmer funded program with what main purpose?
 - Stabilizing milk prices (HD, pg. 604)
- 3) Which nutrient is lost the most when hay is sun bleached?
 - Vitamins
- 4) In reproduction, what time frame does day's open refer to?
 - The number of days from calving to conception
- 5) Which acid is most prevalent in properly fermented silage?
 - Lactic acid (HD, pg. 220)
- 6) What is the largest cost in milk production?
 - Feed (2006 Virginia 4-H DQBM)
- 7) Genex CRI is a well known bull stud service. What do the initials CRI stand for?
 - Cooperative Resources International
- 8) Protein that escapes rumen fermentation is called what?
 - Undegraded or bypass protein
- 9) According to the Northeast Dairy Business Magazine, after being moved to a new pen, about how long does it take for a cow to adjust to the social situation?
 - 3-days
- 10) On the average, cows have a flight zone of how many feet?
 - 5 feet

- 11) What is the best way to monitor for mycoplasma bovis mastitis on your farm?
- Take a bulk tank sample and culture for it (DHM, 3/05, pg. 44-46)
- 12) What state has had the largest percent increase in milk production up until July 2006?
- New Mexico
- 13) What would you use copper sulfate for on a farm?
- For use in a foot bath
- 14) Name the potentially deadly manure gas characterized by a rotten egg smell?
- Hydrogen sulfide
- 15) In the Federal Milk Marketing Order (FMMO) system, milk and milk products are divided into how many classes?
- 4 classes
- 16) When working in the area of financial management, what is the statement used to measure the profitability of the business by measuring all sales receipts and expenses used?
- Income statement (2006 4-5 DB business mgt. Materials)

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Senior Packet 2, Phase A

- 1) While air emission laws do not regulate odor, excessive levels of dust and certain manure gases are subject to federal air laws. What do the initials CAA stand for in reference to this law?
 - Clean Air Act

- 2) By feeding less of this type of feed nutrient, ammonia emissions are reduced. What is the feed nutrient?
 - Protein (HD, Sept/Oct 05, pg. 696)

- 3) Mechanical manure solids separators come in several types. Most of them fall into 2 types of separators. What is the name of one of the 2 most common types?
 - Static Screen or Screw press (NEDB, 5/05, pg.23)

- 4) The Concentrated Animal Feeding Operation, CAFO, is regulated by what organization in New York State?
 - N. Y. State DEC (Department of Environmental Conservation) (2006 4-H DB Business Mgt. Materials)

Senior Packet 2, Phase B

- 1) List 5 important qualities to look for in potential employees?
 - Positive attitude
 - Willingness to learn
 - A beginner's mind
 - Coachable
 - Motivated
 - Willingness to work on a team
 - Get along well with others
 - Open to change
 - Leadership skills
 - Cleanliness or appearance
 - Responsibility
 - Honesty
 - Work ethic
 - Skills/ability
 - References
 - Not illegal immigrants
 - Education(DHM, 10/05)

- 2) Name 3 factors that can affect a herd's Internal Herd Growth.
 - Cull rate
 - Death rate
 - Calf mortality rate
 - Age at first calving
 - Calving interval
 - Reproduction
 - Pregnancy rate
 - Calf & heifer raising practices
 - Sexed semen vs conventional semen (NEDB, 12/05, pg. 63)

- 3) Name 3 changes in milk packaging that has helped increase milk sales.
 - Distinctive packaging (example; hour glass shape)
 - Resealable containers
 - Colorful labeling
 - Plastic containers
 - Variety of products
 - Packaging in vending machines
 - Individual servings
 - Advertising/marketing(DHM, 3/05, pg. 12)

- 4) Which two elements found in fertilizers and manure are responsible for surface and ground water contamination?
 - Nitrogen and phosphorus (2006 Virginia 4-H DQB materials)

Senior Packet 2, Phase C

- 1) The release of which hormone can block a cow's milk let down?
 - Adrenaline or epinephrine (HD, pg. 317)
- 2) Beef producers pay a \$1 per head check off for each animal sold at market. How much do dairy producers pay when sending cull cows to slaughter?
 - \$1.00
- 3) What is the primary benefit from crossbreeding two different breeds of dairy cattle?
 - Hybrid vigor or heterosis (DHM, 3/05, pg. 54)
- 4) The CME has daily block cheese prices. What does CME stand for?
 - Chicago Mercantile Exchange (DHM, 7/05, pg. 30)
- 5) The rumen biohydrogenation theory is used to explain what milk fat challenge?
 - Milk fat depression (NEDB, 12/05, pg. 58)
- 6) What is the estimated cost of a retained placenta?
 - \$285 accept \$280-\$300(DHM, 11/05)
- 7) What can be used to treat Listeria in dairy cattle?
 - High doses of penicillin or oxytetracycline (HD, 9/05, pg. 646)
- 8) The term primiparous refers to what group of lactating cows?
 - First lactation cows
- 9) What organization publishes the Nutrients Requirement for Dairy Cattle, the guide for feeding dairy cattle?
 - National Research Council
- 10) There are several reasons for deductions in a farm's milk check. The cost to haul milk from the farm to the milk processing plant is called what?
 - Hauling charge (2006 4-H DB Business mgt. Materials)

11) What is the technical name for aspirin?

- Acetylsalicylic Acid

12) What is the genetic makeup of an individual referred to?

- Genotype

13) What is the major symptom of winter dysentery?

- Diarrhea

14) What is the process used to kill bacteria in milk?

- Pasteurization

15) When measuring a dairy farms competitiveness and business management, an important tool for evaluating the productivity of workers and cattle is measured by what?

- Pounds of milk sold per worker

16) When analyzing somatic cell counts and milk quality, a linear score below 4 is considered good. What Somatic cell count does a linear score of 4 correlate to?

- 200,000

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Senior Packet 3, Phase A

- 1) Rumensin was recently approved for lactating cows. Why would you feed rumensin?
 - To increase feed efficiency
- 2) The presynch and ovsynch breeding program refer to what type of breeding program?
 - Controlled or synchronized breeding programs, timed, or programmed (HD, pg. 22)
- 3) How will heat and direct sunlight affect modified live vaccines?
 - Inactivate it (DHM, 9/05, pg. 27)
- 4) In a grazing-based dairy, describe the management practice of mob-feeding calves.
 - When calves are raised in a group in a pasture and are supplied milk in a group container that all the calves in that group have access to. (HD, 11/05, pg. 780)

Senior Packet 3, Phase B

1) What are two reasons for using a dairy consultant?

- Fresh outside perspective
- Specific skills
- Skills that compliment those of the owner
- Problem solving
- Feed analysis

2) List 4 examples of assets on a farm.

- Cows, Land, equipment, tractors, buildings, cash, feed, lumber, stocks and bonds, co-op equity

3) Too much stress can limit calves' growth. What are 5 factors that can minimize stress at weaning?

- Calves should be eating 2 lbs of starter a day
- Offer plenty of fresh water
- Move calves into small transition groups first
- Wait at least one week after weaning before moving into group pen
- Spread out stressful events like vaccinations, dehorning and changing housing. Vaccinating just prior to moving-vaccination should be done 10 days to 2 weeks prior to moving
- Don't move calves in extremely cold or hot weather
- Provide good ventilation
- Keep on the same diet at least 1 week after a move
- Group by size
- Provide adequate bunk space and don't overcrowd
- Avoid rough handling of calves during the moving process
- Gradual weaning off milk
- Clean environment
- Consistency in routines (DHM, 10/05, pg. 30)

4) To improve overall farm security, list 3 things that can be done.

- Limit entry to your farm to one route
- Develop a visitor policy
- Lock all tractors and equipment (DHM, 10/05)
- Lock all perimeter gates, install and lock all perimeter gates
- Have employees be aware of people and things happening around them
- Signs
- Lock on bulk tank, Lock-up medicine supplies
- Lock milk house
- Boots

- Footbath
- Camera's
- Isolate new animals or ones returning from exhibitions
- Lights

Senior Packet 3, Phase C

- 1) What is the main reason to add water to a TMR mix?
 - To prevent the cows from sorting the feed or to add moisture
- 2) What is inbreeding?
 - Mating of two animals that are related to each other
- 3) Pregnancy rate is a function of heat detection rate times what?
 - Conception rate (HD, 1/05, pg. 66)
- 4) What is the term used mostly in the dairy scientist world that describes cows that have calved more than once?
 - Multiparous
- 5) Most attention paid to DCAD has been focused on close-up cows management. What does DCAD stand for?
 - Dietary Cation-Anion Difference
- 6) The % return on equity measures what?
 - The rate of return the family made on their investment in the business profitability.
- 7) What acid is produced in the abomasum?
 - Hydrochloric acid
- 8) What genetic recessive trait is known as syndactylism?
 - Mulefoot
- 9) The longest gestation period is seen in which breed of dairy cows?
 - Brown Swiss

- 10) What term describes the swelling of the udder or teats caused by the accumulation of fluid under the skin?
- Edema
- 11) If a serving of milk is 8 ounces, how many servings are there in a gallon of milk?
- 16 servings
- 12) Where is oxytocin produced in a cow?
- Pituitary Gland (HD, 2/06)
- 13) In order to get into a calf's bloodstream, antibodies in colostrum are absorbed through the wall of what organ?
- Intestine wall
- 14) What is the periodic table sign for Potassium?
- K
- 15) What are the two gases that are associated with the condition of bloat?
- Carbon Dioxide and methane
- 16) What does neutral detergent fiber measure?
- The amount of hemicellulose in feed (HD, 1/06, pg. 28)

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Senior Packet 4, Phase A

1) If you are lactose intolerant, what does this mean?

-You do not have enough lactase in your system and you cannot digest the lactose from milk products.

2) What scoring system is based on the observation of cows standing and walking (gait) with special emphasis in the back posture and is used for early detection of hoof problems or lameness?

- Locomotion scoring (Zinpro Corp)

3) Define what a freemartin is.

- An animal that is born twin to a bull and will not conceive a pregnancy

4) Why is it important to calibrate your manure spreader?

- Correct application rates or uniform application (DHM, 3/05, pg. 29)

Senior Packet 4, Phase B

1) Name 3 advantages for the dairy producer who uses a custom dairy heifer raising program.

- Decrease in labor requirement
- Increased milk herd management
- Increased facility capacity for milking cows
- Herd expansion without capital investment with the use of existing facilities
- Increased feed inventory for milking cows
- Possibly better replacement heifers
- Better growth of animal (2006 Virginia DQB materials)

2) Name 2 things you can do to safely transport equipment and supplies on roads shared with non-farm public.

- Pull over whenever possible to let motorist pass
- Avoid traveling during rush hour and bad weather
- Keep slow moving-vehicle emblems clean and visible
- Use pilot vehicles in front and back of farm equipment if traveling long distances
- Lights (DHM, 6/05, pg. 21)

3) The National Johne's Education Initiative has three main objectives. What are they?

- Reduce the possibility of introducing Johne's disease into uninfected herds
- Minimize the impact of Johne's disease in herds already infected
- Control existing cases
- Treatment
- Spread
- Prevention (DT, 2/06)

4) How many classes of milk and milk products are there and name a product in each class?

- There are 4 classes
- Class I –fluid milk
- Class II- Ice cream, yogurt, cream cheese and other soft products
- Class III- Hard Cheese
- Class IV- Butter and non-fat dried milk (2006 4-H DB Business mgt materials)

Senior Packet 4, Phase C

- 1) A snapshot look of a business's financial situation can be seen from using what?
 - Balance sheet
- 2) About how many cows in a group of 100 should be lying down if we have good cow comfort?
 - 80 to 85% of the cows in a group
- 3) Why is it common to see more mastitis in the summer than in the winter months?
 - Bacteria grow best in a warm, humid environment
- 4) What would be the main reason for choosing a BMR corn variety?
 - Increased digestibility
- 5) In the area of farm finance what do the letters IRA stand for?
 - Individual Retirement Account
- 6) What is the hands-on tool used on the farm in analyzing the amounts of effective fiber in your cow's ration?
 - Particle separator
- 7) What is the name of the new product used for the treatment of E.coli mastitis?
 - Spectramast LC (DHM, 7/05, pg. 37)
- 8) What major food retailer has switched to using all "case ready" packaging in their retail meat case?
 - Wal-Mart (DHM, 7/05, pg. 8)
- 9) The majority of the dairy cow's blood glucose is produced in what organ?
 - Liver
- 10) The series of steps taken to prevent or reduce infectious disease introduction into a herd or onto a farm is described by what general term?
 - Biosecurity

11) What is the high-energy, low protein feed called that is a good source of calcium and a by-product of cheese making?

- Whey

12) What is the term for the amount of mineral present in feed?

- Ash

13) What is the primary digestive activity that occurs in the large intestine?

- Absorption of water

14) What are extra teats called?

- Supernumerary teats

15) How does a cow effectively lose body heat during hot weather?

- Evaporation by sweating or panting

16) We commonly feed our cows soybean meal and distillers grain, what are these a good source of?

- Protein

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Senior Packet 5, Phase A

- 1) Why would you consider shortening a mature cow's dry period?
 - Increase total milk production or to help ease the transition into lactation from the dry period (DHM, 8/05, pg. 8)
- 2) What is the name of the chemical test that measures a portion of the total supply of nutrients in the soil?
 - Soil tests, pH test (CCE Crop guide, Pg.33)
- 3) What symptom of scours in calves causes the most critical concern?
 - Dehydration
- 4) What is the Milk Income Loss Contract (MILC) program for?
 - To aid dairy farmers when milk prices are low

Senior Packet 5, Phase B

- 1) Forage testing is the most reliable way of knowing the nutrient content of forages. What are two forage testing methods?
 - Wet Chemistry
 - NIR (near infrared reflectants)
 - Koster tester
 - Screen tester/particle separator
 - Moisture tester

- 2) When it comes to expanding your dairy, a team approach works best. Name 4 people who should be included on your expansion team.
 - Nutritionist, Feed supplier
 - Veterinarian, Breeder
 - Dairy extension specialist
 - Milking equipment manufacturer
 - Financial Advisor
 - Consulting engineer
 - Farm partners/owners
 - Key employees (DHM 6/05, pg. 17)

- 3) Name 3 measures to prevent or manage environmental mastitis.
 - Practice sanitary milking procedures
 - Forestrip
 - Keep udders clean and dry
 - Feed for health
 - Vaccinate
 - Identify pathogens
 - Treat infections accordingly
 - Dry treat
 - Keep stall beds clean
 - Dipping
 - Teat sealant
 - Milker gloves(DHM, 10/05, pg.50)

- 4) What 4 steps does Cornell University recommend you do for a manure spill?
 - Call 911
 - Eliminate the source
 - Contain the spill
 - Clean-up
 - Call appropriate people who need to be involved in the community
 - EPA or DEC, test soil
 - Keep inappropriate people and or animals away from spill site (NEDB, 9/05)

Senior Packet 5, Phase C

- 1) What milk quality test indicates the presence of psychrotrophic bacteria?
 - The preliminary incubation or P.I. Test (HD, 4/05, pg 260)
- 2) In relation to dairy cattle nutrition, what do the letters ADF stand for?
 - Acid detergent fiber
- 3) The main reason antibiotics are not allowed in milk is because why?
 - Some people are allergic to antibiotics
- 4) What is the chemical compound that suppresses the immune system and is called the stress hormone?
 - Cortisol (NEDB, 9/05, pg. 30)
- 5) What health disorder characterized by lack of coordination in hind legs and having problems walking, shows its first sign in Brown Swiss heifers at 5 to 8 months of age?
 - Weavers
- 6) With the increasing number of Spanish speaking laborers in the dairy industry, understanding the Spanish language has become important. What is the Spanish word for cow?
 - Vaca (can be pronounced "baca")
- 7) What is the common name for M paratuberculosis?
 - Johne's
- 8) The risk of teat frostbite increases when the air temperature is below 5 degree F and when what other critical environmental condition exists?
 - When there is wind (5mph or greater usually)(HD, 12/05, pg. 808)
- 9) For optimal yields, how many alfalfa stems per square foot would you want in your fields?
 - 50 to 60 per square foot

- 10) My haylage bunk smells like vinegar and if I was to send it away for a fermentation analysis, what could I expect the result to be?
- High acetic acid levels
- 11) Cows will usually show more standing heats on what type of surface?
- Dirt
- 12) What should you do to the calf before using dehorning paste?
- Trim the hair off the horn or horn button
- 13) If calves are weaned too early or moved with lots of stress, what type of disease are they most susceptible to?
- Respiratory illness, shipping fever (DHM, 4/05, pg. 26)
- 14) Many people feed waste milk to their calves. What is waste milk?
- Milk that cannot be sold for human food because the cow has been treated with antibiotics (DHM, 3/05, pg. 15)
- 15) The teat condition hyperkeratosis is a result of what?
- Over milking
- 16) Monensin was recently approved for lactating cows, what is monensin's trade name?
- Rumensin

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Senior Packet 6, Phase A

1) Orbeseal is used to do what?

- Seal teats at dry-off, plug teats

2) Pepsin is an enzyme secreted in the abomasums. What does pepsin digest?

- Proteins or amino acids (World of Dairy Cattle Nutrition)

3) DPR is a tool used to evaluate bull proofs. What does DPR stand for?

- Daughter Pregnancy Rate (HD's, 1/25/07, pg. 77)

4) When planning for retirement a farmer may set up an IRA. What does IRA stand for?

- Individual Retirement Account

Senior Packet 6, Phase B

1) What are the two enzymes secreted by the abomasums?

- Pepsin
- Rennin (World of Dairy Cattle Nutrition)

2) What are 4 ways mycotoxins cost you money on your dairy farm?

- Reduction feed intake and milk production
- Disease infestation
- Reproduction problems
- Death in livestock
- Decrease in feed inventory and need to purchase
- Increase in cull rate leading to increase in replacement cost(DHM , 6/06, pg. 10)

3) What are 3 of the 4 classes of immunoglobulins?

- IgA
- IgE
- IgG
- IgM

4) Name 6 body systems of the dairy cow?

- Circulatory
- Respiratory
- Nervous
- Digestive
- Endocrine
- Reproductive
- Skeletal
- Muscular
- Mammary
- Integumentary (2006 Virginia Materials, pg. 32)

Senior Packet 6, Phase C

- 1) What are the two most limiting amino acids in a dairy cattle ration?
 - Lysine and Methionine (2006 Virginia 4-H Dairy Quiz Bowl Materials,
- 2) When the hormone called estrogen make a cow receptive to the male, this time is called what?
 - Estrus or heat period
- 3) What general type of mastitis do we see the most production loss?
 - Subclinical
- 4) At what age does the calf generally have a fully developed rumen?
 - 3 to 4 months
- 5) Why is it a good management practice to rotate between different herbicides used on your fields?
 - To reduce weed resistance
- 6) If your cows are showing low butterfat test, it may be an indicator of what deficiency in the cow's diet?
 - Effective Fiber
- 7) Besides blood testing, what is another way to test calves for BVD?
 - Ear notching (DHM 3/06, pg.17)
- 8) What disease should you vaccinate for when you dock tails?
 - Tetanus
- 9) By weight, what percent of milk fat is composed of saturated fatty acids?
 - 60% (HD's, 1/25/07, pg. 51)
- 10) Clostridium tetani is also known as what?
 - Tetanus (HD's, 1/10/07, pg. 9)

11) What is morbidity rate?

- # of sick animals

12) Which breed has the longest average productive life?

- Jersey

13) What is a positively charged ion or particle?

- Cation

14) Which gland releases melatonin?

- Pineal gland

15) What part of the teat does hyperkeratosis typically affect?

- Teat ends

16) What is the main reason why more farms have not installed methane digesters?

- High start up cost (DHM, 7/06, pg. 21)

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Senior Packet 7, Phase A

1) Distiller's grain is a by-product of what product or process?

- Ethanol productions

2) What do you call the series of boxes used nested within each other with different size screens, what are used to shake TMR through to determine break down of the mix based on particle size?

- Penn State Shaker Box (HD's, 2/10/06, pg. 100)

3) What is intensive grazing?

- A management system where pasture is the main source of feed and where the cows spend most of their time. (HD's, 1/25/07)

4) Of the following: California Dairies, Maryland and Virginia milk Producers, Dairy Farmers of America, and Land-O-Lakes, which is the largest cooperative?

- Dairy Farmers of America (HD's, 10/06, pg. 665)

Senior Packet 7, Phase B

1) Name 4 ways to reduce bacteria in raw milk.

- Segregate animals with diarrhea or obvious illness such as mastitis
- Use good udder preparation such as washing and drying udders
- Remove udder hair
- Pre-dip with sanitizing solution
- Keep milking units clean during use
- Change filters with each milking
- Keep equipment in good repair
- Sanitize between milkings
- Replace gaskets and rubber parts on a regular schedule
- Cool milk quickly and keep below 45 degrees F

2) What does NAIS stand for? Who developed it? And name 3 types of animals included.

- National Animal Identification System
- Developed by the USDA
- Types of animal included: Cattle, horse, swine, poultry, sheep, goats

3) Name 3 diseases that can cause abortions in dairy cattle

- BVD
- Brucellosis
- Campylobacterium (Vibriosis)
- Chlamydia
- IBR
- Leptospirosis
- Neospora
- Trichnomiasis (Virginia Study materials)

4) What are the two most effective measures to prevent new mastitis infections?

- Teat dipping
- Dry cow antibiotic therapy (Virginia study materials, pg. 16)

Senior Packet 7, Phase C

1) Alfalfa stands will come back year after year with the proper cropping techniques. How many years after seeding will yields begin to decline?

- Three or the third year (HD, 3/05, pg. 219)

2) When using body-conditioning score, what score is ideal for a cow when she freshens?

- 3 to 3.5

3) When compared to normal corn silage, brown-midrib corn silage has more energy and higher digestibility. This is due largely to its lower content of what?

- Lignin

4) To estimate a cow's production for a single lactation, you would multiply the cow's peak production by what factor?

- 225

5) What hormone keeps the uterus in condition for the developing fetus?

- Progesterone

6) What is the name of the contractile tissue that forces milk out of the alveoli upon action of oxytocin?

- Myoepithelium (2006 Virginia Dairy Quiz Bowl Study Materials, pg. 13)

7) If you are using the management tool of increase frequency of milking for your fresh cows, how long should you milk them 6x before dropping them back to 3x to see the full benefit?

- 21 to 42 days or 3 to 6 weeks

8) What is the best measure of total fiber in a cow ration?

- NDF or neutral detergent fiber

9) Of the milk sold in the U. S., what percentage is pasteurized?

- 99 percent (HD's, 3/06, pg. 171)

10) Tractor tire pressure should be checked how often?

- Weekly (HD's, 6/06, pg. 365)

11) Packing density is usually worst on which part of a bunker silo?

- Top (HD's, 8/06, pg. 561)

12) Who was newly elected National Dairy Shrine president?

- Dave Galton (HD's, 10/25/06)

13) On the average, vacuum pumps consume what percent of a farm's electricity?

- 20% (HD's, 8/10/06)

14) What percentage of dietary protein is in the form of rumen degradable protein?

- Approximately 65% (HD's, 1/10/06, pg 28)

15) What is the term for the cyclic opening and closing of a teat cup liner?

- Pulsation

16) What is enteritis in calves?

- Scours

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Senior Packet 8, Phase A

1) What is peristalsis?

- Wave-like contractile motion which propels food and digesta through the digestive tract

2) Your 4th lactation cow calved 36 hours ago. She is very weak and unable to get up, has cold ears, a dry muzzle, slow respiration and a weak heart rate and her head and neck laying to her side. What is her diagnosis?

- Milk Fever or Parturient paresis

3) A lack of this nutrient will be the quickest reduction in growth or milk production for cattle?

-Water

4) What is necropsy?

- Autopsy of a dead animal

Senior Packet 8, Phase B

1) The dairy leader's in which three states have joined together to work cooperatively and grow their dairy industries?

- Vermont,
- New York and
- Pennsylvania (HD's 7/06, pg, 451)

2) Name 2 main factors that can aid in controlling the incidences of rumen acidosis.

- Fiber
- Particle Size
- sugars
- Starches
- Feeding management
- Proper diet

3) What are the 3 highly digestible carbohydrates found in feeds?

- Starch
- Sugar
- Pectin

4) Some farm owners have adopted grazing to reduce costs, what are the two main reasons they cite for cost reductions?

- Feed
- Labor

Senior Packet 8, Phase C

1) What instrument is used to measure blood protein in calves?

- Refractometer

2) Volunteers read the book Extra Cheese, Please! Mozzarella's Journey from Cow to Pizza to 1st, 2nd, & 3rd graders as part of a special day recently, what was the special day?

- Ag Literacy Day or National Ag day

3) What is a cryoscope used for?

- An instrument used to test the freezing point of milk to determine if water has been added

4) What type of accounting records expenses as they are incurred and records income as it is made and is the most accurate measure of profitability?

- Accrual Accounting (AEM 302 notes, Dr. W Knoblauch)

5) What type of sperm produce female calves?

- X sperm (HD's 9/06, pg. 636)

6) When creating a resume' what should you do with your prospective references before you list them?

- Ask them if they would be willing to be a reference for you

7) Udder composite score is an index based on several udder type traits. Which trait counts the most toward the index?

- Udder depth (HD's 12/06, pg. 816)

8) If a herd has a conception rate of 40% and a heat detection rate of 60%, what would their pregnancy rate be?

- 24%

9) Cows can see how many degrees around themselves?

- 300 degrees

10) We can reduce ammonia emissions by reducing the feeding of what?

- Protein

11) A serving of milk is equal to how many ounces?

- 8 ounces

12) The highest retail milk prices in the country are in which city?

- Chicago (HD's 2006)

13) What state ranks highest for worker compensation rates?

- California (HD's 2006)

14) What specific dairy product has been eliminated from New York City Schools?

- Whole milk (HD's, 3/06)

15) What are the first signs of alfalfa weevil damage?

- Tiny pinholes in leaves at the top of the plant (HD's 5/06)

16) What is the average first service conception rate for Holstein heifer's in the U. S?

- 57% accept 55-60% range (HD's, 1/25/07, pg. 77)

**2007 N.Y.S. District Senior
Dairy Quiz Bowl Contest
Extra questions**

Phase A or C

- 1) As casein levels in milk rise, does the taste of milk improve or deteriorate?
 - Improve

- 2) The vast majority of Streptococcus agalactiae (strep ag.) infections are caused by what poor management practice?
 - Poor milking procedures or introduction of infected cows

- 3) In reference to hereditary defects, please describe what the defects of mulefoot look like?
 - Only one toe on affected feet and they become sore and cause lameness

- 4) What are the three elements of carbohydrates?
 - Carbon, hydrogen, oxygen

- 6) In relation to dairy nutrition, what does ADF stand for?
 - Acid detergent fiber

- 7) What occurs when a cow's heat load is greater than her capacity to lose heat?
 - Heat Stress (An Sc 250 notes, Fall '03)

- 8) What is a mission statement for a business?
 - A few sentences that sum up the core values and goals of the business.

- 9) What is CNCPS used for in dairy nutrition?
 - Computerized program to balance rations.

- 10) Why is a cryoprotectant such as milk, glycerol or egg yolk added to semen?
 - Protects sperm from freezing

- 11) A dry period of how many days is most common on US dairy farms?

- 60 days (HD, 4/05, pg.)

12) Nitrogen fixing bacteria are associated with growing what type of plant?

- Legumes (V 4-h DQB study materials)

13) What do we call milk showing clinical symptoms of mastitis characterized by strings of white blood cells?

- Ropy milk (V 4-H DQB study materials)

14) In the Net Merit value calculated by USDA, what component carries the highest weight in the formula?

- Protein (pounds)

15) According to state labor laws, in general, what is the minimum age someone can perform any job declared hazardous?

- 16 years old

16) Who is known as the animal welfare expert?

- Temple Grandin

17) Approximately how much land is required per cow?

- 1 acre per cow, based on soil type (NEDB, pp.23)

18) What tool has helped veterinarians and dairy producers detect pregnancy much earlier than ever before?

- Ultrasound

19) What is the name of the land grant university in New York?

- Cornell University

Phase B

1) Johne's disease cannot be treated or cured. What management techniques can reduce the transmission of the disease within your herd?

- Using milk replacer
- Prevent manure contamination
- Frequent testing
- Separating cows and calves

2) Name four reasons why the dairy industry needs to minimize lameness in cows.

- Consumer concern
- Animal husbandry practices/regulations
- Reduced animal performance
- Reduced profitability

3) Tuberculosis is a contagious disease in both animals and humans. What are 3 types of bacteria that cause it?

- a. Mycobacterium bovis
- b. Mycobacterium avium
- c. Mycobacterium tuberculosis (DHM, 7/05, pg. 42)

4) What are your options to treat a cow with a left DA?

- d. Surgery
- e. Roll and toggle
- f. Market the cow
- g. Pump stomach and treat symptoms

5) Nutrients are substances that provide nourishment to the body. What are the seven classes of nutrients that are essential to every living animal for survival?

- 1. Water
- 2. Energy
- 3. Protein
- 4. Carbohydrates
- 5. Fats/ lipids
- 6. Vitamins
- 7. Minerals

(World of Dairy Cattle Nutrition, pg. 5)

6) Lactose is the sugar that gives milk its sweet flavor. What are the two simple sugars that make up lactose?

- Glucose
- Galactose

7) Name 4 important management practices you can contribute to better, more successful employee management.

- a. A written job description for every role on the dairy that describes clear expectations and a quick reference of responsibilities for the employees
- b. Clear and open communication
- c. Training, time with a mentor and time to practice the new skills
- d. A system of accountability and measurement of job performance
- Standard operating procedures (NEDB, 2/06)

