

2018 NYS Regional Senior 4-H Dairy Quiz Bowl Contest

Senior Packet 1, Phase A

1) What is the best way to assess the reason a cow died?

- Perform a Necropsy, Autopsy, post mortem

2) BHBA or beta hydroxybutyrate acid levels in milk samples are monitored for which metabolic disorder?

- Ketosis

3) Most cows will naturally form what kind of plug after dry-off to help prevent bacteria from entering the teat canal?

- Keratin

4) What causes an oxidized flavor in milk?

- Exposure to sunlight or fluorescent lighting or copper bearing surfaces
- Vitamin E

Senior Packet 1, Phase B

1) The U.S average somatic cell count has been decreasing the past 20 years and is flirting around the 200.000 cells per milliliter. Reducing mastitis takes a system approach these days. Name 2 additional practices besides pre and post milking teat dipping and dry cow therapy that are needed to help sufficiently control mastitis.

- Stall management, washing of equipment, segregation of cows, milk high SCC cows last, fore stripping, Bedding Management, gloves, Cow cleanliness along with teat sanitation (DHM 3/17)

2) Which two types of flies are cows in confined housing vulnerable to?

- Stable flies
- House flies

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

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

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

- Pull, Aim, Squeeze, Sweep

Senior Packet 1, Phase C

1) What does the acronym HIR stand for in terms of cow health?

High Immune Response

2) In March 2016 U.S. inventories of what dairy product climbed to their highest since June 1984 reaching 1.2 million pounds in storage?

Cheese

3) The biggest challenge with manure-based bedding is that it is a good medium for what?

-

Bacterial growth (DHM. 3/17)

4) In nearly every dairy ration, what is the most limiting amino acid?

Methionine (HD, pg 610)

5) In feet, how far down in the soil can alfalfa roots reach?

15 to 20 feet (HD, Pg 621)

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

Oxygen

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

Butyrate/Butyric

8) What mineral provides an excellent source of soluble calcium and sulfur when applied to the soil?

Gypsum

9) In terms of heifer management, what is compensatory growth?

The term used to describe a period of increased growth that follows a growth restriction in the heifer's life

10) How many days does it take for sperm in the bull to develop completely and become capable to fertilize an ovum?

45 to 50 days

11) A dry cow will start producing colostrum as she is getting closer to parturition. What initiates the decline of colostrum production?

At the start of labor or calving

12) In a mixed stand field, grasses will rapidly remove which nutrient before alfalfa has a chance to use it causing alfalfa to starve to death?

Potassium

13) What are the feed additives magnesium oxide and sodium bicarbonate categorized as?

Buffers

14) When using recirculating fans in the holding area to help with evaporative cooling over the cow's back, the air velocity should be how many feet per minute?

200 to 400 feet (DHM, April 17)

15) The Pasteurized Milk Ordinance also states the standard plate count (SPC) should not exceed 100,000 what?

Colony-forming units per milliliter (cfu/ml) (DHM, 3/17)

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

Prostaglandins

Senior Packet 1, Bonus questions

1) Name 3 hormones used by the female dairy cow reproductive tract.

- Gonadotropin Releasing Hormone (GNrH)
- Follicle Stimulating Hormone (FSH)
- Estrogen
- Luteinizing Hormone
- Progesterone
- Prostaglandin
- Oxytocin

2) Name 3 different sizes that CC disposable syringes generally come in.

- 3 cc
- 5 cc
- 12 cc
- 20 cc
- 35 cc
- 60 cc

3) Name 3 functions of saliva for the dairy cow.

- Moistens foods
- Lubricates food
- Act as a buffer
- Provides fluid base for many nutrients
- Provides proper environment for bacterial growth

4) Name the 3 VFA's that are produced in the rumen.

- Acetic acid
- Butyric acid
- Propionic acid

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Senior Packet 2, Phase A

1) What is the term used for the management practice of plowing down a forage crop to provide nutrients for a subsequent crop?

-Green manure

2) Where in the cow's GI tract are amino acids absorbed?

-Small intestine

3) The initial regrowth of alfalfa after harvest is dependent on carbohydrates that are stored in which part of the plant?

-Tap root

4) What is the name of any microorganism that causes disease?

- Pathogen

Senior Packet 2, Phase B

1) Good soil pH is the cornerstone of a sound soil fertility program and growing good crops. A couple of the main forages grown on dairy farms is corn and alfalfa which grow ideally at different soil pH. What is the target pH level for corn and alfalfa?

- Corn, 6.0 pH
- Alfalfa, 6.8 pH (DeKalb Silage Guide)

2) Name the 3 important steps in the control and prevention of BVD in a dairy herd.

- Biosecurity-reduce the risk of the virus entering the herd through contact with PI-Cattle
- Identify and eliminate PI-cattle from the herd to stop transmission of the disease, testing
- Improve herd immunity via vaccine immunization
- Proper use of needles and rectal sleeves (DHM, Sept. 16)

3) Name 4 different stressors that can challenge an animal's immunity and contribute to a disease outbreak or illness.

- Irregular feeding schedule
- Feed and water deprivation
- Poorly balanced diet
- Moldy or poor quality feeds
- Poor ventilation
- Overcrowding
- Lack of adequate feeding space
- Transportation
- Vaccinations
- Sudden weather changes
- Weaning
- Dehorning
- Castrating
- Re grouping/changing pens
- Heat stress

4) The new VFD which is mandated by the Food and Drug Administration and took effect on January 1, stands for what and what is it?

- VFD stands for Veterinary Feed Directive
- A prescription from a veterinarian for any medically important feed-added antibiotics (DHM, 3/17)

Senior Packet 2, Phase C

1) What vitamin found in milk promotes the absorption of calcium and helps strengthen bones?

Vitamin D

2) What does the acronym BRSV stand for?

Bovine Respiratory Syncytial Virus

3) What is the name of the national program aimed at helping kids make healthier choices in the lunch lines?

Smarter Lunchrooms Movement

4) The use of gypsum bedding increases the production of what gas in the manure system?

Hydrogen Sulfide

5) Where is the embryo placed during embryo transfer?

Uterine Horn

6) What non mandated regulatory test under the PMO is commonly used to identify inadequate on-farm hygiene practices?

Preliminary incubation counts or PI counts (DHM, 3/17)

7) When harvesting silage it is important to have a good TLOC. What does TLOC stand for?

Theoretical Length of Cut

8) What disease is less likely to develop in people who consume full-fat dairy products?

Diabetes

9) Who is the U.S. Secretary of Agriculture?

Sonny Perdue

10) What type of audit can be described as conducted by an unbiased, outside source, which creates the highest level of credibility in programs like animal care?

Third Party

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

Phosphorus

12) 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

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

Food Safety Inspection Service

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

Return on Equity or Return on Investment

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

National Institute for Occupational Safety and Health

16) The uterus and ovaries are held in their proper position by what structure?

Broad ligament

Senior Packet 2, Bonus Questions

1) There are 3 major areas that milk quality is measured by: Bulk tank somatic cell count, Standard plate count, and Preliminary Incubation. For these three parameters what are the measurable milk quality goals?

- Bulk Tank Somatic cell count-<200,000 Cells/ml
- Standard Plate count-<5,000 CFU/ml
- Preliminary Incubation-<10,000 CFU/ml (DHM, 3/17)

2) Name 3 trace minerals that are needed in a cow's diet.

- Cobalt
- Copper
- Iodine
- Iron
- Manganese
- Selenium
- Zinc

3) Name 3 test that a milk plant uses to determine the quality of raw milk.

- Acid degree value
- Antibiotic test
- Flavor
- Freezing point
- Leukocyte or somatic cell count
- Preliminary incubation (PI) count
- Sediment test
- Standard plate count

4) In the area of farm business management name 3 of the 4 necessary economic inputs for a dairy operation.

- Land
- Labor
- Capital
- Management

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Senior Packet 3, Phase A

1) What is the name for the long-term storage of carbon in the soil or plant biomass?

Carbon Sequestration

2) In calf management what do we call the failure to absorb enough antibodies despite being fed adequate levels of IgG's at birth?

Passive transfer failure

3) What is the name of the component in a milking system that serves to remove air from a partially closed system and therefore creates a partial vacuum?

Vacuum pump

4) How well cows convert feed into milk is known as what?

Feed efficiency

Senior Packet 3, Phase B

1) Lameness is a disease in dairy cattle that not only causes pain and distress for the cow but it also has a large economic impact. Name 3 economic losses associated with lameness.

- Lower milk production
- Lower fertility
- Increased treatments
- Increased labor cost
- Genetic impact-loss of potential daughters from high producing cows culled because of lameness
- Culling cost (DHM, Nov 16)

2) Name the 2 primary purposes of forestripping prior to attaching the milking unit.

- Detection of abnormal milk (mastitis)
- Stimulation of let down

3) According to the FDA, what nutrients will be replacing vitamins A and C on the FDA's Nutrition Facts Panel as under consumed nutrients in American diets?

- Vitamin D
- Potassium

4) 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

Senior Packet 3, Phase C

1) What nutrient is associated with winter hardiness in plants?

Potassium or potash

2) The anti-inflammatory drug Corticosteroids would be used to treat what condition after calving?

Udder edema

3) What term describes a plan for the land application of manure and fertilizer to meet crop needs?

Nutrient Management Plan

4) What hormone interferes with milk let down?

Adrenaline

5) What is the main substrate for bovine liver gluconeogenesis?

Propionate

6) Why is it important to immediately cull any BVD-PI animals on the farm?

Reservoir to spread BVD on the dairy

7) When constructing and building a forage pile, it is best to plan for the removal of how many inches of feed per day in the summer?

12 Inches (DHM, Sept. 16)

8) What reproductive management practice can result in hybrid vigor?

Crossbreeding (DHM, Feb 17)

9) What practice is necessary for precision feeding dairy heifers successfully and is a simple means to monitor animal performance?

Weighing heifers(Precision Feeding Heifers)

10) The European Union standard for milk quality measured by SCC is kind of a gold standard and for U.S. milk to be exported, it must meet what somatic cell count standard?

400,000 cells/ml or less (DHM. 3/17)

11) What is the name of the by-product that results from the cheese manufacturing process?

Whey

12) What trace mineral is found in very low levels in all forages, necessary for a number of body functions and disease resistance, and is an essential constituent of blood?

Copper

13) The process of ruminal degradation by the microbes leads to the release of fuels to the cow that she can utilize for energy. What are these fuels known as?

Volatile Fatty Acids

14) When someone is exposed to prolonged noise at or above how many decibels is hearing protection recommended?

85 decibels

15) What gas is produced from the digestive fermentation of fibrous feeds?

Methane

16) What is the common term used to describe traumatic reticuloperitonitis?

Hardware disease

Senior Packet 3, Bonus Questions

1) Name 3 items that are important in tractor safety.

- Lighting
- PTO shield
- Roll over protection (ROPS)
- Seat belt
- Tires
- Slow Moving Vehicle sign

2) What are the 3 major supports to the cow's udder?

- Skin
- Median suspensory ligament
- Lateral suspensory ligament

3) Name 3 different types of milking parlors besides Parallel.

- Herringbone
- Rotary
- Swing
- Parabone

4) What are the 3 types of fiber found in a dairy cow's ration?

- ADF (acid detergent fiber)
- NDF (Neutral detergent fiber)
- Lignin-effective fiber

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Senior Packet 4, Phase A

1) The nitrogen concentration in which part of the alfalfa plant rises during drought conditions?

Stem

2) The shortage of what element that is normally found in the soil and plants is linked to the disease grass tetany?

Magnesium

3) What is the common term for what can develop in the rumen of a dairy cow when we feed her too much grain and not enough effective fiber?

Acidosis

4) What is most commonly spread on fields to help achieve the proper pH?

Lime

Senior Packet 4, Phase B

1) Name the 2 primary goals of genetic selection in dairy cows.

Produce large quantities of milk efficiently

Increase cow longevity (DHM, Feb 17)

2) One of the dairy industry's nagging quandaries has been ridding herds of Bovine Viral Diarrhea (BVD) which was first discovered in 1946 and has been found on every continent except the cattleless Antarctica. Name 4 ways BVD is spread to healthy cattle via exchanges of bodily fluids.

- Nose to nose contact

- Milk

- Urine

- Feces

- Semen

- Saliva

- Blood (DHM, Sept. 16)

3) If your farm purchased a 100 pounds of 24-20-18 fertilizer, how many pounds of Potassium, Nitrogen and Phosphorus would be in it?

- 24 pound nitrogen

- 20 pounds of phosphorus

- 18 pounds of Potassium

4) Name 3 types of flies that are commonly found on a dairy farm.

- House fly

- Stable Fly

- Face fly

- Heel Fly

- Deer Fly

- Horse Fly

Senior Packet 4, Phase C

1) What term describes the physical condition of soil particles, moisture level, drainage, and biological activity?

Tilth (HD, Dec 14)

2) What is the name of the newest addition to the Hoard's Dairyman bookstore that is a resource on organic dairy health care?

Practical Organic Dairy Farming (HD, Dec 16)

3) What is the most popular American-type cheese?

Cheddar

4) What is the flow cytometry used to do?

Sort Sex-semen

5) The corpus luteum produces what hormone?

Progesterone

6) What kind of cost does not change with a business level of output?

Fixed cost

7) Somatic cell count standards are mandated through what?

Pasteurized Milk Ordinance (PMO) (DHM, 3/17)

8) Under the new VFD regulation, what will no longer be allowed to be added to animal feed as growth promotants?

Antibiotics

9)) Name the forage test that measures the total amount of fiber in a feed and represents a bulky, slow-to-digest feed component, which can restrict feed intake.

Neutral Detergent Fiber-NDF (DB, July 16)

10) What do the letters VNS stand for in regards to a seed bag tag?

Varieties Not Stated

11) What is the name of the procedure that removes solid impurities from milk prior to pasteurization?

Clarification

12) What is one of the best crop management practices used to get uniform drying of a hay crop silage?

Wide Swath windrowing

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

Filter air or water to reduce farm pollution

14) What is the terminology used when raising calves and is defined as the temperature range in which a calf does not need to expend energy to keep warm or keep cool?

Thermal Neutral Zone

15) Which mammary cells does oxytocin contract to begin milk letdown?

Myoepithelial cells

16) What should the minimum soil temperature be when planting summer annual crops?

60 * F

Senior Packet 4, Bonus Questions

1) Name the 3 organisms that live in the rumen and digest feed.

- Bacteria
- Protozoa
- Fungi

2) Name 3 ways that a cow can lose water besides sweating.

- Milk
- Urine
- Breathing
- Feces

3) What are the 3 sections of the small intestine?

- Duodenum
- Jejunum
- Ileum

4) Name 3 diseases in dairy cattle that are caused by a clostridial organism.

- Black leg
- Overeating disease
- Tetanus
- Malignant edema

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Senior Packet 5, Phase A

1) If an as fed silage sample has a wet weight of 80 grams and a dry weight of 50 grams, how many grams of water is in the silage sample?

30 grams

2) Beginning January 1, 2017, what on-farm selective practice is not be permitted under the FARM program?

Tail docking

3) Where would you commonly use copper sulfate and formalin on the farm?

Footbath

4) What is the term for the muscular movement that pushes feed down the esophagus?

Peristalsis

Senior Packet 5, Phase B

1) Name two ways in which leptospirosis can be spread to dairy animals.

Contact with contaminated food
Contact with contaminated water
Contact with contaminated soil

2) Name the two major methods of pasteurization and the time and temperature of both.

High temperature-short time at 161 * F for 15 seconds
Batch (holding) at 145* F for 30 minutes

3) Name 4 things that will need to be included on the Veterinary Feed Directive form.

Farmers Name
Farmers address
Veterinarians name and address
Animals being treated
Reason for treatment
Duration of treatment (DHM, Feb 17)
Feeds it can be mixed in

4) 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

Senior Packet 5, Phase C

1) The loss of water from the soil surface as well as water used by the plant during transpiration is known as what?

Evapotranspiration

2) Mycobacterium avium subspecies paratuberculosis (MAP) is the causative agent of what common dairy cattle ailment?

Johne's

3) What component in plants gives them their green color?

Chlorophyll

4)) What is the name of the bug that can be extremely damaging to the health and productivity of young calves and can remove .10 ml of blood per day and is common for one animal to be infested with more than 1,000 of them?

Sucking Lice (DHM, Jan 17)

5) TCI is a measure of cow health and performance, looking specifically at the transition period, what does TCI stand for?

Transition Cow Index (DHM, Feb 17)

6) Pasteurization of hospital milk on a dairy farm is not the same as sterilization but will usually reduce the numbers of bacteria by what percentage?

90 to 98 % (DHM, Jan 17)

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

Liquidity

8) What is the name of the evaporative cooling system that intermittently apply and evaporate water from the cow's skin, drawing heat directly from her body and has the initials DEC?

Direct Evaporative Cooling (EDB, Jan 2016)

9) What temperature in degrees Fahrenheit, should clean water be that is being used to mixed with milk replacer for best results.

110 degree F (HD)

10) What is the name of the dairy industry's animal care program being managed by the National Milk Producers Federation and Dairy Management Inc., since 2009?

Farmers Assuring Responsible Management-FARM (DB, July16)

11) Under the new VFD, veterinarians and farmers will be required to keep their original VFD orders for how many years?

2 years (DHM, Feb 17)

12) How many hours after calving should a cow pass the fetal membranes?

8 to 12 hours

13) Debt per cow is calculated by dividing total debt by what?

Average number of cows

14) The highest feeding value of red clover can be yielded when it is cut at what stage?

Half bloom

15) What is the name of the process where in the presence of light, chlorophyll-containing plants convert carbon dioxide and other elements into carbohydrates and oxygen?

Photosynthesis

16) What is the primary way genomics increases genetic progress?

By reducing generation interval

Senior Packet 5, Bonus Questions

1) Forage crops are commonly harvested as a particular feed based on using the criteria of dry matter content. If you have 3 samples of forages: haylage, hay and silage with random dry matters of 89%, 57% and 34%. Match the percent dry matter with the forage crop.

- Hay is 89%
- Haylage is 57%
- Silage is 34%

2) Name the 3 major components of non-structural carbohydrates.

- Starch
- Sugar
- Pectin

3) In order, name the 3 main important numbers and what they represent on a fertilizer label.

- The first number is the amount of nitrogen
- The second number is the amount of phosphate
- The third number is the amount of potash

4) Name 3 methods to determine pregnancy in dairy cattle.

- Blood test
- Urine test
- Rectal Palpation
- Ultrasound

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Senior Packet 6, Phase A

1) Name the odorless and colorless gas that displaces life-sustaining oxygen in an oxygen limiting silo.

- Carbon dioxide

2) A Robotic milking system will often utilize milking station pellet feeding combined with what other feeding management with the acronym PMR?

- Partially mixed ration (Feeding Practices for Dairy Cows Milked with Robotic Milking Systems)

3) Digital dermatitis (DD) is also commonly referred to as what? (Page 502)

- Hairy heel warts

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

30 seconds

Senior Packet 6, Phase B

1) Name the 3 main heat stress abatement techniques used and has the acronym of SAW.

- Shade
- Air
- Water (DBE, 1/16, pg. 22)

2) What are two main factors that dictate dry matter intake (DMI) for the dairy animal? (Page 361)

- Milk yield
- Body size

3) What are two key macronutrients needed for growing alfalfa? (Page 399)

- Phosphorus
- Potassium

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

- Negative energy balance

Senior Packet 6, Phase C

1) In the area of heat abatement and air circulation, turbulent air movement around cows in resting, feeding and holding areas should have air speed of how many miles per hour for maximum benefit?

- 3.5 to 5 mph (DBE, 1/16, pg. 22)

2) More often in the winter months calves can be under more stress and be susceptible to diseases like coccidiosis. Coccidian are parasites that are found where in cattle?

- Intestinal track (DHM, 1/18, pg. 17)

3) Ninety percent of current freestall housing relies on what type of ventilation system? (Page 347)

- Natural ventilation

4) World Milk Day occurs on what date annually? (Page 387)

- June 1

5) 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

6) The developing fetal membrane is attached to the uterus by what button-like structures?

- Caruncles

7) Bovine leucosis is caused by what type of organism?

- Virus

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

- Barrier dips

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

- Ulcer

10) Black leg is caused by a spore forming what?

- Bacteria

11) Methionine is the most limiting amino acid in lactating cows and can be fed in a RPM form. What does RPM stand for?

- Rumen Protected Methionine

12) A total stimulation time of how many seconds is considered sufficient to initiate milk let-down? Page 718.

- 10 to 12 seconds

13) What term is used to describe the time from the start to the end of a milking? Page 718.

- Milking unit-on time

14) What class of IG's is most important in colostrum to passing on immunity to the calf and is found in the largest quantity?

- IgG

15) Endometritis is an inflammation of what?

- Uterine lining

16) The primary concern and drive for the Veterinary Feed Directive, which went into effect January 1, 2017, is what?

- Antibiotic resistance (DHM, Jan 17)

Senior Packet 6, Bonus Questions

1) What 3 breeds of dairy cattle have their breed association headquarters in Ohio?

- Ayrshire
- Guernsey
- Jersey

2) Name 3 types of horizontal silos.

- Bunker silo
- Trench silo
- Drive-over pile (Horizontal Silo Safety)

3) Name 3 macro minerals that are generally required in large quantities and stated as a percent of the dairy ration's dry matter.

- Calcium
- Chloride
- Magnesium
- Phosphorus
- Sodium
- Sulfur
- Potassium

4) Name 3 of the 4 classes of immunoglobulins in colostrum.

- IgG
- IgA
- IgM
- IgE

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Senior Packet 7, Phase A

1) When feeding silage out of a horizontal silo, undercutting can occur when the silage loading machine is not able to reach the top and creates a dangerous overhang that could potentially collapse and bury workers or bystanders. One of the best ways to reduce the undercutting and maintain bunk quality is by using what apparatus?

- Silage defacer (Horizontal Silo Safety)

2) Corn silage and alfalfa take up a large amount of what nutrient during the growing season?

- Potassium (DeKalb Silage Guide)

3) What milk quality test, also known as plate loop count, is measured by plating a sample of milk on a semi-solid nutrient media and incubating for 48 hours at 90°F? Page 644.

- Standard Plate Count

4) The orifice, streak canal and cistern belong to what part of the mammary system?

- Teat

Senior Packet 7, Phase B

1) An agricultural operation employing 11 or more employees need to adhere to what two standards under OSHA?

- ROPS
- Proper guarding on PTO shafts and other moving parts of machinery or equipment (Horizontal Silo Safety)

2) In the area of milk quality, what are the 3 D's of mastitis therapy?

- Detection
- Diagnosis
- Decision (DHM 12/17, pg. 15)

3) What 2 dairy products, that greatly affect the milk price to farmers, are largely determined by domestic demand?

- Butter
- Cheese

4) The PDCA Scorecard has four major breakdowns for dairy cattle. Name each of the breakdowns and the number of points for each on the scorecard.

- Udder-40 points
- Dairy Strength-25 points
- Rear Feet and Legs- 20 points
- Frame- 15 points

Senior Packet 7, Phase C

1) Dairy industry data shows that 75% of diseases in dairy cows occurs during the critical six-week period which is 3 weeks prior to calving and 3 weeks after calving. What is the more specific name for this period?

- Transition period (DHM, Feb 17)

2) What term is used to describe an automated milking barn that funnels cows through the milking robot before they are able to access the feed bunk from the resting area?

- Guided-Traffic (HD, pg. 472)

3) What is the most abundant type of gas found in a concrete stave, reinforced concrete steel, galvanized tile, or brick silo and has a bleach-like odor and produces low-lying yellow, red and dark brown fumes?

- Nitrogen dioxide (Dangers of Silo Gases)

4) A study in Wisconsin showed that cows bedded with what material had lower somatic cell counts, promoted 2,500 pounds higher production per cow per year, and fewer cows with milk not sold due to milk withhold?

- Sand (DHM, 3/17)

5) What is the estimated cost of severe lameness per case?

- \$300 to \$500 (DHM, Jan 17)

6) If a farm reorganizes and becomes an LLC, what does LLC stand for?

- Limited Liability Company

7) What is one of the biggest drawbacks to milking cows 3X verses 2X?

- Labor

8) What is the statement that is used as a guideline for grocery retailers to ensure people they are being sold a fresh dairy product?

- Sell by Date

9) What vitamin has been found to play an important role before and after calving and minimizes the incidence and prevalence of mastitis in dairy animals, especially heifers?

- Vitamin E

10) What organization has oversight over all check-off programs?

- United States Department of Agriculture (USDA)

11) The artery that carries blood to and from the fetus to the mother is called what?

- Umbilical Cord

12) The most common method for destroying pathogenic organisms in milk is called what?

- Pasteurization

13) What is the name for the soil that ends up getting harvested in forages?

- Ash

14) A disorder of structure or function in a human, animal or plant that produces specific signs or symptoms or affects a specific location and is not simply a direct result of physical injury is called what?

- Disease

15) President Trump pulled the U.S. out of what country trade deal during his first week in office?

- Trans-Pacific partnership

16) In one of the first actions as Secretary of Agriculture, Perdue announced that the U.S. Department of Agriculture will implement regulations to allow school districts to again offer what as part of the National School Lunch and School Breakfast Program?

-Low-fat (1%) Flavored Milk

Senior Packet 7, Bonus Questions

1) Name 3 of the 5 phases of silage fermentation.

- Aerobic phase
- Anaerobic Phase
- Lactic Acid Phase
- Stable Phase
- Feed-Out Phase

2) Name 4 commonly used methods for identifying calves.

- Tattoo
- Eartag
- Freeze Branding
- Photo
- Sketch

3) Name 3 animal welfare issues being faced by the dairy industry.

- Tail docking
- Dehorning practices
- Confinement housing
- Lameness
- Down cow handling
- Vaccinations
- Hormone use
- Injections
- Calf hutches
- Artificial insemination
- New born calf care/maternity pen
- Castration
- Euthanasia
- Transportation

4) Name the 3 things that are indicated on a bulls NAAB Code.

- What Bull stud
- What breed
- The Bull's number

2018 NYS Regional Senior 4-H Dairy Quiz Bowl Contest

Senior Packet 8, Phase A

1) The risk of a rear overturn increases when you hitch something to the tractor above what?

-Tractor Drawbar (Preventing Tractor Overturn Incidents)

2) Which silo gas begins to form within hours after ensiled, with the amount peaking about three days after harvest?

- Nitrogen dioxide (Dangers of Silo Gases)

3) When a handler is behind the point of balance of the cow what direction will she move?

Forward ((The importance of Good Handling Skills for Dairy Cows)

4) What technique in the use of Dry Cow Treatment and the use of Internal Teat Sealants is a best management practice to minimizing bacterial entry into the gland and doesn't stretch the sphincter or remove the keratin?

Partial insertion (Managing Mastitis in Bred Heifers)

Senior Packet 8, Phase B

1) Abnormal growing seasons for dairy farmers can promote forage challenges like managing mycotoxins. What are mycotoxins made from and where is the most damage done specifically in the cow?

- Molds
- In the gut where it erodes the mucous lining of the intestines (DHM, 12/18, pg. 31)

2) Maintaining colostrum quality should be a huge priority on the dairy. Give 3 colostrum storing tips that will help in ensuring quality colostrum.

- Don't pool raw colostrum
- Feed or refrigerate within an hour of collection
- If storing in the refrigerator, only keep for 1 week
- Keep frozen colostrum for 6 months or less
- Thaw frozen colostrum with warm water or microwave (DHM, 11/17, pg. 33)

3) The Fiber measurement in a forage can be measured using ADF and NDF. What are the 2 components of ADF and what are the 3 components of NDF?

- ADF- Cellulose and lignin
- NDF – Hemicellulose, Cellulose and Lignin

4) Dairy cows that have twins have higher incidence of health issues. Name 4 of them.

- Ketosis
- Retained placenta
- Stillbirth
- Metritis
- Milk Fever
- Mastitis

Senior Packet 8, Phase C

1) There are several key factors that can influence starch digestibility of corn silage. What is being used to break up the kernel to further expose the starch which aids in digestion?

- Kernel processing (DeKalb Silage Guide)

2) Some farms are using AMS as a management tool to detect activity associated with estrous behavior in their dairy animals and identifying cows who are returning to service after AI breeding. What does the acronym AMS stand for?

- Activity Monitoring Systems (DHM, 10/17, pg. 36)

3) In regard to cow comfort, what does the acronym THI stand for? (Page 347)

-Temperature Humidity Index

4) The gametes produced by an animal may not carry the exact same DNA sequence which is known as polymorphism and may involve one of two or more variants of a particular DNA sequence. The most common polymorphism involves a single base pair variation called what?

SNP –Single nucleotide polymorphism (Genetics and Genomics: An Introduction)

5) What practice is necessary for precision feeding dairy heifers successfully and is a simple means to monitor animal performance?

Weighing heifers (Precision Feeding Heifers)

6) Select Sires Inc. acquired the assets of what artificial insemination (A.I.) company in July 2017? (Page 419)

- Accelerated Genetics

7) What ice cream flavor was named America's top flavor by a survey conducted by the International Dairy Foods Association (IDFA)? (Page 495)

- Vanilla

8) What is the biological body condition score "set point" of U.S. Holsteins during peak milk production? Page. 530.

- 2.25 to 2.75

10) Preservation of silage occurs when what substance abbreviated LAB converts sugar to a more stable acid? Page 545.

- Lactic acid bacteria

11) Who discovered DNA?

- Watson and Crick (Genetics and Genomics: An Introduction)

12) Pyometra (pus in the uterus) that forms after an abortion in bull-bred herds is an indication of what disease spread by natural service sires? Page 629.

- Tritrichomonas (trich)

13) What lab measurement accounts for the amount of total fiber remaining after a forage sample is incubated in rumen fluid for 240 hours? Page 733.

- Undigested neutral detergent fiber (uNDF)

14) What publication produced by the American Dairy Science Association (ADSA) turned 100 years old in 2017 after publishing more than 30,000 articles and 200,000 pages? Page 747.

- Journal of Dairy Science

15) What term refers to the performance elevation realized by crossbreeding and reducing inbreeding depression? (Page 524)

- Hybrid Vigor

16) What is the name of the new tail-mounted sensor that will text calving alerts to your phone?

Mocall (DHM, Feb 17)

Senior Packet 8, Bonus Questions

1) In the area of calf and heifer management, name 3 calf hood vaccinations that farmers should consider.

- IBR
- BVD
- Brucellosis
- Clostridia
- Malignant Edema
- Scours
- Black Leg
- Leptospirosis
- PI3
- Tetanus

2) Name 3 common chemical agents used in footbaths to prevent warts and other diseases for being spread.

- Copper Sulfate
- Tetracycline
- Zinc
- Formaldehyde

3) In the Margin Protection program, what 3 commodities or feeds are used to help calculate the national average feed cost?

- Corn
- Soybean Meal/Soybean
- Alfalfa hay

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

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