

2019 NYS Regional Senior 4-H Dairy Quiz Bowl Contest

Senior Packet 1, Phase A

- 1) Grass or alfalfa silages that are ensiled with too much moisture results in the formation of an undesirable organic acid that has a strong odor. What is the name of this acid?

Butyric Acid

- 2) In a corn silage pile, what acid helps prevent the pile from heating up and helps to halt bad yeast and mold growth?

Acetic Acid (DHM, 6/18, pg. 12)

- 3) How many grams of protein are typically found in an 8 oz glass of milk?

8 grams (DHM, 1/19, pg. 8)

- 4) If a cow has produced 3 bull calves, what is the chance that her next calf will be a heifer?

50 %

Senior Packet 1, Phase B

- 1) In order to double a 90- pound calf's weight in the first 60 days of life, about how many pounds of daily gain are necessary?
1.5 pounds
- 2) Name 4 economic losses that a dairy producer can suffer due to clinical mastitis.
Added labor/time
Discarded milk/loss profits
Antibiotic treatment/increase cost
Culling
Death
Production loss
Veterinary cost (DHM, 10/18, pg. 27)
- 3) Name 4 of the 6 health traits incorporated into the Net Merit Index of Holstein sire evaluations that started in August 2018.
Hypocalcemia
Displaced abomasum
Ketosis
Mastitis
Metritis
Retained placenta
- 4) What are the two broad categories that hoof lesions can be broken down into?
Infectious lesions
Non-infectious lesions (Identifying and Preventing Causes of Lameness in Your Dairy Herd)

Senior Packet 1, Phase C

1) Why would a farmer run a conductivity test on milk?

To detect mastitis

2) What is the minimum Brix reading for good, feedable colostrum?

22 g/dl

3) What is the tissue that surrounds a cow's heart called?

Pericardium

4) Animals have excellent memories for both good and bad experiences. What is the term given to scary or negative experiences called?

Fear Memory

5) On average healthy cows ruminate for how many hours per day?

8 to 12 hours

6) Drought stressed forages often contain toxic levels of what substance?

Nitrates

7) What is the iron binding protein found in milk that has anti-microbial activity?

Lactoferrin

8) What is the proper name for mad cow disease?

Bovine Spongiform Encephalopathy

9) What is the name of the effort to help move some milk off store shelves to help struggling dairy markets but also provides food for local families in need through their local food pantry?

10 Gallon Challenge (DHM, 9/18, pg. 6)

10) What does the acronym NMPF stand for?

National Milk Producer Federation (DHM, 9/18, pg 8)

11) What does the acronym CSPS stand for around corn silage?

Corn Silage Processing Score (DHM, 6/18, pg 12)

12) Heifers that are born twin to a bull are almost always what?

Infertile (DHM, 7/18, pg. 38) or a freemartin

13) What government department is responsible for enforcing the standards of identity for dairy products? Page 670.

Food and Drug Administration (FDA)

14) What is the term used to describe inflammation and infection of the abdominal cavity? Page 434.

Peritonitis

15) The milk ring test is used to test for what disease?

Brucellosis

16)What vitamin plays a role in the coagulation of blood?

Vitamin K

Senior Packet 1, Team Bonus Questions

Name 3 of the top 5 states with the most cows in 2018.

California

Wisconsin

New York

Idaho

Pennsylvania (DHM, 6/18, pg. 6)

Name the 3 stages of parturition or calving.

Dilation of the cervix

Delivery of the calf

Delivery of the placenta

Name 3 of the 10 essential amino acids.

Phenylalanine

Valine

Tryptophan

Treonine

Isoleucine

Methionine

Histidine

Arginine

Leucine

Lysine

Name three minerals that, if fed in increased levels to your pre-fresh and or dry cows, can lead to increased incidences of milk fever.

Potassium, calcium, and phosphorus

Senior Packet 2, Phase A

1) What is the term for a farm's unique identification number that is part of the National Animal Identification System?

Premise ID

2) The continuously changing weight load is often the burden of the rear legs and causes lameness to occur most frequently where on the foot?

Outside claw (Identifying and Preventing Causes of Lameness in Your Dairy Herd)

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

Hydrogen Sulfide

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

Senior Packet 2, Phase B

1) Name 3 of the 4 new and improved dimensions for footbaths on dairy farms?

10 to 12 feet long

2 feet wide

Depth of solution should be 4 to 6 inches

Step in height of 10 inches

2) Due to the national ban on tail docking, what are 3 tail maintenance practices farmers can use?

Electric clippers

Scissors

Utility cutters

Power tail trimmer

Tail tie ups

Switch clip

3) What are the 2 of the 3 most common ways to group lactating dairy cows?

By lactation number/age

By stage of lactation

By milk yield

4) Which hormone is critical for the initiation and maintenance of lactation and what gland produces it?

Prolactin (hormone)

Produced by the pituitary gland

Senior Packet 2, Phase C

1) After fertilization in the oviduct the zygote travels where for further growth?

Uterus

2) Soybean meal is an excellent source of which nutrient?

Protein

3) The concept of SMART goals has been used many times to define the writing of a business plan. What does the letter "M" represent in SMART?

Measurable

4) 4)What country's dairy industry has expanded its dairy herd by 6.9 percent annually since 2000?

China

5) McDonald's has added what type of cheese slices for sandwiches to its menu?

White cheddar slices (HD)

6) What is known to produce all the structure of the hoof in dairy cattle?

Corium

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

Smarter Lunchrooms Movement

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

Tilth

9) In 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

10)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

11)Propionic acid absorbed from the rumen is converted to glucose in what organ of the cow?

Liver (HD, pg. 125)

12)Name the world's largest pizza company.

Domino's

13)Which type of fly is responsible for grubs or warbles in cattle?

Heel fly

14)What inaugural event teamed farmers from across the country with professional football players and was sponsored by Land O' Lakes during the 2018 Super Bowl?

Farm Bowl (HD)

15)How many stalls are in a double 8 Herringbone milking parlor?

16 Stalls (DHM)

16)What is the name for the highest daily production attained by a cow during her lactation?

Peak milk production

Senior Packet 2, Team Bonus Questions

- 1) Pedometers are used to monitor a cow's physical activity for heat detection. On what 3 body parts can pedometers be located?
 - Leg
 - Ear
 - Neck
- 2) Macro minerals are generally required in large quantities and are stated as a percent of the rations dry matter. Name 3 of the 7 macro minerals.
 - Calcium
 - Chloride
 - Magnesium
 - Phosphorus
 - Sodium
 - Sulfur
 - Potassium
- 3) What 3 things does a bulls NAAB code tell you about the bull?
 - What bull stud
 - What breed
 - The bull's number
- 4) Lactococci bacteria are found on skin and in the environment, including deep bedded sand stalls and causes mastitis. What 3 management practices will be most critical in preventing this type of mastitis?
 - Pre-dip
 - Post dip
 - Bedding maintenance (DHM, 10/18, pg. 18)

Senior Packet 3, Phase A

1) What is the primary simple sugar in semen?

Fructose

2) Which acid should be in the highest concentration in well-fermented silage?

Lactic acid

3) A deficiency of iodine in a dairy cow's diet can lead to what problem?

Goiter or decreased fertility

4) What is another name for extra teats?

Supernumerary teats

Senior Packet 3, Phase B

1) What are the 4 main processes a cow uses nutrients for?

Maintenance

Growth

Production/lactation

Reproduction

2) Name two approved methods for cattle euthanasia.

Barbiturates

Firearm/captive bullet

3) If your farm was to purchase 3 tons of heifer feed that contains 18% crude protein. How many pounds of crude protein did you buy?

1080 pounds (6,000 pounds x .18)

4) Cows in confined housing are vulnerable to which two types of flies?

Stable flies

House flies

Senior Packet 3, Phase C

1) What is the by-product of Greek yogurt?

Acidic Whey

2) How many weeks are usually required for proper corn silage fermentation?

8 to 10 weeks

3) What hormone is associated with keeping a cow pregnant?

Progesterone

4) In regard to stall design, the space a cow occupies when she is lying down or the space from her knee to her tail is called what?

Cow's imprint length

5) What percentage of fat is in whole milk?

3.25 %

6) Tocopherol is the chemical name for which vitamin?

Vitamin E

7) What is the top service provided by veterinarians to dairies according to the USDA?

Emergency services

8) Milk is composed of about what percent of lactose?

5%

9) Where are B-complex vitamins produced in the dairy cow?

Rumen

10) What is the mass commonly called that the cow naturally forms in the teat canal after dry-off to prevent bacteria from entering the teat?

Keratin plug

11) Who is the world's largest private exporter of dairy products?

The New Zealand Dairy Board

12) What is the average duration a cow in heat will stand to be mounted?

4 to 6 seconds

13) What dairy breed is the leader in Cheese Merit dollars?

Holstein

14) What is the term used to describe the management practice of moving cattle from pasture to pasture to have more forages to consume?

Rotational grazing

15) What economic indicator are you determining by dividing the total dollars a dairy has in assets by the number of cows?

Total investment per cow

16)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)

Senior Packet 3, Team Bonus Questions

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

IgG

IgA

IgM

IgE

2) Name 3 cultured dairy products other than cheese.

Yogurt

Kefir

Buttermilk

Sour cream

Koumiss

3) If you were performing routine fresh cow exams, name 3 things you would do.

Take temperature

Pulse and respiration

Listen for DA

Check for ketosis

Check for mastitis

Listen for rumen turns

Check dehydration and body condition

Check for lameness

Rectal palpation to check manure and for metritis

4) What 3 breeds have their breed association headquarters in Ohio?

Ayrshire

Guernsey

Jersey

Senior Packet 4, Phase A

1) Name the master gland that controls the estrous cycle.

Pituitary gland

2) Which ovary does ovulation occur from most often?

Right ovary

3) What is the name of the temporary structure which develops on an ovary, within which the ovum or egg develops?

Follicle

4) What is the process called where the uterus returns to normal size after calving?

Involution

Senior Packet 4, Phase B

1) If a Canadian heifer weighs 400 Kg, what would she weigh in pounds?

880 pounds (400 x 2.2)

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

Ketosis

Retained placenta

Stillbirth

Metritis

Milk Fever

Mastitis

3) 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 are 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)

4) Name 2 ways milk is dried into a powdered form.

Spray drying

Vacuum drying

Roller drying

Senior Packet 4, Phase C

- 1) What type of training can reduce human victims of injury and or death relating to dairy cattle?
Animal Handling Training
- 2) What characteristic of legumes allows them to tolerate dry conditions better than many forages??
Taproot
- 3) What percent protein should most calf starter contain?
18 to 22%
- 4) What A.I. company was acquired by Select Sires in the past year?
Accelerated Genetics
- 5) The parotid, submaxillary, buccal, and palatine are what type of gland?
Salivary glands
- 6) What organ of the cow's body is responsible for about 25% of all metabolic activity?
Liver
- 7) Which mineral, when severely deficient in the cow's diet, often results in calves born with thin hair, hairless, stillborn, or enlarged thyroids?
Iodine
- 8) What mineral does planting ryegrass help remove from the soil?
Phosphorus
- 9) 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)
- 10) What is added to fat-free milk to help whiten it?
Titanium Dioxide
- 11) Generally, a cow's feed intake after calving is insufficient to support the high milk production of early lactation and results in a state called what?
Negative energy balance
- 12) What is the voluntary waiting period?
The time period after calving when you choose not to breed a cow
- 13) When a feed analysis is conducted to determine the nutrient content, what chemical element is measured to determine the amount of crude protein?
Nitrogen
- 14) What is the more common name for erythrocytes?
Red blood cells
- 15) What hormone secreted by the uterus inhibits FSH release?
Inhibin

16) One should be especially concerned with what contaminant when feeding distillers grains in cool wet years?

Mycotoxins

Senior Packet 4, Team Bonus Questions

1) Name 3 diseases in dairy cattle that are caused by a clostridia organism.

Black leg

Overeating disease

Tetanus

Malignant edema

2) 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

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

Herringbone

Rotary

Swing

Parabone

Flat barn parlor

4) Name 3 of the fat-soluble vitamins.

A, D, E, and K

Senior Packet 5, Phase A

1) What is the general term used to describe an infected uterus?

Metritis

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

Kidney

3) 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

4) What hormone is produced by the corpus luteum?

Progesterone

Senior Packet 5, Phase B

1) What two departments are responsible for issuing the dietary guidelines?

Department of Health and Human Resources

United State Department of Agriculture

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 cattle less 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) Name 4 potential benefits of properly grouping of cows in a freestall herd.

Reduced prevalence of metabolic disorders

Increase milk yields

Lower feed cost

Maintain proper body condition scores

Improve reproduction

Increase lifetime milk production yields

Optimize parlor flow

4) If 2 cows that are heterozygous for the polled gene are crossed, what percent of the offspring will be polled?

75 %

Senior Packet 5, Phase C

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

Panoramic

2) What is the technical term for the liquid which seeps from a silo?

Leachate

3) A process has been developed which produces vodka from what dairy waste product?

Whey

4) What is the most common type of tractor overturn incident?

Side overturn

5) The FDA recently increased testing for what drug?

Tetracycline

6) 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

7) By 2018, what is the name of the yogurt manufacturer that pledges to no longer accept milk from cows fed GMO grains?

Dannon

8) What term is defined as dividing the number of cows you have by dividing the number of stalls or headlocks?

Stocking density

9) What is the scientific term used to describe Hardware disease?

Traumatic reticuloperitonitis

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

Fixed cost

11) What section of the digestive system does cryptosporidiosis primarily affect?

Small intestine

12) What mineral is needed by the dairy cow in the greatest quantity?

Potassium

13) What is the term for different pathogenic types of bacteria?

Serotypes

14) What organ makes ketones in the cow?

Liver

15) What is the name of the water repelling seed coat on corn kernels?

Pericarp

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

Evapotranspiration

Senior Packet 5, Team Bonus Questions

1) Name three nutritional and/or dietary changes that can be made to help calves meet their caloric demands during the colder winter months.

Boost milk feeding volume

Feed milk more frequently

Elevate energy intake by adding supplemental fat

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

Land

Labor

Capital

Management

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 hormones used by the female dairy cow reproductive tract.

Gonadotropin Releasing Hormone (GNrH)

Follicle Stimulating Hormone (FSH)

Estrogen

Luteinizing Hormone

Progesterone

Prostaglandin

Oxytocin

Senior Packet 6, Phase A

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

Milk Fever

2) What are the button-like structures that attach developing fetal membrane to the uterus?

Caruncles

3) What occurs first, peak milk or peak dry matter intake?

Peak milk

4) What would happen to a modified live vaccine if exposed to high heat?

Kills the vaccine

Senior Packet 6, Phase B

- 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) 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
- 3) If a herd's conception rate is 40%, what proportion of the cows which were bred should be pregnant after 2 services?
 - 64%
- 4) OSHA inspectors began inspecting dairy farms in 2014. Name 4 areas of the 'dairy dozen' list that inspectors look at and evaluate.
 - Manure storage and collection facilities
 - Bull/cow handling facilities
 - Electrical systems
 - Skid Steer operations
 - Tractor operations
 - PTO Guards
 - Power transmission/functional guards
 - Hazardous energy control during equipment maintenance
 - Posted warning signs of farm hazards
 - Confined spaces
 - Bunker silos
 - Noise

Senior Packet. 6, Phase C

- 1) Although recycled gypsum has advantages as a bedding source, it unfortunately releases dangerous levels of what gas when agitated in a manure system?
Hydrogen sulfide
- 2) What is the process called that consists of compressing rectangular hay bales to about 1/3 of their volume to make shipping and handling easier and less costly?
Densifying or cubing
- 3) Upon ruminal degradation, the microbes release fuels that cows can then utilize for energy. These fuels are known as what?
Volatile Fatty Acids or VFA's
- 4) Hearing protection is recommended when someone is exposed to noises at or above how many decibels for a prolonged period?
85 decibels
- 5) What is the name of the type of bacterial count that is conducted when the milk handler holds a sample of your milk for 18 hours at 55 *F and then plates it out for bacteria count?
Preliminary incubation
- 6) What does NAFTA stand for?
North American Free Trade Agreement
- 7) In humans, what is caused by a lack of the enzyme lactase in the small intestine?
Lactose intolerance
- 8) What is the percent recovery rate of sand when using a sand-manure separation system?
88 to 92%
- 9) The A2 beta casein gene is more prominent in which breed of dairy cattle?
Guernsey
- 10) What is the recommended temperature of the water at the beginning of the wash cycle for washing the bulk tank, milking equipment and milk lines?
160 degrees Fahrenheit
- 11) What factor has the most effect on the amount of cheese that you can get from a pound of milk?
Protein
- 12) 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)
- 13) 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

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

Weighing heifers (Precision Feeding Heifers)

15)Regarding cow comfort, what does the acronym THI stand for? (Page 347)

Temperature Humidity Index

16)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)

Senior Packet 6, Team Bonus Questions

1) Name 3 disqualifications in the show ring according to the PDCA Showmanship Evaluation Card>

Violation of the show ring code of ethics

Unsportsmanship conduct

Repeated striking of the animal

2) What are the three components of non-structural carbohydrates?

Starch

Sugar

Pectin

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 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

Newborn calf care/maternity pen

Castration

Euthanasia

Transportation

Senior Packet 7, Phase A

1) What hormone is injected into dairy cattle to cause superovulation?

Follicle stimulating hormone (FSH)

2) What metabolic disorder happens when fatty acids are transported to the liver in greater quantities than can be metabolized by the cow?

Ketosis

3) What will improve alfalfa yields on acid soils more than any other single management practice?

Adding Lime or liming (HD)

4) Body energy and nutrient reserves in a dairy animal can be replenished with the most ease during which stage of lactation?

Late lactation

Senior Packet 7, Phase B

1) Name 4 of 6 ways to help manage heat stress for calves in hutches.

Provide shade

Allow calves to move around (hutches have outdoor pens or tether's, so they can move about more freely)

Face Hutches East

Elevate hutches (Prop up the back a little allows for more air flow)

Provide free-choice water

Offer fresh starter grain (DHM, 7/18, pg. 36-37)

1) Cows that have twin calves are at increased risk for a whole host of problems, name 4 of them.

Dystocia, calving issues

Retained placenta

Metritis

Displaced abomasum

Ketosis

Increased days open

More services per conception

Earlier retirement or culling

Abortion (DHM, 7/18, pg. 38)

2) The national All-Milk price is reported by what USDA agency abbreviated NASS? Page 2

National Agricultural Statistics Service

3) What is the name of the new program that is a result of the modified farm bill and offers significant changes to the old MPP that will benefit dairy producers?

Dairy Margin Coverage (DMC) (DHM, 1/19, pg. 15)

Senior Packet 7, Phase C

- 1) What is the technical term for the eversion of the teat orifice?
Hyperkeratosis
- 2) What is the science called that deals with hormones and their actions?
Endocrinology
- 3) Excess ammonia is converted into what by the liver and kidneys then subsequently excreted in the urine?
Urea
- 4) Whole-plant corn silage is typically harvested by cutting the stalk above what part of the plant?
First node
- 5) What is the maximum recommended weight difference between the lightest and heaviest yearling heifers within a group?
200 pounds
- 6) What is digital dermatitis commonly referred to as?
Hairy Heel Warts
- 7) A cow's udder will go through three phases after dry-off. In days, how long does the first phase known as involution last?
21 to 30 days
- 8) What is the name of the new tail-mounted sensor that will text calving alerts to your phone?
Mocall (DHM, Feb 17)
- 9) What element abbreviated Hg is used to measure the vacuum level in a milking system?
Mercury
- 10) In reference to milk processing, what is the milk allowance?
The cost of turning milk into cheese
- 1) What do we call the net income after operating expenses?
Return on Equity or Return on Investment
- 2) The total amount of energy that a feed contains can be determined in the lab using a bomb calorimeter. What is the term for this total amount of energy?
Gross energy
- 3) What is the instrument called that is used to sort sex-semen?
Flow cytometry
- 4) What vitamin is important in the regulation of calcium and phosphorus?
Vitamin D
- 5) What is the term used for the management practice of plowing down a forage crop to provide nutrients for a subsequent crop?

Green Manure

6) What is the primary reason why calves die from scours?

Dehydration

Senior Packet 7, Team Bonus Questions

- 1) Name 3 things a contract heifer grower should include in a contract with a dairy farmer.
 - Fees for raising heifers or negotiated price
 - Statement of who owns the heifer
 - % Of calves that must have IgG levels of 5 g.dl
 - Plan for calves that are sick or hurt
 - Number of AI services before clean-up bull
 - Arrival and return criteria for heifers
 - Cost for transportation and who is responsible
 - Payment policy
 - Who is responsible if heifer dies
 - Who is responsible for insurance cost of heifers
 - Acceptable culling rate
 - Who pays for veterinarian cost
 - Who pays for breeding cost
 - How will the contract be dissolved
- 2) Name 3 buffers commonly used in a dairy ration.
 - Limestone
 - Magnesium oxide
 - Sodium bicarbonate
 - Sodium bentonite
- 3) Fertilizer labels have three important numbers. In order, what do these three numbers represent.
 - 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 factors that can affect a cow's teat condition.
 - Weather
 - Housing conditions
 - Teat disinfectant chemistry
 - Milking system settings/leaving the milking units on too long
 - Microorganisms
 - Milking procedures

Senior Packet 8, Phase A

- 1) If the milking machine milk to rest pulsation ratio is set to 55:45, what percent of the time is the inflation open?
55
- 2) To help prevent milk fever, anionic salts may be added to close-up dry cow rations. What type of electric charge does an anion have?
Negative
- 3) What is the name of the device that measures the freezing point in milk?
Cryoscope
- 4) What happens to the NDF content of alfalfa as it matures?
NDF increases

Senior Packet 8, Phase B

- 1) 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)

- 2) Your herd is averaging 70 pounds of milk, you receive \$15 per hundred weight and it cost \$6 per day to feed your cows. What is your income over feed cost?

$$\$4.50 (70 \text{ lbs.} \times .15) = 10.50 - \$6 = \$4.50$$

- 3) Once a calf has been born, what are **4 immediate** steps you can take to help the calf adjust to life outside the womb and survive long term?

Place the calf upright on its sternum

Help clear calf's airway by poking a straw or finger in its nose or mouth

Clear fluid from the nose and mouth

Vigorously rub the calf all over with clean bedding or towel

Use hair dryer to dry and stimulate the calf

Use a hand-held respirator to promote respiration of calves of difficult births

Dip navel with iodine or approved disinfectant

Deliver first dose of colostrum

Move to a heated calf box in cold weather

- 4) What two blood plasma metabolites can be used as markers of negative energy balance and ketosis?

NEFA(nonesterfied fatty acids)

BHBA (beta-hydroxybutyrate

Senior Packet 8, Phase C

- 1) 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
- 2) The air velocity should be how many feet per minute when utilizing recirculating fans and evaporative cooling over the cows back in the holding area?
200 to 400 feet
- 3) How many pounds of milk make 1 pound of ice cream?
12 pounds
- 4) The process of removing low performing animals from the herd is referred to by what term?
Culling
- 5) What disorder is caused by an imbalance of magnesium in a cow's diet?
Grass tetany
- 6) The Kjeldahl test can be used to indirectly determine the protein content in feed or milk. What element does the test measure?
Nitrogen
- 7) When cut at what stage will red clover yield the highest feeding value?
Half bloom
- 8) What does the acronym NHRC stand for in the study of profitability that is defined in the study as the number of cows removed from the herd multiplied by their replacement value minus the salvage value of culled cows (including dead cows) divided by the amount of milk shipped during a period of time?
Net Herd Replacement Cost (DHM, 7/17, pg. 13)
- 9) The amount of cheese which can be produced from a given amount of milk is primarily affected by which component?
Protein
- 10) What cellular material is needed to determine an animal's genetic fingerprint?
DNA
- 11) The Federal Milk Marketing orders are regulated by who?
Secretary of Agriculture
- 12) What is the scientific term for forcing a cow to consume a nutrient in quantities smaller than normal?
Hypo Alimentation

13)What is the one-word term given to the measure of a farm's available assets which can be readily converted to cash?

Liquidity

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

Antibiotics

15)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)

16)16)Which state produces over 25 percent of the cheese in the U.S.?

Wisconsin

Senior Packet 8, Team 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 87%, 54% and 32%. Match the percent dry matter with the forage crop.

Hay is 87%

Haylage is 54%

Silage is 32%

- 2) Name 3 considerations for including by-products in a feed ration.

Nutrient composition

Cost

Availability

Palatability

Storage

Consistency

Ability to feed (use) (Virginia study materials)

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

Brucellosis

Vibriosis (Campylobacteriosis)

Chlamydia

IBR

Leptospirosis

Listeriosis

Neospora

Trichomoniasis

BVD

- 4) With regard to farm business management, one of the major categories of cost is fixed costs.

Name 3 of the 5 fixed costs referred to by the acronym DIRT?

Depreciation,

Interest,

Repair (also accept Rent)

Taxes,

Insurance

Extra Questions for 2019 NYS Regional Senior 4-H Dairy Quiz Bowl Contest

1) The number of sick animals in a specific amount of time is known as what?

Morbidity rate

2) How many feet can alfalfa roots reach down in the soil?

15 -20 feet

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

145 degrees F

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

Tail docking

5) 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)

6) When FDA released its antibiotic milk, residue study the total rate of violation was 0.7 %. What did all the drug residues in violation have in common?

Drugs that were not approved for use in lactating dairy cows

7) What vitamin is made in the skin under the influence of sunlight?

Vitamin D

8) What is the general name for a compound that kills unwanted plants and weeds?

Herbicide

9) Lymphoma is a cancer in cows caused by what virus?

Bovine leucosis virus

10)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

11)Which cattle disease destroys the intestinal lining with its major symptoms being diarrhea and weight loss?

Johne's disease

12)When using an ELISA test for checking for pregnancy, it looks for the presence of PSPB. What does PSPB stand for?

Pregnancy Specific Protein B

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

Ebola

14) When reading a seed bag tag, what do the letters VNS stand for?

Varieties not stated

15) The formation of dangerous silo gases peak how soon after filling the silo?

1 to 2 days

16) Which measure of fiber is used to predict the digestibility or energy content of feedstuff?

ADF or Acid Detergent Fiber

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

Lactobacillus

18) What is the primary source of coliform mastitis?

Environment

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

Negative energy balance

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

Pre-weaning or when they are on a milk diet

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

Cooling the fresh milk prior to entering the bulk tank

22) Which dairy breed typically transfers on average the lowest percentage of antibodies in colostrum?

Holstein

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

Pregnancy rate

24) What is the name of the organism that can be the cause of the disease's malignant edema, overeating disease, blackleg, and tetanus in dairy cattle?

Clostridia organism

25) The oviducts have a funnel-shaped opening that gathers in the ovum at ovulation. What is the opening called?

Infundibulum

26) Name 4 areas on the dairy farm that are a concern in regard to animal welfare and there should be protocols in place to help ensure proper practices are being used.

Maternity pen

Sick cow treatment

Colostrum feeding

Sanitation

Transportation

Lameness

Calving procedures

General cow handling

Dehorning

Feeding practices

Tail docking

Ambulatory animals or down cow handling

Castration

Euthanasia

27) Name the 3 of the 4 practices that are used in the different heat synchronization programs.

Up-front injection of GnRH

1 or 2 injections of prostaglandin

Breeding injection of GnRH

Timed AI

28) What are 3 risk factors associated with the stress of moving cows during the dry period?

Decreased DMI

Increased metabolic problems

Elevated fat mobilization