

## 2022 Regional 4-H Junior Dairy Quiz Bowl

### Junior Packet 1, Phase A

1) Regarding goal setting what does the letter 'S' stand for in the acronym SMART?

Specific

2) What is the common name for Listeriosis?

Circling disease

3) If a pH of 7 is neutral, what is a pH lower than 7 indicate?

Acidic condition

4) Scours and what other common disease are the leading causes of death in calves before weaning?

Pneumonia

## Junior Packet 1, Phase B

- 1) Name the 2 primary purposes of fore stripping prior to attaching the milking unit.

Detection of abnormal milk (mastitis)

Stimulation of let-down.

- 2) Ear tattoos are recognized as the preferred method of permanent identification in 3 dairy cattle breeds. Name them.

Brown Swiss

Jersey

Milking Shorthorn

- 3) You are entering the showmanship ring at your county fair. Name four things that a showmanship judge may be looking for when reviewing you and your animal while you are in the ring.

Cleanliness

Quality of the clipping of the animal

Animal condition

Appearance of the exhibitor

Grooming

How well the animal is led

Posing of the animal

Sportsmanship

Poise, alertness, and attitude

- 4) One category of mastitis in dairy cattle is environmental mastitis. Name three possible sources of environmental bacteria that could cause this infection.

Soil

Water

Bedding

Feedstuffs

Mud

Feces

## **Junior Packet 1, Phase C**

- 1) Where is the site of semen deposition in a natural bull service?  
Vagina
- 2) Regarding animal health, what do the letters MLV stand for?  
Modified Live Virus
- 3) When looking at a dairy cow's production records, what does the term 3x mean?  
Cow is milked 3 times daily
- 4) What is the common name for papillomatous digital dermatitis?  
Hairy heel warts
- 5) What instrument is used to puncture the rumen in cases of bloat?  
Trocar
- 6) What structure connects muscle to bone?  
Tendon
- 7) When using a Delvotest or Penzymetest to test milk from your bulk tank, what are you testing for?  
Antibiotics
- 8) What type of pathogen causes ringworm?  
Fungus
- 9) What unit are vitamins measured in?  
International Units
- 10) Corn grain is a good source of what major nutrient group?  
Energy
- 11) What is the normal range, in days, of the estrous cycle?  
18 – 24 days
- 12) What is the planting process called when crops are planted without plowing or disking the field?  
No-till
- 13) Calves are expected to at least double their birth weight by what age?  
8 weeks or 2 months
- 14) How many seconds should pre-dip be left on before wiping off?  
20 to 30 seconds

**15)** Cows prefer to ruminate when they are doing what?

Lying down

**16)** Which vitamin can be synthesized by the skin when exposed to sunlight?

Vitamin D

## Junior Packet 1, Bonus Questions

1) Name 3 methods of temporary identification.

Ear tag

Neck chain

Tail tag

Brisket tag

Leg band

Paint brand

Back tag

2) Name 3 consequences of long pre-milking stimulation.

Lower production

Slower milking time

Higher somatic cell count (mastitis problems)

Less let down

3) Name three advantages of feeding a total mixed ration.

Eliminate selective feeding, or sorting

Consistency

High dry matter intake

Free-choice mineral is not needed

Possibility for higher milk production

Lower percent fiber needed in ration

Easier to balance precisely

Fewer digestive upsets

Can feed a variety of by-products

4) Name 3 pieces of information that should be written down by the trimmer when hoof trimming dairy cattle.

Cow's name/ID number, date, lesion, and treatment was applied, location of lesion, severity of lesion, follow-up treatment needed, foot that is treated or abnormal, wrapped or not.

## **Junior Packet 2, Phase A**

**1)** What is the most frequent cause of high bacteria counts in milk?

Dirty equipment

**2)** What is the term used to indicate how well cows convert feed into milk?

Feed efficiency

**3)** What does the pathogen *Klebsiella* cause in lactating dairy cows?

Mastitis

**4)** What substance used on many farms is an excellent source of calcium?

Limestone

## **Junior Packet 2, Phase B**

**1)** Name three conditions that will cause a decrease in a milk fat test.

Finely chopped feeds

Extremely hot weather

Estrus

Low fiber content in ration

Illness

**2)** Name three symptoms of clinical mastitis.

Flakes

Clots

Presence of blood

Stringy milk

Watery milk

Swollen quarter

Hot quarter

Ropy milk

Decreased milk production

**3)** Name three internal parasites found in dairy cattle.

Lung worms

Round worms

Stomach worms

Liver flukes

Coccidian

**4)** Name the 3 of the 4 stages of a fly's life cycle.

Egg, larvae, pupa, and adult

## **Junior Packet 2, Phase C**

- 1) What disease stopped the importation of cattle from Europe in 1905?  
Foot and Mouth Disease
- 2) Regarding animal health, what do the initials BLV stand for?  
Bovine Leukosis Virus
- 3) What mammal produces milk that is used for Romano cheese?  
Sheep
- 4) What are you trying to estimate when you measure the heart girth of a dairy heifer with a special tape?  
Body weight
- 5) What type of crop shields the soil to reduce erosion, adds organic matter, and captures nutrients otherwise lost by runoff?  
Cover crop
- 6) When referring to pasteurization of calf milk, what does the acronym HTST stand for?  
High Temperature short time
- 7) What is the name of the structure that holds the uterus and ovaries in their proper position?  
Broad Ligament
- 8) What is the term for a firm that is owned by its members, is operated for their benefit, and distributes earnings based on patronage?  
Cooperative
- 9) Regarding dairy cattle digestion, what do the initials HBS stand for?  
Hemorrhagic Bowel Syndrome
- 10) What body structure diverts the milk into the abomasum when a calf nurses?  
Esophageal groove
- 11) A plant that is seeded each year and whose growth cycle is completed in one year is called what?  
An annual plant
- 12) Of the fat-soluble vitamins, which one can be synthesized in the rumen?  
Vitamin K



**13)**What is the name of the process called in mammals when the egg is released from the follicle?

Ovulation

**14)**What is the desired angle of a dairy cow's hoof?

45 degrees

**15)**Your cow has a cystic ovary. What treatment is your vet most likely to recommend to luteinize the cyst?

Gonadotropic releasing hormone (GnRH)

**16)**What body system is affected by osteoporosis?

Skeletal

## Junior Packet 2, Bonus Questions

1) Name three of the top five considerations for optimal calf housing

Ventilation

Comfort

Isolation or group housing

Labor efficiency

Cost

2) Name 3 methods of charging for heifer grower services.

Per animal per day

Per animal

Per pounds of gain

Feed plus yardage

Option to purchase

3) Give 3 reasons for a cow going lame.

Abscess,

Foot rot

Infection

Injury

Soft sole syndrome

Laminitis

Trimming too close

4) Give 3 of 5 things that would classify a herd as not being closed?

Cows bought or boarded,

Cows return after leaving farm: boarded, shows

Cattle pasture shares fence with cattle from another farm

Bulls are bought, borrowed, or loaned

Cows transported by someone else or in someone else's vehicle

### **Junior Packet 3, Phase A**

- 1) If a calf is not willing to drink her colostrum from a bottle, what is a tool you could use to make certain she receives the adequate colostrum as soon as possible?

Esophageal feeder or tube feeder

- 2) What practice on a dairy farm is most often used to develop active immunity for the cattle?

Vaccinating

- 3) What part of the plant is affected first by copper toxicity in the soil?

The roots

- 4) What happens to the pH of the rumen when a cow has acidosis?

The pH decreases

## Junior Packet 3, Phase B

- 1) From the following list put the process of rumination in order: Swallowing, Remastication, Eructation, and Regurgitation.

Regurgitation

Remastication

Swallowing

Eructation (World of Dairy Cattle Nutrition, pg. 7)

- 2) A comprehensive nutrient management plan on your farm should also include an Emergency Action Plan. Name 2 incidences on your farm that would make sense to have an Emergency Action plan for.

Spill plans for manure

Spill plans for wastewater

Waste storage malfunction

Spill plans for pesticides, fuel, oil, or petroleum

- 3) Name three byproducts that are commonly used as feed for cattle.

Cottonseed hulls

Dried brewers' grain

Soybean hulls

Wheat middling's

Cottonseed meal

Distiller's grains

Soybean meal

Whole cottonseed

Peanut meal

Citrus pulp

Wet brewers' grain

Hominy feed

- 4) Lifetime Net Merit is a genetic index which combines many traits for Holsteins & Brown Swiss. Name 3 of the traits which make up Lifetime Net Merit.

Milk

Daughter

Pregnancy Rate

Fat

Heifer Conception Rate

Protein

Cow Conception Rate

Somatic Cell Score

Calving Ability (only for Holstein & BS)

Productive Life

Cow Livability

Feet & Legs Composite

Udder Composite

Body Weight Composite

### **Junior Packet 3, Phase C**

- 1) What vitamin is essential in maintaining healthy tissues growth, and immune response?  
Vitamin A
- 2) *What type of muscle cells are responsible for milk let-down?*  
*Myoepithelial*
- 3) What hormone is released by the corpus luteum and supports pregnancy?  
Progesterone
- 4) Manure digesters convert what gas into electricity?  
Methane
- 5) Alfalfa should be harvested within how many days after the vegetative state in the spring and early summer to provide optimum milk production and dairy-quality hay?  
10 days
- 6) Heifers should be at what % of mature body weight at first calving.  
85%
- 7) Which compartment of the cow's stomach is where most of the feed fiber is digested by the microorganisms?  
Rumen
- 8) *What class of drugs is used when treating udder edema?*  
*Diuretics*
- 9) What does the acronym GTPI stand for?  
Genomic Total Performance Index
- 10) How many pounds of milk does it take to make a gallon of ice cream?  
12 pounds
- 11) What is the name of the instrument used to give an animal a pill or bolus?  
Balling gun
- 12) *What seems to be the best way to house calves but is often more management and labor intensive?*  
*Individual housing or hutches*
- 13) Vegetable Oil, tallow, and megalac are all sources of what in a ration?  
Fat/energy

**14)**What is the term for a substance that can reduce changes in pH when an acid or alkali is added?

Buffer

**15)**What is the name of the hormone that causes the cow to let down her milk?

Oxytocin

**16)**What is the maximum amount of milk fat contained in Half and Half?

18%

## Junior Packet 3, Bonus Questions

- 1) The Food and Drug Administration has classified all animal medications into three categories; what are the 3 categories?

Over the counter

Prescription

Extra-label-use-drug

- 2) Name 3 metabolic diseases.

Ketosis

Retained placenta

Displace abomasum

Milk fever

Laminitis

Grass tetany

- 3) Name 3 common off flavors in milk.

*Bitter*

*Fruity*

*Lacks freshness*

*Rancid*

*Fermented*

*High acid*

*Oxidized*

*Sour*

- 4) Cows and microbes have a mutually beneficial relationship: Name three things the microbes give the cow.

Labor to digest feed

A source of protein

A source of VFA's

Ability to digest forage



## **Junior Packet 4, Phase A**

**1)** Why would you put lime onto crop fields?

To increase soil pH

**2)** Why is dipping a navel recommended over spraying?

Think of the navel like a straw, you dip it, the in and the outside is covered; you spray it, only the outside is covered, or you get better coverage

**3)** What is the name of the on-farm test that uses a white paddle and solution to detect subclinical mastitis?

California Mastitis Test

**4)** The process of flushing fertilized eggs from donor cows and implanting them in recipient cows is called what?

Embryo Transfer

## **Junior Packet 4, Phase B**

- 1)** Milk quality is important to milk processors as well as the dairy farmer. Give 3 reasons why a dairy farmer should always strive for high quality milk.

Greater profitability

Increased milk yield

Larger milk checks due to improved milk per cow and premiums

Reduced labor and labor cost

Lower culling rate

Lower treatment cost (VA study materials)

- 2)** What are 4 of the 5 major nutrients found in feedstuffs?

Energy

Protein

Vitamins

Minerals

Water

- 3)** What are the 2 main gases produced in the rumen?

Methane

Carbon Dioxide

- 4)** *High temperature short time or HTST, also known as continuous flow method, heats milk at what temperature for how long?*

*161°F for 15 seconds (160 to 165 degree F)*

## Junior Packet 4, Phase C

1) What does mastication mean?

Chewing

2) *What is the measure of how well a cow converts feed into milk?*

*Feed Efficiency*

3) If a cow has sunken eyes and her skin tents when pinched she is suffering from what?

Dehydration

4) How much water does a cow drink in a day?

25 to 50 gallons

5) What breed of dairy cattle are known for its "golden milk"?

Guernsey

6) When a dairy farm decides to go organic, how long must the dairy animal be fed and managed organically before the milk produced is classified as organic milk?

One year

7) A serving of milk contains how many ounces?

8 ounces

8) When cows are at rest, at least what % should be ruminating?

60%

9) What is another name for a milking liner?

Inflation

10) Which of the dairy cow's stomach compartments lie just inside the abdominal cavity on the underside of the animal?

Abomasum

11) What metabolic disease in cattle is treated by administering 23% calcium intravenously?

Milk fever or parturient paresis, or parturient hypocalcemia

12) What is the name of the infection of the uterus that is characterized by a fever, and a foul-smelling discharge?

Metritis

**13)** Why would a farmer include the feed additive Poloxalene in the ration for cows that are grazing alfalfa and clover?

To prevent bloat

**14)** On a feed ration report, you see the letters ppm. What do the letters “ppm” stand for?

Part per million

**15)** What is the name of the by product that is recovered when cheese is made?

Whey

**16)** What is puberty in a heifer?

The point in time when a heifer becomes sexually mature or capable of becoming pregnant

## Junior Packet 4, Bonus Questions

1) Name three different types of milking parlors.

Herringbone

Parallel

Parabone

Rotary

Side Opening

Flat barn

2) Heat detection aids are used to determine when a cow is in heat. What are 3 heat detection aids that can be used on the farm?

Heat expectancy charts

Tail paint

Tail chalk

Pedometers

Pressure sensors

Kamar (trade name)

Electronic heat detection systems

Detector animals/gomer animal (Virginia study materials)

3) Name 3 calf hood diseases.

Scours

Pneumonia

Umbilical hernia

Umbilical infection

Bloat

White muscle disease (VA study materials)

4) Name three places on a calf body where pathogenic (disease causing) organisms can gain entry into the calf's body.

Mouth

Nose

Navel

## **Junior Packet 5, Phase A**

**1)** What is the term used for the taste or likeability of a feedstuff?

Palatability

**2)** *What part of the plant takes up the nutrients?*

*The roots*

**3)** You purchased 100 pounds of 10-12-15 fertilizer, how many pounds of nitrogen are in the fertilizer?

10 pounds

**4)** What does the term polled mean in dairy animals

Naturally born without horns

### **Junior Packet 5, Phase B**

**1)** Name 4 types of bedding typically used for dairy cattle

Straw

Sand

Recycled manure solids

Newspaper

Sawdust

Shavings

Old hay

Wood chips

Almond hulls

Rubber mats

Feed by-products

**2)** Name 3 items that are important for tractor safety

Good tires

Slow moving vehicle sign

Seat belt

Roll over protection bars

Lights

PTO shield

Sound protection

Brakes

No riders

**3)** A cow can be given antibiotics in a number of ways. Name three of them.

Intramuscular injection

Intravenous injection

Intraperitoneal injection

Intramammary infusion

Intrauterine infusion

In the ration

**4)** Which two organs in a cow undergo involution?

Udder

Uterus



## Junior Packet 5, Phase C

- 1) What is the name of the device which tests the levels of antibodies in colostrum which involves a cylinder and specific gravity meter?  
Colostrometer
- 2) What is the first organ to receive blood from the small intestine?  
Liver
- 3) Which parent determines the sex of the calf?  
The Sire
- 4) What enzyme is lacking in individuals who are lactose intolerant?  
Lactase
- 5) What insect is depended on for the pollination of alfalfa seed?  
Bee's
- 6) A newborn calf should have it navel dipped with what to prevent infection.  
7% Tincture iodine
- 7) What does the acronym NFC stand for?  
Non-Fibrous Carbohydrates
- 8) Niacin is a water-soluble vitamin that is added to feeds to help prevent what?  
Ketosis
- 9) What is the technical term for an accumulation of pus in the uterus?  
Pyometra
- 10) What is the name of the disorder that occurs when an animal doesn't release the placental materials from the uterus after calving?  
Retained Placenta
- 11) Ringworm is a contagious disease that affects what part of the animal?  
Skin
- 12) What is the term used to describe milk that is left in the udder after normal milking has occurred?  
Residual milk
- 13) What is the name of the device that is used to detect odors?  
Olfactometer

**14)**What is the name of the fluid-filled structure that bursts to release an ovum when it reaches full size?

Ovarian follicle

**15)**Which type of mastitis causing bacterial infection typically responds to antibiotic therapy?

Gram positive

**16)**What is used as a reference point to determine the height of the udder floor?

The Hock

### **Junior Packet 5, Bonus Questions**

**1)** What are 3 things that must be on a feed company label?

Ingredients list

Nutrient analysis

How much to feed (and directions)

Any withdrawal times

**2)** Name 3 factors to consider when grouping your cows in the milking herd.

Body condition

Lactation number

Production

Reproductive status

Stage of lactation

**3)** Name three non-ruminant animals included in the New York State CAFO program.

Swine

Horses

Turkeys

Chickens

Ducks

**4)** What are 3 main functions of the large intestine?

Water absorption

Storage of waste materials

Excrete

## **Junior Packet 6, Phase A**

1) When calves are out in the cold weather, what happens to their maintenance energy requirement?

Increases

2) As a product of fermentation, what does a cow's rumen produce?

Volatile Fatty Acids (VFA's)

3) If a cow is leaking colostrum prior to calving, what happens to the quality of the colostrum?

It diminishes

4) Brown-Mid rib corn varieties boost fiber digestibility when fed but how do the yields of BMR compare to other normal hybrids?

Lower yields with BMR corn

## **Junior Packet 6, Phase B**

1) GnRH acts on the cow's hypothalamus to secrete which two hormones?

LH and FSH

2) Feed shrinkage can occur in many subtle ways on dairy farms. Name 3 ways in which feed shrinkage occurs.

Wind blowing feed

Rodents eating the feed

Poor handling of feeds with loaders etc.

Errors in feed mixing

In harvesting

Storing

Mixing-dumping of the sides of the mixer

Processing

Delivery of feeds

Fermentation losses to feeds stored in silos

3) Foot problems can have a big impact on a dairy: name 4 things that can be affected by cows with foot problems.

Increase cost of trimming

Increased vet bill/medication costs

Decreased dry matter intakes

Decreased milk production

Trouble with heat detection

Increase in injuries

Increase in cull rates

Decrease in body condition

Decrease in locomotion

4) Name 2 ways for water pollution to occur from dairy waste.

Lot run-off, pasture run-off

Overflow from holding ponds and lagoons

Manure stockpiles

Cows defecating in water

Spreading manure near water source, over application of manure near water source

## Junior Packet 6, Phase C

- 1) When considering the diet for open heifers, the farmer needs to consider the energy requirements for maintenance and what else?  
Growth
- 2) What do farmer's use Kamar patches for?  
Heat detection
- 3) Kappa-casein is a key protein used for what dairy food making process?  
Cheese-making process
- 4) What is in the cow's rumen that helps increase the absorptive surface area?  
Papillae
- 5) Which compartment of the cow's stomach is located at the end of the esophagus?  
Reticulum
- 6) When breeding cattle with artificial insemination it is important to thaw the semen at the right water bath temperature and load quickly into an insemination gun to combat what?  
Cold Shock
- 7) What is the normal temperature of an adult cow?  
101.5 – 102.5 F
- 8) On which side of the cow do 80-90% of displaced abomasum's (DA's) occur?  
Left side
- 9) What is defined as the death of a calf within 24 to 48 hours after being born?  
Stillbirth
- 10) A needle that is being used for injection of synchronization hormones should not be larger than what gauge?  
18-gauge
- 11) On the Dairy Cow Unified Scorecard, what breakdown does width of chest and spring of rib fall under?  
Dairy strength
- 12) In the process of artificial insemination on a dairy cow, what section of the reproductive tract does the inseminating rod pass through before the semen is deposited?

Cervix

**13)** Which chromosome in the Holsteins, has been found to be linked to calving difficulties?

Chromosome 18

**14)** What is the three-word phase that is defined by the time from calving until insemination?

Voluntary waiting period

**15)** Inflammation of the mammary gland and udder tissue that occurs as an immune response to a bacterial invasion of the teat canal is called what?

Mastitis

**16)** What corn forage is typically harvested with a forage harvester equipped with an ear-snapper header?

Snaplage



## Junior Packet 6, Bonus Questions

1) A lot of farms today use artificial insemination to get their cows pregnant. What are three advantages of using artificial insemination over natural service?

- Better disease control
- Better record keeping
- Easier to prove bulls
- Genetic improvement
- Less expensive than keeping a bull
- Safety
- Use of better bulls

2) Name 3 micro-minerals required by dairy cow's?

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

3) What are three uses for ultrasound in a reproductive management program?

- Pregnancy determination
- Determine embryonic losses
- Monitor cystic ovaries
- Determine sex of embryo

4) List 3 methods of reducing heat stress in cattle.

- Shade
- Ventilation
- Cooling
- Sprinklers
- Fans

## **Junior Packet 7, Phase A**

**1)** What does the acronym NDF stand for when talking about feedstuffs?

Neutral Detergent Fiber

**2)** Blackleg is caused by which of the following: a virus, fungus, or bacterium?

Bacterium

**3)** Which of the following is classified as a legume, corn, alfalfa, triticale, or fescue?

Alfalfa

**4)** To prevent the spread of mastitis, which cows should be milked first?

Heifers with no mastitis

## **Junior Packet 7, Phase B**

**1) What are 4 signs that a cow is near calving?**

Udder full

Vulva enlarged

Mucous discharge

Restlessness

Relaxation of ligament at tailhead

Leaking milk

**2) Name the female and male sex cell.**

Female-egg or ovum

Male –sperm

**3) Name the four critical factors in colostrum management**

Quality

Quantity

Timing

Cleanliness

**4) Name four methods or field management practices farmers would use to reduce soil erosion.**

Wind breaks

Cover Crop

Strip cropping

Contour cropping

Terracing

Grass waterways

Reduced tillage

Soil seeding

## Junior Packet 7, Phase C

1) What is the major solids component of milk?

Lactose

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

Carbon Sequestration

3) What feed ingredient may improve conception rates as it may contribute to larger ovarian follicles capable of producing more estrogen, a large corpus luteum and less embryonic death?

Fats

4) The *A2 Milk Company* headquarters is located in which country?

Australia

5) What hormone initiates the dilation of the birth canal?

Relaxin

6) *What part of the digestive system are by-pass proteins highly digestible in?*

*Small intestines*

7) What metabolic disease can result in cattle with an imbalance of magnesium?

Grass tetany sometimes called grass staggers or hypomagnesaemia

8) Autotoxicity describes the process in which an established plant produces chemicals that escape into the soil and reduce the establishment and growth of new plants.

What is the name of this plant?

Alfalfa

9) What is the recommended length for a cow's dry period traditionally?

45 to 60 days

10) What is the major symptom of winter dysentery?

Diarrhea

11) What is the science that deals with inheritance called?

Genetics

12) According to the *Journal of Dairy Science*, cows that are robotically milked produce less of which hormone which interferes with milk let down?

Adrenaline or epinephrine

**13)**What is the name of the secretory cells in the mammary gland that are arranged in grape-like structures?

Alveoli

**14)***Hay low in what mineral is best for dry cows?*

*Potassium*

**15)**Bermuda, timothy, brome, and orchard are all types of what?

Grasses

**16)**What is the name of the exterior opening of the female reproductive tract?

Vulva

## Junior Packet 7, Bonus Questions

1) Name 3 metabolic diseases in dairy cattle

Ketosis

Milk fever

Displaced abomasum

Retained placenta

Laminitis

2) Name three factors that could influence the amount of water consumed by a dairy cow.

Body size

Environmental temperature

Water temperature

Water Quality

Relative humidity

Diet

Milk production

3) Pneumonia is a common disease in young calves. Regarding a calf management program, give 3 reasons that would predispose a calf to contracting pneumonia?

Poor ventilation

High humidity

Dirty pens

Drastic temperature changes

Poor nutrition

Overcrowding

Wide range of ages in a pen

Wet bedding

4) Name 3 cultured dairy products.

Acidophilus milk

Kefir

Buttermilk

Sour cream

Crème fraiche

Yogurt

## **Junior Packet 8, Phase A**

1) Soybean meal and distiller's grains are good sources of what nutrient?

Protein

2) What classification of drugs may be helpful in controlling udder edema?

Diuretics

3) Bovine Spongiform Encephalopathy (BSE) affects which system of the body?

The Nervous System

4) Which cause of mastitis is easier to cure: Staph Aureus or Strep agalactiae?

Strep agalactiae



## Junior Packet 8, Phase B

- 1) In the dairy industry, name four animal welfare issues being faced by dairy producers.

- Tail docking
- Dehorning practices
- Confinement housing
- Lameness
- Down cow handling
- Vaccinations
- Hormones use
- Injections
- Calf hutches

- 2) Name the four milk classes and give an example of a dairy product from each:

*Class I – beverage milks (fluid milk)*

*Class II – fluid cream products, yogurt, and manufactured products (Ice cream, cottage cheese, etc.)*

*Class III – cream cheese and hard manufactured cheese*

*Class IV – butter and milk in dried form*

- 3) Johne's is a wasting disease affecting nearly 70% of dairy farms in the US. Name 3 management practices you can follow to reduce the spread of Johne's.

- Separate newborn from dam
- Feed colostrum from Johne's negative cows or use colostrum substitutes
- Pasteurize waster milk before feeding
- Don't feed cow refusals to calves or heifers
- Don't use the same equipment to feed and clean manure
- Avoid carrying manure from cows to calves
- Do not raise calves from infected cows
- Vaccinate
- Elisa Testing

- 4) Cows need to drink 30-35 gallons of water each day. What 4 signs show that? cows are NOT drinking enough water?

Reduced Feed Intake

Firm, Dry Manure

Reduced Urinating

Loss of Body Weight

Sunken Eyes

Pinched Skin does not fall back quickly

Cows drinking from puddles or urine pools

## **Junior Packet 8, Phase C**

**1)** What vitamin is contained in green forages?

Vitamin A

**2)** What class of milk includes milk in dried form and butter?

Class IV

**3)** What is the first phase of fermentation, which takes place in packed silage while oxygen is still present?

Aerobic phase

**4)** What is the condition that can occur in calves when they drink their milk too fast and some fluid enters the lungs instead of the digestive tract?

Aspiration pneumonia

**5)** Colonization on the hands of workers appears to be a major contributor to the transmission of staph. aureus during milking. What is a management practice that a milker can use to help prevent this?

Wear gloves during milking and wash their hands frequently to prevent transmission in the milking parlor

**6)** What does the acronym SMV stand for?

Slow Moving Vehicle

**7)** *What is the term describing a farm's total assets minus its liabilities?*

*Equity or net worth*

**8)** *Dry matter of feed is determined after what substance has been removed?*

*Water*

**9)** *In pounds, how much does a bushel of corn weigh?*

*56 pounds*

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

Leaching

**11)** What volatile fatty acid is the precursor for glucose?

Propionic Acid

**12)** *Name the hormone that is critical in the initiation and maintenance of lactation.*

*Prolactin*

**13)** *What is the name of the process of heating milk to destroy pathogenic bacteria called?*

*Pasteurization*

**14)** *A deficiency of what vitamin causes white muscle disease*

*Vitamin E*

**15)** *What organ system does Johne's disease affect?*

*Digestive system*

**16)** *Which season of the year is consumer demand for dairy products typically the lowest?*

*Summer*

## Junior Packet 8, Bonus Questions

1) Name 3 reasons why an animal can be disqualified from being shown in the ring.

Blind quarter

Permanent lameness

Total blindness

Freemartin heifer

Tampering to conceal faults

Skin irritations (ringworm, Lice)

2) Name 3 storage options for excess colostrum.

Add preservative acid

Fermentation

Frozen

Refrigerated

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

IgG

IgA

IgM

IgE

4) Name 3 signs of a malfunctioning milking system.

*Excessive vacuum fluctuation*

*Slow milking*

*Teat cups falling off*

*Flooded milk lines*

*Squawking teat cups*

*Uneven milk flow*

## 2022 NY State Junior Dairy Bowl Extra Questions

1) In the PDCA Dairy Cow Unified Scorecard, how many points are allotted to Dairy Strength?

25 points

2) What is the approximate percentage of solids in normal milk?

13 %

3) Vacuum pressure at the end of milking should be at how many inches of mercury?

12 – 13 inches

4) What is the name given to the spherical clusters of secretory cells in the mammary gland that are arranged in grape like structures?

Alveoli

5) During the cooler months, how many inches of silage from the bunker face should be removed per day?

6 to 12 inches

6) What time of year is keratoconjunctivitis or pink eye most prevalent?

Summer

7) Which mineral is used to build strong bones and teeth, in conjunction with calcium?

Phosphorus

8) Regarding dairy cattle reproduction, what does the acronym CIDR represent?

Controlled Internal Drug Release

9) What is the technical term for mule foot, a condition where only one toe appears on the hoof?

Syndactylism

10) What functions to alternate vacuum and atmospheric pressure between the liner and the teat cup shell?

Pulsator

11) When referring to equipment sanitation, what do the letters CIP stand for?

Clean-in-place

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

Pituitary gland

- 13)**What tissue is monitored for residual drug levels at slaughter?  
Kidney
- 14)**What is the most common type of tractor overturn incident?  
Side overturn
- 15)**What section of the digestive system does crypto primarily affect?  
Small intestine
- 16)**What is the maximum recommended weight difference between the lightest and heaviest yearling heifers within a group?  
200 pounds
- 17)**What are the button-like structures that attach developing fetal membrane to the uterus?  
Caruncles
- 18)**What are three other animals, other than a cow, that are used to produce milk for consumption throughout the world?  
Human  
Goat  
Sheep  
Camel  
Water Buffalo  
Horse  
Yak
- 19)**Name three reasons why artificial insemination is better than breeding a bull.  
Faster genetic process  
Access to larger selection of bulls  
Farm safety cost savings  
Fewer opportunities for reproductive disease transmission
- 20)**Good record keeping when administering drugs to cattle is a must. Name 4 important pieces of information that should be recorded.  
ID of animal  
Medication used  
Dates treated

Dosage or amount given

Route and location of administration

Name of person treating animal

Days to withhold for milk and meat

What you were treating the animal for