

2014 District Junior 4-H Dairy Quiz Bowl Contest

Junior Packet 1, Phase A

1.) What is the desired angle of a dairy cow's hoof?

45 degrees

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

California Mastitis Test

3.) Name a pathogen that can cause severe scours as a result of unsanitary conditions.

E. Coli; Salmonella

4.) What is the loose skin on the underside of the neck?

Dewlap

Junior Packet 1, Phase B

1.) Name 3 diseases of dairy cattle with a color in their name.

- Red water
- Red nose
- Black leg
- Blue tongue
- White muscle disease
- Pink eye
- White heifer disease

2.) Name 3 important points in selecting a calf as a project animal.

- Age
- Breed
- Health
- Pedigree
- Conformation
- Cost
- Place to keep it and location
- Size

3.) Name 3 ways for testing pregnancy in cows.

- Palpation
- Testing hormones in milk
- Testing hormones in blood
- Ultrasound

4.) Name 3 factors that can influence the amount of water consumed by dairy cattle?

- Body size
- Environmental temperature
- Water temperature
- Water quality
- Relative humidity
- Diet
- Milk production
- Stage of lactation

Junior Packet 1, Phase C

- 1.) 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 (HD, 12/08, p.768)

- 2.) On a dairy animal, what is located between the dew claw and the hoof?

Pastern

- 3.) What is the term for the release of the egg from the ovary?

Ovulation

- 4.) 25% of all cheese consumed nationally is found on top of what popular food?

Pizza

- 5.) Who is the U.S Secretary of Agriculture?

Tom Vilsack

- 6.) A serving of milk contains how many ounces?

8 ounces

- 7.) When cows are at rest, at least what % should be ruminating?

60%

- 8.) Why would a dairy farmer place a Kamar detector on the rump of their cows?

To help detect heat or estrus

- 9.) Your cow that is on legume pasture is showing physical signs of being very uncomfortable and her sides are bulging out. What is most likely her problem?

Bloat

- 10.) What is another name for fats?

Lipids

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

Gonadotropic releasing hormone (GnRH)

12.) What is the most common milking parlor used today?

Herringbone

13.) In what year did the Jersey breed arrive in the USA?

1815

14.) How many gallons of water does a mature dairy cow on average consume in a day?

30-50 gallons

15.) A deficiency of what vitamin causes white muscle disease?

Vitamin E

16.) Heifers should be at what % of mature body weight at first calving?

85%

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Junior Packet 2, Phase A

- 1.) Which of the following is the proper name for the condition known as milk fever: founder, laminitis, parturient paresis, or mastitis?

Parturient paresis

- 2.) True or False: A preweaned calf should receive 20 to 25 percent of its bodyweight in milk or milk replacer daily.

False

- 3.) True or False: Corn that is severely stunted by drought still has use and can be best salvaged by ensiling it.

True

- 4.) What part of the plant takes up the nutrients?

The roots

Junior Packet 2, Phase B

1.) Name 3 Class I dairy products.

Chocolate milk
Whole milk
Reduced fat milk
Low fat milk
Fat free milk

2.) What are the 3 volatile fatty acids produced by microorganisms in the rumen that are absorbed through the rumen walls?

Acetate (acetic acid)
Butyrate (butyric acid)
Propionate (propionic acid)

3.) What are 4 things that must be on a feed company label?

Ingredients list
Nutrient analysis
How much to feed (and directions)
Any withdrawal times

4.) Name 4 factors that contribute to the occurrence of cystic ovaries.

Twinning
Ketosis
Dystocia
Uterine infection
Retained Placenta
Over conditioning
Genetic predisposition

Junior Packet 2, Phase C

1.) What is the primary organism that causes contagious mastitis?

Staphylococcus aureus or Staph aureus

2.) Where did the Holstein breed originate?

The Netherlands

3.) Vegetable Oil, tallow, and megalac are all sources of what in a ration?

Fat/energy

4.) What country did the Brown Swiss cow originate from?

Switzerland

5.) Vitamin C is also known as what?

Ascorbic acid

6.) A disease that is transmitted between vertebrate animals and humans is known as what type of disease?

Zoonotic or Zoonoses

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

13 %

8.) What is the term for anything with a pH greater than 7?

Basic

9.) What is the major milk carbohydrate?

Lactose

10.) When budgeting your expenses for raising your project dairy heifer, what typically takes up the largest proportion of your budget?

Feed

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

Pulsator

12.) What is the importance of the esophageal groove in the digestive tract of calves?

It sends milk directly from the esophagus to the abomasum for digestion.

13.) What is the name of the disease caused by a deficiency of Vitamin D?

Rickets

14.) What is the name of the large blood vein visible in the neck that the vet or cow care person can use to draw blood or give an I.V.?

Jugular

15.) Approximately how many pounds of cheese can be made from 60 pounds of whole milk?

6 pounds

16.) What is the financial indicator derived by dividing the total debt by the average number of cows?

Debt per cow

2014 District Junior 4-H Dairy Quiz Bowl Contest

Junior Packet 3, Phase A

- 1.) True or False: The amount of mud that heifers must walk through to reach the feed bunk can affect their energy intake.

True

- 2.) True or False: The longer a calf stays with her dam after birth, the greater her chance of survival.

False- the longer a calf stays with her dam, the greater her risk of not surviving

- 3.) True or False: Vaccinating a cow at the beginning of the dry period helps to increase the amount of globulin or antibodies in the colostrum.

True

- 4.) True or False: Milk fever can be characterized by a cow lying down with a typical S-curve to her neck and cold ears.

True

Junior Packet 3, Phase B

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

- Good tires
- Slow moving vehicle emblem
- Seat belt
- Roll over protection bars
- Lights
- PTO shield
- Sound protection
- Brakes
- No riders

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

- Swine
- Horses
- Turkeys
- Chickens
- Ducks

3.) Name 2 internal parasites that can be found in dairy cattle.

- Lung worms
- Round worms
- Stomach worms
- Liver flukes
- Coccidia

4.) Name the female and male sex cell.

- Female-egg or ovum
- Male –sperm

Junior Packet 3, Phase C

1.) What class of milk includes milk in dried form and butter?

Class IV

2.) On the farm, where is copper sulfate is most commonly used?

In a foot bath

3.) What nutrient is excreted in the urine of the cow when it is overfed?

Protein or urea or nitrogen

4.) What does the acronym GTPI stand for?

Genomic Total Performance Index

5.) During the summer, Pink Eye is most prevalent due to what insect?

Face fly

6.) What is the respiratory rate in a dairy cow?

30 breaths per minute

7.) What is the cow's natural buffer?

Saliva

8.) What is the name of the substance in a semen tank that is used to freeze semen straws?

Liquid Nitrogen

9.) What is the name of the instrument used to give an animal a pill or bolus?

Balling gun

10.) In an accelerated calf feeding program, what percent fat should milk replacer contain?

15-25%

11.) What is the name of a cow who receives a fertilized ovum from a donor cow?

Recipient

12.) What is the measure called of how well cows turn feed into milk?

Feed Efficiency

13.) Water in the soil is also known as what?

Groundwater

14.) What is the term that describes management practices that protect the herd from the entry of new diseases and minimize the spread and/or adverse effects of disease in the herd?

Biosecurity

15.) What type of bedding should be used in cold weather so calves can nestle?

Straw

16.) What is the name of the document that establishes the standards for Grade A milk?

Pasteurized Milk Ordinance

2014 District Junior 4-H Dairy Quiz Bowl Contest

Junior Packet 4, Phase A

1.) Who was the founder of Hoard's Dairyman?

W.D. Hoard

2.) True or False: If a scale is not available, a cow or heifer's body weight can be estimated by measuring the heart girth.

True

3.) Ringworm is caused by which of the following: a fungus, bacteria or a virus?

Fungus

4.) True or false: Yogurt, cottage cheese, and ice cream are identified as Class I milk products.

False-Class II

Junior Packet 4, Phase B

1.) Name two anatomy structures that control the flow of milk from the teat end.

Teat Sphincter
Furstenberg's Rosette
Teat Canal

2.) What are three of the four cycles called during the milking equipment cleaning process?

Prewash or Rinse
Detergent Wash
Acid Rinse
Sanitizer Rinse

3.) In working with dairy cows, name 3 clinical symptoms of mastitis you could see in their milk or udder.

Flakes
Clots
Watery milk
Swollen quarter
Hot quarter
Presence of blood
Stringy milk

4.) What are the two primary gases produced in the rumen?

Methane
Carbon dioxide

Junior Packet 4, Phase C

1.) If cattle are on a dry lot, how many square feet should they have per animal?

125-200 square feet

2.) What is the term for using a drug in a way that is not specifically shown on the label?

Extra label

3.) Where was the first dairy cooperative in the United States organized?

Goshen, Connecticut

4.) When raising calves, a good manager will make sure that weaned calves are how much bigger than their birth weights?

Double

5.) What do the letters CNMP stand for in reference to CAFO legislation?

Comprehensive Nutrient Management Plan

6.) What hormone causes milk let-down?

Oxytocin

7.) What season are consumer demand and sales of milk the highest?

Fall

8.) Fetal cotyledons and maternal caruncles attach the placenta to what structure in the cow?

The uterus

9.) What term describes the appearance and performance characteristics of an animal?

Phenotype

10.) What is the most important factor to consider in determining when to breed a heifer for the first time?

Body size

11.) At what temperature should milk be heated at high temperature: short term or HTST pasteurization?

161 degrees

12.) How long should milk be heated for if you were using a Batch or holding method pasteurization?

Not less than 30 minutes

13.) Right after feeding calves it is important to deliver them fresh what?

Water

14.) The common name for Mycobacterium paratuberculosis is Johnes Disease. Spell Johnes.

J-O-H-N-E-S

15.) What is the simple definition of a liability?

Something you owe

16.) A mature cow has how many teeth?

32

2014 District Junior 4-H Dairy Quiz Bowl Contest

Junior Packet 5, Phase A

- 1.) True or false: The immunity that a calf gets from its mother through colostrum is classified as active immunity?

False

- 2.) True or false: Potassium levels are more concentrated in the leaves than in the stems of plants.

False

- 3.) True or False: The rumen and the reticulum are not developed in a newborn calf.

True

- 4.) True or False: The somatic cell count for an animal or for a herd is a good indicator of mastitis.

True

Junior Packet 5, Phase B

1.) Name three organisms that live in the rumen.

Bacteria
Fungi
Protozoa

2.) List three ways to permanently identify a dairy calf

Tattoo
Freeze brand
Photo
Sketch
Micro-chip

3.) Name three byproduct feeds high in digestible fiber.

Citrus pulp
Beet pulp
Soy hulls
Brewer's grains

4.) Name the 3 common names for the stages of a female dairy animal's life starting with birth.

Calf
Heifer
Cow

Junior Packet 5, Phase C

1.) What month is national ice cream month?

July

2.) What is the common name for a displaced abomasum?

Twisted Stomach

3.) What gas produced by cattle has contributed to our carbon footprint?

Methane

4.) What does the acronym ADSA stand for?

American Dairy Science Association

5.) How old is a calf when it begins to chew its cud?

2 to 3 weeks old

6.) In the area of cattle reproduction, what does the acronym IVF stand for?

In vitro Fertilization

7.) Saliva is enriched with what compound that acts as a buffer in the cow to regulate rumen pH?

Sodium bicarbonate

8.) What common feedstuff is dark brown, has a sweet smell, is high in sugar, and is often added to calf starter?

Molasses

9.) Which of the compartments in the digestive tract of the cow is often referred to as the "hardware stomach"?

Reticulum

10.) What is the proper name given to the contents of the large intestine that eventually leaves the body through the rectum?

Feces

11.) What term is used to describe an infertile heifer born twin to a bull?

Freemartin

12.) The first National Dairy Show was held in what city in 1906?

Chicago

13.) What is the name of the waxy substance that lines the teat canal that helps reduce penetration of microorganisms into the udder?

Keratin

14.) What is the name for an ovarian follicle/structure that grows and surpasses ovulatory size, but fails to ovulate?

Cystic ovaries

15.) When talking about dairy cows, what is another word for mastication?

Chewing

16.) For a dairy cow, what do we call the rest period between lactation periods?

Dry period

2014 District Junior 4-H Dairy Quiz Bowl Contest

Junior Packet 6, Phase A

1) When should a necropsy exam occur: when a calf is healthy, when a calf is sick, or when a calf has died?

- When a calf has died

2) True or False: Immature hay is more valuable as a feed for dairy cows.

- True

3) True or False. Intramammary infection is characterized by the presence of microorganisms growing in the udder.

- True

4) For the most part when cows are put on 3X milking their milk productions tends to go up, down or stay the same?

- Up

Junior Packet 6, Phase B

1) Name the two categories of vaccines given to cows?

- Modified live
- Killed vaccine

2) Name 3 metabolic diseases in dairy cattle.

- Ketosis
- Milk fever
- Laminitis
- Displaced abomasum
- Retained placenta

3) Name two ways in which excess colostrum can be stored until needed.

- Add preservative acid
- Freeze
- Refrigerate

4) Scours and pneumonia are a leading cause of death in calves. Name three of the major causes of calf scours.

- Inadequate colostrum
- Poor quality colostrum
- Poor quality milk replacer
- Unsanitary calving conditions
- Overfeeding
- Overcrowding
- Inadequate ventilation

Junior Packet 6, Phase C

1) How many days are in the standard lactation length that is used for dairy cows with DHI records?

- 305 days

2) What does it mean when something is anaerobic?

- Lives without air

3) What does UIP stand for relative to dairy nutrition?

- Undegradable intake protein

4) The National Football league recently renewed their partnership the National Dairy Council to continue what nationwide in-school wellness program?

- Fuel Up to Play 60

5) How many months after a cow is bred is the calf born?

- 9 months

6) What is the sex chromosome combination for a male calf?

- XY

7) Where is a subcutaneous injection given or placed/

- Under the skin

8) A CMT test is used to detect what type of infection?

- Mastitis

9) During a milking herd schedule, when should mastitis cows be milked?

- Last

10) How many calories does a serving of whole milk have?

- 160

11) What is the name of the feed material found in the small intestine of the dairy cow?

- Chyme

12) What is the term for the milk left in the udder after a cow's normal milking?

- Residual milk

13) The wall of the rumen is lined with tiny fingerlike projections called what?

- Papillae

14) Which compartment of a cow's stomach is the largest?

- Rumen

15) What is the name of the process when a farmer fluffs the hay so that air can get in and dry it faster?

- Raking

16) In what year was the milk bottle invented?

- 1884

2014 District Junior 4-H Dairy Quiz Bowl Contest

Junior Packet 7, Phase A

1) What is a Colostrometer used for?

- Testing colostrum quality

2) What is the term describing the excessive fluid accumulation in the mammary gland?

- Udder edema

3) Where is the location of the streak canal on a dairy animal?

- Teat

4) What is the first part of the calf you will see coming out of the cow during a normal calving?

- Front hooves

Junior Packet 7, Phase B

1) Name 2 reasons why molasses is often added to a dairy cow ration.

- Improve taste (palatability)
- Reduce dustiness

2) What 2 nutrients are generally produced in larger quantity in Jersey milk?

- Protein
- Fat

3) Give 2 methods used for dehorning calves.

- Paste
- Electric dehorner
- gouge
- Barnes type dehorner that cuts

4) What 3 management practices should a farmer follow when a cow has mastitis?

- Culture milk to determine infection type
- Treat with antibiotics
- Separate treated cow from milking string
- Dump milk or milk last
- Dry cow off
- Dry off the infected quarter
- Quarter milk the cow
- Cull the infected cow

Junior Packet 7, Phase C

1) Which symbol of true dairy products was animated in 2013?

- The Real Seal

2) Who is the commissioner of Agriculture in New York State?

- Richard Ball

3) BLV is a retrovirus that infects lymphoid tissue. What does BLV stand for?

- Bovine Leucosis Virus

4) According to the PDCA dairy cow unified scorecard how many points are given for rear feet and legs?

- 20

5) What test is used to identify Brucellosis or Bang's disease in Dairy cattle?

- The milk ring test

6) What is the period of time from one calving to the next called?

- Calving interval

7) Where on a cow would you find a white line lesion?

- Hoof or sole

8) Where did the Ayrshire cow originate?

- Scotland

9) What is the name of the hormone produced by the ovary that causes a cow to come into heat?

- Estrogen

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

- Summer

11) On average, how many days are between each period of a cow's heat cycle?

- 21 days (+/- 3 days)

12) What hormone is responsible for maintaining pregnancy?

- Progesterone

13) The rumen is also known as what?

- Fermentation Vat

14) Where on the corn plant is the milk line found?

- Kernel

15) What piece of feeding equipment is used to feed a calf milk when she will not drink on her own?

- Esophageal feeder

16) What is the condition called when the burping mechanism for a cow becomes paralyzed and gas is trapped in the rumen?

- Bloat

2014 District Junior 4-H Dairy Quiz Bowl Contest

Junior Packet 8, Phase A

1) Which of the following is a type of protein found in colostrum that provides passive immunity to the calf: somatic cells, immunoglobulins or erythrocytes?

- Immunoglobulins

2) Of the following feeds, which is the least desirable for a calf that is a week old: whole milk, corn silage, a coarse grain mix, or milk replacer?

- Corn silage

3) Which of the following is the piece of milking system equipment that keeps the vacuum at a constant level: pulsator, regulator, inflation, or claw?

- Regulator

4) When balancing a dairy cow's ration is silage considered a roughage or a concentrate?

- Roughage

Junior Packet 8, Phase B

1) When hoof trimming, what 3 pieces of information should the trimmer write down about each cow trimmed?

- Cow's name or ID number
- Date Lesion and treatment applied
- Location of lesion Severity of lesion
- Follow-up treatment needed
- Foot that is treated or abnormal

2) Dairy farmers use sand bedding to prevent growth of mastitis-causing bacteria. What 3 things do bacteria need to grow in bedding?

- Food – manure
- Heat – cow's body heat or environmental temperature
- Water – urine, leaked milk

3) Saliva is a major buffer for maintaining optimum rumen ph. Name three functions of saliva in dairy cattle.

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

4) Name 3 different base options that are installed in the bottom of cow stalls.

- Concrete
- Rubber-filled mattresses
- Rubber mats
- Sand
- Dual-chambered water beds
- Recycled manure solids
- Deep-bedded sawdust

Junior Packet 8, Phase C

1) What is the PDCA maximum allowable limit for an animal's topline hair in the show ring?

- 1 inch

2) Milk must be cooled to what temperature in degrees F before it can be transported?

- 45 degrees F

3) What is the name for the type of forages that are seeded every year and its growth is completed in one crop year?

- Annual

4) What is the common name for calf diarrhea?

- Scours

5) What is a herbicide used for on a dairy farm?

- Weed control

6) What is the term used by nutritionist for the amount of feed left over after the water has been removed from the feed sample?

- Dry Matter

7) How many uterine horns are there in the reproductive tract of a dairy cow?

- 2

8) What temperature should the milk in the bulk tank be 30 minutes after milking?

- 38 degrees F

9) A low fiber ration can often cause a DA in early lactation cows. What does DA stand for?

- Displaced Abomasum

10) What is the name for the category of mastitis in which there is not a detectable change in the udder itself and no observable abnormalities of the milk?

- Subclinical

11) In what type of location is more than half of the Grade A milk sold to consumers in the United States?

- Supermarkets or groceries stores

12) The crude protein in a feed is determined by multiplying the nitrogen content of the feed by what number?

- 6.25

13) In inches, what is the minimum amount of silage that should be removed from the exposed surface of a trench silo each day to prevent spoilage?

- 6 inches

14) What trace mineral deficiency has been associated with retained placenta in cows and white muscle disease in calves?

- Selenium

15) A calf develops in what part of a pregnant cow's reproductive tract?

- Uterus

16) Why are electrolytes fed to calves?

- To rehydrates after scours or sickness

2014 NYS 4-H Junior Dairy Quiz Bowl Extra Questions

1.) What is the term to describe a dairy heifer that is too fat?

Over conditioned

2.) What is the term used to describe what is left in a pasture when the cows are done grazing?

Stubble Residue

3.) What does the acronym ECL stand for when referring to CAFO standards?

Environmental Conservation Law

4.) What is another name for diarrhea in calves?

Scours

5.) What establishes passive immunity in calves?

Colostrum

6.) In reference to milk quality, what is the maximum legal limit of somatic cells concentration that milk can contain?

750,000 cells/ml

7.) Limestone contains high amounts of what mineral?

Calcium

8.) CLA is an 18-carbon fatty acid found in milk. What does CLA stand for?

Conjugated Linoleic Acid

9.) Where is the national 4-H Dairy Conference Held?

Madison, WI

10) The United Kingdom is the origin of what fatal human disease that poses a drastic health risk to humans and is characterized by cows losing control of their minds and bodies?

Mad Cow Disease

11) In feeding terminology, what do the letters NDF stand for?

Neutral detergent fiber

12) Where is your cow would you find her jugular vein?

Neck

13) What is the Delvo test used to detect?

Antibiotics in milk

14) What systems purpose is to provide fresh air throughout the barn and reduce ammonia levels?

Ventilation

15) In cattle what is the most commonly used reproduction method?

Artificial insemination

16) What does the term polled mean in dairy animals?

Naturally born without horns

17) What is the term used for a calf that is born dead?

Stillbirth or stillborn

18) What is the standard lactation length (in days) on DHIA records?

305 days

19) How many points are allowed for dairy strength on the new PDCA Dairy Cow Unified Score Card?

25 points

20) How many amino acids are considered to be essential in the dairy cow?

10

1.) What does the acronym YDLI stand for?

Young Dairy Leaders Institute

21) What crop is also being grown for ethanol fuel production?

Corn

22) What is another name for the skin condition known as papillomas?

Warts

23) Who regulates the Federal Milk Marketing Orders?

The Secretary of Agriculture

24) What is the most common reason why farm owners adopt grazing?

Cost reduction

25) At what temperature should milk be heated for Batch or holding method pasteurization?

145 degrees

26) What metabolic disease can farmers easily test for on farms using a urine strip test?

Ketosis

27) How many phases are there in the ensiling process?

4

28) What ligament is the major udder support?

Median suspensory ligament

29) Mycotoxins in feed are caused by what?

Molds

30) What is the piece of equipment called that divides solid manure components from liquid?

Manure separator

31) What do you call the body system that includes the udder, teats and tissues associated with producing milk?

Mammary System

32) What organ supports and protects the embryo as it develops and grows into a calf?

Uterus

Team Questions

1) Name 3 items that a judge looks for when judging a fitting and showmanship contest.

Animal's condition
Cleanliness
Clipping
Grooming
Appearance of exhibitor
Leading the animal
Posing the animal
Showing the animal to the best advantage
Poise
Alertness
Attitude

2) What are the two most effective measures that can be used on the dairy farm to prevent new mastitis infections?

Teat dipping
Dry cow antibiotic treatment

3) Name one of the two organizations involved in the Unified National Strategy for Animal Feeding Operations.

USDA
FDA

4) Name 3 of the 5 parts of a milking unit.

Claw
Milk tube
Short air tube
Teat cup shell
Teat cup liner or inflation