

**2018 NYS Regional 4-H  
Beginner Dairy Bowl Contest**

**Beginner Packet 1, Phase A**

1) What dairy breed, on average, has the highest milk production?

Holstein

2) The storage unit used to hold milk on the farm is called what?

Bulk Tank

3) Where would you find the dewclaws on a dairy cow's body?

Foot

4) A by-product called whey is produced from making what?

Cheese

## **Beginner Packet 1, Phase B**

1) Name the six major breeds of dairy cows.

Ayrshire

Brown Swiss

Jersey

Holstein

Milking Shorthorn

Guernsey

2) Name the 4 compartments of the mature dairy cow's stomach.

Reticulum

Rumen

Abomasum

Omasum

3) What do the 4-H's stand for in the 4-H pledge?

Head, heart, hands, health

4) Name 4 different pieces of information you would find on the nutrition label on a container of milk.

Serving size

Servings per container

Ingredients

Calories

Fat content

Cholesterol

Sodium

Carbohydrates

Protein

## **Beginner Packet 1, Phase C**

- 1) What is the name of the gas that is produced by manure digesters and can be converted in electricity?

Methane

- 2) What substance is frozen semen stored in?

Liquid nitrogen

- 3) What is dystocia?

Difficult calving

- 4) Homogenization breaks up what in milk?

Fat globules

- 5) A group of cows is called what?

A herd

- 6) What is known as a record of ancestry?

Pedigree

- 7) What percentage of milk is composed of solids?

13%

- 8) A footbath should be how many inches deep in order to work properly?

10 inches

- 9) What is the general name for all animals that give birth to live young and suckle their offspring after birth?

Mammals

- 10) What connects the fetus to the navel and carries nutrients between the mother's body and the fetus?

Umbilical cord

- 11) What does it mean if we say a heifer is over conditioned?

She is too fat

- 12) What vitamin in milk helps maintain normal vision and skin?

Vitamin A

13) What is the most common disease caused by staph aureus, strep ag., and klebsiella?

Mastitis

14) On average, cows have a flight zone of how many feet?

5 feet

15) What is considered the largest cost to the producer for milk production?

Feed

16) Limestone contains high amounts of what mineral?

Calcium

## **Beginner Packet 1, Bonus Questions**

1) Name 3 symptoms of a cow with clinical mastitis.

Flakes

Clots

Hot quarter

Stringy milk

Watery milk

Swollen quarter

Presence of blood

2) Name 3 ways a dairy cow excretes or loses water.

Breathing

Sweating

Feces

Milk

Urine

3) Name 3 different kinds of bedding that can be used on a dairy farm.

Straw

Sand

Old hay

Sawdust

Mattresses

Paper

4) Name 3 methods commonly used to identify calves.

Ear tag

Tattoo

Freeze branding

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**Beginner Packet 2, Phase A**

- 1) Who invented the Pasteurization process?

Louis Pasteur

- 2) True or False: Dry cows should be fed a ration that is identical to that fed to the high producing milking cow.

False

- 3) In days, what is the standard length of a dairy cow's lactation?

305 days

- 4) True or False: Pasture, hay, and silage make up the concentrate portion of a cows ration.

False

## **Beginner Packet 2, Phase B**

- 1) Give the common name for the 3 different stages of a female dairy animal from birth through milk production.

Calf

Heifer

Cow

- 2) Name 2 reasons why cattle should be dehorned.

Prevent injury to other animals

Prevent injury to other people

Space – animals with horns require more space to eat

Horned animals will have difficulty fitting into headlocks

- 3) Name 4 pieces of information you would find on your animal's registration paper.

Name

Sire

Dam

Date of birth

Owner

Breeder

Grandsire

Grand dam

Sex

Registration number

Breed

- 4) What are two parts of a cow's anatomy that may be twisted to one side and called Wry?

Face /nose

Tail

## **Beginner Packet 2, Phase C**

1) What does it mean if a cow has freshened?

She has given birth to a calf

2) How many chambers are in the heart of a cow?

4

3) How much does a gallon of milk weigh?

8.6 pounds

4) At what temperature should colostrum be when it is fed to calves?

100 degrees Fahrenheit

5) What is the condition called when a cow's rumen is filled with gas?

Bloat

6) What is a castrated bull called?

Steer

7) In reference to farm machinery, what does PTO stand for?

Power Take Off

8) Where in the cow is a streak canal located?

Teat

9) When you see 3X printed on a cow's production records, what does that mean?

She is milked 3 times a day

10) What word describes the selling of an unwanted or poor quality animal from the herd?

Culling

11) What is the name for the small projections on the inside wall of the small intestine?

Villi

12) Which month is National Grilled Cheese Month?

April

13) Which vitamin is routinely added to milk?

Vitamin D



14) Which dairy product is made by fermenting milk and cream with bacteria cultures?

Yogurt

15) Which compartment of the ruminant's stomach absorbs water?

Omasum

16) Which organ of the cow carries the calf during pregnancy?

Uterus

## **Beginner Packet 2, Bonus Questions**

1) Name 3 things that can cause diseases in animals.

Viruses

Bacteria

Parasites

Poor nutrition

Genetic defects

Poor environmental conditions

2) Give 3 reasons why a dairy farmer might cull or remove a cow from their herd.

Unhealthy

Chronic mastitis

Poor reproductive performance

Feet and leg issues

Dangerous disposition

Old age

Low production

3) Name 3 parts of the milking machine.

Shell

Inflation

Air tubes

Claw

Milk tubes

Pulsator

4) Name 3 other cloven-hooved animals, other than cows.

Goats

Sheep

Pigs

Camels

**2018 NYS Regional 4-H  
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**Beginner Packet 3, Phase A**

- 1) What is the name of the hormone that causes a heifer or cow to come into heat?

Estrogen

- 2) How often should the bulk tank be washed and sanitized?

Every time it is emptied

- 3) What do we call the condition in the cow when the abomasum twists out of the normal position?

DA or displaced abomasum

- 4) Milk is approximately what percent water?

87%

### **Beginner Packet 3, Phase B**

- 1) Name two things that the milk hauler does before pumping out milk on the truck.

Checks the temperature of the milk

Measures the amount in the tank

Checks milk for “off” odors

Removes a sample of the milk for future testing

- 2) What 2 adjectives best describe the ideal rear udder attachment?

High and wide

- 3) Spell Ayrshire. A-Y-R-S-H-I-R-E

- 4) Name 4 parts of the cow’s digestive system.

Mouth

Esophagus

Rumen

Reticulum

Omasum

Abomasum

Small intestine

Large intestine

Colon

Rectum

### **Beginner Packet 3, Phase C**

1) In a newborn calf, which stomach compartment is the largest in total volume?

Abomasum

2) What is a newborn calf's navel often dipped with?

7% tincture iodine

3) What does it mean if a feed is palatable?

It tastes good to the animal, the animal will eat it

4) Where is the best place on a cow to give an intravenous injection?

Jugular vein on the neck

5) When doing embryo transfer, what is the name given to the animal that has an embryo transferred into her from another cow?

Recipient

6) What is the term used on an animal's pedigree for that animal's mother?

Dam

7) What is the name of the substance in colostrum that provides protection against diseases through passive immunity?

Antibodies or immunoglobulins

8) What are known as the building blocks of proteins?

Amino acids

9) What is a cow's natural buffer?

Saliva

10) Where in the body is calcium stored?

Bones and teeth

11) What part of the alfalfa plant has the highest protein content?

The leaves

12) When talking about a dairy cow, what does the term "open" mean?

She is not pregnant

13) When leading an animal in the show ring, which direction should you move?

Clockwise

14) Which month is National Ice Cream month?

July

15) What is the term for the bugs in the cow's stomach that help digest forages?

Microbes

16) What does the acronym USDA stand for?

United States Department of Agriculture

### **Beginner Packet 3, Bonus Questions**

- 1) Name 3 things that a judge looks for in a fitting and showmanship class.

Animal's condition

Cleanliness

Clipping

Grooming

Appearance of exhibitor

Leading of the animal

Posing of the animal

Showing the animal to the best advantage

Poise, alertness, and attitude of showman

- 2) Name the 3 main purposes for which cattle are used across the world.

Meat, Milk, Labor

- 3) Name 3 types of storage facilities for silage.

Bunker silo

Trench silo

Upright or tower silo

Ag bag

Oxygen limiting silo

- 4) Name 3 of the 5 major categories of evaluation on the Dairy Cow Unified Score Card.

Frame

Dairy Character

Body capacity

Udder

Feet and Legs (PDCA)

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**Beginner Packet 4, Phase A**

- 1) What is the process called when a calf is switched from milk or milk replacer to water and hay?

Weaning

- 2) Which dairy breed has the longest gestation period?

Brown Swiss

- 3) What does the Babcock test measure?

Butterfat composition

- 4) If a feed contains 40% dry matter, what percentage of that feed is made up of water?

60%



## **Beginner Packet 4, Phase B**

1) Name 4 signs of illness in calves.

Decreased appetite

Coughing

Heavy breathing

Nasal discharge

Watery manure

Droopy ears

Elevated/below normal temperature

Lack of energy

Dry Nose

2) Name 2 methods that can be used to store colostrum.

Freeze

Refrigerate

Add preservative acid

Ferment

3) Name two different ways to administer medications to a cow.

Oral/balling gun

Topical

Intramuscular injection

Intravenous injection

Intra mammary injection

Subcutaneously

4) Name two different forages.

Corn silage

Haylage

Baleage

Oatlage

## **Beginner Packet 4, Phase C**

1) Skim milk contains what percent fat?

0%

2) What illness is a calf likely to develop if she is raised in a drafty environment?

Pneumonia

3) Where do heel flies lay their eggs on a dairy animal?

On the lower legs

4) What is the name for the membranes of pregnancy that pass out of the cow after she gives birth to a calf?

Afterbirth or placenta

5) What is a freemartin?

A sterile heifer born twin to a bull

6) Where does hardware disease occur?

Reticulum

7) What does it mean if a calf is polled?

Born without horns

8) What is another name for ascorbic acid?

Vitamin C

9) Why would you groove the floors in a free stall barn?

To prevent slipping

10) What type of crop shields the soil to reduce erosion?

Cover crop

11) How many quarts are in a gallon of milk?

4 quarts

12) What is the name for the condition that occurs when excess fluid collects in the udder?

Udder edema

13) What substance flows through a cow's milk veins?

Blood

14) Acidosis is a condition that occurs when cows are fed too much what?

Grain

15) In dairy herd management, what is the name for the period of time from one calving to the next?

Calving interval

16) Which disease can result from a deficiency in either Vitamin E or Selenium?

White Muscle Disease

### **Beginner Packet 4, Bonus Questions**

1) Name 3 different materials that a halter can be made out of.

Leather

Rope

Chain

Nylon

2) Name 3 potential causes of mastitis.

Failure to teat dip

Faulty milking equipment

Improper dry cow management

Poor housing/environment

Poor milking practices

Poor sanitation

3) Name 3 functions of saliva.

Moistens food

Lubricates food

Acts as a buffer

Provides fluid base for many nutrients

Provides proper environment for bacterial growth

4) Name 3 factors that can affect the quality of hay.

Kind of hay

Fertilizers

Maturity when cut and harvested

Storage

Handling

**2018 NYS Regional 4-H  
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**Beginner Packet 5, Phase A**

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

Front hooves

- 2) True or False: Alfalfa is a legume.

True

- 3) What mineral is found in the greatest quantity in milk?

Calcium

- 4) How much time do cows usually spend laying down each day?

8-16 hours

## **Beginner Packet 5, Phase B**

- 1) What is the name of the organization that coordinates the northeast dairy industry's advertising and marketing programs using farmer's checkoff dollars?

American Dairy Association Northeast

- 2) What are the two types of parasites that can affect an animal?

External and internal

- 3) Name 4 of the 6 nutrients that animals need.

Water

Protein

Carbohydrates

Fats

Vitamins

Minerals

- 4) Name 2 dairy products made from Class 1 milk.

Whole milk

Low fat milk

Skim milk

Flavored milk drinks

Buttermilk

Milk shake mixes

Ice cream mixes

## **Beginner Packet 5, Phase C**

1) What state won the 2018 North American 4-H Dairy Quiz Bowl Competition?

New York

2) What is the ideal age for a heifer to have her first calf?

24 months (22 to 24 months is acceptable)

3) Which stomach compartment is also nicknamed the “many plies”

Omasum

4) Which state leads the United States in milk production?

California

5) What is the scientific name for Johne’s disease?

Paratuberculosis

6) If a cow is labeled as “cystic”, what is she having difficulty doing?

Getting bred back

7) When clipping a calf for the show, which direction should you clip?

The opposite direction of hair growth

8) What system in dairy housing includes curtains and fans?

Ventilation

9) Who is the current United States Secretary of Agriculture?

Sonny Purdue

10) Which month is National Dairy Month?

June

11) How many points are given to dairy strength on the PDCA unified scorecard?

25

12) What is the name of the process in which the cow relaxes and releases the milk in the udder?

Milk letdown

13) What is meant by the term “grade dairy cow”?

An animal not registered with any breed association

14) What is the substance that must be cleaned out of a newborn calf's nose and mouth called?

Mucous

15) What is used to wipe teat dip off of teats before putting on a milking machine?

Cloth or paper towels

16) What is the most expensive disease in dairy cattle?

Mastitis



## **Beginner Packet 5, Bonus Questions**

1) Name 3 parts of the cow's digestive system.

Mouth

Esophagus

Rumen

Reticulum

Omasum

Abomasum

Small intestine

Large intestine

Rectum

2) Name 3 parts of a cow's mammary system.

Teats

Rear udder

Fore udder

Rear udder attachment

Fore udder attachment

Milk veins

Median suspensory ligament

3) What are the 3 critical factors in colostrum management?

Quality, Quantity, Quickness (Timing)

4) Name 3 things you should do within the first hour of a calf's life to keep it healthy.

Check to see if it is breathing normally

Dip the navel with iodine

Feed colostrum

Be sure the calf is in a clean and dry environment

**2018 NYS Regional 4-H  
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**Beginner Packet 6, Phase A**

- 1) What is the most popular cheese for pizza?

Mozzarella

- 2) What is a lagoon used for on a dairy farm?

Manure storage

- 3) Where is the median suspensory ligament found on a dairy cow?

The udder

- 4) The United States Olympic Committee announced a long term partnership through the year 2020 with what yogurt maker?

Chobani

## **Beginner Packet 6, Phase B**

1) What are the two main functions of the large intestine?

Water absorption

Storage of waste materials

2) Name 4 potential feed by-products that can be used in feedstuffs.

Cottonseed hulls

Dried brewers grain

Soybean hulls

Cottonseed meal

Soybean meal

Distillers grains

Peanut meal

Citrus pulp

Bakery Waste

Almond Hulls

3) Name 3 types of milking parlors.

Parallel

Herringbone

Rotary

Flat bone

Parabone

Side opening

4) Name 2 signs of dairy character.

Sharpness of withers

Open, flat ribs

Clean, free of flesh throughout

In-curving thigh

Long, lean neck

## **Beginner Packet 6, Phase C**

1) In what city and state is the World Dairy Expo held each year?

Madison, Wisconsin

2) What is the single most important measure for preventing the spread of disease from animal to human?

Hand washing

3) One serving of milk is equal to how many ounces?

8 ounces

4) What is the term for milk that is left in the udder after a normal milking?

Residual milk

5) What percentage of a cow's feed must be organic in order for her milk to be considered organic?

100%

6) What is the most common cause of high bacteria counts in milk?

Dirty equipment

7) What is the term for food that has been regurgitated and re-chewed by a cow?

Cud

8) What does the acronym GMO stand for?

Genetically Modified Organism

9) What is the most important and least expensive nutrient for dairy cattle?

Water

10) What is the normal temperature of an adult cow?

101.5 to 102.5 degrees F

11) When a calf is presented for birth with the butt first what type of birth is it called?

Breach

12) Which type of milking parlor has the cows set up on a rotating, circular platform and allows the milker to stay in one position?

Rotary or carousel parlor

13) What is the process that changes cream to butter?

Churning

14) Corn grain is a good source of what when added to a ration?

Energy

15) Which breed of dairy cow is known for its golden milk?

Guernsey

16) What do the initials VFA stand for?

Volatile Fatty Acid

## **Beginner Packet 6, Bonus Questions**

1) Name 3 ways for testing pregnancy in cows.

Palpation

Testing hormones in milk

Testing hormones in blood

Ultrasound

2) List 3 different types of non-permanent cow identifications.

Neck straps

Ear tags

Ankle straps

Crayons

External electronic devices

Brisket tags

3) Name 3 uses of ultrasound on a dairy farm.

Pregnancy determination

Determine embryonic losses

Monitor cystic ovaries

Determine the sex of the embryo

4) What are 3 important things to consider when selecting a calf as a dairy project?

Age

Breed

Health

Pedigree

Confirmation

Cost

Housing

**2018 NYS Regional 4-H  
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**Beginner Packet 7, Phase A**

- 1) True or False: The higher the digestibility of a forage, the more energy will be available to the cow.

True

- 2) Does the fetal calf lie on the right or left side of the pregnant cow?

Right

- 3) During herd milking, should the cows with mastitis be milked first or last?

Last

- 4) Which parent determines the gender of the calf?

Sire, father, bull

## **Beginner Packet 7, Phase B**

1) Mastitis causing organisms can be divided into two sources. What are they?

Environmental

Contagious

2) Name two sources of starch that can be in a dairy cow's ration.

Finely ground corn

Steam flaked corn

High moisture corn

Hominy

Barley

Oats

Wheat Mids.

Sorghum

3) Name two fat soluble vitamins.

A, D, E, K

4) Name four of the nine essential nutrients that are found in milk.

Phosphorus

Niacin

Calcium

Vitamin D

Vitamin B12

Vitamin B5

Riboflavin

Protein

Vitamin A



## **Beginner Packet 7, Phase C**

- 1) Why is it recommended that you do not use the same equipment for both feed and manure?

To prevent contaminating the feed

- 2) What is the common computer software used to assist in herd management on dairy farms?

Dairy Comp 305

- 3) What is an on farm tool that can be used for measuring colostrum quality?

Colostrometer/Brix refractometer

- 4) What is a fertilized egg called?

Zygote

- 5) The process of adding vitamins to milk is called what?

Fortification

- 6) What is the common term to describe cows that are too injured, weak, or sick to stand and walk?

Downer cow

- 7) Who invented the milk bottle?

Dr. Harvey Thatcher

- 8) What are the building blocks of fats called?

Lipids

- 9) What part of the milking unit is placed on the cow's teat?

Teat Cup

- 10) What country is the world's largest exporter of milk?

New Zealand

- 11) The fermentation vat is another name for which stomach compartment of the dairy cow?

Rumen

- 12) What is the term that describes how well an animal copes with the conditions in which it lives?

Animal welfare

13) What does the acronym CMT stand for?

California Mastitis Test

14) Within how many seconds after prepping should a milker be put on a cow?

60-90 seconds

15) Dental research has found that which dairy product can actually prevent cavities?

Cheese

16) What is another name for the yellow body?

Corpus Luteum

## **Beginner Packet 7, Bonus Questions**

1) Name the 3 segments of the small intestine.

Duodenum

Jejunum

Ileum

2) Name 3 cropping procedures used to make dry hay.

Mowing

Tedding

Raking

Baling

3) Name 3 hoof/foot problems that could cause a cow to become lame.

Foot rot

Hairy heel warts

Sole abscess

Sole ulcer

Heel crack

Laminitis

4) Name 3 practices that can help keep calves healthy and growing in the winter.

Calf blankets/jackets

Increase in amount of milk/milk replacer fed

Increased fat level in milk/milk replacer

Using extra bedding

**2018 NYS Regional 4-H  
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**Beginner Packet 8, Phase A**

- 1) What term describes the mating of two purebred animals of different breeds?

Crossbreed

- 2) What is known as the gold standard for bedding?

Sand

- 3) What part of the corn plant is corn meal made from?

The seed

- 4) Soybeans are usually added to a cow's diet to provide what nutrient?

Protein

## **Beginner Packet 8, Phase B**

- 1) There are two parts of the cow that can go through involution. What are they?

Udder and Uterus

- 2) Explain the difference between permanent and non-permanent identification for cows and provide one example of each

Permanent: Remains the same overtime, does not change

Ex: Tattoos, sketches, photographs

Non-permanent: Can be changed overtime

Ex: Ear tags, neck chains, ankle bands

- 3) What are the 2 types of vaccines given to cows?

Modified live and killed

- 4) Name the four main functions the cow uses nutrients from her feed stuffs for.

Maintenance

Growth

Production

Reproduction

## **Beginner Packet 8, Phase C**

1) What is the common name for the disease Brucellosis?

Bang's disease

2) Which metabolic disorder is associated with magnesium deficiency?

Grass tetany

3) Who is the current Commissioner of Agriculture for New York State?

Richard Ball

4) What does the acronym SCC stand for?

Somatic Cell Count

5) How many quarts of saliva does a mature cow produce?

50 to 80 quarts

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

The hocks

7) What is the name of the digested feed material found in the small intestine?

Chyme

8) BCS is a method of evaluating an animal's weight on a 1-5 scale. What does BCS stand for?

Body Condition Score

9) What is the name of the popular dairy magazine that has the dairy cattle judging contest on the cover each year?

Hoard's Dairyman

10) What is the name of the tube that connects the mouth to the stomach?

Esophagus

11) When talking about a calf or heifer raising program, what does ADG stand for?

Average Daily Gain

12) What is the name of the document that accompanies a purebred animal and certifies its or her parentage?

Registration paper

13) Where did the Jersey breed originate?

Isle of Jersey

14) The acronym for the orange triangular sign found on most farm equipment is called an SMV sign. What does SMV stand for?

Slow Moving Vehicle

15) What is the name for an infection of a cow's uterus?

Metritis

16) Where is the New York State 4-H Dairy Quiz Bowl Contest held?

Cornell University / Ithaca NY

## **Beginner Packet 8, Bonus Questions**

1) Name 3 signs that you would indicate if a cow was in heat.

Restlessness

Bellowing

Following or smelling other cows

Mounting other cows

Standing to be mounted

Discharge of clear mucous from the vulva

Vulva red and swollen

2) A cow's day consists of 5 primary activities, name three of them.

Eating

Resting/laying down

Standing

Milking

Drinking

3) There are 3 liquid diet choices for pre-weaned calves. What are they?

Milk Replacer

Whole milk/pasteurized waste milk

Colostrum

4) What are the three places that a pathogen can enter a calf's body?

Mouth

Navel

Nose