

DAIRY CATTLE INFORMATION

DID YOU KNOW???

- ✓ An **udder** (the organ on the underside of the cow that stores the milk) can hold 25-50 pounds of milk! If you are 5-6 years old or younger, that one part of the cow may weigh more than many of you! In the show ring, the cow's udder counts for 40% of the total score.
- ✓ A **heifer**, or young female cow, usually has her first **calf** (baby) at age 2, after being pregnant for nine months (hey, that's how long it takes for human mothers to deliver, too!). She will then start giving milk, working for about 5-6 years as a dairy cow.
- ✓ A newborn **calf** can walk on its own just *one hour* after it is born!
- ✓ A cow produces about 200,000 glasses of milk in her lifetime!
- ✓ **Milking machines** gently suck the milk from the cow's **udder** using a vacuum. They are a very fast way to milk cows. A farmer can hand milk about 6 cows per hour, but can machine milk 100 cows per hour! Cows must be milked every 12 hours, or two times a day.

Dairy cows are usually wedge-shaped with their rear (udder) end much broader than their front end. Can you see why this is a good body shape for milking?

The **lactation period**, or the length of time a cow can produce milk before having another calf, is 305 days. In 305 days, a good dairy cow can produce

2,326	gallons or	
20,000	pounds or	
37,216	glasses	of milk!

Prize-winning dairy cows can make even more milk than that! In the dairy shows at NAILE, special awards are given for highest milk production in pounds.

DAIRY VOCABULARY

butterfat – the fat in milk

cream – the yellowish part of milk that contains 18-40% butterfat

curds - the thick part of coagulated milk. Most cheese is made from fermented milk curd.
(fermented means stuff is added to it to cause it to change form)

homogenize – to blend the butterfat in milk by preheating it and forcing it through a tiny hole.
By reducing the size of the butterfat articles, they won't rise to the top anymore.

pasteurization – a heat treatment to kill germs in homogenized milk

whey - the watery part of milk. Ricotta is one cheese made from whey instead of milk curds.

What's *Your* Favorite Dairy Product?

DAIRY PRODUCTS

butter – a solid made from fat, air, and water when cream is churned; butter is 80% fat

buttermilk – cultured milk made by adding certain bacteria to sweet milk

cheese – food made from fermented milk curd that has been compressed and usually aged (fermented means stuff is added to it to cause it to change form)

evaporated milk – pasteurized milk that is vacuum-heated to remove 60% of water; it is then homogenized, fortified with Vitamin D, and sealed in containers for long, room-temperature storage

ice cream – a sweetened, frozen food containing cream or butterfat and flavorings

ice milk - a sweetened, frozen food containing skim milk and flavorings

low-fat milk – milk that contains only 1-2% butterfat

skim milk – or fat free milk (milk with less than 0.5% fat)

sour cream – a product made from cream and bacteria that form lactic acid

sweetened condensed milk - pasteurized milk with sugar solution added; much of water is then extracted and product is sealed in containers for long, room-temperature storage

whole milk – milk containing 3-4% butterfat (no butterfat has been removed)

yogurt – a fermented, semisolid food made from milk and the cultures of two certain bacteria (fermented means stuff is added to it to cause it to change form); sugar, dry milk solids, and flavorings are often added to it

Can *you* think of other foods that contain cow's milk?

Question: In 1856, a French scientist invented a process that makes milk safer to drink and store. Who was this famous guy, and what did he invent?

Answer: Louis Pasteur (1822-1895) invented the process of heating milk to a high temperature in order to kill harmful bacteria. The process, still used today, is called **pasteurization**.

To make	one pound of butter	it takes	232 ounces of milk.
To make	1 gallon of ice cream	it takes	192 ounces of milk.
To make	one pound of cheese	it takes	148 ounces of milk.

How many stomachs do cattle have?

This is really a trick question! A cow (or bull) has only one stomach, but the stomach has *four* compartments (our stomach only has one). The first compartment is called the **rumen**. All that chewing and chewing that cattle do is called **ruminating** or **chewing cud**. After they have swallowed their food, they bring it back into their mouth to chew it again. Ruminating and sending the food through the four compartments makes it possible for cattle to eat foods like hay and grass. We couldn't eat what cows eat, because our stomachs don't can't digest or process that kind of food.

Do other animals eat like cattle?

Yes, these animals are also **ruminants**, meaning they chew cud and have four stomachs: llamas and sheep (both have shows at NAILE), plus camels and deer.

What a Dairy Cow Eats *Each Day*:

20 pounds of grain	grains include ground corn, grain sorghum, oats, soybean meal
75 pounds of forages	forages include alfalfa (hay) and whole corn plants (called silage)

They drink 29 gallons of water each day. That's about a bathtub full!

A Milk Timeline:

1856	Gail Borden III patents condensed milk as a way to store milk without refrigeration
1919	milk is first homogenized
1932	plastic-coated paper cartons are introduced
1942	milk is delivered to homes to conserve the milk supply during World War II
1948	the process of modern pasteurization is developed
1960	plastic milk containers are introduced
1988	skim milk becomes popular

Ask your parents, grandparents, or teachers if *they* remember when milk was delivered to their home!

LIVESTOCK LAUGHS

What do you call the cow that produces the most milk?

The Dairy Queen.

What did the cow say to the bull?

I'm udderly in love with you.

What happened when the cow jumped over the barbed wire fence?

It was an udder catastrophe.

NOW SHOWING!!!

The following are dairy breeds that have shows during the NAILE!

JERSEY

All American **Jersey** Show

Jerseys are a small breed that is fawn brown in color. Because of their color and the shape of their eyes, they are often described as “deerlike.” They originated on the Isle of Jersey in Great Britain. The Jersey’s milk is rich and high in butterfat, so it is usually considered the best-tasting milk.

Question: The Jersey’s milk is also great for making a favorite dairy *dessert*. Can anyone guess what that might be?

Answer: Milk from Jersey cows is a favorite for making ice cream!

** Some Extra Trivia: Elsie, Borden Dairy Company’s mascot, is a Jersey. (The man who started the Borden Dairy invented condensed milk in 1856.) Amaze your friends with these incredible facts!

GUERNSEY

Guernsey Gold Futurity

National **Guernsey** Show (Cows)

Guernseys are brown or fawn colored with white spots. Like the Jersey, the breed is originally from an island in Great Britain. Guernseys also make rich milk that is high in butterfat, protein, and betacarotene. Many years ago, their milk was more popular because people liked to drink creamier milk. Farmers like Guernseys because they aren’t very big, so they don’t need to eat as much as bigger cows, but they give lots of milk for their size.

One Guernsey show today is a **futurity**, which means that the animals competing today were nominated for the show (registered to compete) when they were born. They are three years old now, so their owners have been preparing them all their lives, knowing this day would come.

HOLSTEIN

Mid-East Fall National **Holstein** Show

The **Holstein** breed is the most common breed in America. In fact, *90% of all dairy cows in the U.S.* are Holsteins. When you think of a typical cow, you are probably thinking of a Holstein. It’s that black and white spotted cow you see all around. Here’s a fascinating fact about Holsteins: no two are marked alike. That means that their spotting patterns are as unique as snowflakes! Usually, the spots cover about half of the Holstein’s body, but some may be all white or all black.

Question: Why do you think this one breed, the Holstein, has become so important? (Hint: Why do we raise dairy cattle?)

Answer: The Holstein produces *more milk* than any other breed. That's why farmers raise more Holsteins than any other dairy cow. Holsteins usually work as milk cows for about 6 years of their life.

AYRSHIRE

Southern National **Ayrshire** Show

Ayrshire cattle are reddish brown and white spotted. Its spots are kind of unusual, because they are usually jagged and small and scattered all over their body. They would normally have long, upright horns, but most are dehorned as calves. This means that their horns are removed when they are very young. The Ayrshire is named after the County Ayr in Scotland, where the breed was first developed.

BROWN SWISS

Southeastern National **Brown Swiss** Show

What color do you think they are? Now, can you guess the country they are originally from? Only the black and white spotted Holstein breed gives more milk than the Brown Swiss. The Brown Swiss is a horned breed. The bulls have short horns with dark color on the horn tips. Not all breeds of cattle have horns; some breeds don't have horns at all and some have their horns removed (kind of like removing the tails in certain breeds of dogs). Cattle born without horns are called **polled**. The Brown Swiss has fuzzy ears and dark brown **points**. This means that the "edges" of the cow are darker in color—you know, the ears, nose, hoofs and **switch**.

Question: Does anyone know what a switch is?

Answer: The **switch** is the tip of the tail, and it usually has a nice tuft of hair on it, for chasing away flies, and the like!