Let me tell you a little about dairy farms.

A cow's view of what's happening at the

U.S. Dairy Forage Research Center Farm

Prairie du Sac, Wisconsin

USDA Agricultural Research Service

University of Wisconsin Agricultural Research Station

The Dairy Forage Research Farm is operated jointly by the **U.S. Dairy Forage Research Center**/USDA Agricultural Research Service **and the University of Wisconsin-Madison**/Agricultural Research Stations S8822 Sunset Dr. (off of Hwy. 78), Prairie du Sac, WI

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Why do we need dairy farms?

To produce the milk that makes you strong.

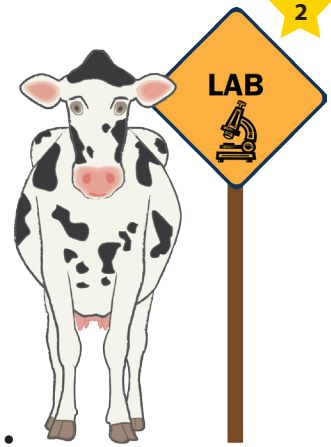
Hello! I'm one of many cows at the U.S. Dairy Forage Research Center's farm. Welcome to my home! Do you know what a dairy farm is? Do you know why we need them?

A dairy farm is a place with cows that produce milk for you to drink. We need dairy farms because milk is so nutritious. Milk and dairy products, such as cheese and yogurt, provide you with protein, energy, calcium and phosphorus – all important nutrients needed by your body.

All cows – indeed, all mammals, including humans – make milk for their babies to drink. But dairy cows like me, when properly cared for, are really, really good at making milk – much more than our babies would need. So we've been used for thousands of years to also provide food for humans.

What is your favorite dairy product?

Research makes us different.



We're helping find better ways to farm.

You'll see some things on my farm that you won't see on other dairy farms. That's because the people here do research – they use science to help find better ways to produce milk. Sometimes they feed us special diets, or measure the gasses we give off, or study how we digest feed by looking inside our stomach or studying our poop!

Out in the fields the researchers are growing new plants or studying new ways to grow the plants that we need for feed. They're also finding ways to use our poop to fertilize* crops and to keep if from running off the field and causing pollution.

* To provide a plant with all of the nutrients that it needs.

These metal feed tubs are used to closely measure what each cow eats during a research feeding trial.

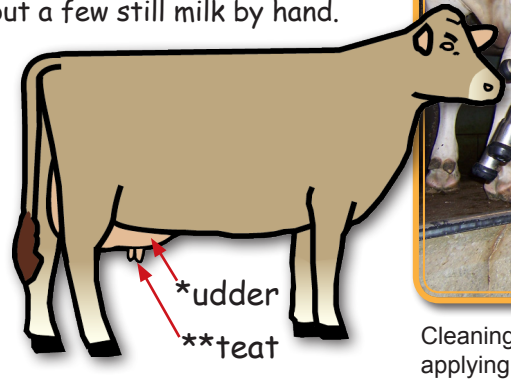
A few cows at this research farm have a special permanent opening in their sides. The scientists use this opening to collect partially digested feed for various research trials; the cows don't even notice when they reach inside.

Giving you our mmmilk.

How milk is harvested.

Farmers use really special milking machines that gently take our milk and send it to a big cooler without ever touching it or exposing it to dirt. Farmers do other things to help keep the milk clean and free of germs. They wash our udder* before milking and they cover our teats** with a special liquid that kills germs both before and after milking. The farmers also wash all of the milking equipment and pipes that carry the milk to the big cooler.

There are different kinds of places where cows are milked. At my farm we walk to a 'parlor' where we're up on a platform so the farmers don't have to bend down to milk us (see picture). At other farms the farmer goes to the barn to milk the cows in their stalls. Most farmers use milking machines, but a few still milk by hand.



Cleaning a cow's udder and teats before applying the milking machine.

Getting milk from cow to you.

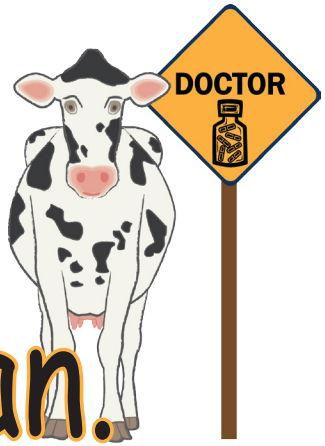
Keeping it clean and cold at every step.

Where do you buy your milk? What kind of container does it come in? Do you make your own cheese, yogurt, butter and ice cream from milk?

Once my job of making milk is done, lots of other people take over the job of getting it to you. Milk is cooled on the farm, then put in an insulated tank truck to take it to a place where people pasteurize* it to kill any germs that might be in it; then they put it into jugs for drinking or make it into other dairy products. Other people take the dairy products to stores and restaurants all around the country where you buy them and take them home.

* A heat treatment that kills bacteria.

Tank truck takes milk from the farm to the processing plant where it's put in jugs or made into other dairy products.



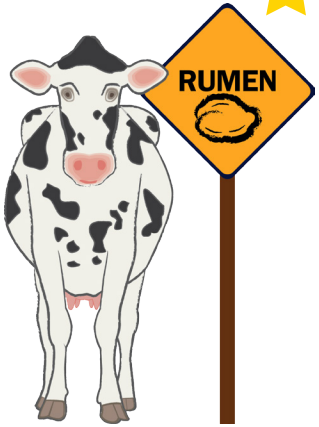
Our doctor is a veterinarian.

Sometimes we get sick, just like you.

Do you ever visit the doctor? Have you ever been in the hospital? A doctor of animals is called a veterinarian, and veterinarians come to the farm to see cows; cows don't get to go to the hospital. Cows get shots, or vaccinations, just like people do. Cows need to eat well in order to stay healthy, and they need medicine when they get sick. A veterinarian helps the farmer with all of these things.

When we are pregnant we get special treatment. Two months before our baby calf is due we get a 'vacation' of sorts – we don't get milked so we can let our udders rest before the next calf comes. We give birth in a nice, clean pen on the farm.

This calf was born just minutes before the photo was taken, and it will stand up within an hour of being born.

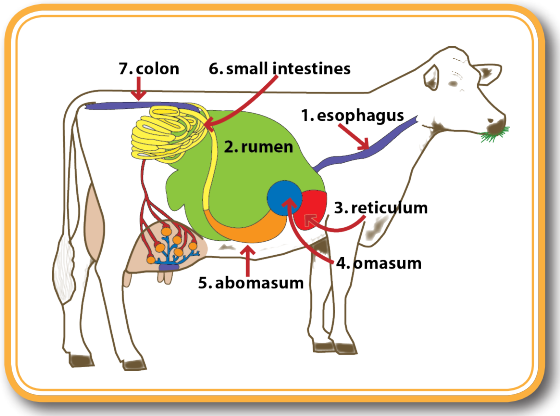


Rumens are very useful.

They help us eat food that humans can't eat.

I bet you don't eat grass. And I know why. It's because you don't have a rumen, and I do. A rumen is a big compartment that's part of my stomach. It's full of microbes (bacteria and stuff) that help me digest really chewy, fibrous things like grass, alfalfa, and corn silage.

Why is this important? Because there's lots of land that isn't good for growing the kinds of plants that you eat, like fruits and vegetables and grains. But that land can grow the kinds of plants that we cows eat, like grass and alfalfa. And the cows take that feed and turn it into something that tastes good and is good for you – milk and meat.



Because of our rumens, we cows are also good at recycling food products that would otherwise go to waste. For example, we eat the peels and pulp left over when orange juice is made. And we love the seeds taken out of cotton before the cotton is used to make your clothes.

Dairy cows eat and drink a lot of feed & water.

We drink 30-50 gallons of water each day!

Here at this farm, what we cows eat is something like a casserole; farmers call it a "Total Mixed Ration," or TMR for short. The farmer takes the many different feeds we need, mixes them up in a big wagon at just the right amounts, and brings it to the barns for us to eat. Do you have food delivered to you every day? Some days?

This is not the only way dairy cows are fed. On some dairy farms cows eat grass on pasture for all or part of the year. Some cows eat hay (feed preserved by drying) and some cows eat silage (feed preserved by 'pickling'). Some cows are fed outside at feed bunks while others are fed inside the barn. There's no one right way as long as we get the nutritious feed our bodies need!

Big mixer wagon that is used to mix and deliver feed to cows.

Cows eating a Total Mixed Ration at an outdoor feed bunk.

Let me tell you about grazing.

It comes very naturally to cows.

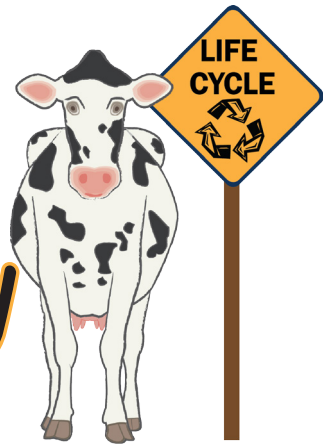
Grazing – eating grass right from the ground – is natural for us cows. My ancient ancestors who lived in the wild grazed because there was no one to feed them.

Today, some dairy cows still graze all of the time; some graze part time and also have feed brought to them by the farmer; and others don't graze at all but have feed brought to them all of the time.

The same is true for people, right? People get their food from their own gardens; from animals that they raise or hunt; from the grocery store; or from all different kinds of restaurants. One way isn't right or wrong as long as we cows – and you people – get the nutrients we need.

Cows love fresh green grass in the pasture.

Calf to cow in just 2 years!



We sure grow up in a hurry!

When I was born I weighed 100 pounds! I bet you weighed only 5 to 10 pounds. But then, my mother weighed 1,500 pounds when she gave birth to me! As babies, we're known as calves – heifer* calf for girls and bull calf for boys. On a dairy farm, the girls (heifers) are raised to become milk cows and most of the boys (bulls) are sold to other farmers who produce meat, not milk, on their farms. Remember, boys don't give milk!

Cows have a much faster life cycle than humans. Heifers are ready to become mothers when they're only 2 years old, and that's also when they start making milk; remember, all female mammals have a baby before they give milk. Most dairy cows live to be about 5 years old, but some can live to be much older.

* Pronounced "heffer."

A newborn calf, just a few hours old.

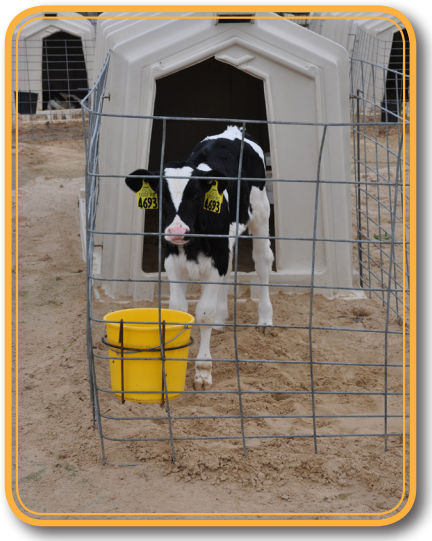
Heifers that are about 1 year old.

Why are calves in small houses?

Calf hutches are a healthy way to house calves.

Calves, like human babies, can get sick easily. And, just like children in day care or at school, sickness can spread easily from calf to calf.

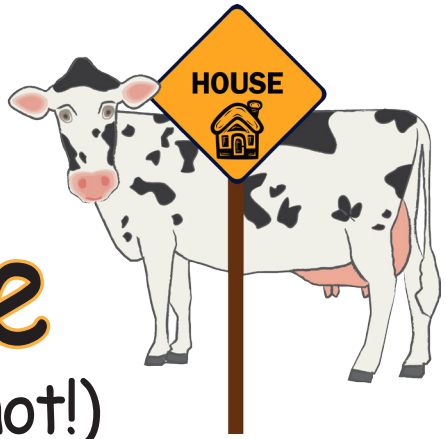
That's why many dairy farmers put their calves in individual calf hutches. It keeps disease from spreading. And because hutches are put outside, it gives calves fresh, healthy air to breathe.



Each calf has its own home, known as a "calf hutch."

Calf hutches may look small, but they really have a smart 3-way design. 1) When it's cold outside, calves can curl up in the back of the hutch where there's no wind and the straw bedding keeps them warm. 2) When the weather's nice they can stay outside in the sun. 3) Or they can be inside, near the opening, when they want to be out of the rain or sun but still feel a little breeze.

I bet you don't get to live in your own house all by yourself!



My house
is your house (not!)

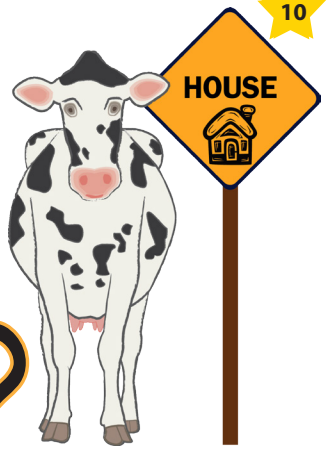
Cows live in many different kinds of places.

Do you live in a house with just your family? Or in an apartment building with lots of people? Or a mobile home?

People live in many different kinds of buildings with both large and small numbers of people, and so do dairy cows.

- Some of us cows live in barns where we eat, sleep, and are milked in the same stall every day.
- Some of us live in barns where we walk to one place to eat, another place to be milked, and another to sleep.
- Some of us live outside on pastures for all or part of the year.
- And the herds we live in may have 50 cows or more than 5,000 cows!

One way isn't better than the other as long as we're well cared for.



Why are there so many fans?

To keep the cows cool and comfortable.

Cows give off lots of heat. They're big creatures. And with all of that fermentation* going on inside the rumen, they generate lots of heat.

The fans keep the air moving over the cows, allowing them to get rid of body heat more easily. The fans pull fresh air into one end of the building and blow the heated barn air out.

Why are there so many? Because there are lots of cows in the building, so there's lots of heat to remove.

* In the rumen, a process by which bacteria break down feed and convert it into nutrients that the cow can more easily use for making milk and staying healthy.

These large fans on the side of the barn keep the cows cool.

Farmers make good use of dairy cow **poop (manure).**

It's great for fertilizer or making electricity.

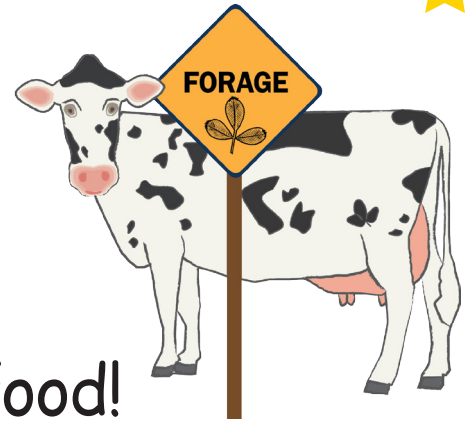
Cows like me make as much manure (poop and pee) as we do milk. But our manure isn't flushed down toilets. It's carefully collected by the farmer so that it can be used for other things, like fertilizing crops on the farm, or making compost people use in their gardens, or making energy for the farm and nearby communities. Manure is an especially important source of fertilizer on organic* farms.

If it's not handled properly, manure can also cause pollution. That's why some of the scientists at my farm are studying better ways to collect, store and spread manure. And I'm glad they do!

* Organic farms do not use chemical fertilizers or pesticides.

Manure is stored in a concrete lagoon near the barns . . .

. . . and later put on fields where it fertilizes crops.



Forage is my favorite food!

It's full of fiber for my rumen!

Forages like grass, alfalfa, and the whole corn plant, are the most important feed I eat. They are the major source of the fiber I need to keep my rumen functioning properly and to keep me healthy.

Lucky for me and for you humans, perennial* forages are also very good for the environment. They provide year-round vegetative cover and don't expose soil to erosion** as much as an annual crop that must to be planted each year, often with soil plowed up before planting. And their deep roots break up the soil so that more water seeps deep into the ground and less runs off or dries up quickly.

Forage being harvested.

I'm really proud of the scientists at my farm, and all the people who work here, because they're trying to make better forages that are easier for me to digest. This helps me put more nutrients into milk and fewer into manure, which is good for you and the environment. Isn't that mooo-velous!

Forage in the field.

* Plants that grow year after year without being planted, like your lawn.
** The loss of soil from the field, usually by water runoff or the wind.