

Food, Land and People Presents



# From the Grass to the Glass



NOVEMBER 15-16, 2010



DESERET NEWS

CLASSROOM  
Connections

EDUCATION ■ COMMUNITY ■ FAMILY



# I Drink Grass?

Well, maybe grass isn't quite the right word to use. Most dairy cows actually eat alfalfa hay, and this is where it all begins — in the soil of a field.

Farmers plant alfalfa as part of a crop rotation, partly because of the plant's special ability to fix (add in more) nitrogen to the soil, making it better for the next year's crops like corn or wheat. Even though hay may look like dried grass clippings, closer examination will show you that alfalfa is actually a leafy plant and belongs to

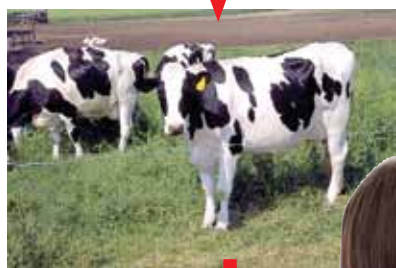
the legume family, which means that it is more closely related to peas than grass!

Farmers are able to cut alfalfa several times in a season. It is typically left to dry in the field, then baled and sold—often to nearby dairies.



All parts of the alfalfa plant (scientific name: *Medicago sativa* L.).

Alfalfa is beneficial to cows—the amount of protein and calcium it provides helps them produce higher quality and larger quantities of milk than other plants. Cows digest alfalfa very efficiently, turning it from dry hay into creamy white milk for you to enjoy.



Soil and cows benefit from alfalfa... and you can too!



## The Alfalfa Strikes Back

Alfalfa is a unique plant, and a bit of an over-achiever. When a bee visits its tiny flowers for a sip of nectar, the keel (lower petal) of the flower will spring open, striking the bee on the head and covering it in pollen. This is good for the flower because the pollen-covered bee will spread the pollen more easily to other flowers.

But not all bees like getting hit by the flower. In fact, honeybees dislike it so much that they will actually go to the trouble of chewing through the side of the flower to get to the nectar; by doing this they do not help spread pollen to other flowers. This creates quite a problem for the alfalfa plant, which needs the pollen to make seeds. Luckily the honeybee is not the only bee on the scene—there are many different types of bees, including the leaf-cutter bee.

This little bee is solitary (it doesn't live in a hive like a honeybee, each bee builds its own small nest), but friendly enough to live close to others of its species. It loves alfalfa nectar and doesn't mind when the flower's stamen springs out and bumps its head. Another benefit of the leafcutter bee is that farmers can build nests and introduce the bees to their fields, then move their habitat after the season is over. When the larvae hatch into bees in the spring, they'll have a new field of alfalfa to pollinate.



Before: these alfalfa flowers have not yet been visited by bees, and the keels of the flowers are still closed.



After: these alfalfa flowers have been pollinated; the stamens are now visible and the keels have sprung open.



**Note: there are many myths and misconceptions about milk production. Keep an eye open for the real dairy logo to read the real dairy story.**



# Farmbook Friends

Many different varieties of cows give us milk. See if you can fill in the name of the cow by its Farmbook profile to get to know these ladies better.



I may not make as much milk as a Holstein, but I will also live longer and have calves more easily. I can be pretty stubborn, but I've got a lot more personality and spots than a Brown Swiss—that's for sure!

I am the most popular cow in America! Farmers love me because I'm the #1 milk producer of any breed—I'll make 23,000 pounds of milk in a year! My black and white coat always gives me away. Try beating that, Jersey!



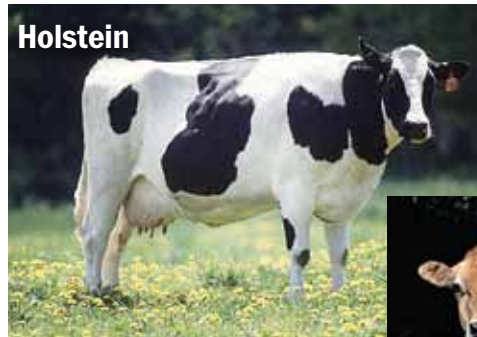
I'm easy going, so it doesn't really bother me that I'm only the second highest producer in the milk world. My milk is good for cheese, but you probably guessed that from my name! I don't mind cold climates or high altitudes, and it's easy to keep me healthy.

I may not be treasured for my milk production, but my rich golden colored and delicious milk is a treasure in and of itself! It's full of beta-carotene—yep, the same stuff you find in carrots and other veggies.



Most people appreciate my versatility—I am good for milk and meat. I do well in many climates... but Australia is def one of my faves. I come from one of the oldest recognized breeds of cow—hmm, maybe that's why I wasn't named geographically.

I may be little, but with milk that contains 6% butterfat, I really pack a punch! I'm an efficient grazer and my even brown coat is beautiful. In fact, I think I deserve my own reality show! What do you think about "Dairy Shores"? lol



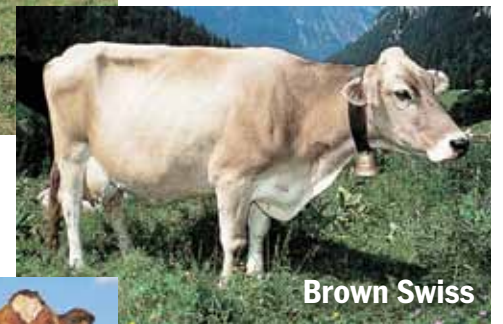
Holstein



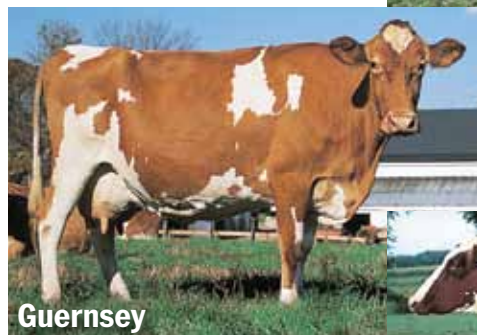
Jersey



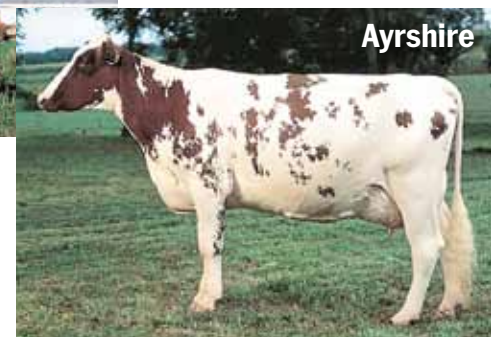
Milking Shorthorn



Brown Swiss



Guernsey



Ayrshire

## Milk or Beef?

There are usually two reasons that farmers raise cattle—either for milk or meat. Aside from the Milking Shorthorn, the breeds featured here are all used almost entirely in milk production. In the United States most breeds are specialized, bred to maximize production of either one, and like there are many breeds for milk, there are also many that have been specialized for beef production. Have you seen any of these beef cattle?



Hereford



Black and Red Angus



Simmental

# The Circle of Life... On a Dairy Farm

When a new calf is born on a dairy farm, it is allowed to nurse colostrum from its mother for a few hours, then it is placed into its own pen that is often equipped with a personal bottle feeder and plenty of straw to keep it clean and comfortable. It will either be fed milk or a special, nutritious milk replacer to keep it healthy. Within 6-8 weeks the calves are weaned, meaning they no longer need milk. Instead, they are provided a balanced diet of feed, such as alfalfa hay, corn silage, oats, and more to keep them healthy and growing.

About half of newborn calves are male, and since they will never be able to produce milk, they are raised and sold for meat. The best may be kept so that they can father future generations.



The female calves will be raised and bred to become pregnant when they are about 15 months old. This is important because cows won't make any milk at all until after they have had a calf. After 9 months, the cow will give birth and her "period of production" (the time during which she can

make milk) will last for about 12 to 14 months. Toward the end of this period, she is bred again.

When a cow stops giving milk for a period of about 60 days, it is called the dry-off. Because the cow has already been bred, her energy during this time period goes toward her developing calf.

After the calf is born, she will go back into the period of production, and the cycle will be repeated. A dairy cow will typically continue through this cycle until she is 5 years old. When a dairy cow reaches this age, she is no longer profitable as a dairy cow, and her meat will be used for beef.

## Cow Digestion – Chew it Over

Cattle are ruminant animals. This means they have a four-compartment stomach that allows them to make nutritious foods out of grass, hay, and other plant by-products.

As a cow eats, the food passes from the mouth, through the esophagus and into the rumen. Here the food is partly digested by tiny bacteria.

The food is then passed to the reticulum, which is a membrane with "honeycombed" ridges. These ridges break the food down into smaller pieces. The cow regurgitates those pieces and chews them again. The partly digested food that comes back into the cow's mouth is called cud.

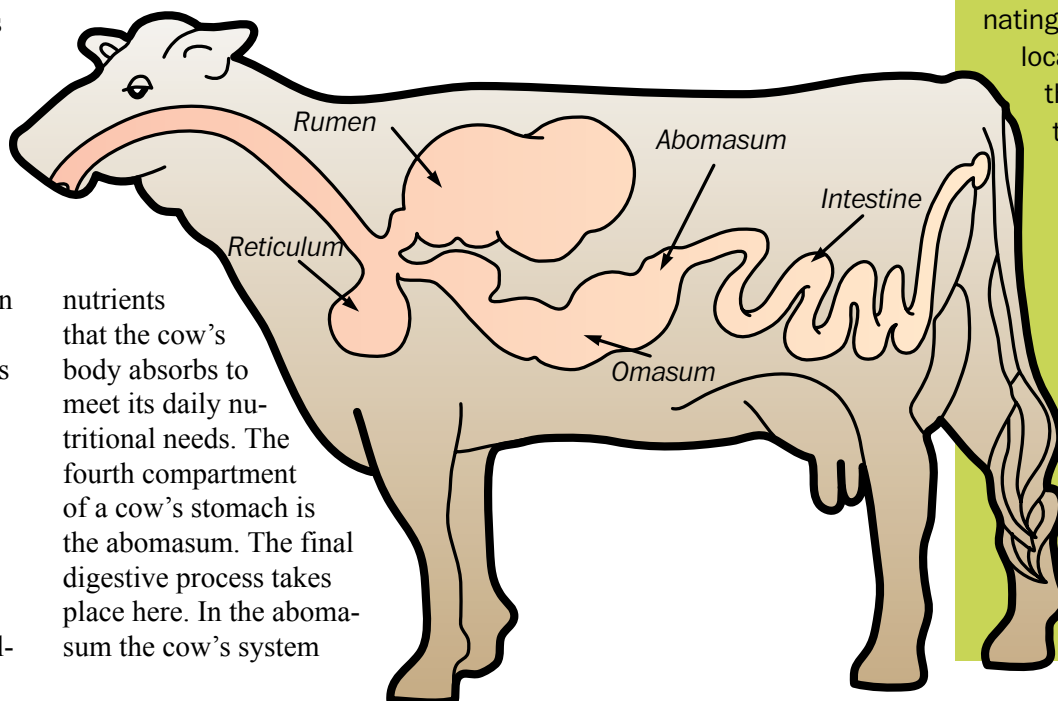
The cow re-chews the food with its powerful back teeth to break it down even more. This is what the cow is doing when it "chews its cud." As the cow swal-

lows, and saliva washes the cud back into the cow's system, the food now flows into the omasum, the third section of stomach.

During this process, the food breaks down into vitamins and

gets all the remaining food value it needs from the food before passing to the intestines. The intestines store the unused food portions and continue to absorb

nutrients that the cow's body absorbs to meet its daily nutritional needs. The fourth compartment of a cow's stomach is the abomasum. The final digestive process takes place here. In the abomasum the cow's system



Many people believe that the manure from dairy

operations is allowed to be dumped into the environment without care, contaminating streams and hurting local wildlife. However, the real dairy story is that the EPA regulates dairy producers who must come up with a plan to manage their wastes. Often, manure is composted and used in other agricultural applications. Modern regulations and techniques assure that the manure does not contaminate groundwater.



# Milkin' It!

After a cow has a calf, she is ready to give milk. This is called the "period of production," and it lasts approximately 300 days. During this time, the cow's udders will continuously fill with milk. If the milk is not removed, the udders swell and the cow becomes very uncomfortable.

Cows need to be milked at least twice every day, and usually need about 12 hours between milkings. This means that dairy farmers have a very busy schedule.

In the past, farmers would need to milk their cows by hand, but thanks to modern technology, most of the milking process is now automated. Here's how it works: Before cows enter the

milking parlor, all of the equipment is cleaned and sterilized. Then, as the cows enter the parlor, they receive a gentle rinsing and their udders are washed and dried.

The automated milking machine is then attached to the cows' teats and creates soft vacuuming pulses to remove the milk. This process takes about 10–15 minutes, then the cow is unhooked from the milker, cleaned again and led back out to her barn.

Milk is about 100° F when it comes out of the cow. It is quickly cooled to 40° for safe storage.

The milk from all the cows goes into a large storage tank where it is tested for the first time... but not the last!



Most people don't know what a cow's life

is like on the farm. The real dairy story is that comfortable, happy cows make more milk, and since farmers know this, they take very good care to make sure their cows are clean, well fed, and at the right temperature.



You may have heard that milk is full of antibiotics. The real dairy story is that cows sometimes do get sick and need an antibiotic, but the milk from those cows is discarded. All milk is tested for antibiotics before being sold in grocery stores.



## FAQ'S: ASK A DAIRY FARMER!

Have you ever wondered what happens on a dairy farm? Well, here's your chance to find out! Shanna Gibbons (pictured above in the center, teal shirt) lives on a dairy farm in Cache County, and answered some questions you may have.

**Interviewer Question:** *How many cows live on your farm?*

**Shanna:** We have 550 cows that we milk, plus so many calves I can't keep track!

**IQ:** *Wow! That's a lot! I bet you stay busy. What is a normal day like on the farm?*

**S:** Well, it starts early in the morning, usually around 3:30 am, when one of my sons begins to mix feed and give it to the cows. A little after that they start milking cows. By 8:00 am, all the feeding is done, so all the

workers move on to other chores. Some will clean the manure out of the cow's stalls, others will process more feed, and during the summers some will cut and bale alfalfa... sometimes until 2 or 3:00 in the morning.

**IQ:** *How often do you milk your cows?*

**S:** We do it three times per day, usually starting around 5:00 AM, then around 1:00 PM, then 9:00 PM. We can milk about 35 or 40 at a time, but it still takes a while to do all of them.

**IQ:** *Who works on the farm?*

**S:** My husband and his brothers, some of our kids and nephews, and some hired workers. There is a lot of work to be done so it takes many people. My son works for the fire department full time, but even in his spare time he still comes out to help us on the farm.

**IQ:** *Where does the milk go after it comes*

*out of the cow?*

**S:** Our milk goes into a refrigerated holding tank, and is collected every day by a truck that goes to Gossner's Foods here in Cache County. Since it's processed the same day that it's taken from the cow, we can be sure that it is fresh and safe.

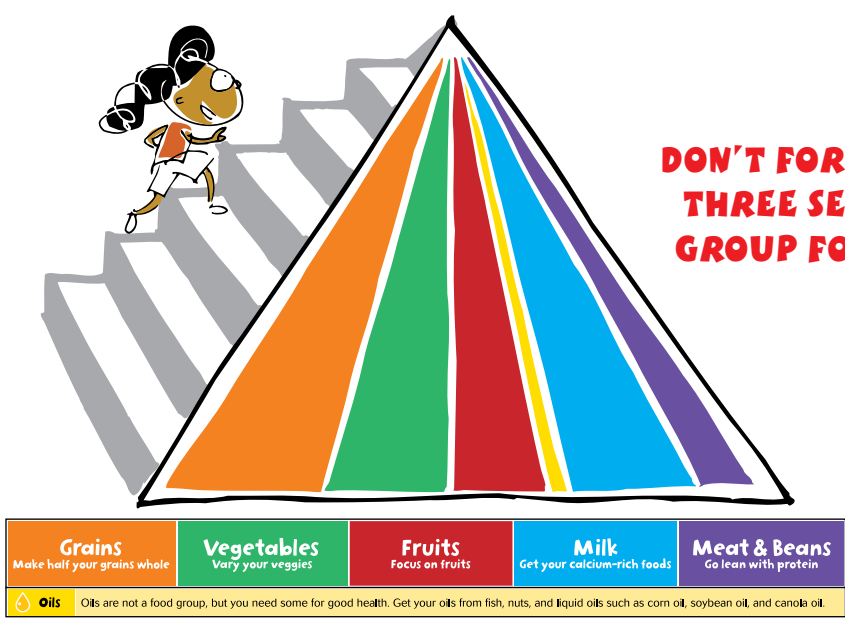
**IQ:** *Where do all those cows sleep at night?*

**S:** Each milking cow has her own individual stall that is bedded with sand to keep her clean and comfortable. The sand is changed every few days to keep it fresh and clean. Younger cows live in open barns with plenty of straw, and calves each get their own pen with feeders and straw bedding.

**IQ:** *Thank you so much for talking to me today. This was very informative!*

**S:** You're welcome!

# Dairy in Your Diet



**DON'T FORGET TO GET YOUR  
THREE SERVINGS OF MILK  
GROUP FOODS EVERY DAY!**

By now, you probably recognize MyPyramid and understand that it is important to eat a variety of foods from each food group every day. You probably know that carbohydrates give you energy, proteins help you build muscles, and that dairy is good for strong bones. Well, everyone can use energy, and strong muscles are great. But where does dairy fit in your diet? And what's so important about strong bones anyway? Read on to find out how calcium and building strong bones is important for you to think about **RIGHT NOW!**

## Calcium Counts!

If you're between the ages of 9 and 15, you probably already know how fast your body is growing. As you shoot up inch by inch, your bones need calcium to keep building healthy cells. By the time you reach the age of 17, almost 90% of the bone mass that you will have for the rest of your life has already been built. That's why your body needs calcium now—it is very difficult to make up for it later in your life. Children between the ages of 9 and 18 need about 1,300 milligrams of calcium every day. So what can you do to make sure your body is getting all that calcium? Use the Calcium Calculator to add up your favorite foods and see what you can eat and drink to make sure you're building better bones!

## Calcium Calculations

Here are a few ideas about how you can get all the calcium you need in a day. In the empty boxes, try your own calculations using the information provided by the picture to the right.

Food	Portion	Mg Calcium
Spinach	1 cup	$1 \times 244 = 244$
Yogurt	1 cup	$1 \times 447 = 447$
Sesame seeds	1/4 cup	$1 \times 351 = 351$
Chocolate milk	1 cup	$1 \times 301 = 301$
	Total	1343

Food	Portion	Mg Calcium
Sardines	9 oz.	$3 \times 370 = 1110$
Skim milk	1 cup	$1 \times 301 = 301$
	Total	1411

Food	Portion	Mg Calcium
Skim milk	3 cups	$3 \times 301 = 903$
American Cheese	1 slice	$1 \times 165 = 165$
Ice cream	1 cup	$2 \times 100 = 200$
Broccoli	1 cup	$1 \times 75 = 75$
	Total	1343



### MY DAIRY CALCULATOR - 1

Food	Portion	Mg Calcium
	Total	

Utah's Own: From the Grass to the Glass





**REAL**

Some people believe that, in order to get enough calcium from dairy products, a person eats too much milk fat to stay healthy. The real dairy story is that many dairy products are offered in delicious low-fat varieties, including milk, sour cream, yogurt and more. These products ensure that you get the calcium you need without overdoing the fat and calories.

## Choosing Chocolate

It's lunch time and you have a brand new one dollar bill in your pocket. You are walking past a vending machine and stop to look at all the soda varieties you could spend your money on. But you remember that you are headed toward the cafeteria, where you know you will choose a healthy lunch. You remember back to your nutrition lesson—part of making healthy choices includes thinking about what you drink! So what will you choose? A soda with lots of sugar but no vitamins or minerals, or delicious and nutritious chocolate milk?

Chocolate milk contains all the nutrition of regular milk (which is also a good choice), with the added bonus of being at least as delicious as any of the sodas in the cooler.

So save your money for a movie night, and grab a satisfying carton of milk!



### MY DAIRY CALCULATOR - 2

Food	Portion	Mg Calcium
	Total	

## Essentially... Milk is Great!

An essential nutrient is a nutrient that the body needs but can't make on its own. This means that you can only get these nutrients from the food you eat. If you are not getting enough of these nutrients you may experience a deficiency, or shortage, that can lead to health problems.

Luckily, by eating a healthful diet many of these nutrients are already available to you. Milk itself provides calcium, protein, vitamin A, vitamin D, vitamin B12, potassium, riboflavin, niacin, and phosphorous.

# The Process of Processing

Processing food simply means changing it in some way. Chopping onions, boiling potatoes, churning cream for butter... all of these are forms of food processing. Some foods can be highly processed in factories (like twinkies) and others can be lightly processed by you in your home (like steamed broccoli).

The processing of milk from the cow likewise takes on many forms. Like the grinding of wheat into flour and the drying of meat into jerky, some forms of dairy processing have been done by humans for thousands of years.

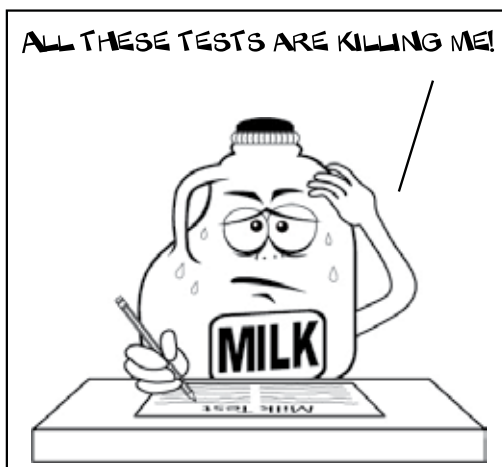
But food processing has also changed with technology. For example, historically yogurt was originally made to preserve milk from the spoilage caused by the naturally present microorganisms. Making yogurt is still a way to preserve milk, but luckily we now also have pasteurization, which, when combined with refrigeration, keeps our milk from spoiling for several weeks or even months, depending on the type of pasteurization.

Other forms of dairy processing include making cheese, ice cream, and butter, as well



## Keeping Milk Smooth – Homogenization

Milk naturally contains fat, and when the milk comes out of the cow it will separate and float to the top. During homogenization, milk is pumped through small tubes at high pressures to break up the large fat globules into smaller pieces. These smaller globules stay mixed into the milk instead of floating to the top, resulting in a creamy, even mixture and a perfect glass of milk.



as homogenizing and bottling.

The United States is home to the safest food supply of any country at any time in history. Thanks to technology in food processing and an understanding of how microorganisms work, we can enjoy the comfort of knowing that the meals we eat are safe and wholesome, right down to the milk we pour on our cereal.

Milk is one of the most often safety tested foods you can buy in the grocery store. It is sampled at the farm and tested before it can enter a processing facility; then it is tested within the processing facility (how many times?) It is sampled at the farm and tested before it can enter a processing facility; then it is tested several times within the processing facility. Samples are even tested from batches of milk that have already reached the consumer to ensure that nothing has gone wrong.

All the steps of processing, testing, and packaging require people to do them, so next time you take a sip of milk or a bite of cheese, remember all the people that are helping to make your food and keep it safe.



Some people believe that raw milk is healthier than pasteurized milk. The real dairy story is that raw and pasteurized milk are nutritionally the same, but raw milk may contain dangerous pathogens such as E. coli, listeria, and salmonella, all of which are destroyed during pasteurization.



Sometimes understanding expirations and sell by dates can seem confusing. Just remember that the date stamp on milk is a sell by date, meaning that if you store the milk in your home refrigerator at 40° F or below, you can still use it for up to a week past the date stamped on the side of the carton or jug.

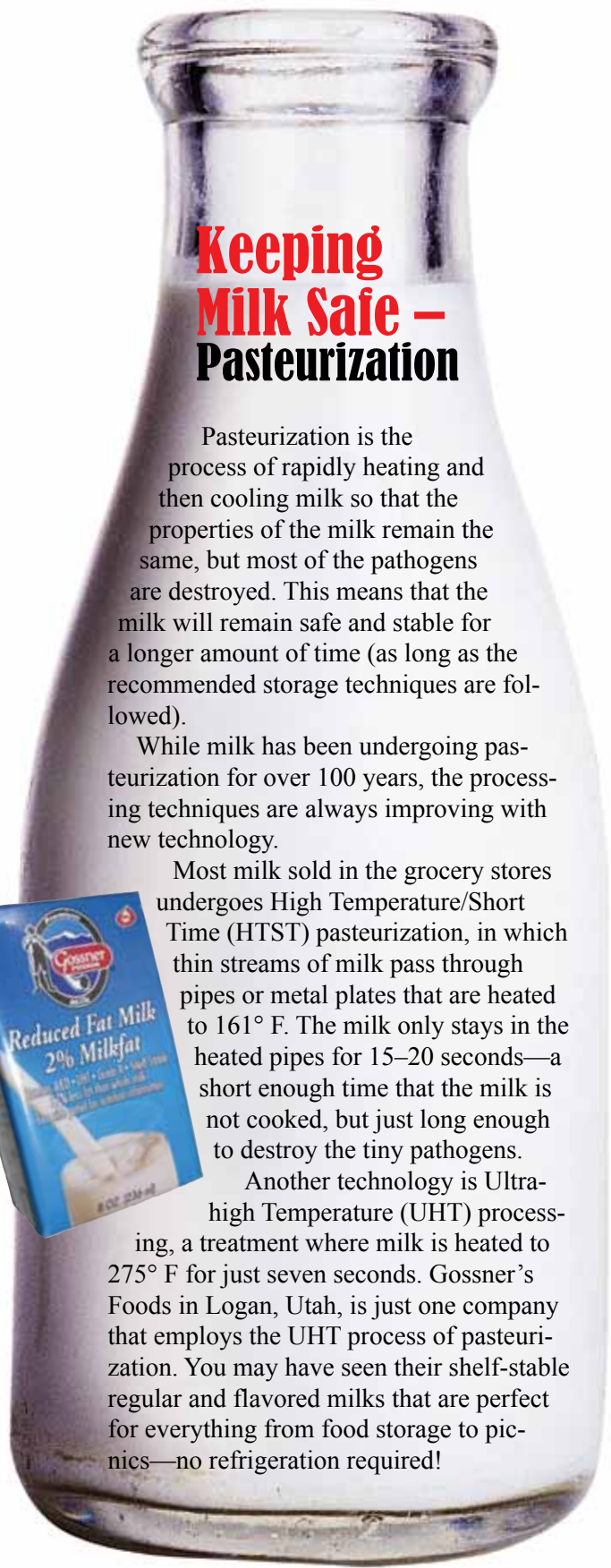
## Keeping Milk Safe – Pasteurization

Pasteurization is the process of rapidly heating and then cooling milk so that the properties of the milk remain the same, but most of the pathogens are destroyed. This means that the milk will remain safe and stable for a longer amount of time (as long as the recommended storage techniques are followed).

While milk has been undergoing pasteurization for over 100 years, the processing techniques are always improving with new technology.

Most milk sold in the grocery stores undergoes High Temperature/Short Time (HTST) pasteurization, in which thin streams of milk pass through pipes or metal plates that are heated to 161° F. The milk only stays in the heated pipes for 15–20 seconds—a short enough time that the milk is not cooked, but just long enough to destroy the tiny pathogens.

Another technology is Ultra-high Temperature (UHT) processing, a treatment where milk is heated to 275° F for just seven seconds. Gossner's Foods in Logan, Utah, is just one company that employs the UHT process of pasteurization. You may have seen their shelf-stable regular and flavored milks that are perfect for everything from food storage to picnics—no refrigeration required!



Utah's Own: From the Grass to the Glass



# More than Milk — The Dairy Timeline

The milk of other mammals was being used by humans as early as 10,000 BC. As time has passed from then to now, humans have discovered many ways of processing milk for storage and enjoyment. Take a trip down the dairy time line to see how some of your favorite foods originated.

**10,000 BC**

The birth of agriculture is thought to have occurred around this time, leading to domesticated crops and animals. Animals were used for both milk and meat.

**9,000 BC**

Possibly the earliest method of preserving milk was making yogurt, more than likely the process was discovered accidentally. Beneficial bacteria are allowed to ferment milk, making it so disease – and spoilage-causing bacteria can't survive.



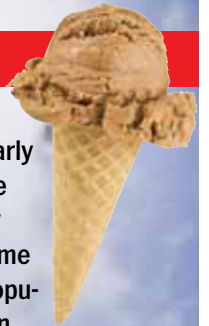
**8,000 BC**

Cheese could have been made as early as 8,000 BC as a way to preserve milk. It was common for people to use calf stomachs for pouches, and since the rennet that makes cheese is present in the stomach, cheese was probably discovered accidentally when someone stored milk in a stomach pouch.



**3,000 BC**

Ice cream was first created by the Chinese as early as 3000 BC. However, the ice cream we enjoy today originated in Italy sometime during the 1600s. This popular dessert is an American favorite, and on average an American will eat 24 pounds of ice cream every year!



**2,000 BC**



The use of butter was recorded as early as 2000 BC, though it had probably been produced even longer. Butter is made by skimming the cream from milk, then churning it until the fats separate from the liquid, resulting in butter. Butter is then typically salted, which helps preserve it.

**1700 AD**

Dairy cows were first introduced to the U.S. by English settlers.



**1832 AD**

Powdered milk is invented by a Russian scientist as a new way to preserve milk. The milk is first condensed (50% of the water is removed), then it is sprayed into a super-heated chamber where the rest of the liquid dries instantly, leaving behind a fine powder that can be packaged, shipped, and reconstituted in your home.

**1861 AD**

Milk is pasteurized for the first time. In the 1890s, commercial pasteurization machines become popular, making pasteurized milk more available to consumers.



**1947 AD**

The Dannon company introduces yogurt mixed with strawberry preserves; for the first time in the United States, yogurt becomes a popular food.



The word "buttermilk" may make you think of butter and milk mixed together, but this dairy product is actually nothing like that. The real dairy story is that buttermilk was originally made out of the liquid leftover after butter is churned from cream. Now days, buttermilk is made by culturing regular milk with a specific type of bacteria, giving it a creamy texture and tangy flavor.

## What's next?

Over the last 12,000 years, dairy products have been invented, adopted, and adapted by many cultures, leading to the wide variety of foods that we can eat today. So what comes next? Try thinking of your own dairy inventions. Maybe someday they can be added to the dairy timeline!



You may have seen the logos in the grocery stores next to certain products you eat all the time. But what does it mean?

All Utah's Own companies are located in... you guessed it—Utah! By using products that are made or grown in Utah rather than, say, California, you are lowering your carbon footprint because the food you eat isn't travelling as far.

Additionally, by buying Utah's Own, you help the local economy by making sure your money stays close to home. People that can be affected by your choice to buy local include not only the Utah company you are buying from, but also the trucking companies that ship those products, the locally owned grocery stores that sell the product, and state and city governments that operate on taxes from all the people and businesses that you are supporting.

Luckily, buying Utah products is easy! The climate and geography of our state make it great for hay and dairy production. Complete the map activity to the right to see how those two elements are related. You can also use the map to find the locations of Utah companies that produce many of the milk, cheese and ice cream products you find in your local grocery store every day.

**Keep an eye out for the Utah's Own logo, and go local!**

# Milk Map

Agriculture depends on geography—the climate of a region typically dictates the types of food that can be grown there. Follow these instructions to fill in the Milk Map, and see if you can figure out how cows, their food, and the landscape are connected.

**Step 1.** On the Cow Chart on the next page, fill in the boxes underneath each county name with different colors, then fill in the county on the map with the color you chose for the legend.

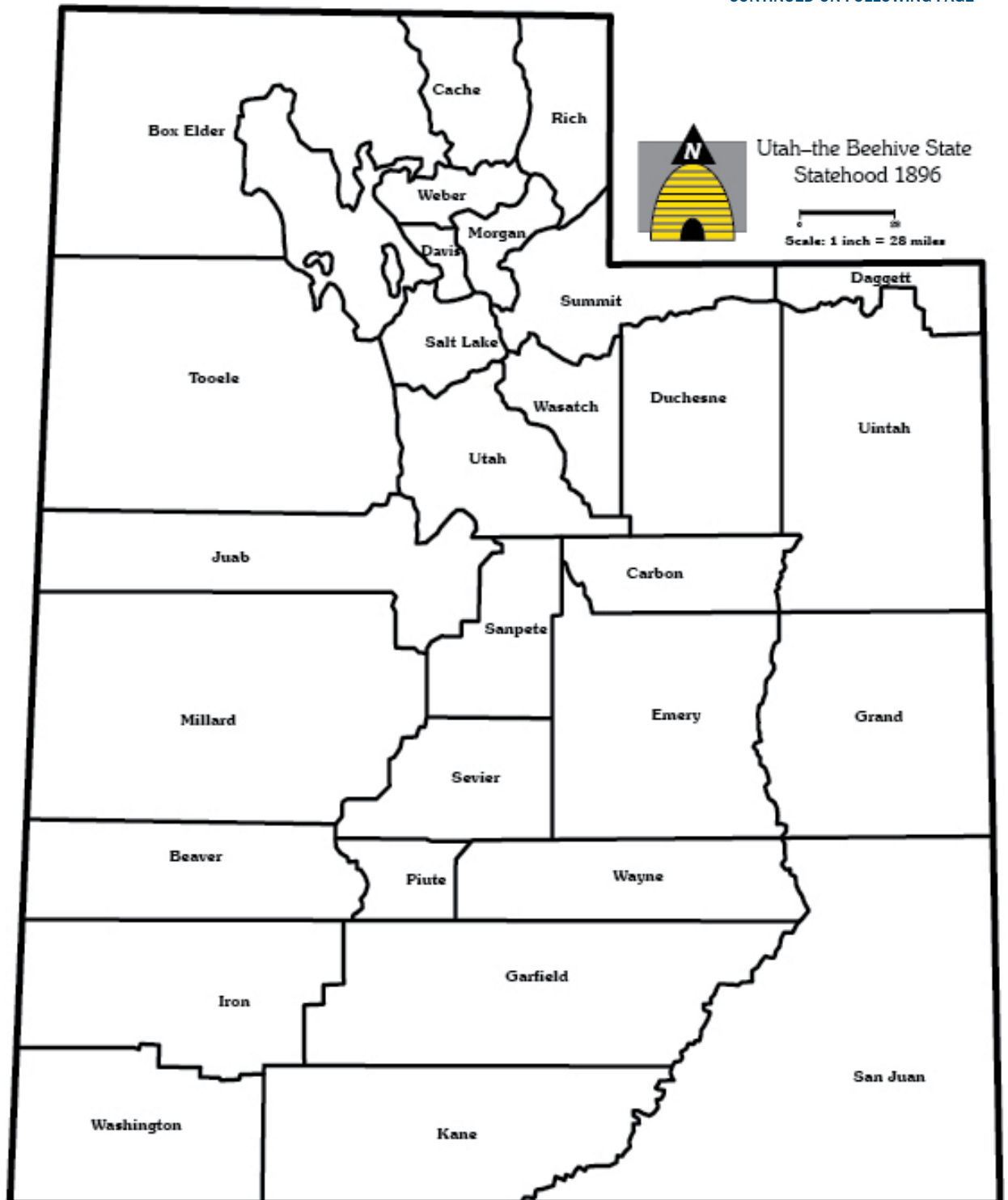
**Step 2.** Calculate the total amount of cows in

each county by counting the cows and then multiplying them by 2,500. Fill in the answer in the empty box next to the cows.

**Step 3.** Calculate the amount of hay produced in each county by counting the hay bales and multiplying them by 50,000. Fill in the answer in the empty column next to the hay pictures.

**Step 4.** Take a look at the list of Utah's Own dairy companies on page 11. Fill in the number of the company in its correct county on the map.

CONTINUED ON FOLLOWING PAGE





# Milk Map

CONTINUED

## Discussion Questions:




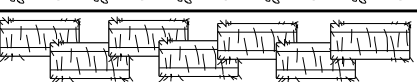



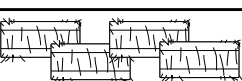



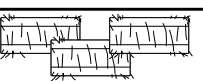


Do you see any relationship between the amount of hay in a county and the amount of cows?

What about the amount of cows and dairy companies?

## Utah's Own Dairy Companies and Counties

1. Beehive Cheese Co, Uintah
2. Brown Dairy Inc., Summit
3. Cream o' Weber, Salt Lake
4. Gossner Foods, Cache
5. Meadow Gold, Salt Lake
6. Mike Hunsaker Foods, Tooele
7. Mountain View Dairy, Millard
8. Red Rock Specialty Cheese, Millard
9. Rosehill Dairy, Morgan
10. Rockhill Creamery, Cache
11. Silva Dairy, Millard
12. Utah Dairy Farmers Cooperative, Millard
13. Winder Farms, Salt Lake

## Cow Chart

Top 6 Alfalfa Producers (color the box to make a map legend)	Amount of Cows  = 2,500 cows	How many cows?
	Amount of Alfalfa Hay  = 50,000 tons	How much hay?
Millard <input type="checkbox"/>	 	
Iron <input type="checkbox"/>	 	
Cache <input type="checkbox"/>	 	
Box Elder <input type="checkbox"/>	 	
Sanpete <input type="checkbox"/>	 	
Utah <input type="checkbox"/>	 	

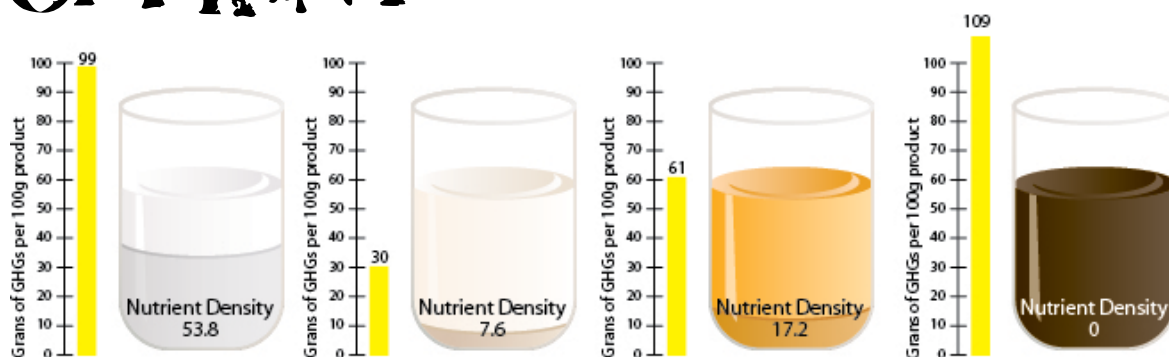
# CARBON HOOFFPRINT

## Terms to know:

- Greenhouse Gas
- climate change
- environment

Most scientists agree that climate change is happening. While the consequences of a changing world are still being investigated, knowing how you affect the world is important. Though the problem seems too big for individuals, it's important to remember that even little things like turning off the lights when you leave the room can help minimize the impact you have on the environment.

Some of the biggest choices you make every day include what you eat and drink. Making good choices can be difficult when you don't know the facts!



\*Information provided by study: "Nutrient density of beverages in relation to climate impact." Annika Smedmen et al.

A carbon footprint is a measurement of the amount of greenhouse gasses (GHGs) that go into the environment over a year's time. By choosing foods that are high in nutrition and have a low environmental impact, you can minimize the amount of GHGs that you are responsible for adding to the environment,

keeping your own carbon footprint small.

So what is a carbon hoofprint?

Observe the above chart to learn about the amount of GHGs emitted through dairy processing as well as a list of some favorite drinks. Don't forget that, per calorie, some add up GHGs very quickly.

Source: <http://www.pewclimate.org/globalwarmingbasics/kidspage.cfm>

# Make No Bones About It...

There's more to know about Dairy. Check out these cool websites!



## Brittlelactica: Planet in Need

<http://www.planetinneed.com/>—this interactive, sci-fi based website tells the story of aliens in search of a miraculous cure for their planet's problems and find that Da-lry (a dairy cow) can save them.

## Dairy Farming Today

<http://dairyfarmingtoday.org> — this easy-to-navigate website addresses misconceptions and presents a beautiful virtual video tour of all aspects of a dairy's operations.



## Operation Dairy

<http://www.operationdairy.com> —play this fun, animated game online to learn about cows on the farm.



## UEN Cheese Science

<http://www.uen.org/tv/cheese/>—learn more about cheese from video interviews with experts, find show times for special UEN cheese science television programs, or even start a cheese club in your school!



## Utah Dairy Council

<http://www.utahdairycouncil.com/>—learn dairy facts and explore games for kids, resources for educators and parents, and find out about events in your area.



# And That's the Scoop!

What did you learn about dairy today? Try answering the following questions to test your milk memory.



1. True or false: calcium is an essential nutrient.
2. What do cows eat?
3. What is the most popular breed of dairy cow in the United States?
4. True or false: milk must be thrown away on the date stamped on its side.
5. What county in Utah produces the most alfalfa hay?
6. Fill in the blank: the bacteria in a cow's stomach partially break down the food that it eats. Then the cow regurgitates the food back into its mouth to chew it again. The regurgitated food is called the \_\_\_\_\_.
7. True or false: honeybees are the best pollinators for alfalfa.
8. Of the following two pictures, which cattle breed is specialized for meat production and which is specialized for milk?



Simmental



Jersey

**Answer Key**  
1. True; 2. Alfalfa hay, silage, grain; 3. Holstein; 4. False—the date on milk is a sell by date, and can be used up to a week after the date has passed; 5. Millard; 6. cud; 7. False; 8. Simmental = meat, Jersey = milk

## Sponsors and special thanks to:

Utah's Own  
Dairy Council of Utah  
Utah Education Network  
Utah Department of Agriculture and Food  
USU Extension  
Agriculture in the Classroom Foundation

