



From *Illinois Ag in the Classroom*
[Dairy Ag Mag](#)

What is DAIRY?

Dairy cows are fascinating animals. They turn grass and grains into milk. Heifers are female dairy cattle that have not given birth to a calf. Once a heifer gives birth, it is called a cow. All female dairy cows must have a calf to produce milk. The gestation (pregnancy) period for cows is nine months. Newborn calves weigh about 80-100 pounds. Male dairy cattle are called bulls and do not produce milk.

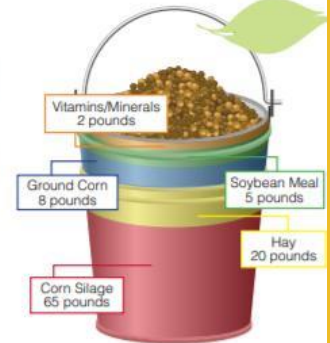
Milk provides your body with calcium, which is needed for healthy bones and

teeth. Calcium also helps our muscles and nerves work properly, and helps blood clot. Milk products also provide us with carbohydrates, protein and Vitamin D. You should have 3 servings of nonfat or low-fat milk and milk products each day. One serving of dairy is equal to 1 cup of milk, yogurt or ice cream and 1 ½ -2 ounces of cheese.

A 1,500 pound dairy cow eats 100 pounds of feed each day. This includes corn silage, hay, ground corn, soybean

meal and vitamins/minerals. Dairy cows also drink 30-50 gallons of water each day. That is about an entire bathtub full of water. With all that eating and drinking, are cows stuffed? The simple answer is 'no'. They are eating to meet their energy (calorie) needs—they do not overeat. Young animals that are actively growing have greater requirements for protein than older animals.

COW'S HEALTHY DIET



Total: 100 pound per day

DID YOU KNOW?



National Milk Day is January 11th.

It marks the first day milk deliveries in glass bottles began in the United States in 1878.

Each year, U.S. dairy farmers provide milk to make more than 1 billion pounds of butter, 7 billion pounds of cheese and 1 billion gallons of ice cream.



Milk is part of your school lunch and has been for over 70 years. The National School Lunch Act was passed in 1946.

On average, each cow produces 8-10 gallons of milk per day. That is over 100 glasses per day.



DAIRY PRODUCTS

Many dairy products can be found in the grocery store. These include milk, flavored milk, ice cream, cheese, butter, yogurt, cream cheese, sour cream, cottage cheese and buttermilk.

ICE CREAM

Ice cream is a popular dessert. At any given time 87% of Americans have it in their homes. Milk and cream are the essential ingredients in ice cream. In fact, it takes 12 pounds of whole milk to make 1 gallon of ice cream.

Most Americans prefer vanilla over any other flavor. What is your favorite flavor? Determine your classmates' favorite flavor with a class survey. Create a graph showing the results.

CHEESE

Cheese is another nutritious food made from milk. People crave cheese more than any other food, so it is not surprising that the average American eats over 37 pounds of cheese each year. That is easy to do, considering cheese can be found in many of our favorite foods, such as pizza. There are many different varieties of cheese – something for everyone's taste preference.

YOGURT

The two main ingredients in yogurt are milk and bacterial cultures. That is a good thing. Milk strengthens our teeth and bones, while the cultures help fight infection and boost our immune system. There are many different varieties and flavors of yogurt. When you are at the grocery store, check them out. Yogurt is a fun way to add calcium to your diet.



Fun Fact:
 The ice cream sundae originated in Evanston, IL.



human NUTRITION

Together, milk, cheese, and yogurt provide nine essential nutrients, including calcium, potassium, phosphorus, protein, vitamins A, D and B12, riboflavin and niacin. Beyond building stronger bones, three daily servings of low-fat or fat-free dairy foods improve overall diet quality and reduce the risk of various chronic diseases.

DAIRY HAS 9 ESSENTIAL NUTRIENTS



CALCIUM
Helps maintain strong bones



VITAMIN D
Helps promote bone growth



POTASSIUM
Helps heart pump blood



VITAMIN B12
Helps maintain brain function



PHOSPHORUS
Helps build bones and teeth



RIBOFLAVIN
Helps convert food into fuel



PROTEIN
Helps preserve and build muscle



NIACIN
Helps body function normally



VITAMIN A
Helps eye health and vision

TECHNOLOGY ON THE FARM

Technological advances are enabling farmers to make smarter day-to-day decisions to improve cow health, production and on-farm efficiencies. Following are some examples of technology used on dairy farms.

Automated calf feeders (A) provide nutrition for calves several times a day, adjusting for the calves' age. Automated feeders can help calves grow faster and stay healthier because of precise diet delivery.

Milk yield recording systems (B) provide individual animal data including the amount of milk produced at each milking. It also tests milk components, such as protein. Dairy farmers can spot changes in animal health and provide necessary care quickly with the help of these systems.

Automated milking systems (C) reduce the labor required to milk cows. Cows enter an automatic milking unit without human help. Computer-controlled

equipment identifies the cow, sanitizes the udder, collects the milk and releases the cow when she is done milking.

Activity monitors (D), such as tracking collars, measure activity. They are similar to Fitbits. The collars detect abnormal activity changes, which often are early warning signs of illness or infection. This allows for quicker treatment. The Fitbit-type devices also show activity changes that help detect when a cow is ready for breeding or labor so the farmer can provide timely attention and the cow can deliver a healthy calf.

Computer, tablet, (E) and phone apps and programs allow for greater data collection and accurate decision

models. They also provide more ability to quickly monitor changes in animal behavior that might reflect changes in health or well-being.

Ear tags (F), similar to earrings, allow farmers to track critical information about each cow. The ear tags contain chips that can be scanned. The scan sends information to a computer about a cow's body temperature, health, and how much milk it gives.

Genetic samples can be obtained from a cow's blood, hair, or tissue. These samples are sent to a lab that creates a genomic report. The farmer uses the information to make decisions to increase milk production while minimizing the number of animals needed on the farm.



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Homemade ice cream

Try this simple recipe to make your own ice cream!

WHAT YOU WILL NEED:

Individual serving containers of dairy coffee creamer	Ice Ziploc bag	Salt, any variety Dish towel to insulate hands
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PROCEDURE:

1. Fill Ziploc bag 1/3 full of ice.
2. Shake several solid sprinkles of salt on ice.
3. Put 2-3 sealed creamer cups in Ziploc.
4. Layer with more ice, filling Ziploc about 2/3 full.
5. Layer with more salt.
6. Finish filling Ziploc with ice.
7. Shake Ziploc vigorously for about ten minutes.
8. Dig creamer cups out and enjoy!

