

Nevada

Dairy Cattle (*Bos*)



Vocabulary

Bovidae Scientific family name of this species

Breed Animals that, through selection and breeding, have come to resemble one another and pass those traits uniformly to their offspring

Bull Male of the species

Calf Offspring or baby of the species

Cow Female of the species that has given birth (2 years and older)

Heifer Young female of the species that has not given birth (usually less than 2 years old)

Lifecycle

A cow will produce milk after she has given birth or freshened. She will only **lactate** (produce milk) after she has had a calf. The **gestation** period is about 9 months (283 days). A cow usually has one calf per year, but sometimes will have twins. The dairyman plans for some cows to calve each month of the year to keep a continuous supply of milk for the consumer.

A cow is milked two or three times per day. A cow will be milked for approximately 11 months after she has **freshened**. She is then allowed to have a dry period when she is not producing milk until her next calf is born. Most female calves will be bred to freshen at about two years of age and will be milked for about 4 years. The bull calves are sold or raised for beef.

Diet

Cows are **ruminants** (animals with 4 compartments to their stomachs). They eat Nevada's high quality alfalfa, corn, corn silage and grains. They are also fed other plant byproducts that people cannot use such as cottonseed hulls, cornstalks, brewers grain, and sugar beet pulp.

Characteristics

Dairy animals have long legs. The hip and pelvic bones are easily seen beneath the skin. The udders of a dairy cow are larger and more uniform in shape than beef cattle. Dairy cows look leaner than beef animals because they utilize their food for milk production instead of putting muscle on their bodies. Dairy cows have been bred to have bodies that will produce great quantities of milk. There are many different breeds of dairy cattle. Each breed has different colors and size specific to that breed. Besides black and white, they can be combinations of red and white, fawn, and fawn and white.

Common characteristics include:

- Cloven hooves
- Horns on both male and female
- Ruminants
- No upper teeth in front
- Eat grass by wrapping tongue around the grass and pulling
- Herd animals: in bad weather or at night, they tend to group together.

Products

Dairy products include milk and products made from milk such as ice cream, butter, cheese, yogurt, dry milk and whey. We also get leather, meat and other by-products when cows are **culled**. **Whey** is a **byproduct** from cheese making that contains about half the nutrients of milk. A large portion goes into human food, such as prepared dry mixes, soft drinks, infant foods, candies, and bakery goods. It is also used in pharmaceuticals, often in the form of **lactose**. Most whey goes into feeds for cattle, swine and household pets. An average of **600 pounds** of dairy products is consumed per person each year in the United States.

Nutrition Facts

Milk and other dairy products provide us with several nutrients. The key nutrient is calcium. Calcium provides the foundation for strong bones throughout our lives. Calcium has also been found to play a role in heart health and muscle maintenance. Dairy products also provide a fundamental source for high-quality protein to build muscles and carbohydrates to provide energy.

Dairy Cows in Nevada

There are approximately 40 dairy farms in Nevada raising 27,500 cows. They range in size from 150 to 5000 animals per dairy. Most of the dairies are in the northwest part of Nevada near Reno, but the largest dairies are in southern Nevada. Nevada dairy cows produce nearly 500 million pounds of milk per year, or approximately 58 million gallons. Most of the dairy cows in Nevada are **Holsteins** (black and white); however, there are several dairies which have **Jerseys** (smaller and fawn-colored).

Other

Dairies are inspected regularly and milk is tested daily to insure your health. Modern dairies have computers that keep records on each cow to monitor health, the amount of milk produced, date of calving, and breeding information. The computer also insures that each cow gets a balanced diet and in the proper amount.

Suggested Activities

- Have students taste different milk products. Discuss texture, taste, smell, and appearance.
- Make an udder using a latex glove. Have a milking contest!
- Make butter, yogurt, ice cream, and milkshakes. Discuss solids versus liquids.
- Use empty milk cartons of various sizes to help teach students measurement. Ask the students to predict the relationship between different amounts (e.g., how many pints equal a quart?). Have students volunteer to help you pour from one container to another to check the predictions.

Resources and Web Sites

American Dairy Association, 6300 N. River Rd., Rosemont, IL 60018, 312-696-1881

California Milk Advisory Board, Communications Services, P.O. Box 4680, Modesto, CA, 95352
(free dairy lesson plans and poster for grades K-3)

Dairy Council of Nevada/Utah

Reno office: Libby Gant (775) 674-4015

Las Vegas: Barbara Paulsen, (702) 315-0520, fax (702)315-0521

("From Moo To You" Video and variety of dairy and general nutritional material)

National Dairy Council, 6300 N. River Run Rd., Rosemont, IL 60018, (800)426-8271

"Milk From Cow To You" (teaching kit, approximately \$16)

USU Biotechnology Center (contact Kathi Jones 435-797-2906 for Cheese Making Kits)
www.ansi.okstate.edu/ www.moomilk.com www.dairyfarmers.org/

Books

Grades K-2

- Kaizuki, Kiyonari, *A Calf Is Born*, Orchard, 1990.
McFarland, Cynthia, *Cows in the Parlor*, Atheneum, 1990.
Older, Jules, *Cow*, Charlesbridge, 1997.
Seuss, Dr., *The Better Butter Battle Book*, Random House, 1984.
Ziegler, Sandra, *A Visit to the Dairy Farm*, Children's Press, 1987.

Grades 3-5

- Mitgutsch, Ali, *From Grass to Butter*, Carolrhoda, 1981.
Poskanzer, Susan Cornell, *Dairy Farmer*, Troll, 1989.
Rayner, Mary, *Garth Pig and the Ice Cream Lady*, Macmillan, 1978.
Sabin, Louis, *Louis Pasteur, Young Scientist*, Troll, 1983.
Shaw, Charles, *It Looked Like Spilled Milk To Me*, Harper Collins, 1947.
Cole, Ann, *I Saw A Purple Cow and 100 Other Recipes for Learning*, Little, 1972.
Macaulay, David, *Black and White*, Houghton Mifflin, 1990.

Multiple Grades

- Gibbons, Gail, *The Milk Makers*, Macmillan, 1985.
Grossman, Bill, *Donna O'Neeshuck Was Chased By Some Cows*, Harper Trophy, 1988.
Hall, Donald, *The Milkman's Boy*, Walker, 1997.
Peterson, Cris, *Extra Cheese, Please!* Boyds Mills Press, 1994.
Ross, Catherine, and Susan Wallace, *The Amazing Milk Book*, Addison-Wesley, 1991.

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