

BEEF...From Our Farm to Your Fork.

As the largest segment of U.S. agriculture, the beef industry contributes to the American economy in many ways. In the United States, approximately 800,000 ranchers and cattlemen raise cattle in all 50 states. Across the United States 98% of these farms are family owned and operated. 80% of the cattle operations have been in the same family for 25 years or more and 10% for more than 100 years.

In Iowa, cattle are raised in all 99 counties; there are 21,000 beef cow operations and 7,845 feedlots that are family owned and operated. The cattle industry in Iowa has 26,500 related jobs and has a large economic impact on the state of Iowa as it contributes \$5.1 billion in business activity to Iowa's economy. Iowa's cattle business helps Iowa's grain farmers by using 148 million bushels of corn as cattle feed.

Iowans can be proud of the cattle industry in Iowa that takes care of families, provides jobs, supports both rural and urban communities and helps our balance of trade. It's a business that has the potential to create even more jobs and bring more dollars into Iowa's towns and cities while taking good care of the environment. Iowa's cattle business keeps families who take care of the land, on the land.

What are cattle?

Bovine, a technical term for cattle, means an animal of *Bos* or related closely to the genus of the family Bovidae (cattle). Cattle are divided into two genus: *Bos indicus* and *Bos taurus*. Another defining characteristic of a bovine is that they are ruminants (have a four-compartment stomach).

The meat that we get from full-grown cattle (about 18 to 24 months old) is called beef. A live steer averages about 1,234 pounds and yields 522 pounds of edible meat.

For more information on the cattle industry please visit:

Iowa Beef Industry Council	www.iabeef.org
Iowa Cattlemen's Association	www.iacattlemen.org
Beef From Pasture to Plate	www.explorebeef.org
Iowa Beef Center at Iowa State University	www.iowabeefcenter.org
Food Safety and Inspection Service, Focus Beef	www.fsis.usda.gov/OA/pubs/focusbeef.htm
Beef Preparation and Recipes	www.beefitswhatsfordinner.com



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Is there a difference between these cows?



Dairy Cow



Beef Cow

There are two basic kinds of cattle that farmers raise for the different products that they produce. The picture on the left shows a dairy cow. Dairy cattle provide us with milk that can be then made into cheese, ice cream and yogurt. Dairy cows have a different body shape than beef cows with a bigger udder to give milk. The picture on the right shows a beef cow. Beef cattle are raised for the meat that they produce which is made into ground beef, steaks and roasts. When dairy cattle “retire” or quit producing milk, they provide beef, too.

Breeds

There are over 70 different breeds of cattle in the United States. Just like people, cattle come in different colors, shapes and sizes. Sometimes it can be very hard to tell the difference between breeds since there are a lot of cattle that are the same color. Some cattle have horns, but most do not (cattle without horns are called “polled”). Color, shape and size of cattle are part of what defines a breed but there are also traits that can’t be seen that are characteristic of a breed. Some breeds have a better mothering ability or easy temperament or produce higher quality meat.

Angus Breed



Hereford Breed



Charolais Breed



These are three examples of cattle breeds common in the Midwest. To learn more about cattle breeds visit <http://www.ansi.okstate.edu/library>.

Ages of Cattle



This calf is a baby beef animal. It weighs about 80 pounds when it is born. The calf will try to walk soon after it is born so that it can eat.



Calves nurse from their mother's udder several times a day. The udder is part of the female cow that provides milk for the calf. A calf will nurse from its mother several times throughout the day and night. Calves stop drinking milk when they are about six months old. When calves learn to eat and drink on their own, they are weaned. Weaning separates the cow from her calf so the calf can eat more food and grow. The calf usually weighs between 500 –600 lbs at weaning; they are called feeder calves.



Calf- 4 months

Cow- 2 years old



Heifer- 1 year old

Heifers are young females, which are not full grown, and that have not had calves. When heifers are bred to a bull, and have a calf, they are called a cow. Cows are female breeding animals. It takes 9 months for a calf to be born and this period of time is called gestation. A heifer will have her first calf at the age of two. Cows will have one calf every 12 months.



Bull- 2 years old



Steer- 1 year old

Bulls are males and are used for breeding. Steers are males which are neutered, like pets, so they cannot reproduce.

Farmers care for their animals.

Farmers check their cattle every day to keep them healthy. Cattle producers must be efficient to stay in business. This requires proper feeding, care, handling, and health maintenance – which sometimes means treating them with medications. It is important to take care of health problems when they occur so the sick animal does not make the rest of the herd sick, too. A herd is a group of cattle that are in the same pen or on the same farm.

When animals get sick or injured, farmers call veterinarians to help make their cattle healthier. Cattle also get vaccinations to prevent illness just like humans do.



What do cattle eat?

Cattle are very special animals that eat grass, hay and other plant products that people cannot eat. A pasture is a field of grass that is grown to feed animals. When cattle eat grass, it is called grazing. Cattle graze on land that can't be used for other food production because it is too steep or hilly, or too dry or too rocky for growing crops. Grazing animals are the perfect use for it! Cattle grazing helps keep the weeds from growing. Keeping this land in grass or pasture helps prevent soil from washing away.

When cattle are properly grazed, they benefit the land by loosening the soil when they walk on it. This allows more oxygen to enter the soil, helping grasses and plants grow better. Cattle also provide a natural fertilizer to the soil in the form of manure which provides nutrients for the soil, its plants and grasses. About 1.2 billion acres of land in the US are classified as grazing land – one half the size of the United States. At least 90% of those acres are covered with grass. Indigestible by humans, grass can be digested by cattle, which in turn becomes beef and dairy products.



Farmers cut hay and grass, dry it, and put it in large round bales. Cattle eat hay in the winter when grass doesn't grow. June, July and August are haying time on most cattle farms. Hay consists of long grasses such as alfalfa that have been cut and dried to use as animal feed. Farmers cut the grass with a big mower and leave it to dry in the field for about two days. The dry hay is bundled into bales and stored in the barn.



Round/large bales weigh about one thousand pounds. A round/large bale is enough hay for 2-3 days. (This would be for 120 breeding females or 32 feeder calves, both getting additional feed supplements.) In the fall, after the fields are harvested, cattle can eat cornstalks left in the cornfields. Grass, hay and cornstalks are all roughages that cattle eat.

Iowa farmers raise more corn than any other state. About one-third of the corn grown in Iowa is used to feed livestock. This corn is field corn, not the sweet corn that we eat.



Cornfield



Ear of Corn

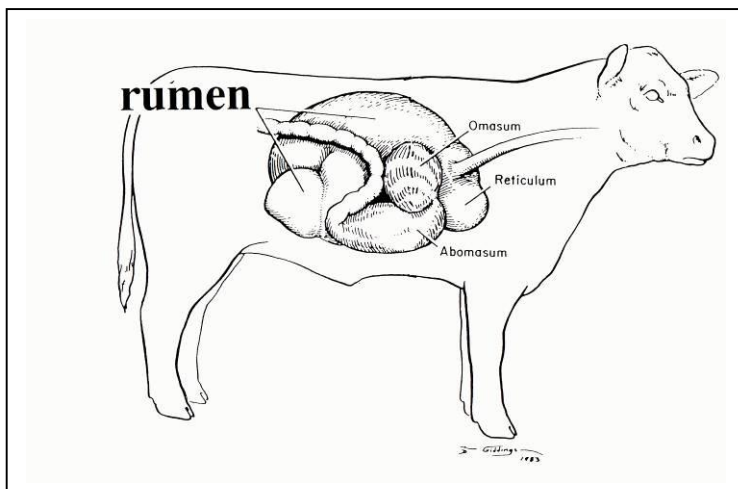


Ground Corn

After calves are weaned, they go to a feedlot to eat more and grow ready for market. Corn is grown to feed livestock; it is harvested by the combine and then ground up for cattle to eat. Or corn can also be fed as silage. The whole corn plant is chopped, while green, and then stored in tower silos, pits, or trenches. Feeding grain to cattle produces more tender, juicy, great-tasting beef.

Why can cattle eat these things but we can't?

Cattle can eat grass and hay, and all other kinds of roughages, because they are ruminants. This means their stomach has four parts. When cattle are in the pasture, sometimes it looks like they are chewing gum. Really, cattle are chewing their cud. After eating, cattle chew



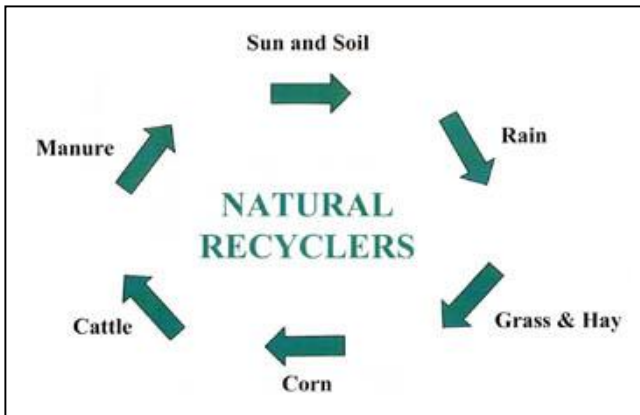
their cud which is feed that is brought back up from their stomach to chew. Cattle spend one-third of their life eating, one-third ruminating (chewing cud) and one-third resting.

The RUMEN is one part of the cow's four-part stomach. It can digest things like hay and grass that humans cannot. Chewing their food again helps them digest the grass and hay.

Humans are called monogastrics (sometimes called a simple stomach) because their stomach has only one compartment. Humans don't have the chemicals and microbes in their stomachs that also aid in the digestion of cellulose, which is the main component of roughages.

Cattle are Recyclers

In parts of the United States some cattle also eat seeds and hulls, peels from: potatoes, grapes, oranges, apples, nuts and rice. Cattle are really recycling machines. Cattle also eat corn gluten which is leftover from ethanol production, potato skins, fruit pits, almond hulls, and sugar beet pulp. This greatly reduces the amount of waste that goes into our landfills. Cattle turn these products into protein (beef) for humans.



The sun, soil, and rain help hay and grains grow. Cattle eat renewable resources like grass and turn them into meat, milk, and other products for humans. Waste from cattle (manure) is applied back to the soil to give the soil nutrients to grow plants. The sun, soil, and rain are natural resources for hay and grains to grow.

When cattle are properly grazed, they benefit the land. They aerate the soil

with their hooves, which means they loosen the soil when they walk on it. This allows more oxygen to enter the soil, helping grasses and plants grow better. If soil isn't aerated, it often develops a hard crust, which decreases the amount of water and nutrients it can absorb. They press grass seeds into the soil. This is important because grass seed needs to be surrounded by soil in order to start growing.

Where do cattle live?

Cattle can live outside all year long because they have a special coat of hair that protects them all year long. In the winter, their hair grows longer and is thicker to protect them from the cold temperatures and snow. And in the summer, their hair keeps them cool from the sun and warm temperatures.



It is important for cattle to have protection from some of the weather elements. That is why there are trees, windbreaks and barns for cattle to protect themselves from snow, wind, rain, and the sun.



A feedlot is where beef cattle finish growing. In feedlots, cattle are generally placed in open pens, with lots of space, dry resting areas, adequate water at all times and are fed regularly. This photo shows shelter behind the cattle for protection from the weather.

Cattle eat mostly corn and hay in the feedlot. Steers and heifers are ready for market when they weigh about 1250 pounds. It takes about

1 ½ years from birth to produce an animal ready for market. Gestation of a cow takes nine months; an additional 16-18 months is needed for an animal to be ready for market when fed grain. (See attached chart)

BEEF



Farmers may sell their cattle at an auction barn where cattle buyers bid on cattle in the ring. The auctioneer sells the cattle. A cattle buyer may come directly to the farm to buy cattle from the farmer. Farmers also sell their cattle directly to a harvesting facility.



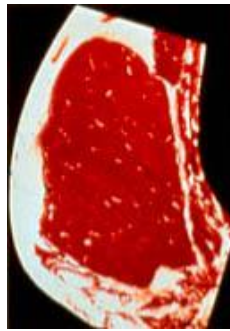
Cattle travel by truck to a harvesting facility where they are processed into beef. Remember, cattle are raised to provide food for people; they are not pets.



Meat inspectors employed by the United States Department of Agriculture (USDA) carefully inspect the cattle, beef and harvesting facility to be sure the beef is wholesome and the plant is clean. Workers cut up the beef carcass into primal cuts and package it to sell to grocery stores and restaurants.

How do we determine the

In the beef industry, beef is called grades, which are USDA oversees the different grades. Grades size of the ribeye, and flecks) of the carcass. The on how the beef grades. Choice ribeye. In it you intramuscular fat.



quality of meat?

classified into different categories, standard throughout the industry. grading process. There are eight are determined by texture, color, marbling (intramuscular fat or fat age of the animal also has an effect The picture to the left is a USDA can see the white flecks of

What else do we get from cattle besides beef and milk?

Cattle also provide us with many other by-products – parts of the cow that are used to make products for home, health, food and industry. They are of considerably less value than the primary product, which is beef. Cosmetics, sandpaper, film, buttons, leather, violin strings, and medicines are a few products we use that are made with cattle products.

Cattle bones, hooves, blood and glands are used to make many products we use everyday. Some products made from these components are: candy, Jell-O, marshmallows, soap, crayons, piano keys, glue, baseballs and gloves, footballs, and soccer balls. Gelatin is made from cattle bones that are crushed and cooked. There is a gelatin plant near Sioux City, Iowa. Gelatin is used in many products we use each day such as camera film, matches, ice cream, yogurt, marshmallows, and gummy bears. The hide of cattle is made into leather which is used to make clothing, shoes, sporting goods, gloves, and furniture. Fat from cattle is made into fatty acids which are used in the manufacture of many products. Many cosmetics like lipstick and shampoo are made with fatty acids. Tires, paint, and crayons also have fatty acid components made from cattle.

Cattle producers work hard to maintain our soil and water resources for our children and future farmers. In the words of Ralph Neill, Iowa's Environmental Stewardship Winner, "Our job is to leave the land better than we found it."