

# Colorado Reader

## AG in the Classroom

*Helping the Next Generation Understand Their Connection to Agriculture*

Colorado Foundation for Agriculture ~ [www.growingyourfuture.com](http://www.growingyourfuture.com)

Food, Fiber and Natural Resource Literacy

## Doing the Right Thing

Livestock are animals raised primarily to produce food and fiber. Cattle, sheep, pigs, goats and poultry are examples of food animals.



Livestock are animals raised to produce food and fiber. The food includes beef, milk, cheese, pork, lamb, bison, chicken, eggs and more. Wool is a fiber from sheep that is used to make clothes and carpets. Llamas & Alpacas also produce fiber that is used to make yarn. Horses are used for herding cattle.

The raising and care of livestock is known as animal husbandry. The care of livestock is very important to animal welfare.

Animal welfare is providing food, water, shelter and medicine when needed for the animals you raise. It is handling the animals in ways that are safe for both the animals and the caregivers. Animals

are raised in a wide-variety of environments. There is not a set of 'one-size-fits-all' rules. After all, cattle require different care and handling than chickens.

There are a number of reasons why farmers and ranchers are concerned with animal welfare issues. An overwhelming majority of ranchers, responding to a national survey, said that animal well-being was highly important and the 'right thing to do'.

Animals that are healthy and properly cared for are more productive and help keep our food supply safe—all the way from the farm to your fork—another top concern of farmers and ranchers.

# Producer Code for Cattle Care

There are more than 800,000 U.S. beef producers. They are committed to caring for their animals and producing safe, wholesome beef for consumers around the world. Beef producers established the Beef Producer Code for Cattle Care in 1996. It is a complete set of care practices, which includes the following recommendations:

- Provide adequate food, water and care to protect cattle health and well-being;
- Provide disease prevention practices to protect herd health;
- Provide facilities that allow safe and humane movement and/or restraint of livestock;
- Provide personnel with training to properly handle and care for cattle;
- Persons who willfully mistreat animals will not be tolerated.

To find out more about the beef industry, check out [explorebeef.org](http://explorebeef.org) (Text provided by Beef Board)

## Take the Reins

Pretend you are the cowboy pictured above. Write a paragraph describing what you are doing (what might you be looking for?).

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*The word 'cowboy' brings many images to mind, but a cowboy's main job is caring for the health and safety of cattle. Cattle health involves preventative care including vaccinations and protection from environmental threats. Quality care also includes quickly identifying animals that are sick or injured so they can receive the proper care.*

## Keeping Our Food Safe

Food safety starts on the farm or ranch with healthy animals that are handled and cared for properly, but there is more to the story. Industry and government officials work together to create rules and regulations that make the U.S. food supply one of the safest in the world.

The Federal Meat Inspection Act of 1906 was created to make sure that meat and meat products are labeled properly and processed in sanitary conditions. The United States Department

of Agriculture (USDA) inspects and certifies all meat and poultry processing facilities.



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# Caring for Colorado

The Colorado Department of Agriculture is dedicated to the care and well being of the livestock and pets in this state. The Colorado State Veterinarian's Office is responsible for maintaining the health and integrity of the Colorado livestock herd to provide a safe product for the public.

If not addressed swiftly, some diseases have the potential to spread over a wide geography very quickly. The Animal Health Division works to prepare for, control, and stop livestock disease outbreaks. Farmers and ranchers also work to keep diseases from entering their farms. These efforts are called biosecurity.

An outbreak of a foreign animal disease can seriously damage our livestock and poultry industries. When an outbreak occurs in the United States, other countries would potentially stop importing U.S. livestock and livestock products. Losses from large disease outbreaks can also hit close to home with animal deaths, reduced productivity and a rise in food costs.

The 2002–03 outbreak of Exotic Newcastle disease in the United States resulted in the destruction of more than 4 million birds and cost taxpayers some \$170 million to eradicate. For farmers and ranchers, the final result of a foreign animal disease outbreak is often reduced revenue and increased costs.



## Food-Animal Veterinarians

If you have a pet, you've probably met a veterinarian. Veterinarians are 'animal doctors' who help people keep animals healthy and help animals that are sick or injured.

Livestock producers regularly work with veterinarians who specialize in keeping food animals healthy. Food animals. Injuries and sickness happen, but farmers and ranchers work to reduce the chances of animals getting sick.

This last summer an outbreak of a disease called Vesicular Stomatitis in horses and cattle caused the State Veterinarian's office to place a quarantine on more than 350 locations. This meant no horses or cattle could be moved from these locations. Vesicular Stomatitis causes blisters on the animal's nose and mouth. Because of their discomfort animals have difficulty eating.

The State Veterinarian's office is also concerned with the control and mitigation of zoonotic diseases. A zoonotic disease is one that can

be passed between animals and humans. Zoonotic diseases can be caused by viruses, bacteria, parasites, and fungi. These diseases are very common. Hand washing following contact with pets and livestock, avoiding mosquito and tick bites, along with proper food preparation are examples of simple practices we can all do to help slow or reduce the transmission of disease from animals to humans.

The State Veterinarians office also investigates animal abuse cases in both livestock and pets.

# Antibiotics and Livestock

## What is an antibiotic?

An antibiotic is a type of medication that is used to kill or inhibit the growth of an organism.

The term was first used in 1942 to describe any substance produced by a microorganism that would inhibit the growth of another microorganism.

Penicillin is an antibiotic that may be familiar to you. It is produced by a fungus and it has been effective at fighting infections in people and livestock.

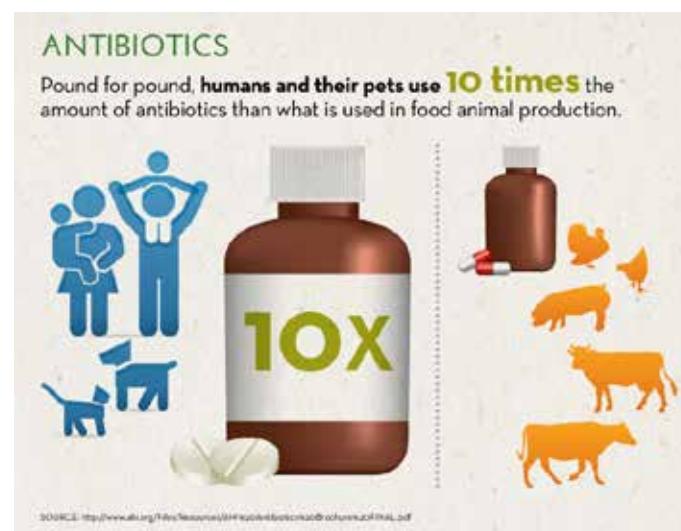
## Antibiotics and Livestock

Antibiotics are used in two ways in livestock. One is the treatment of infection. The second is as a feed additive to promote health. However, this use is being phased out.

Antibiotics represent considerable cost to farmers, so they want to use them as sparingly as possible. Responsible antibiotic use, combined with other practices relating to proper diet and nutrition, access to fresh water, vaccinations, barn sanitation and biosecurity, all work to protect animal health. Farmers support science-based approaches to ensure that antibiotics used to advance animal health are safe for the food supply, including these six principles:

- Take appropriate steps to decrease the need for the application of antibiotics.

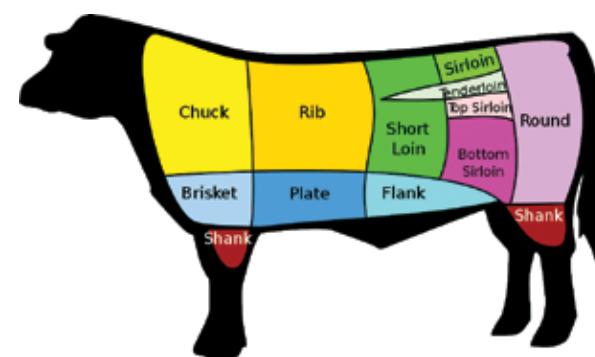
- Assess the advantages and disadvantages of all uses of antibiotics.
- Use antibiotics only when they provide measurable benefits.
- Fully implement the management practices described for responsible use of animal health products into daily operations.
- Have a working veterinarian-client-patient relationship and follow the responsible antibiotic use guidelines.
- Routine testing of meat and poultry products by the Food Safety and Inspection Service of the U.S. Department of Agriculture for antibiotic residues.



## How many meals?

When a steer is harvested very little goes to waste, but not all of the animal is used for human meals. At harvest, the steer weighs about 1,400 pounds. Of those pounds, about 875 pounds will become retail food products. The rest is used for co-products.

Of the 875 pounds of food products, about 175 pounds is bone and fat that won't be eaten. This leaves 700 pounds of meat for meals. If the average portion of beef is 1/3 of a pound, how many meals are provided by this steer?



# Doing What's Best

Sheep were one of the first animals to be domesticated by humans. They were brought to North America during colonial times and have been part of the landscape since then.

Sheep provide both food and fiber. "Lamb" is the meat from sheep that are less than one year old. "Mutton" is the meat from sheep that are over one year old. Lamb has a milder flavor than mutton. In 2010, the United States produced approximately 163 million pounds of lamb and mutton.

Farmers and ranchers who raise sheep in Colorado and across the United States take great pride in the care they provide for their animals. They do not condone or defend mistreatment or abuse of sheep either intentionally or unintentionally.

These principles hold true for all sheep management practices, including the shearing of sheep. Shearing sheep in the spring helps them to stay cool in the summer. By the time winter arrives, their coat has grown back so they are warm. Sheep with heavy wool coats can get caught in physical obstacles in



*Sheep shearing is the process of trimming the excess wool from the animal. This is a benefit for the animal and provides wool that is spun into the fiber that makes clothes, blankets and other products.*

the environment like brush, fences, etc. which can injure them. Heavy wool coats also make the sheep more susceptible to predator and parasite attacks. Shearing generally takes place before the lambing season in order to aid in lamb health and survival.

To find out more, check out the Colorado Foundation for Agriculture Sheep and Wool Activity Book at [GrowingYourFuture.com](http://GrowingYourFuture.com) or visit [ColoradoSheep.org](http://ColoradoSheep.org)

## Links in a Chain

Farmers and ranchers work hard to care for their animals and to protect the safety of food. Food processors and grocers also work hard to provide safe food. But the last link in the chain is the consumer. How food is stored and prepared at home is important. To learn more about food safety, visit [KeepOurFoodSafe.org](http://KeepOurFoodSafe.org)

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# Waste Not, Want Not



## Did you know?

Hog heart valves, specially preserved and treated, are surgically implanted in humans to replace heart valves weakened by disease or injury. Since the first operation in 1971, thousands of hog heart valves have been successfully implanted in human recipients of all ages.

Animal agriculture provides an abundant supply of nutrient-rich meat. It is also a source of essential and useful co-products that people depend on every day.

No matter what type of livestock, nothing goes to waste. Hides, horns, bone, organs and other parts of the animal we don't eat all have a use.

In pigs, about 30 percent of the animal goes to co-products. In beef, it's about 44 percent. Edible co-products are parts of the animal that aren't commonly served in the U.S., but are desired in other parts of the world. For example, beef tongue isn't commonly served here, but is a delicacy in Japan.

Non-edible parts of the animals are used in many ways. Leather is an example. The industrial, cosmetic, and food manufacturing industries are dependent on co-products.

Animal co-products are also important to the development and availability of modern human medicines. Animal co-products have also been the basis for the development of synthetic substitutes. Insulin for the management of diabetes is an example of a medicine that was originally based on a co-product but is now made in the laboratory.

## Here at home

Colorado ranks 16th in the nation for pig production with most of the facilities being located on the eastern plains. Our state ranks 11th in the country for beef production and third for lamb production.

## Quizlet

After reading this page, name five items you used, consumed or saw today that came from animal agriculture:

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## Sample Co-products

» The sticky part on the bandages can be made from animal fatty acids. These fatty acids are used to make many types of adhesives. Ointments for burns and first aid creams may contain animal byproducts too.

» Other products that contain gelatin might include gum, fruit snacks like gummy bears, and marshmallows.



» Nail polish remover contains gelatin that helps give your nails strength. Soap, lotions, makeup and lipstick may contain stearic acid, a fatty acid, but not all of them do. Some also contain lanolin which is a sheep byproduct.

» From 1 cow hide you can get 12 basketballs, 144 baseballs, 20 footballs, 18 volleyballs, 18 soccer balls, or 12 baseball gloves.

» There may be fatty acids from cattle or other animals added to toilet paper to make it soft.

# Demonstrating Responsibility

How do farmers and ranchers learn better ways to care for their pigs, cattle, horses and other animals?

Farmers and ranchers are members of livestock associations. The farmers and ranchers work with these organizations, agriculture experts and researchers to discover better ways to care for their livestock. These organizations also provide funding for research by universities to determine scientifically which method of care provides the best results for the animals. Their goal is to advance animal well-being and improve livestock handling practices. Committees led by farmers, veterinarians and animal well-being experts work in partnership to develop standardized programs and practices for proper handling to share with farmers nationwide. This coordinated, unified approach ensures that the latest knowledge

## How many meals?

A typical market-weight pig is 265 pounds and yields about 186 pounds of retail food. If an average serving is eight ounces, how many meals come from one market pig?

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*Pork—meat from pigs—is the world’s most widely eaten meat, representing 37 percent of global meat consumption. China is the world’s largest producer and consumer of pork.*

and research is available to all farmers on topics such as care and handling, transportation, feeding and nutrition, food safety, environmental management and worker safety.

## Zero tolerance for cruelty

All livestock producers denounce animal mistreatment whenever it occurs. Farmers believe people who neglect or abuse farm animals should be held accountable. Farmers support zero-tolerance policies regarding animal mistreatment and demand that animal abuse be reported immediately to proper authorities, including your State Veterinarian.

Everyone has an obligation to provide for the well-being of animals in their care.

For example, working in partnership with the The Center for Food Integrity, the pork industry works with the Pork Animal Care Review Panel to ensure pigs receive proper care. In situations of unethical behavior, the review panel has animal care specialists review cases, provide expert perspectives for food retailers, the pork industry and media, and then decide on proper corrective action. The panel is comprised of veterinarians, animal scientists and ethicists to ensure all perspectives are represented.

# The Chicken and the Egg

The poultry industry supplies us with chickens, turkeys and eggs. Just like the other farmers, poultry growers are concerned about the health of their animals and providing a safe product for consumers.

The poultry industry has crafted a set of guidelines to help farmers achieve their goals. The guidelines include providing access to feed and clean water, adequate room to grow, professional veterinary attention, and proper handling in the management of meat chicken flocks, also referred to as broilers, and egg flocks.

The life cycle of a chicken starts with a fertilized egg (the eggs you get at the grocery store are unfertilized). The chicks are born at the hatchery. The chicks are then moved to a facility to be grown. The birds live in barns equipped with special ventilation and heating systems. They are able to move freely and eat in comfort.

Once the broilers reach market



*Broiler chickens are raised in a barn to protect them from predators, parasites, weather and disease.*

weight (4-7 pounds), they are moved to a processing plant. The chickens are humanely harvested, thoroughly washed and cleaned, chilled, packaged and inspected for food safety. From the processing facility, the packaged meat is transported under controlled conditions to restaurants and grocers.

The story of an egg farm is similar. An egg farmer's livelihood

depends on the production of high-quality eggs. The production of high-quality eggs depends on nurturing healthy hens. Nurturing healthy hens depends on the right diet, housing, lighting, water and overall living conditions. Several different types of housing systems can be used with egg-laying hens.

No matter which system is employed, America's egg farmers are committed to the health and well-being of their hens, and dedicated to providing their customers with fresh, nutritious eggs.

The Colorado Egg Producers Association was the first state association to develop and implement an Animal Care Doctrine. Each of its producers and members have signed this Doctrine and are committed to the best possible care of chickens based on scientific principles and animal husbandry standards.

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## Dairy is King

The primary purpose of dairy cattle is milk production. However, about 17 percent of beef in the U.S. comes from dairy cattle.

Dairy cows are usually milked two or three times a day, producing about 8 gallons of milk per day. Proper

nutrition, health management and shelter are required to maintain this level of production. Cleanliness at the dairy is also vital in the protection of the milk that will be served to consumers or made into milk products like cheese, butter, ice cream and yogurt.