

OUR HISTORY WITH CATTLE

The term "bovine", today referring to modern cows, steer, bulls and ox, is actually quite old term, from Middle English and French, and used to refer to ALL livestock. In ancient times, owning cattle was a measure of wealth. These animals were essentially used as commodities and slaves and the term "chattel", which described human slaves, is derived from this.

Dairy cows and beef cattle are male and female version of the same species, now with over 1000 varieties, but they all originated from the same ancestor, the Auroch. Dairy cows are the female version of bovines which produce milk and have had offspring. If they have not had offspring yet, they are called heifers. Steers, bulls and ox are the male bovines. Bulls are not castrated (they still have their testicles). They are stronger and more aggressive since they still produce a lot of testosterone, which is why they are used in bullfighting. Steer and ox are the castrated male equivalents. Ox are more of the "work" cattle and steer are specifically destined for meat for human consumption. ALL bovines, whether male or female, castrated or not, are eventually used as sources of leather, bones and various muscle and organ meats for consumption.

All are members of the same family known as bovidae, which are horned, hooved, herbivore (plant-eating) ruminants, and are related to sheep, deer, goats, antelope, bison, African buffalo, water buffalo, wildebeest, impala, gazelles and muskoxen. Ruminants, by the way, are mammals that are able to acquire nutrients from plant-based food by fermenting it in a specialized stomach prior to digestion, principally through microbial actions. Ruminants are characterized by their four-chambered stomach and "cud-chewing" behavior. Cud is a food bolus that is regurgitated, rechewed, and re-swallowed.

Modern cattle, sheep and goats were wild animals until they were domesticated and all bovidae originated from a common ancestor, the Auroch. Sheep were first to be domesticated, followed by goats and eventually the Aurochs, around 6000 BC. This huge animal first came on the scene 2 million years ago in Asia and migrated eventually making its way to Europe about 250,000 years ago. 17,000-year-old cave paintings depicted images of it. Standing 6-7 feet high, it was almost 10 feet long with 6-foot long horns. Despite its massive size, it was apparently quite agile. It ate grasses, herbs, tree foliage and bark in the spring and summer and acorns and dry leaves in the winter.

When we domesticated the Aurochs is unclear since we already had other domesticated sources of food. There is some thought that it was more for religious reasons than true survival need. Although its flesh provided food, hides provided clothing, bones provided jewelry and tools and its horns, vessels, it appears that the main purpose for hunting this huge beast was the challenge, and the bragging rights that accompanied a successful hunt. It was so popular to hunt this animal that it was hunted into extinction, the last one being killed in 1627, the first documented animal hunted to extinction. The second was the Dodo which Dutch sailors ate to extinction after finding that the bird was incredibly easy to catch due to the fact it had no fear of humans.

2 varieties of cattle evolved from the Auroch. The humped *Bos Indicus* (aka zebu) evolved in warmer climates such as the Indian subcontinent, Sub-Sahara Africa, China and South-East Asia. The humpless *Bos Taurus* evolved in the colder climates of Europe and the Mediterranean basin. Cows were expensive to keep and as mentioned above, were a sign of wealth and were treated as a commodity in ancient times. Cows were also quite revered in ancient Egypt and Mesopotamia by the Sumatrans. This all started to change when Christianity spread and the reverence of "false Gods" was violently discouraged. The Christian Counsel of Toledo in 447 AD described Satan as cattle-like

monster with dark skin horns and cloven hooves. Of course, in modern-day India, cows are still revered and worshiped. Cattle were often, and continue to be used in sporting events, highlighting their great power. In Minoan Crete, in 1500 BC, there was a sport called "Bull-Leaping" where they would jump over the bull. There was also a form of "Bull Wrestling" which evolved over the years into our modern-day rodeo events. In modern rodeos, we chase down young bulls and rope them and we also try to ride bucking bulls as long as possible. To encourage a bull to buck more during bull riding, a bucking strap is used and often an electrical cattle prod is used to encourage the bull to leave the pen. The running of the bulls in Pamplona, Spain and bull chasing in South India are both cruel and dangerous events where we pretend to face down these animals.

In ancient times in the Colosseum in Rome, thousands of animals were sacrifices in various "games" where humans fought animals or animals were pitted against one another. Animals like bulls were often chained to each other until one killed the other. Today, we have such civilized sports as dog fighting or cock fighting. In India, snakes are pitted one against the other. The national sport of England from the 13-19th century, 600 years, was "Bull Baiting". This consisted of setting dogs to harass and attack a tethered bull. The dogs bred to be part of this tradition were, you guessed it, British Bull Dogs. One dog after another would be sent in to attack the bull. Dogs would get thrown in the air by the bulls' horns, sometimes getting gored or stomped by the heavy beast. The dogs, and eventually the bull, would die. People started to gamble on the outcome of the event. The winner would get a crown piece, called a "bull's-eye". This activity was popular as a sport all over medieval Europe. A similar sport involved bears and many towns had "bear gardens" where these horrible events took place. Both were made illegal in the "Cruelty to Animals Act" of 1835 after lobbying by the Royal Society for the Prevention of Cruelty to Animals (RSPCA), founded in 1824 by, in part, by William Wilberforce who was responsible for abolishing human slavery in the British Empire. He was just as appalled by animal cruelty as he was human slavery.



The origin of Bull-baiting was from the false notion that stressing a bull would tenderize it's meat. Butchers were part of this process. This same sick idea exists in Asia, where dogs are raised for meat consumption. They also believe that if dogs are tortured before they are slaughtered, their meat is tastier and imparts more sexual virility. Dogs are sometimes beaten, burned or even boiled alive. This sport eventually gave rise to modern day bull fighting, most popular in Spain. Surprisingly, 70% of Spaniards are against this gruesome sport. Many countries and even Spanish towns have banned it.

In 2007, Spanish television no longer showed bullfighting on TV, arguing that it was too violent to watch.

As we have co-existed with cattle and our reliance, along with our close coexistence with them increased, we started sharing diseases with them as well. There are fifteen cattle diseases with zoonotic (diseases passed between different species) potential in the United States, some of which are more common than others. They include anthrax, brucellosis, cryptosporidiosis, dermatophilosis, Escherichia coli, giardiasis, leptospirosis, listeriosis, pseudocowpox, Q fever, rabies, ringworm, salmonellosis, tuberculosis, and vesicular stomatitis. It is no surprise that vaccines were first developed using cows. Edward Jenner introduced smallpox vaccine, the first successful vaccine to be developed, in 1796. He observed that milkmaids who had previously caught cowpox did not later catch smallpox by showing that inoculated cowpox protected against inoculated smallpox. The name "vaccine" itself is derived from the word for cow. Vache is cow in French. Vacca is cow in Latin. Vacca is cow in Spanish.

Today, 9 million cows are producing milk on American farms at any time. The number is dropping but only because breeders and pharmaceutical companies are finding ways to push cows to produce more milk. Holsteins, the common black and white cow, produce more than 2800 gallons of milk per year. Other types of cows used for dairy products include Jersey (light brown), Brown Swiss, Ayrshires, Guernseys and other less productive cows whose milk is higher in fat and protein.

Just like the meat people raise and eat today is significantly less healthy than it was in the past, so too is dairy. In addition to all the chemical contaminants, antibiotics and added hormones, milk has been altered in a way which increases the estrogens it contains. In order to produce milk (which is lactation), a dairy cow must have recently given birth. When a cow is impregnated, she usually stops lactating for about 4 months until they deliver their calf. Over the years, cows have been bred to continue to produce milk all throughout their pregnancy so there is no down time and no subsequent decrease in the flow of milk and money. Milk produced during pregnancy has much higher levels of hormones, up to 40x. The result is milk with much higher than normal concentration of estrogens and some of its metabolites like estone, estradiol and progesterone. These bind to the same receptors in our bodies as do our own human hormones. Within 15 minutes of drinking milk, these hormones can be measured in human urine indicating how quickly they get absorbed. Estrogens contribute to various cancers like breast, uterine and ovarian and also contribute to various diseases like infertility, acne, and even thyroid disease (excessive amounts of estrogen suppress thyroid function). Some of the other hormones in dairy contribute prostate cancer and breast cancer in men as well.