Introduction

If you've picked up this book, I'm guessing and hoping that you're already interested in getting cows, or a cow. Congratulations! Cows were one of the best decisions we ever made for our farm.

When I submitted the first draft of this book to the publisher, the editor pointed out that it really needed a section on "Why should people get cows?"

I was floored. I mean, why *wouldn't* people want cows?

But he was correct in that there is a lot to think about before taking the plunge into cattle ownership, and like any livestock decision, it should not be taken lightly.

No livestock of any kind is labor free. They will need things like feed and water on a regular basis, and they will need it when the weather is 112˚F (44˚C) or when it's –12˚F (–24˚C) and snowing. They need it in the dark before and after work, and often at the time least convenient to you. Taking on the responsibility of owning livestock, especially larger animals such as cows, means putting their needs and well-being above your comfort many times, but they give us so much more in return. And, while (once again) no livestock is labor free, a cow contentedly grazing on well-managed pasture comes pretty close at times.

Cattle can, over time, improve your land and soil. The soil we have now is a result of millions of years of synergistic efforts between animal, plant, and microbe. Degraded soils can be improved by careful management of cattle and pasture. It would seem a shame to have cows just for the land improvement benefits and not take advantage of their other good qualities, but soil improvement alone is reason enough to have grazers on the grass.

Another key benefit to having cattle is a deeper understanding of the human–animal connection. We have evolved with animals as our companions, our

responsibility, and our source of food. It is a profound thing to truly understand that the circle of life is indeed a cycle, and each element plays a part in nourishing and being nourished. The notion that there can be food of any type without sacrifice is an artificial construct of a society that has drifted too far away from the basic understanding that every life consumes something.

And probably one of my favorite reasons to have cows: cows are cheaper than therapy. Being around a group of placidly munching cattle can't help but lower your blood pressure, and they never repeat your stories… at least, not to human ears. What's said in the pasture, stays in the pasture.

Humans and Cattle

A Brief History of Cattle

Cattle evolved from a prehistoric bovid called an Aurochs (*Bos primigenius*) that roamed Europe for several million years.

Aurochs were huge compared to our modern cattle, some standing 5 feet or more tall at the shoulder. Fossil records show some variability depending on the geographic region and time period they were found in, but Aurochs are believed to have regularly weighed over 3,000 lbs.

Hunting Aurochs was a primary activity for prehistoric humans, and a dangerous one. The Aurochs lacked the easygoing nature of the modern bovine, to say the least. Cave art shows the Aurochs winning the contest regularly.

Approximately 8,000–10,000 years ago, several domestication events took place nearly simultaneously in the Fertile Crescent region in the Near East and in the Indian subcontinent. Fossil records show that the massive Aurochs gave rise to our modern cattle, both the humpless European *Bos taurus* and the humped Zebu type, *Bos indicus*. While each is considered a separate species, *Bos taurus* and *Bos indicus* are capable of interbreeding and producing fertile offspring.

Early uses of domesticated bovines included milk and draft power, as well as meat. Some of the earliest pottery artifacts have been found to have milk residue. Fermented milk products, such as yogurt and cheese, have been dietary staples as long as humans have interacted with bovines. Indeed, much of the history of human civilization is written in tandem with cattle.

The Aurochs has the distinction of being one of the only progenitors of a species to exist at the same time as its descendants. As their habitat dwindled, Aurochs became fewer and fewer, and ultimately the last one died in Poland in 1627. Interestingly, a project has begun to attempt to re-create the Aurochs and

install it in some of its ancestral grazing grounds, helping to manage abandoned farmland and retain biodiversity by keeping forests from overtaking the land.

Cattle in the United States

Cattle came to the New World early in the European settler exploration phase. Historical documents have Columbus bringing a few cattle as work animals on his second voyage in 1493, and as travel to the new world increased, more cattle were delivered. By 1512, the West Indies had a thriving livestock industry.

Spanish cattle began to be imported in the early 1500s began spreading from Florida through the southeast into the southwest and from Mexico into Texas. British cattle were brought to Jamestown in 1611.

Early use of cattle in the US was primarily for hides and tallow; the beef was more of a byproduct and often discarded because of the lack of adequate storage and transportation. There was no selection for beef quality at the time.

In the early 1800s, to feed the growing urban market, cattle were driven on the hoof to urban centers and processed there. These are the romantic cattle drives of the era from 1845 through 1865.

The invention of the refrigerated rail car made it possible to ship the beef, not the beef animal, and the number of cattle on western ranches doubled between 1880 and 1890.

The Shift to Feedlots

Feedlots began appearing in larger numbers in the 1950s. Their rise was driven by a new consumer preference (with the income to back it up) for marbled meat, which occurs when cattle are fed grain; low grain prices, coupled with subsidies; and the development of antibiotics, which allowed more animals to be confined in closer quarters, without disease becoming rampant.

In 1935, the USDA reported that 5.1% of the 42.8 million cattle were in feedlots. By 1963, 66% of cattle were grain fed, and of those 40% were in feedlots.

Packing houses followed the feedlots, and in the 1960s IBP (Iowa Beef Producers) began packaging cuts of beef such as steaks and roasts into what is called "boxed beef," rather than shipping the primals to butcher shops and the butcher breaking them down into individual cuts. This boxed beef increased the efficiency of shipping meat, as boxes could be packed more effectively than large sides and primals, and it increased the foothold of the feedlot industry.

In the modern beef era, 85% of beef production is controlled by four companies. And the cattle have grown, too. In 1975 the average dressed weight of cattle was 579 lbs., and in 2016 the average was 817 lbs.

A huge shift in how cattle are raised has occurred in less than a century. Like a pendulum swinging as far as it can one way, we have moved completely away from how cattle were raised just a couple of generations ago. Cattle are now judged largely on how big they can get, how much they can produce, and how fast they can do it, with little regard for the impact on the animal or the environment.

Fortunately, when a pendulum swings one way, eventually it has to swing back. Consumers are becoming more educated about the health benefits of grassfed beef and dairy products. Grassfed beef counted for sales of $272 million in 2016, versus just $17 million in 2012, and at the time of this writing, sales were doubling every year.

Even better, a growing number of people are taking the plunge and beginning to consider raising their own beef, and making their own dairy products.

And that is where you and this book come together.

What's Your Plan?

Assessing Your Needs… and Your Wants

What is your ultimate goal when adding cows to your farm? A small home dairy? A freezer full of good-quality beef? Adding some income to your farm?

All of those are fantastic goals, but each requires a slightly different mindset and plan.

Meat and milk don't have to be mutually exclusive. A milk cow bred to a beef sire can provide a calf that, while it might not be competitive in a feedlot, can provide an ample supply of meat for a family.

And, as a cow will need to be bred and have a calf regularly in order to produce milk, so you can have a calf going into your freezer on an annual basis.

It's not instantaneous, though. Cattle take time to mature. That calf will spend a good couple of years growing (and eating) before it reaches harvest size.

And dreaming about homemade cheese is great, but there is a lot that goes into preparing before you get to that point. How much cheese do you want to produce on a regular basis? Do you have a place to store and age cheese? If it takes roughly five quarts of milk (depending on fat content and type of cheese desired) to make a pound of cheese, at what point are your facilities overloaded with cheese? Or, will you have enough milk on a regular basis to produce what you want and need?

A lactating cow needs to have that milk removed from her udder daily or sometimes multiple times daily, depending on the cow. Either you need to do it or her calf needs to do it. Will you or someone in your family be able to keep up with that commitment? Or should you make a milk share plan with the calf? Cattle are relatively easy to care for

compared with other livestock, but they thrive on consistency.

How much milk do you actually need? A dairy breed cow can produce gallons of milk daily. And a dairy breed that produces multiple gallons of milk might produce too much milk for both you and her calf. Other livestock can benefit from excess milk and the byproducts of cheese making; pigs and chickens both love and can make use of the excess. But that cow still needs to be milked out daily.

Cattle can also be a terrific source of income. Purchasing calves in the spring, grazing them in the summer and then selling them in the fall can be a good source of revenue, provided the market cooperates. Are you willing to take a loss, or would you have the resources to hold on to them until the market turns around?

Sample Vet Services and Prices

Service	Range of Fees
Travel Charge	Usually so much per mile, from a base rate of about $50 up to $100, depending on the distance
Castration	$35–$75 depending on age and size
Pregnancy Checking	$10–$20 per head
Vaccines	$8–$10 per injection
Health Certificate	$25–$50
Examination	$45–$60

How many cows do you want? Better yet, how many cows do you have room for? Hopefully we will answer that question later in the book, but cattle are large animals. They thrive best when they have room to move around. Since cattle are physically bigger than other livestock, there are some differences in managing them.

Many "rules of thumb" say you need one to two acres per cow, but that doesn't mean you can plunk a cow down into an acre lot and be done with it. Less space equals more management, and very few small acreages will allow for year-round grazing. Most climates will have some times of the year when you will need to feed hay. There are some folks raising cattle who are able to "stockpile" winter forage by leaving pastures ungrazed part of the year, but this takes a larger acreage that most of us have access to.

Unlike pigs, which can be fed on a variety of feeds, or goats, which benefit from browsing and prefer it over grazing, cattle depend on having grass, or forage in some form. There are a variety of types and means of getting forage: pasture, hay, silage, etc. Make sure you know what's available to you and what the cost will be before you go get cows. Do you have a place to store your hay and keep it from the weather? Large round hay bales are meant to be stored outside, but small square bales need shelter. Many hay producers will deliver

hay, but prefer to do a large load at a time to maximize their efficiency and factor that cost into the price per bale. One or two bales will more than likely mean an extra delivery charge.

Transporting cattle is more effort than smaller livestock. And, at some point you will have to transport them, whether it's home when you buy them or to the processor when it's time to harvest them. Goats and sheep can hitch a ride in a minivan, but adult cattle will need some sort of trailer or livestock rack to move anywhere.

Do you have a large animal vet close by? If so, the time to develop a relationship is before you have a problem. Vet fees can vary from region to region. A good cattle vet might be hard to find, as it seems as though many newly graduated veterinarians are going into small animal practice, leaving a lack of vets with large animal expertise.

Regulations! No one likes them, but they do need to be considered. Are large animals allowed on your property? Is your plan to create a home business around your cow and her products? Regulations regarding the sale of raw milk and raw milk products vary by state. Even if that's not in your plan, check into what you can and can't do before you start. Needs and plans change, and it's nice to know what your options can be before you get in too deep.

Where is your beef processor located? If beef is in your plan, how far away is the nearest processor? Is it state or federally inspected? Custom slaughter facilities can process only for the owner of the animal. You can split ownership of the cow between families, and each gets their share of the meat and the processing costs, but it is not legal to sell the meat retail.

Research your beef markets. If your goal is to sell to restaurants, the meat will need to be USDA inspected, and being able to supply a restaurant with the quantities of specific cuts they need can be challenging.

What about you and your family? Is everyone on board with helping take care of the cow, or cows? They may be relatively low maintenance, but all livestock require food, water, and shelter—no matter what season it is.

Is everyone on board knowing that the calf they spend two years naming, raising, and seeing every day is going to wind up on the dinner table? Kids are resilient, thank goodness, but life is going to be much easier if everyone is on the same page beforehand, or at least knows what book they're reading from.

Cattle need shelter from the elements. This does not mean they need to be kept in a fancy barn, but, at minimum, they need shade in the summer and protection from the wind and rain in the winter. As we will see later, cattle can tolerate a

variety of temperature and environmental situations, but some care must be taken to provide for extremes.

Also, a catch pen near that shelter is a good idea because your cow will know when you need to have her at a certain place at a certain time… and she'll be sure to be at the opposite end of the pasture and not interested in your agenda.

Shelters for cattle can be very basic, and using repurposed materials can make them as close to free as possible.

And, while the cow herself might not need an enclosed barn, consider the humans in the equation, too. If you plan to milk year-round, an enclosed barn will be greatly appreciated by the milker during extreme weather.

Some of the best advice I ever got was never to plan a barn or shelter in the summer when it's dry. Plan it during the winter months or the rainy season to see just where water or snow collects, where the wind blows hardest, or just how wet your future barn site may get. Watch the rain runoff to make sure you aren't planning it right where water runs through or collects. The warmth of summer often makes those wet, nasty days a faint memory… but they will come back eventually.

As far as costs go, the biggest expense will be the initial purchase price of the animals. Cattle can range in price from a few hundred dollars to tens of thousands. While in most instances you do get what you pay for, depending on the circumstances, that expensive cow might not be much better than the one you barter with your neighbor for. Be wary of cattle that seem too cheap. There's usually a reason.

These are some of the questions people getting into cattle should ask themselves well before they purchase that first cow. My sincere hope is that the chapters following will help you answer those questions for yourself, and make the most informed choices you can as you start your cattle adventure.

Breeds and Cow Selection

Breeds of Cattle

Cattle serve a myriad of purposes in our world, more than just milk or meat. Draft power has been an important part of our history with cattle, and, yes, settling the west would have been more difficult without the hardy and patient ox.

Breeds as we know them today developed from the specific needs of humans, the environment, and to a certain extent from the cattle themselves. There are breeds that excel at milk production, some that excel at meat production, some that are very good at both, and some that are very good at both with the added bonus of making splendid oxen teams.

As we read earlier, cattle evolved from a common ancestor into the two species we know today, *Bos indicus* and *Bos taurus*. The array of today's highly unique breeds of cattle are all subunits of one or the other of those two species. No matter how wildly different a Highland cow looks from a Holstein, when bred together they will produce viable, fertile offspring. In fact, *Bos indicus* cattle and *Bos taurus* cattle can also be successfully bred, which is what gave rise to the modern Brahma cattle.

There are literally hundreds of breeds of cattle in the world, each developed to fill a certain need or environmental niche. It would be the subject of an entire book in itself to discuss all of them, so here I've only tried to profile a few that I have had some experience with over the years, or ones that are known to be easier for novice cattle owners to work with.

Don't let this list limit your search. Check out the rest of the breeds on The Livestock Conservancy's Conservation Priority List; ask around at different agricultural events; and talk to people who have worked with a breed that catches your attention. Be aware, however, that each breed has superfans who will extol the virtues of their favorite and may gloss

over the negative. There is no one perfect breed; just choose one that will work well for you in your particular situation. And be honest with yourself about both your experience and your facilities.

Holstein cow. Credit: Emily Nyman

Dairy Cattle

Holstein

If you are looking for the ultimate dairy breed, Holstein cattle are the first to come to mind. Their black-and-white color pattern has become the symbol for what most of non-rural America thinks cattle look like. The majority of dairies in the US milk Holstein or Holstein cross cows.

Holsteins of superior genetics, with the proper nutrition and husbandry, have been recorded producing 72,000 pounds of milk over the course of a year. That's

Holsteins in a dairy.

9,000 gallons in a year, or over 24 gallons *per day*. That's much more than the average of 23,000 lbs./ 2674 gallons per year, 9 gallons per day.[1]

Most of us will never run across a high-producing Holstein, but even 8 gallons per day might be more than the average family is interested in for their own use. On the other hand, because they are fairly common, Holsteins are one of the easier breeds to find.

Holsteins are of Dutch origin and often known by their historic name of Holstein-Fresian for the geographic area the breed originated in. The first Holstein in America landed in Boston in 1852.

No breed has been as affected by advances in genetic selection, artificial insemination, and modern technology as the Holstein. Unfortunately, while the advances have been great, there has been a down side. The Holstein breed as a whole has begun having difficulty with inbreeding issues, thanks to the overuse of certain sires. Fortunately, the same technology can help correct problems within the breed, if used wisely.

Holsteins are large cattle, with mature cows weighing an average of 1,500 lbs. They are born with horns but are typically dehorned due to the close quarters they are generally managed under. They have the lowest milk fat percentage of any of the common dairy breeds: 3.65 %. (As volume goes up, milk fat content goes down.)

Brown Swiss

Brown Swiss are one of the most beautiful of dairy cattle breeds, and also possibly one of the oldest. They are typically a light brown, almost grayish color, although they can range from nearly white to dark chocolate brown. As you might suspect from the name, the breed originated in Switzerland, and some historians estimate they might have been present there as early as 4000 B.C.

Their milk is higher in fat and protein than Holsteins', though they still produce a respectable volume, an average of 23,000 lbs. of milk in a 305-day lactation cycle. (A gallon of milk weighs 8.6 lbs., so that's 2,674 gallons of milk, nearly 9 gallons a day over 305 days.) The ratio of fat and protein in their milk results in it being superb for making cheese.[2]

They are large cows, females weighing 1,300–1,400 lbs., and most are horned, although a polled strain has shown up as well.

They are noted for having an exceptionally easygoing temperament, and are also noted for being structurally correct, long lived, and hardy. They will produce in the herd well into their teens.

My experience with Brown Swiss bears this out; one I knew lived to an astonishing age of 22, although she had stopped calving some years prior. Easygoing in any circumstance, she could be used for the littlest child to pet without fear. Despite

her quiet nature, she was the top cow in the herd for years, and after her death the herd took some time to sort itself out.

Jersey

The light-brown, dark-faced, doe-eyed Jersey is the second most popular dairy breed. Their color can range from a light tan, almost gray, to an almost black color. A true Jersey will always have a black nose, surrounded by a nearly white muzzle. Their milk is the richest, highest in butterfat and protein. They are a smaller framed cow, around 800 lbs, and can produce 14,000 lbs of milk per year. They are a much more efficient cow to feed and known for having a good temperament and for calving ease. Less than 1% of heifer Jersey cows have difficulty calving, compared to 8% for Holsteins.[3]

Jersey cow. Credit: Emily Nyman

Their richer milk and relatively efficient foraging ability makes them the cow of choice for a lot of cheese makers. They also provide a decent beef carcass.

Guernsey

Both Jersey and Guernsey cows originated in what is now English territory, on the Channel Islands, small islands just off the coast of Normandy.

Guernseys are medium-sized cows, slightly bigger than a Jersey but smaller than a Holstein, averaging around 1,200 lbs. They are a beautiful golden tan-and-white cow and are known for producing milk that is more yellow in color than that of other breeds. This yellow color comes from a higher level of beta-carotene in the milk, which is a precursor to Vitamin A. They are known as "Golden Guernsey" for this reason. Their milk fat and protein levels are higher, and the Guernsey's milk is considered excellent for making cheese.

They are docile and rarely flighty and are also known for having minimal calving issues.

Shorthorn cow.
Credit:
Emily Nyman

Shorthorn

Shorthorn cattle have the distinction of being one of the first breeds of cattle to actually be selected for certain characteristics and were first really developed in the 1600s in England.

Shorthorns are versatile, and this versatility contributed to their success with early American settlers. They provided meat and milk, and many Shorthorns pulled a plow or a wagon as well. Shorthorns come in three colors—red, white, and roan, or some combination of the three.

A polled variant was common in the Shorthorn, resulting in a strain of Shorthorns that were, well… hornless. The polled strain became very popular.

Until the early part of the 20th century, the Shorthorn was a dual- and triple- purpose breed, but specialization led to the development of dairy and beef shorthorns, and the Beef Shorthorn has been developed as a separate breed.

Milking Shorthorn cattle can produce up to 15,000 lbs. of milk per year, and they do well on forage-based dairy systems.

Native Pure Shorthorns are a subset of the Milking Shorthorn breed that have not had any of the Australian Illawara Shorthorn blood introduced, and Native Pure Shorthorns are a conservation priority for The Livestock Conservancy.

Shorthorns are hardy, calve easily, wean large calves, and have an ideal disposition for a family farm.

Beef Cattle

Angus is the most common breed of beef cattle in the US. They are popular because beef producers like the uniform black color, but they also have been selected for fast growth and for carcass traits that fit modern consumer preferences. Hereford cattle are a close second in popularity to Angus, and the perennial crossbred offspring of the two, the black whiteface cattle, make up the majority of cattle in feedlots. Both breeds and the black whiteface (also called black baldy) cattle are good beef animals and easy to find. But there are a host of other breeds to consider.

Highland cow. Credit: Lou Alexander

Highland

The shaggy look of the Highland cow evokes images of its native Scotland and the rugged region from which it hails. The Highland is a breed shaped by its environment and geographic isolation rather than intentional selection by humans. The Scottish Highlands have been home to these cattle for hundreds of years.

Highland cattle are hardy and long-lived, have a good reproduction rate, and make good mothers. Their shaggy double coat gives them an advantage in cold climates, but they can adapt enough to live in warm climates by shedding their inner coat while keeping the shaggy outer coat.

Highland beef is known for its tender, flavorful, and marbled characteristics. They are efficient grazers and do well on pasture-based systems. They are also known for their willingness to eat less-than-desirable forage such as forbs and weeds, and they have been used in projects to reclaim grasslands.

The Highland is one of the few pure breeds of cattle that have had no outside blood introduced, making it a unique genetic resource. They are a medium-sized breed, with cows weighing between 900 and 1,300 pounds and bulls up to 2,000 pounds. They come in a variety of colors, including white, black, red, dun, and brindle.

The breed is known for its docility, a result of its long history of close contact with humans. Animals with poor dispositions were eliminated quickly. Highland calves are small but vigorous, and dystocia, or calving difficulty, is rarely a problem. Even bulls are generally quiet and laid back.

Red Poll

The Red Poll is a dual-purpose breed from England and was developed in the early 1800s. It's named after its dark red color and the fact that it is naturally polled, or without horns. Red Poll cattle were brought to the US in the 1880s and quickly became valued for their efficient dairy production and longevity.

Although selected for both meat and dairy purposes, they have been especially prized for their quality of beef in the US since the 1960s. They excel in producing beef in pasture-based systems, and though calves are born small, they grow quickly.

Crossbreeding represents a danger to the breed, though, as the Red Poll risks being lost to commercial herd owners who want to capitalize on the breed's vigor. Red Polls need to be maintained in purebred herds as well. They are noted for their docility and even temperament and, like most cattle, respond well to gentle, consistent handling. Cows average around 1,200 pounds and bulls 1,800 pounds. They are an early-maturing breed, and can produce a choice carcass at about 14 months of age.

Milking Devon

One of the oldest purebreds in the world, the Milking Devon traces its ancestry back to the cattle of the southwestern peninsula of England, the Devonshire area, hence the name. Noted for being hardy yet active, nimble, and easy to handle, they were an easy choice for a 1623 voyage across the Atlantic Ocean.

Ox team in winter. Credit: Andrew Van Ord

Milking Devon cow and calf. Credit: Andrew Van Ord

A bull and three heifers made the trip from England to the American colonies and formed the Milking Devon breed we know today. The breed is now extinct in England.

Valued for their ability to produce lean meat and rich milk, Devon cattle were also prized as oxen, and were widely regarded as some of the finest draft animals in the world.

By the early 1900s, though, the Devon was rarely found outside of New England, where it was still heavily favored for its production qualities and draft power. In the 1950s, the original breed organization split into two groups, the Beef Devon and Milking Devon associations.

The Milking Devon is known for its ability to produce good-quality beef and milk on marginal forage and is a breed known as an easy keeper. Their milk is around 4% butterfat. Cows will average around 1,100 pounds and bulls around 1,600 pounds, their smaller size being suitable for farms with less acreage. They are intelligent docile cattle, and they respond well to quiet handling.

Belted Galloway

The Belted Galloway is native to Scotland, from the southwestern hill country. This rugged terrain called for cattle that were hardy and easy keepers. The breed was formally developed in the late 1700s and, while selection was made for a more standard appearance, the cattle retained their maternal ability, forage efficiency, and high-quality beef. Galloway cattle are solid colored, mostly black, but the belted variant developed from the same strain. While the Beltie, as it's fanciers call it, is a separate breed from the Galloway cattle, it remains quite similar. Both grow a shaggy coat in the winter, and are very cold tolerant. The shaggy outer coat sheds water well, and the softer undercoat holds in body heat. They have hair around their ears that helps prevent frostbite. They are naturally polled and known for their docile temperaments, as many of the heritage breeds are. Their striking belted pattern is a showstopper. The most popular color is black, but they are also found in red and dun colors.

Belted Galloway and calf. Credit: Karen Thornton

Milking Shorthorn

At one time the Shorthorn was the most widely recognized breed in agriculture and one of the first to become a true breed. One of the most famous Shorthorns in history is the Durham Ox. In 1806 at 10 years of age, he weighed in at 3,500 pounds. This drew much attention from those hoping to capitalize on meat and milk production.

The Shorthorn was initially brought to the United States in the late 1700s, and remained predominantly in the Ohio and Kentucky area until the late 1800s, when the breed's popularity spread throughout the rest of the country.

The Shorthorn has always been considered a triple-purpose breed—for beef, dairy, and draft power. However, some choose this breed primarily for meat production while others select for milk production. This division was reflected when the breed association split into two groups in the early 1900s: Beef Shorthorn, or Shorthorn for beef production, and Milking Shorthorn.

Known for being good in low-input, grass-based dairy systems, efforts have been generated to locate and preserve the unimproved Milking Shorthorn. They thrive in pasture-based dairy systems,

and even though the focus is on dairy, they still produce high-quality beef. They are a medium to large cow, with females weighing between 1,200 and 1,400 pounds, and bulls up to 2,000 pounds.

They can produce upwards of 13,000 pounds of milk during each lactation, and the milk is a respectable 3.3% protein and 3.6% butterfat.

Milking Shorthorns are known for their docile disposition and tractability, making this the breed of choice for oxen production in organizations like Tiller's International.

Pineywoods

Pineywoods, along with their "cousins," the Texas Longhorn and the Florida Cracker, are breeds descended from Spanish cattle brought to the New World in the early 1500s. They are collectively given the name "criollo" cattle, a term borrowed from Spanish and meaning "of European origin, but born in the New World."

Pineywoods were shaped by the environment of the Southern United States, primarily the long leaf pine forests of Alabama, Mississippi, and Georgia. Cattle were expected to get along with little human intervention or selection, resulting in a breed that is long lived, heat tolerant, and resistant to disease and parasites. Ironically, this hardiness nearly resulted in the Pineywoods becoming extinct, as they were crossed with more recent European breeds with the intention of "improving" the cattle in the south, and very few purebred cattle were kept.

Fortunately, a few families kept purebred Pineywoods herds, resulting in several unique strains, which bear the names of the families that raised them for generations. Many of these strains come with their own unique histories, which have fortunately been preserved as well.

Pineywoods are small, rugged cattle, with the angular appearance one would expect from extremely heat tolerant cattle. Cows weigh 600–800 lbs., and bulls 1,000–1,200. They can come in any color or pattern, although in some instances particular strains are noted for certain colors or patterns. Their calves are small but vigorous, and cows give birth easily.

Breed and Environment

Different breeds developed in particular environments, with traits that helped them thrive in those environments.

While it's possible to successfully raise a hot-weather-tolerant breed in a cold climate, you will need to invest substantially more in resources to keep welfare at a decent level than you would if you had chosen a breed more adapted to a cold climate.

It can be done, for sure, but it can be done better if you spend a little time

thinking about what your environment is going to throw at your cattle.

Temperament

Temperament is one of the key components to consider when deciding on a breed, or an individual cow. My experience has been that most of the heritage breeds, especially those on TLC's CPL (The Livestock Conservancy's Conservation Priority List) are known for having a good disposition. Many of these breeds were developed naturally because they fit a particular niche, whether it be environmental or production, not because someone went out and decided to build a breed with X characteristics. Very little, if any, effort initially went in to creating a uniform appearance, color, or other traits of that kind. There simply wasn't time.

When you depend on animals for your livelihood, you need animals that can get along without much intervention from you. And, by the same token, you don't have time or patience to put up with ones that are mean, flighty, or aggressive. Those traits do exist and may have their purpose, but not for a small holder with young children who will be doing much of the work involved in daily care of the animals.

So put a little thought into your experience level, environment, and who will be doing the day-to-day care of the cattle—and be honest about your situation. It will make life easier in the long run.

Where to Get Your Cattle

One of the best places to purchase cattle, especially if you are new to them, is from a breeder, especially if there is a particular breed that has captured your fancy. Breeders have a substantial investment in their animals and can tell you both the ins and outs of the breed and what you can expect from their particular animals.

Purebred breeding stock will most of the time be the more expensive choice, but it can be worth it in the long run.

If you are set on a particular breed, it may not be available locally to you, especially in the case of heritage or rare breeds.

It's no secret that we are huge advocates of heritage breed cattle, and we always recommend The Livestock Conservancy as a resource for people looking for a particular breed and also as a good resource for scientifically sound information on breeding and genetics.

They also publish a breeders directory free to members, and have online classifieds to help link potential customers and sellers together.

If there is not a particular breed that catches your eye, a neighbor who has cattle might be a good potential resource, if the type of cattle they have coincides with your needs and goals.

One of the last places I would recommend getting cattle is the sale barn. Yes, you can buy cattle for years from the sale barn and never have an ounce of trouble, but it takes only one bad situation for things to get expensive really quick.

The cattle at the sale barn may have come from a place where the animals are well cared for and perfectly healthy. But once at the sale barn, they mix with every other animal that has come through. There is no way for a sale barn to clean and disinfect between each lot of cattle, and the potential for an animal to pick up a problem is great.

Often people take cull cattle to the sale barn, cull cattle that might be healthy but not be up to the breed standard. They may also be nonreproductive, or have other problems not visible to the naked eye.

If the sale barn is the only option available to you, take some precautionary measures.

If you have cattle at home, quarantine newcomers for 30 days. Have your vet come out and do blood tests to see how healthy they are and check for any diseases. Do a fecal test for parasites, and deworm if necessary.

I know one individual who brought animals home only to discover they carried Johne's disease. This ultimately led to him having to dispose of all his ruminants.

Not a fun way to enter into your cattle adventures.

Selecting Breeding Stock

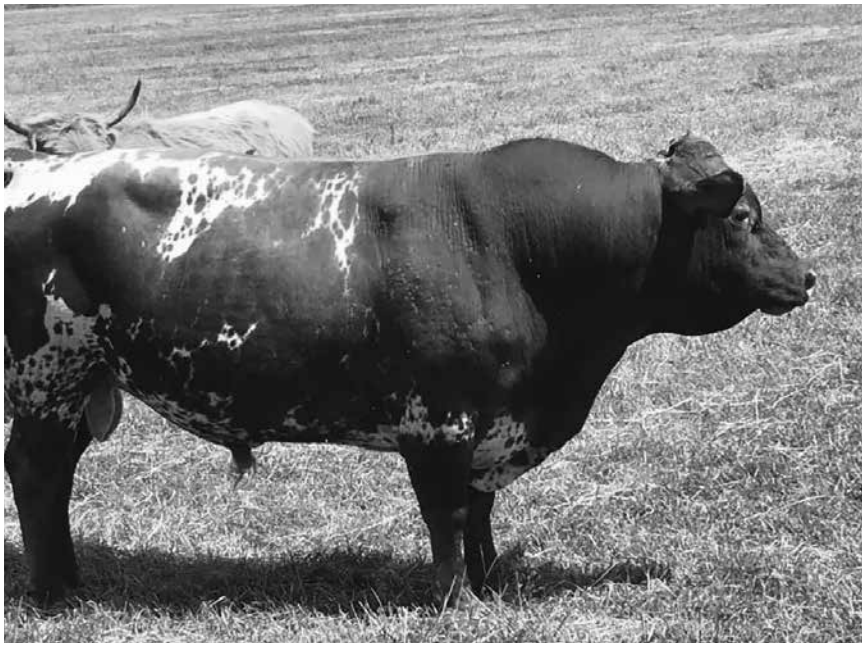
One of the key phrases you always hear when talking about breeding animals is that they look "masculine" or "feminine." Other than aesthetics, there is some sound biology to go with both of those words.

In hoofstock herds, the male's job is not only to breed females, but to defend his harem from other males and from predators. To that end, he needs to be able to present an impressive display of his attributes, enough to stand up to challenge or at least to discourage rivals from attempting a challenge. A breeding male needs to be robust enough to get the job done, breeding multiple females in a short window of time.

So, there is definitely a reason for a bull needing to appear masculine.

A bull should have wide shoulders, a thick neck and a coarse head. Wide shoulders and a thick neck give him power when sparring with rivals, and a coarse head has strong bone to back it up during a challenge. A strong front end enables him to mount and breed successfully.

A bull should be muscular. Not just blocky like a feedlot steer, but the muscle should be well defined. A muscular bull will have a well-functioning endocrine



Pineywoods bull.
Credit: Hank Will

system and be at a higher level of fertility than a less muscular animal. He should have a wide chest and a deep heart girth. A bull's power is in his front end, and his appearance should reflect that.

He should have good, correct legs that are not too straight. Overly straight legs will, in the long term, not stand up (pun intended) as well as legs that are set well under the bull.

Both testicles should be the same size. If one is smaller than the other, this may be a sign of an infection or other fertility issue. The scrotum in a fertile bull should have a "buckskin" appearance and be covered with short, sparse, fine hair that will protect it from the elements and not retain heat. In hot weather a bull's testicles will descend away from his body so they don't get too hot. Elevated temperature is very hard on spermatozoa. Likewise, in winter they will be held closer to the body to stay warmer.

A cow should look feminine, which is a result of her reproductive hormones functioning properly. In contrast to a bull, whose power is in his front end, a cow's power is in her back end. A cow should have wide hips, and deep hindquarters. Her front end should be sleek, and the largest proportion on her should be her gut. A large gut capacity will allow her to eat a hefty amount and so be able to

Pineywoods heifer.

Adult Pineywoods cow.

supply nutrition, both for herself and for her calf.

Her udder should be well formed, attached close to her body in the case of a beef cow. A dairy cow, due to increased milk production, will have a larger udder, but it should still not be pendulous, which is an invitation to injury. Teats should not be too small or too large. Large teats will be difficult for a calf to nurse from.

Health Papers

When transporting cattle across state lines, a health certificate of veterinary inspection is required. Some states require a permit; all require some form of permanent identification, such as a tag or a tattoo.

Movement into and out of some states was restricted at one time, but with brucellosis being all but eradicated, and all 50 states sharing the same brucellosis-free status, this has gotten much easier.

Tracking movement of cattle between states allows monitoring of disease outbreak and can help keep a small outbreak from becoming a major one.

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1 Holstein Association USA, *https://www.holsteinusa.com/pdf/fact_sheet_cattle.pdf*

2 Brown Swiss Association, *https://www.brownswissusa.com/Breed/BrownSwissBreed/BreedAttributes/tabid/175/Default.aspx*

3 "Why Jerseys," USJersey, *https://www.usjersey.com/Portals/0/AJCA/2_Docs/WhyJerseys2013.pdf*