



Myotonic Goats

Raising and understanding Myotonic goats. The curious, docile nature of Myotonic goats only adds to their appeal

Courtesy Pat Cotten

A long time ago, around the early 1880s, a farm laborer named John Tinsley arrived in Marshall County, Tenn., in the company of four goats and an animal he called his "sacred cow."

The old man wore unusual garb and spoke with a brogue, but exactly where he came from, no one knows. J. M. Porter of Caney Spring hired John Tinsley to work for him for a spell; before long, Tinsley's goats were the talk of the hills because they stiffened and sometimes fell over when startled.

They piqued the interest of Dr. H. H. Mayberry so much that he offered to buy the goats. Tinsley initially declined the doctor's offer, but eventually sold them to Mayberry for \$36.

About a year later, Tinsley and his sacred cow left the hills, never to be heard from again. The buck and three does he left behind with Dr. Mayberry were the first known "fainting goats" in Tennessee.

Mayberry raised kids from his fainting goats and sold them to farmers throughout Tennessee and Kentucky.

Gradually they spread throughout the Southern states, where they became known as Tennessee Fainting Goats, Nervous Goats, Stiff-leg Goats, Scare Goats and a dozen or so additional, colorful names. During the 1930s and 1940s, they made their way to Texas, where they evolved as bigger, meatier goats.

Muscles contract when startled or scared

Episodes are painless; goats remain awake until the stiffness passes.

Photos by Rhoda Peacher

Eventually the muscles slowly release.

Over time, their numbers dwindled until, in 1988, they were added to the American Livestock Breed Conservancy's Conservation Priority List and officially declared an endangered breed.

There they remain, although an ever-increasing number of hobby farmers and goat admirers are embracing this unusual, all-American breed.

Fainting Goats Don't Faint

While many Myotonic goat breeders refer to their animals as "fainting goats," Myotonic goats don't actually faint. They're affected by a genetic disorder called myotonia congenita that, when the goats are startled or scared, causes skeletal muscles, especially in their massive hindquarters, to contract, hold and then slowly release.

Episodes are painless and the goats remain awake (they often continue chewing food they have in their mouths) until the stiffness passes. According to Myotonic Goat Description, 2005, by D. Phillip Sponenberg, DVM, Ph.D., and Barbara Roberts, accepted degrees of stiffness in registered Myotonic goats include: Level 1 Never observed to stiffen, but other type traits are consistent, as is pedigree. Level 2 Very rarely stiffens, never falls. Level 3 Stiffens only occasionally and rarely falls. Level 4 Walks normally with no swivel. The rear limbs lock up readily, the forelimbs less so, and goats with this degree of stiffness rarely fall to the ground. Level 5 Animal walks relatively normally, although somewhat stiff in the rear and with a swivel at the hip. Rarely stiffens when startled or stepping over a barrier. Level 6 Animal always moves stiffly to some degree and readily becomes "locked up" when startled or stepping over a low barrier. Levels 4 and 5 are typical. Level 1 Myotonics are called "limber goats" or "limber legs"; they're atypical and rarely used in responsible breeding

Courtesy Renee Orr/MSFGA

Miniature Silky Fainting Goats, with their lustrous, floor-length coats and eye-concealing bangs, are intended to resemble



Silky Terrier dogs. programs. Some breeders select for extreme stiffness and others don't, but myotonia is the primary hallmark of the breed.

More Myotonic Goat Characteristics Myotonic goats are stocky, muscular and wide in proportion to their height. They range in size from 50 to 175 pounds and more; the strains developed in Texas are typically taller, heavier goats. Myotonics' medium-sized ears are carried horizontally, they have prominent eye sockets and their facial profiles are usually concave. Most are horned; horn styles vary greatly from large and twisted to simple, swept-back horns. The average Myotonic goat is shorthaired, but some have longer, thicker coats; the coat should be straight, not wavy. The most common color is black and white, but Myotonics come in all colors, patterns and markings. They're easy keepers, adaptable and they tend to be parasite-resistant. Most breed year-round, and twin and triplet births are the norm.

Breeders Talk about Their Myotonic Goats

Mike Schmitz of Pine Acres, Pine City, Minn., is among the legion of fainting goat fanciers who breed traditional, Tennessee-style Myotonic goats.

"I got my first fainting goats in 2001," he says when asked how he became involved with the breed. "I was searching the Internet for an Angora goat to get as a gift for my friend who spins; I came across fainting goats and really wanted some. At first I was attracted to them as a novelty, as many beginning fainter breeders are, but now that I've had them, I love their docility, their curiosity, ease of handling and easy confinement in fencing. They come in many colors, sizes and coat lengths. They're usually great mothers and very hardy.

Myotonia Congenita (it isn't just a "goat thing")

Goats, dogs, cats, horses, mice, water buffalo and humans; all can be affected by myotonia congenita, the cell disorder that makes fainting goats "faint."

Myotonia congenita is an inherited, neuromuscular disorder caused by mutations in the CLCN1 gene and characterized by the inability of muscles to relax after contraction.

The CLCN1 gene provides the body with instructions for manufacturing a protein that is critical for the normal function of skeletal muscle cells. The flow of charged atoms (ions) into and out of muscle cells controls muscle contraction and relaxation.

Normally, protein produced according to instructions from the CLCN1 gene forms a channel that controls the flow of negatively charged chlorine ions into muscle cells. This channel stabilizes the cells' electrical charge and this, in turn, prevents muscles from contracting abnormally.

Mutations in the CLCN1 cells alter the structure of chlorine channels so that they can't properly regulate ion flow; this disruption in chloride ion flow causes prolonged skeletal muscle contractions, the hallmark of myotonia congenita.

Myotonia congenita affects an estimated 1 in 100,000 people worldwide, although it's more common in northern Scandinavia, where it occurs in approximately 1 in 10,000 people.

Two forms affect humans: Thomsen disease and Becker disease. The most common form, Becker disease (named for Dr. Julius Becker, the Danish physician who described the disease, citing episodes experienced by his own family members), causes more pronounced muscle stiffness than Thomsen disease, particularly in males.

Many people with Becker disease also experience temporary attacks of muscle weakness, particularly in the arms and hands, that are often triggered by movement after periods of rest; this muscle weakness isn't seen in people with Thomsen disease.

People with Thomsen disease inherit the condition in an autosomal dominant pattern; typically, affected persons have one parent with myotonia congenita.

Becker disease is inherited in an autosomal recessive pattern; in most cases the parents of a person with Becker disease each carry a copy of the mutated gene although they don't experience symptoms of the disorder.

Although myotonia can affect any of the body's skeletal muscles, it occurs most often in the legs. The good news is that while myotonic muscle stiffness can interfere with movement, the condition isn't painful.



Researchers at the University of Minnesota are currently studying foals affected by equine myotonia congenita. The affliction manifests somewhat differently in horses, causing affected foals to develop a cramp within a muscle group that produces a noticeable bump with a dimple beneath it.

Very young foals affected by this type of myotonia have well-developed musculature, but in time, their muscles waste and the foals develop a pot-bellied appearance.

Chow Chows, West Highland Whites, Great Danes, Staffordshire Bull Terriers and Labrador Retrievers all experience canine myotonia congenita,* but to date, DNA tests have been developed to pinpoint carriers in only two breeds: Miniature Schnauzers and Australian Cattle Dogs.

The condition is being studied in cats, as well.

* Canine and Feline Genetic Musculoskeletal Diseases, Gert J. Breur

“My goats are my hobby. They give me a reason to get going every morning in any kind of weather,” Mike adds. “I find it therapeutic to just hang out with them. I enjoy planning breedings, evaluating their conformation, watching kids be born and grow. Cleaning up after them and constantly working on fencing, shelter and feeders gives me physical activity. Unlike some breeders, I don’t expect to make money from my goats; people whose hobbies are fishing or snowmobiling or gardening don’t expect to make money from those things. However, some breeders are actively promoting their practical uses, particularly meat production. Many are opposed to that, but in my opinion, having a practical use is what will help preserve this breed.”

Two breeders who agree with Mike’s observation are Lisa Johnson and Pat Cotten, both of whom raise improved, meat-type Myotonic goats.

Lisa and Myron Johnson of Coyote Creek Ranch near Gainesville, Fla., raise a strain of black-and-white Myotonic meat goats they call Tennessee Mountain Ghosts.

When asked about their goats’ unusual name, Lisa replies, “In Tennessee, goats with these markings were once known as ‘Mountain Ghosts’ because herds of these animals roamed through the mists and valleys of the mountains; folks swore they looked like ghosts moving in and out of the shadows.”

The Johnsons’ Myotonic Mountain Ghosts are incredibly beautiful animals; short of leg and massively built, with sleek, wildly spotted hides. They’re medium-sized meat goats and that, Lisa tells us, is a very good thing.

“We’ve been raising goats since 1976 and it’s not uncommon for us to have 400 goats here on the ranch at any given time. In 1997, we purchased our first fullblood Boer goats, as it was our understanding that 100-pound market goats were in demand.

“We thought the large size and fast growth of the Boer would fit this niche, but it turns out that our best market is for 40- to 60-pound kids.

Myotonic goats are a moderate-growth breed; we need growth, but don’t want our kids to outgrow every holiday. With that in mind, weight gains aren’t our major concern. We’re more interested in how much it costs to maintain does throughout the year and it costs less to maintain medium-sized does.”

When asked what she likes about Myotonic goats, Lisa replies, “Myotonic goats don’t jump or climb and they aren’t escape artists! We can stretch one strand of hot wire 12 inches above the ground and they stay put. Myotonic goats have a high meat-to-bone ratio, and they’re feed-efficient and quiet. They’re efficient browsers and require little supplementary feed to maintain condition. The does are extremely maternal and they’re gentle with other does’ kids.

“Our mature breeding bucks are non-aggressive and easily handled—we move them from field to field on leads. These are hardy goats not requiring extra care and pampering. As medium-sized goats, they require less feed and less dewormer, they take up less pasture space and they fit in smaller shelters. A producer can run twice as many head on his land compared to larger breeds. They’re happy, healthy, well-adjusted and well-adapted.”

Pat Cotten concurs. Pat and her husband, Clark, raise Tennessee Meat Goats, TexMasters and Boer goats on their Bending Tree Ranch near Damascus, Ark. Their Tennessee Meat Goats are members of a massively muscled,



trademarked breed developed by Suzanne Gasparotto at Onion Creek Ranch in Lohn, Texas. Gasparotto maintains the largest herd of Myotonic goats in the United States. Pat and Clark's Bending Tree Ranch is an Onion Creek Ranch satellite operation.

"The Myotonic breed," Pat says, "is listed as a rare breed with the American Livestock Breeds Conservancy, so there aren't enough of them available to be considered a slaughter animal for the meat market. However, Myotonics have a very valuable contribution to offer the meat goat industry.

"Research done at Virginia State University reveals a meat-to-bone ratio of 4:1, significantly higher than other breeds. Dr. Lou Nuti of Prairie View A&M University's International Goat Research Center has proven that a 6 to 10 percent greater meat yield is achieved by using a Myotonic buck on other-breed does. This means less waste and more money in the producer's pocket."

Recognizing that there are many facets of the meat-goat industry and that some markets require larger animals, in 1995, Gasparotto began crossing Tennessee Meat Goat bucks with Boer and Boer-cross does. After many generations of select breeding, always using Myotonic and Tennessee Meat Goats as sires, she trademarked her new composite breed: the TexMaster. TexMasters are significantly Myotonic with just enough Boer to add a bit of faster growth.

"We're sold on Myotonics and truly believe the TexMaster is the answer to the commercial meat breeders market. These goats are more laid-back than any other breeds we've raised. They're more intelligent and more alert to what's going on around them. It's hard to get one to turn its back on you; they want to face you, watching you, and it's hard to take photos of them because of this. The bucks are docile and the does are very protective mothers and easy kidders. Both breeds are good milkers and tend to have tighter-fitting udders than Boers or other breeds. Adults don't jump on things or tear up fencing like other breeds of goat. Best, they consume less feed than my Boers, but are just as profitable. That's an important consideration for goat-meat producers."

Miniature Fainting Goats May be Raised at Pets

At the opposite end of the spectrum are miniature Myotonics raised as pets. Traditional miniature fainting goats can stand as little as 17 inches tall measured at the shoulder and weigh no more than 50 pounds. And for miniature goat enthusiasts who prefer something different, there are Miniature Silky Fainting Goats with long, flowing hair.

Miniature Silky Fainting Goats, with their lustrous, floor-length coats and eye-concealing bangs, are intended to resemble Silky Terrier dogs. Renee Orr, who developed the breed at Sol-Orr Farm near Lignum, Va., tells how these wee goats came to be.

"In the early 1990s, fainting goat breeder Frank Baylis and I met Gingerwood, a registered Nigerian Dwarf buck who had a long coat and a head full of hair, including thick, curly bangs. He was adorable! Later, Frank bought Gingerwood and crossed him with some of his smaller fainters. Frank produced some small, long-coated fainting goats, but lost interest and sold the entire herd so he could concentrate on his traditional Tennessee fainters.

"Later, Frank bought a longhaired, polled fainting buck in Alabama and more long-coated fainters started showing up. I was already breeding Nigerian Dwarfs, so I began thinking about developing a new breed the size of my Nigerians, but with the distinctive look of longhaired fainters; I also thought Nigerians would add more color to the mix.

"In 1998, two long-coated fainting bucks named Bayshore's Rogues Pierre and Bayshore's Napoleon were born into Frank's herd. I began breeding Pierre and Napoleon to Nigerian Dwarf does with long hair and that I knew had fainters in their background. They immediately produced long hair and some of the first-cross animals fainted.

"The look caught on and in 2005 the Miniature Silky Fainting Goat Association was born. Now we have 49 registered breeders and more than 700 registered goats. We hope your readers will join us!"

Myotonic breeders have developed sturdy, colorful fainting goats of every sort and size. As a result, there are Myotonic goats for every taste and purpose—probably even yours.

About the Author: Sue Weaver is an HF contributing editor who raises livestock on her farm in Arkansas. Special thanks to Lisa Ohling and Allan Ahart of Ahart Acres in Lebanon, Ore., who worked with Rhoda Peacher to photograph their goats. See all the photos in the Nov/Dec 2007 Hobby Farms, available for purchase online.

This article first appeared in the November/December 2007 issue of Hobby Farms magazine.