

## TENDERNESS BREED INFO

Pinzgauer breeders have DNA tested for tenderness for many years. Nine of the ten original Pinzgauer bulls imported into the United States and to date over 80 bulls have been tested for tenderness.

### DNA Update

By Paul Swisher

As of Oct 06 there have been a total 79 Pinzgauer cattle tested for GeneSTAR tenderness markers. 67 animals tested GeneSTAR 2 Stars or better(84.8%) This is better than Angus and Angus-X. Only 1 tested GeneSTAR 0(1.26%) compared to 17% for Hereford.

Tenderness is heritable, therefore TENDER SIRES HAVE TENDER CALVES. No single trait should be used to select sires but when you consider the docility of Pinzgauers, the mother ability, the early maturity, the climate adaptability and ease of maintenance, Tenderness should be the final straw for selecting PINZGAUERS.

Three bulls have been tested through TenderGENE. The TenderGENE results were 2, 3 and 4. The last was 4 GG CC TT.

GeneSTAR is handled in the United States by BOVIGEN LLC:  
website: [www.bovigen.com](http://www.bovigen.com)  
phone: 1-877-BEEFDNA

TenderGENE is handled by IGENITY:  
website: [www.igenity.com](http://www.igenity.com)  
phone: 1-877-IGENITY

You can order testing kits and get more information from either on-line or telephone. Both testing companies provide all necessary test collection materials and complete instructions. They both offer additional DNA Testing for Sire identity, homozygous black, marbling and others.

Tenderness is becoming more and more important. It may soon become the most important factor in selecting top quality beef. Restaurants and retailers are demanding tender beef and have learned you can get a tough unacceptable choice marbled steak. As this demand increases breeds with superior genes for tenderness will benefit, both in numbers sold and price received. Pinzgauers have the proven tenderness that the market demands. Pinzgauers are a unique breed in they have a DNA track back to the original cattle that were imported into the United States. Tenderness is heritable.

Commercial breeders should strongly consider using Pinzgauer bulls. A 2 Star Tenderness bull will only have 2 or 1 Star calves. Not only will they improve the tenderness but also gain maximum hybrid vigor of Continental/British cross breeding. **It is a Win-Win situation!**

## No More "Tough" Steaks - Thanks to DNA "Tenderness" Testing

Everyone is familiar with the advances made in DNA testing for humans but this technology is now being utilized for animals as well.

At the Sunbelt Agricultural Exposition October 19-21, 2004, in Moultrie, GA, the Southern Pinzgauer Group will be conducting a seminar on the "DNA Tenderness Test" for beef cattle.

Paul Swisher, Tenderness Coordinator for the American Pinzgauer Association, will give a "hands-on" demonstration of the proper way to collect the samples needed to DNA test a bull for tenderness. He also covered the methods used to test female cattle and calves.

"Think of the ways you could promote the calves your bull produced if you knew how tender the meat of his calves would be," Swisher said. "And, the DNA test is a simple task which can be done during normal inoculations."



Pinzgauer T\_Bone, Genestar 2 Tested Daddy, and all the Silverwear that you need, 2 Forks and a Butter Knife

**Can't get any better than that**

Swisher said the high-tech DNA testing starts with a low-tech sample--15 to 20 tail hairs (with the hair follicles attached) from the middle of the switch (the fat part of the tail hair). This hair sample is then placed in a test envelope and sent to a laboratory for a DNA mapping of tenderness.

“We will have a good supply of the laboratory’s sample kits at the Sunbelt Expo,” he said.

The laboratory process is identical to that used in human DNA testing, Swisher explained. In beef cattle, the DNA test can identify a cow’s parents. There is also a genetic marker for potential tenderness, which is an inherited trait. Two enzymes play a part, one inhibiting and one encouraging cell breakdown. There are markers for other traits--such as the color black, which is important in certain breeds, and the amount of marbling expected from the meat for USDA grading.

According to Phil Peoples, also of the Southern Pinzgauer Group, a Carcass Tenderness report by the Meat Animal Research Center in Nebraska indicated four beef breeds-- Pinzgauer, Red Poll, South Devon, and Piedmontese—rated outstanding in the area of transmitting tenderness to the beef carcass, with the Pinzgauer coming in as “most tender.”

A marketing study at Kansas State University revealed that consumers will pay \$2.67 more per pound for guaranteed tender meat. A ranch in West Texas is already conducting tenderness tests, with the cows rated high in tenderness prepared as steak cuts while those that do not pass the test are ground into hamburger meat.

“This ranch—by guaranteeing the meat’s tenderness--is getting \$49.95 for two 8-ounce tenderloins and they can’t keep them in stock,” Swisher said.

Two-thirds of all Americans have had an unsatisfactory experience at a restaurant serving “tough” meat, he added.

This is not meat that tasted bad. It is a direct reference to the quality of tenderness,” said Swisher. “This has created a trend toward private label or branded beef as opposed to mass production.”

## **Beef Characteristics (From Everhope Pinzgauers)**

The Pinzgauer breed has been included in studies performed at the USDA Meat Animal Research Center for many years. These studies have shown that Pinzgauers produce meat that is among the most tender of any beef breed and that routinely exceeds other breeds in juiciness and flavour. Because of the enzyme makeup of these animals, (calpains and calpastatin), the meat retains its tenderness without the use of artificial chemical processes. The inbred docility of the Pinzgauer also decreases the likelihood that carcasses will be dark cutters.

As reported in the Journal of Animal Science in 1994, research showed that Pinzgauers had the highest score (5.16) for marbling among the European Continental breeds. This same report showed that although Pinzgauer had a mean marbling score similar to that of Hereford, they had 9.27% less rib fat and 7.3mm less 12th rib adjusted fat thickness. The mean shear force, as measured with the Warner-Bratzler Shear Force test, showed that Pinzgauer beef was the most tender at 4.47kg of eight other breeds tested including Angus, Hereford, Limousin and Charolais. On sensory panel scores, Pinzgauer scored highest in flavor of all breeds tested and among the highest in juiciness.

**Pinzgauer beef provides the best of both worlds...tender, juicy, flavorful beef without a lot of fat or waste.**