

SANTA GERTRUDIS BREEDERS INTERNATIONAL



Post Office Box 1257 | Kingsville, Texas 78364
(o) 361.592.9357 | (f) 361.592.8572
www.santagertrudis.com

DATA DRIVEN. PROFIT PROVEN.

Data Driven

Influx of Data, New Genetic Tools Launch Santa Gertrudis to Greater Heights

By Jessie Topp-Becker, Freelance Writer

It's been nearly eight decades since the U.S Department of Agriculture (USDA) recognized Santa Gertrudis as a distinctive beef breed. Santa Gertrudis breeders have long admired the breed for its maternal traits, feed efficiency and ability to adapt to harsh environments, but the breed has often stayed in the shadows due, in large part, to a *Bos indicus* bias from a portion of the beef industry.

In the last decade, the tides have changed. Santa Gertrudis is no longer a small breed with limited performance data and genetic tools; instead, it's an innovative breed using cutting-edge tools and technology to compete globally with other breeds. This dramatic shift is the result of leaders with vision, committed breeders and a knowledgeable geneticist.

King Ranch® Legacy

King Ranch developed the Santa Gertrudis breed of cattle in the 1920s in response to a need to have cattle that could perform in the challenging South Texas environment. Since the breed was recognized by the USDA in 1940, the King Ranch has continued to breed and develop Santa Gertrudis cattle, using them as seedstock for their commercial cattle operations. Simultaneously, cattlemen throughout the United States, Mexico, South America, Australia and other countries also took interest in the breed and started using them in commercial herds and/or establishing seedstock operations.

After decades of building its Santa Gertrudis seedstock herd with a focus on fertility, longevity and performance in their tough environment, King Ranch began collecting and utilizing data with the ultimate goal to remain competitive in the beef industry. In 2003, King Ranch began working with John Genho, now the senior director of technical services at Neogen Corporation, to collect data and develop a genetic evaluation program. The result was its own within-herd Expected Progeny Difference (EPD) system.

Since launching the within-herd EPD system, carcass quality has been a primary focus, while still maintaining selection pressure on maternal, growth and functional

SANTA GERTRUDIS BREEDERS INTERNATIONAL



Post Office Box 1257 | Kingsville, Texas 78364
(o) 361.592.9357 | (f) 361.592.8572
www.santagertrudis.com

DATA DRIVEN. PROFIT PROVEN.

traits. In the last decade, King Ranch has made dramatic improvements to its Quality Grades.

“We have seen an increase in our percent Choice and Prime Quality Grades of more than 70 percent, and we have maintained growth and continued to improve fertility simultaneously,” says Tylor Braden, area manager for cattle operations at King Ranch. “It’s the definition of a balanced approach, and what we believe is the most profitable long-term approach.”

King Ranch recently created its own suite of fertility EPDs, including Heifer Pregnancy, Breed Back and Stayability EPDs, as well as its own Fertility Index.

“While we do highly value RFI and feedlot feed efficiency, and consider these traits, along with carcass traits, in our selection process, our top priority continues to be to select for and make the most fertile cows possible,” Braden explains. “We go to extensive lengths to manage our correlations between traits to make sure we never sacrifice cow efficiency.

“We still breed cattle today with the original focus, which we started, and that’s to make the most profitable animal we can,” Braden adds. “It’s why we’ve made such dramatic improvements.”

Decades of data collection, balanced selection pressure and a focus on profitable production in challenging environments resulted in King Ranch Santa Gertrudis cattle that had growth, fertility and carcass quality – and the data to prove the performance. The value of such a large data set to the entire Santa Gertrudis breed became obvious and a few years ago, King Ranch offered to share the data with Santa Gertrudis Breeders International (SGBI), hoping it would help launch the breed into a new era.

New Tools, New Possibilities

In 2012, King Ranch loaned all its Santa Gertrudis herd data to SGBI. There was only one catch – the data must be used to help promote the breed. During a time when the issue of data ownership is top-of-mind for many breeders and breed associations, King Ranch’s decision to voluntarily share its data with SGBI is almost unheard of.

SANTA GERTRUDIS BREEDERS INTERNATIONAL



Post Office Box 1257 | Kingsville, Texas 78364
(o) 361.592.9357 | (f) 361.592.8572
www.santagertrudis.com

DATA DRIVEN. PROFIT PROVEN.

“King Ranch continues to move forward, looking for new tools that are beneficial to the breed,” says John Ford, SGBI executive director. “It’s great to have a member who has that kind of vision and is willing to work for the betterment of the breed.”

That data set, along with the association’s dataset collected by other Santa Gertrudis breeders, enabled SGBI to strengthen the breed’s genetic evaluation.

Santa Gertrudis was the first beef breed to utilize the single-step model, which most other breeds have now adopted, that utilizes genomic relationships to estimate the genetic merit of an individual animal. In 2013, SGBI released the first genomic-enhanced (DNA-verified) EPDs for *Bos indicus*-influenced cattle.

“As a breed, we’ve been quietly taking some very positive steps forward that have, in turn, benefitted the whole industry,” Ford says.

“The single-step methodology allows all breeds the opportunity to develop genomic-enhanced EPDs,” he adds. “Whereas the double-step methodology would’ve been cost prohibitive to a majority of breeds in America and limited genetic improvement across all breeds within the industry.”

Just five years later, the association released two new fertility EPDs – Heifer Pregnancy and Breed Back – and a new genetic selection tool, Igenity® Santa Gertrudis, a DNA-verified genetic selection tool that enables ranchers to evaluate candidate replacement heifers sired by registered Santa Gertrudis bulls.

“We’ve got some of the best tools within the industry for our seedstock producers to make breeding or mating decisions,” Ford says. “But we’ve also got indexes and tools for our commercial cattlemen – the kind of tools that don’t overwhelm them.”

Breeders Helping Breeders

While King Ranch’s contribution helped strengthen the breed’s genetic evaluation, breeder support was key in the breed’s ability to make such drastic changes in a relatively short time frame. Ford, Genho and Braden agree that all SGBI members played a vital role in building the data set that has allowed the association to provide a suite of valuable tools to its members.

“There’s a whole lot of people who have brought this together,” Braden says.

SANTA GERTRUDIS BREEDERS INTERNATIONAL



Post Office Box 1257 | Kingsville, Texas 78364
(o) 361.592.9357 | (f) 361.592.8572
www.santagertrudis.com

DATA DRIVEN. PROFIT PROVEN.

“You have a lot of people who came together at the right time to adopt technology and develop tools, and then use those tools,” Genho adds.

SGBI members have come on board in unique ways; some by providing DNA results, others by collecting carcass data and others by ultrasounding their cattle.

“They are definitely participating and are improving their cattle because of the data they’re turning in and the tools they’re using,” Genho says.

After working with the breed for the last two decades, Genho has had a front-row seat to the 360-degree turnaround.

“It’s a cool process to watch a group of people who weren’t innovators 20 years ago, become innovators,” he says. “It’s neat to watch people pick up technology and say, ‘this really works; we can use this.’ That’s really what happened – they have become innovators.”

Significant Improvements

The influx of data and, ultimately, the variety of new tools available to breeders have had a profound impact on the breed – enabling breeders to better identify profitable genetics and put selection pressure on the traits the breed needed to improve.

Carcass quality is one area that was in desperate need of improvement. *Bos indicus*-influenced breeds aren’t often recognized for carcass quality, but Santa Gertrudis is changing that. Nearly seven years since implementing the single-step method the results speak for themselves. Cattle in the 2018 SGBI Steer Feedout graded 96 percent Choice, with 51 percent hitting the Premium Choice mark.

The new tools have allowed breeders to put selection pressure on carcass traits, but Ford is confident Santa Gertrudis cattle have always been capable of grading well.

“Once we had these new genetic tools in place, we were better able to identify those genetics within our population that helped us make these improvements,” Ford says.

While breeders have increased their selection pressure on carcass traits, the tools have also allowed them to keep a close eye on reproductive, efficiency and growth traits – traits that have the greatest impact on profitability for cow-calf herds.

SANTA GERTRUDIS BREEDERS INTERNATIONAL



Post Office Box 1257 | Kingsville, Texas 78364
(o) 361.592.9357 | (f) 361.592.8572
www.santagertrudis.com

DATA DRIVEN. PROFIT PROVEN.

“I hope the Heifer Pregnancy and Breed Back EPDs are just the beginning of the maternal-type traits,” Genho says. “Because ultimately, most of the profitability in bull selection has to do with maternal ability in the cow-calf segment, not carcass quality.”

“While prioritizing your genetic selection to maximize calf production yields higher short-term dividends, selecting to maximize cow quality and fertility maximizes long-term profitability and operational sustainability,” Braden adds.

Validating Profitable Performance

In recent years the association has used the tagline Data Driven...Profit Proven. And while the results from the steer feedout and individual operations are positive and exciting, it's not the only way the association is working to validate this information. SGBI has progressively sought out research partners at the university level.

Over the last two years, the association has announced research projects at Auburn University and Utah State University, while simultaneously working to identify additional research opportunities to validate the breed's profitable performance.

“Sometimes I feel like we're off the industry radar,” Ford says. “A lot of people don't think of Santa Gertrudis, but we remain out here on the cutting edge of genetic technology and also eager participants in the kind of research that validates profitability for commercial cattlemen.”

Not unlike other *Bos indicus*-influenced breeds, Santa Gertrudis fights for acceptability in the marketplace, especially as it relates to carcass quality and fertility. Today, with nearly 11,000 genotypes on record and data to back up the breed's claims, Santa Gertrudis has earned its rightful place in the beef industry.

“We have a stigma of being a small, niche breed, but we have a place at the table to compete with any breed across the nation at any level,” Braden says. “We are not a carcass breed and we are not strictly a maternal breed; we can play in both arenas.”