



# "Balance"

## The pendulum of breeding Angus

HOW DO WE IMPLEMENT GENOMICS WITHOUT SACRIFICING BREED CHARACTER

THE VOICE OF THE PEOPLE

By Tyler Musgrave

Without question genomics is the biggest discussion on the table among Angus enthusiasts around the world. This relatively new technology coupled with traditional data collection is a new dynamic that is presenting conflicting theories and interesting discussion. Are we putting too much emphasis on genomics and forgetting about the physical characteristics Angus are famous for?

The American Angus Association is viewed around the world as the industry leader, they have promoted the Angus brand so well it can be recognized by almost every household in America. With the largest ongoing database of Angus genetics and field data, the Association is the driving power of the cattle industry. All the while, they have been instrumental in the branding of this breed, Angus cattle are inherent of qualities that make them superior. Other breed Associations have been managed by similar leadership and collected similar data but lacked one thing- the qualities Angus cattle possess, like, feed-conversion, udder quality, calf vigor, breeding soundness, birth weight size, disposition, fleshing ease, hair coat, excreta... The Angus breed has been enhanced over the course of time by using multiple tools, but they already had many genuine Angus characteristics in their favor.

Now, we all know genomic testing through DNA has been around for a while, it's not a brand-new concept for many of us. Today with the Angus GS test we can test for 18 useful traits by using an animal's DNA. This test ranks cattle for basic traits such as birth weight, weaning weight, milk, scrotal, as well as inheritable carcass traits. As a fellow Angus breeder, I have been submitting DNA samples since this technology was first introduced. My father, brother, and I have been in the seedstock business for several decades now, much longer than genomics has been in business. After using this tool for genetic evaluation, it has proven to be highly accurate in most scenarios, but not accurate enough to take it to the bank. We have to remember it is a genomic test used with collected DNA data, not a "tell all" DNA test used on a crime scene in a TV show.

Many of you know, several of our sires are used through artificial insemination. This allows sires to be used across a wide array of females and in many different environments. Keep in mind, all of our sires have genomic profiles. I can remember one sire in particular. He ranks in the top 1% of the breed for birth weight, through genomics. When the first calves were born across the country I was getting reports of birth weights that range from 55-90lbs. Most breeder's calves ranged in the 55-75 lb bracket, but one had calves in the 85-95 lb bracket. To me, it was obvious this was an environmental factor, but at the same time I had to provide

an answer for why they were bigger than expected. It was hard to imagine that this sire I had such high expectations for would have any faults with his birth EPD, especially since the genomics ranked him in the top 1%. In result, the breeder was happy with his calves because even though they weren't what they expected the calves looked good and had awesome vigor.

Then we have the anomaly animals, the cattle that gain and perform at the top of the contemporary, but rank below breed average for growth through genomics. For instance, the calf nursing his mother in the picture above, he was pictured here at 7 months of age and posted an actual weaning weight of 952lbs to ratio 113. While he ranks in the top of his contemporary group of 51 head genomics rank him below average for weaning and yearling weight. Another example is the calf that ratios well under 100 at weaning and yearling but, ranks in the top of the breed for growth. Anyone who has submitted genomics can relate to this. No matter what trait is being compared, some differences aren't what meets the eye. It's times like these we ask ourselves why did this happen and why did I just spend \$ to move my animals EPDs in the wrong direction. Furthermore, giving them a higher accuracy that may give false expectations.



Let's not forget while genomics and EPDs are a useful tool they don't predict traits like udder quality, head shape, length and squareness of top, softness, rib shape, length of neck, or leg set and don't forget the bone.

This breed was built by great people who had a common goal to improve cattle through visual selection. Selecting cattle for actual

DVDs, DVRs, Hoppers, Firesticks, Amazon, Google, Twitter, Facebook, and Alexa. I'm sure I forgot a few but you get the point. In today's world we have the need to know "right now". None of us want to wait, if we do someone may beat us to "it". That's the world we live in today. With all of these gadgets I often find myself looking, for data through EPD sorts, at sale books online, looking for the latest news on Facebook, looking through 100+ TV channels for something to watch. With so many choices and so many things to analyze, I have a hard time making a decision and at the end of the day, I remember a time when life was simple.

It's important to remember where we have been. History reminds us of how we bred cattle to both extremes; small and squatty,



performance, confirmation, and Angus phenotype. This type of selection helped identify viable cow families and sire lines. Visual selection was then and is now the most accurate tool breeders have.

We ask ourselves, "Will the accuracy of an EPD based on genomic evaluation stand the test of time?" If no one knows the answer to this question, why is so much emphasis given to genomics?

In today's world it's easy to see why genomics are given so much emphasis. After all we have smart phones, wifi internet,

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then tall and gutless. Today we are at a happy medium but, let this history lesson remind us the results of following extremes. In all things we look for "balance" because an uneven swinging pendulum causes division



and sometimes regret. In today's beef publications the use of genomics through DNA is in roughly 1/3 of what we read. As a seedstock provider it's hard to set aside years of experience and follow a trend of, making genetic selections based solely on numbers. Looking at the "Big Picture" is a must. Breeding cattle that have longevity, fertility, structural soundness, udder quality, performance, and good phenotype will yield a return



for my customers year in and year out. These solid traits will keep you in business no matter which direction the pendulum swings. Though this theory of breeding cattle isn't filled with scientific data it's one that I can take to the bank!

In our herd, and you may relate to this, the one thing that has stood the test of time is the cow "family". Lady Barbara's will always have nice udders and the "Angus Look". The Ella cows are all nice fronted with perfect udders. Our Juana Ericas' produce the pounds at weaning (but score low on growth through genomics) and the Bemindful Maids are built like box cars. And never forget the Blackcap Juaras', - they will come find you on calving day!

