Performance Matters

Is It Worth It?

by **Shane Bedwell**

The cost of genotyping your herd will allow you to make informed decisions.

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This year at the Beef Improvement Federation (BIF) conference, genomics continued to be the focus.

It wasn't long ago the thought of having an enhanced expected progeny difference (EPD) through DNA seemed out of reach. The concept was fine, but having a quality data set to generate the molecular breeding values (MBVs) soon became the obstacle for most breeds.

Because of the vision of former American Hereford Association (AHA) Board of Directors and key AHA staff, the National Reference Sire Program (NRSP) was initiated in 1999. Since its inception, there have been more than 340 bulls tested from which the AHA has received complete phenotypes.

Through this program, along with the United States Meat Animal Research Center (USMARC) 2,000 bull project, AHA leveraged the genotypes gained from these projects and correlated them with existing EPDs on these bulls backed by extensive phenotypes. The bulls were the basis of the training population used to generate what we now report today as genomic enhanced-EPDs (GE-EPDs).

You see, in order to have MBVs added into the animal's EPDs, there had to be research conducted to see what markers correlated to specific traits.

Since 2012, the AHA has generated more than 35,000 genotypes from breeders and research projects. These genotypes are crucial, and along with Whole Herd Total Performance Records (TPR™), AHA will be able to validate future genomic predictions.

There was a theory when genomics first came on the scene that there would be no need to continue collecting phenotypes. The genomic prediction is only as good as the phenotypes behind them, and eventually the population from which you are collecting DNA will be different from the original base.

The saying "your house is only as good as the foundation" applies here. Again, because of the NRSP and TPR programs, the AHA was able to build the right foundation and to position Hereford very well to move forward.

An accurate prediction

Early on, there was doubt if GE-EPDs worked. Most have figured out they do work — it's just a matter of how well. Oftentimes I hear, "I spent $55 to see my bull only move 0.2 of pound on birth weight." My response is this validation is a good thing. Increasing accuracy and proof on young animals is critically important. You can now place more confidence in this young herd sire as his phenotypic data aligns with the genetic markers he inherited from his parents.

Along with this new confidence, I've seen more breeders genotyping whole calf crops or at least all of the females or all of the bulls. This genotyping is great, and we need more of you doing it. Why? It's just like the principle of TPR. Getting representation from only the best in a calf crop creates bias. Getting the entire contemporary group genotyped allows for the most accurate prediction.

I also hear breeders say, "I have 100 females, that's a lot of money if I were to genotype them all." You're right, and I'm not denying that. However, what is the cost of genetic improvement? The $5,500 you spent genotyping all of your females allowed you to make the best and most informed decisions on which females to keep and which ones to cull — not to mention, being able to maximize their genetic potential early in life. In my opinion, you just made an important investment to the future success of your operation as well as your customers.

I'll close with this. I heard a quote at BIF from University of Georgia geneticist Daniela Lourenco that wraps up this topic very well. "Genotypes are like credit cards," she says. "You can use them for a while, but then you will need cash (phenotypes), if you want to continue to use them." HW