

Partners in Genetic Improvement

Reflecting on the NEOGEN and AHA partnership.

by *Jamie Courter*

In July of 2020, NEOGEN Genomics and the American Hereford Association (AHA) launched an educational partnership to help AHA members make the most effective use of genomic tools available to them. Since then, technical experts at NEOGEN have worked alongside AHA staff to provide breeders with educational content in articles, webinars and event presentations about the importance of genomic technology as an additional tool to increase the genetic potential of animals. These efforts include opportunities for National Junior Hereford Association members through complimentary DNA sampling during the VitaFerm® Junior National Hereford Expo and the Fed Steer Shootout.

Making improvements

In the final issue of this year's *Hereford World*, it seems fitting to look at how far AHA and its breeders have come since the beginning of this partnership two years ago. Today, we are happy to highlight three key accomplishments:

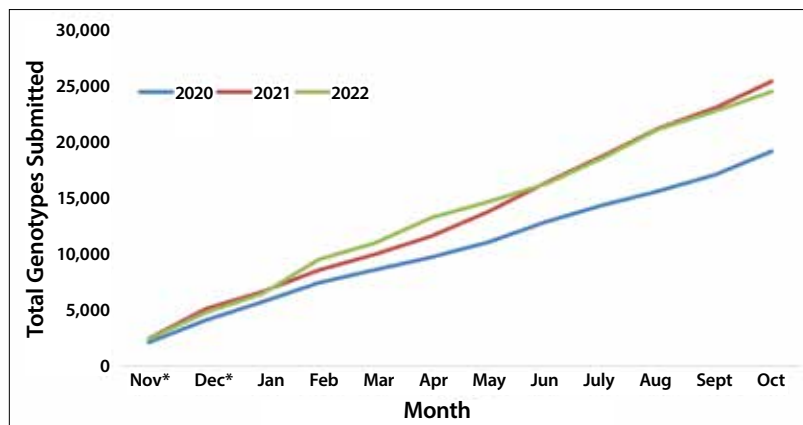
No. 1 – The number of genomic profiles submitted each year increased. While there could be multiple causes for the trend, Figure 1 highlights the increase from 19,272 genomic profiles submitted in 2020 to 25,560 submitted in 2021 after the initiation of the partnership. This 33% increase continued into 2022 with 24,642 samples submitted as of Oct. 26. (*Note: Total sample volume was taken for the year*

when this article was due for publication. Sample volumes for November and December were unavailable at that time.)

No. 2 – The seasonality of sample submissions shifted. Another interesting trend or change was the timing of genomic sample submissions. We have often discussed the importance of sample type and sample submission dates, helping to ensure that genomic samples on sale cattle are submitted in a timely fashion. This is to ensure the genomic-enhanced expected progeny differences (GE-EPDs) for all animals make it into the sale book before the auction. You will notice in Figure 1, there was a jump in early sample submissions from February to May in 2022. Hopefully, this was a result of breeders submitting samples at birth or thereafter instead of waiting until later in the summer. Regardless of the reason, the important thing to know is that these samples made it through NEOGEN's lab before the start of the fall "busy season." This allows ample time for genomics to be delivered back to AHA and incorporated into the genetic evaluation.

No. 3 – Tissue Sampling Units (TSUs) remain the sample type of choice. Although shortages made TSUs hard to come by this year, Hereford breeders should be congratulated because TSUs remained the most common sample type for 2022. Uniformity

Figure 1: Number of genomic profiles submitted to the American Hereford Association by year.



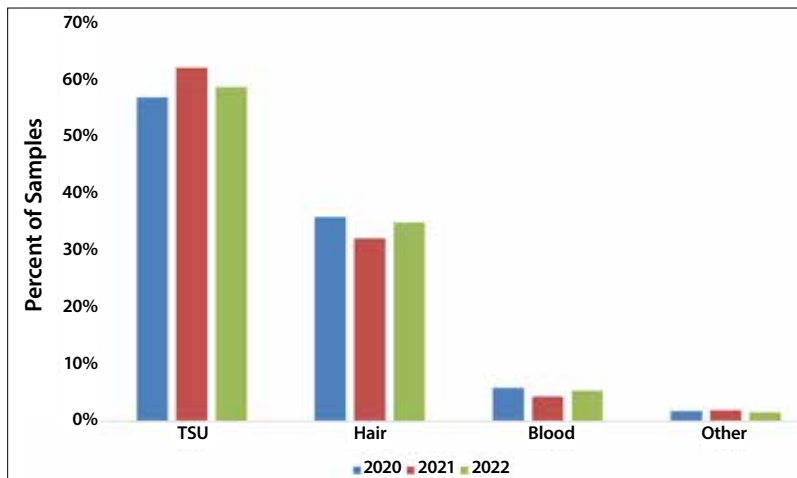
*Sample volumes were tabulated on Oct. 26, 2022, to document year-over-year sample submissions; November and December are from the prior calendar year.

of sample types allows for faster and more effective movement through the NEOGEN laboratory. This leads to faster turnaround times and higher success rates than other sample types. If there are any words of wisdom to share, it would be to continue to move away from hair as a sample type. While some consider it an easier sample to collect, it is a much more manual and time-consuming sample type within NEOGEN's laboratory.

Maintain the momentum

These three takeaways are likely only a small part of the proactive decisions being made daily by AHA members to continue to strive for the best. AHA members' acceptance of genomic technology and their dedication to collecting samples is commendable. Increasing sample volume 33% in a single year is quite an accomplishment and should be

Figure 2: Genomic sample types submitted to NEOGEN.



celebrated. However, now is not the time to slow down. We, as an industry, are responsible for feeding the world every day. That starts with elite genetics at the seedstock level that trickle all the way down to the mouthwatering ribeye on a plate.

Congratulations to all AHA members and Hereford breeders on a successful 2022. We look forward to a continued partnership in 2023. **HW**

Editor's Note: Jamie Courter, Ph.D., is a technical services manager for NEOGEN.