Superior Sires

DNA sequence data on Angus bulls could improve future accuracy in genomic-enhanced EPDs.

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(http://cafnrnews.com/2012/09/superior-sires/attachment/604918271/)The Angus Foundation is funding a research project at the University of Missouri for the genomic sequencing of Angus bulls. This sequencing is meant to enhance the understanding and genetic prediction of Angus cattle performance.

The $50,500 research study grant was awarded to the University of Missouri's Wurdack Chair of Animal Genomics and Curator's Professor of Genetics and Animal Sciences Jerry Taylor.

"Angus Foundation funds will be used along with funds provided by the USDA National Institute of Food and Agriculture to deep sequence the genomes of at least 20 high impact Angus bulls to identify the variation that is likely to cause early embryonic mortality and variation in growth, carcass quality, feed intake and disease resistance," Taylor said. "The USDA NIFA funding will also support our development of an assay to generate genetic-enhanced expected progeny differences and will also include up to 6,000 of the variants detected in the sequencing project to test their effects on fertility in 10,000 genotyped heifers. The results will lead to improved EPDs for fertility and production traits in Angus cattle."

The association will benefit from this research, as it will receive DNA sequence data on the bulls, and then obtain additional knowledge tied to a large reservoir of sequenced bulls internationally. Sequence data can be used to expand existing high-density DNA data at MU into whole genome results, which in turn creates potential for advanced Angus selection tools.

Angus breeders currently have access to dependable genomic-enhanced expected progeny differences (GE-EPDs) on a weekly basis through the association's National Cattle Evaluation updates. Sally Northcutt, genetic research director for the association and Angus Genetics Inc., said this research tied to Angus genetics creates new opportunities of improving accuracy in future EPDs, as well as allows for the expansion of selection tools into new traits, particularly in the area of reproduction.

"Our Angus genetics are known throughout the world for predictability and highly accurate decision tools, such as EPDs," Northcutt added. "With this newly funded study, Angus breeders and bull buyers have a great deal to look forward to as this technology evolves."

Research is one of three components that the Angus Foundation funds, with the other two components being youth and education.

Jerry Taylor. (http://cafnrnews.com/2012/09/superior-sires/11taylor-j/)

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