

Emerging Technology

Breakout session focuses on application of genetic, genomic evaluation.

Story & photos by **Troy Smith**, field editor

The evolution of genetic and genomic evaluation of cattle, and current research applications of genome sequencing were discussed during the Advancements in Emerging Technologies breakout session of the 2015 Beef Improvement Federation (BIF) Annual Convention June 9-13 in Biloxi, Miss. Featured speakers were geneticists Dorian Garrick of Iowa State University and Jerry Taylor of the University of Missouri.

Garrick shared the history of genetic evaluation as developed and implemented



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by the National Beef Cattle Evaluation Consortium (NBCEC) and the eventual development of expected progeny difference (EPD) values as predictors of genetic merit. He explained how responsibility for genetic evaluation shifted to individual breed associations and described the methods currently used, including the emphasis on incorporation of genomics to improve the accuracy of prediction.

Garrick described research efforts to develop single-step methods for incorporating genomic information into genetic evaluation. He explained how computer hardware originally developed for electronic gaming applications is being used to build more powerful computer systems capable of more sophisticated and more rapid analyses of larger data sets at lower cost.

“In the future,” said Garrick, “I expect evaluations to run almost continuously with constantly improving genomic features.”

Jerry Taylor provided updates on two multi-institutional research projects funded by USDA, and researchers’ efforts to sequence the genomes of beef cattle.

The Feed Efficiency Project is a collaborative effort among geneticists and



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nutritionists to better understand feed intake and efficiency, collect phenotypic data, and develop selection tools for use in selection for increased efficiency.

The Heifer Fertility Project joins geneticists with reproductive physiologists to study approaches to improve various measures of reproductive efficiency. In particular, Taylor noted their efforts to discover and validate genomic sequences that may cause embryonic mortality.

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Taylor said research efforts are furthered by collaboration among research groups worldwide, leading to shared collections of genomic sequence information on beef cattle of many breeds.

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Munger retires as BIF president

Outgoing Beef Improvement Federation (BIF) President Steve Munger addressed attendees at the 2015 BIF Annual Convention. In his retiring speech he emphasized the importance of efficiency and sustainability.

Munger spoke about the past, present and future of his now seventh-generation ranch and attributed his success to the applicable information he learned about residual feed intake at a BIF conference.



► Steve Munger addressed the audience at the 2015 Beef Improvement Federation Annual Convention and Research Symposium in his retiring president speech. He challenged producers to focus on efficiency rather than size as they face the obstacle of growing the nation’s cow herd.

“Sustainability has always been important to our operation,” Munger said. “Everything we do, we do for one very important reason, and that is to stay in business.”

Genomics information is important to producers in the seedstock business, and Munger recalled that previous BIF conferences helped him make business decisions.

He challenged BIF attendees to turn to efficiency rather than size when focusing on growing the cow herd and meeting the national need for beef.

Craig Bieber will follow Munger as the 2015-2016 BIF president.

— by **Raney Lovorn**, editorial intern

Editor’s Note: Troy Smith is a freelance writer and cattleman from Sargent, Neb. The 2015 BIF Annual Convention was hosted by Mississippi State University and the Mississippi Extension Service June 9-12 at the Beau Rivage Casino and Hotel in Biloxi. The Angus Journal and LiveAuctions.tv provide comprehensive online coverage of the event at www.BIFconference.com. Visit the Newsroom for summaries, proceedings, PowerPoint and audio of the sessions; the Awards page for announcements of award winners; and the Photos page for photo galleries of the tour.