



## **Increasing AI, EPD Data Analysis and Genomic Applications in Southwest VA Beef Cattle Production**

In Fall of 2022, an educational opportunity was provided to southwest cattle producers through a grant from the Virginia Cattle Industry Board (VCIB). The Scott County Cattle Association executed a workshop for area cattle producers to increase their knowledge of AI, EPD data analysis and genomic applications.

Scott County Cattle Association, Inc. (SCCAI) realized the value of providing educational opportunities to the operators of the 654 cattle farms that exist in the county. It was estimated that only 10-15% of those producers utilize AI techniques in their beef herd operations, and utilize EPDs, and genomics when selecting herd sires and dams.

*"Beef production has become more science oriented in the past 20 years, and artificial insemination allows producers to make years of advancement in a very short time. This grant provided practical information in a simplified, straight forward format, which educated our producers, and gave them the foundation to make decisions on their program. I believe more producers will utilize AI, EPD's, and genomics to select sires that will increase their bottom line."*

*Dr. David S. Redwine, DVM, Valley View Animal Clinic*

The goals of the workshop were as follows:

1. Provide the participants information, knowledge, and an understanding of the purposes and best practices of AI, EPD data applications, and Genomics usages in beef herds.
2. Provide participants with professional relationships in effort to enhance their beef production efforts.
3. Provide participants with the inspiration and confidence to make modifications and adjustments to their current management practices in order to enhance their beef production efforts to meet market demands more efficiently.
4. Provide an opportunity to enhance and improve the quality of beef cattle from Southwest Virginia markets and sales in the future.

The workshop consisted of four classes offered over multiple days in the fall of 2022. A total of 46 participants enrolled. The in-depth programming covered the following topics:

1. How Can Artificial Insemination Improve My Beef Herd's Performance?

Presenters: Dr. Bill Fuller, DVM and Dr. Cynthia Harrison, DVM both of Scott Veterinary Services  
Jim McKenzie- Select Sires Inc.

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Topics covered were genetic benefits of AI, bovine anatomy, physiology, and hormones related to reproduction, methods of synchronization, best Practices for successful AI results, benefits to improve productivity, and facility requirements and setup.

Dr Bill Fuller, DVM, obtained reproduction tracts from a local harvest facility. The tracts were frozen and provided a gloved-up, hands-on experience for palpating various fetus dimensions, attempting to insert AI tubes into these tracts of assorted sizes, tract feature identifications, and a question-answer session. This activity garnered high interest and participation.

### 2. What Qualities/Traits Do My Markets Want in a Beef Animal?

Presenters: Butch Foster- VCA Marketing  
Glen Wheeler- VDACS Grader for feeder calves  
Scott Jessee, Russell County Extension  
Scott Jerrell, Scott County Extension

### 3. What Will EPDs Tell Me About An Animal's Performance Potential?

Presenter: Dr. Scott Greiner, Virginia Tech

Topics covered were traits included in EPDs and their importance to the beef industry, definition and origin of EPD's, how to use EPD's, unraveling the genomic DNA, breeding potential from genomic data and productivity.

### 4. Putting It All Together

Presenters: Dr. David Redwine, DVM and Dr. Travis Gilmer, DVM, of Valley View Animal Clinic  
Smith Reasor- Genex, Alta, & ST Genetics

Topics covered included evaluating set-up and procedures, necessary materials and supplies, choosing genetic traits for your herd, pregnancy testing, and budgeting for AI.

*"We were able to present factual hands-on information that the producers could use and learn from to help better understand how genetics and A.I. breeding could improve and change a whole herd in the matter of a few generations of cattle. The class was able to lay out processes that may not be well understood by some and dispelled myths that were commonplace about artificial insemination and its benefits and costs. I cannot stress how helpful it is as a veterinarian to be able to educate your client base and provide a firm understanding that saves me time once I show up to a farm."*

*Dr. Travis Gilmer, DVM, Valley View Animal Clinic*

Each participant received a program binder containing color copies of the presentation materials of each class. A pre-class and post-class survey was administered. Participants stated they had limited to moderate knowledge of the material prior to classes. The post-class survey revealed knowledge shifted to the moderate to somewhat high levels due to information learned during the workshop.

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When asked about feedback from participants of the class, Scott Jerrell, ANR Agent and Unit Coordinator of Scott County VCE, shared positive comments. He further stated, “it immensely helped with a better understanding of using EPD’s and the added benefit of genomic testing when evaluating bulls for potential sires.”

Tommy Musick, a Registered Angus seedstock producer, and members of his family attended the classes and had these comments.

*“We found the sessions to be very informative, not only for content, but also perspective. Mrs. Meade did an excellent job of selecting presenters from all facets of the beef industry. This allowed us to gain a better understanding of how our breeding decisions affect future generations in herd management, feedlot performance, and carcass quality at slaughter.”*

Mr. Musick shared that several beef producer attendees stated they planned to begin using AI breeding in their herds with the knowledge gained through the classes.

Rebecca White and her family, of Triple W Farms, also attended the classes and “ found the classes to be informative, discussing topics important to local producers wanting to improve the quality of their herds and further enhance their marketability.” She also acknowledged the value of the handouts provided at each session as a well-organized reference tool.

“It’s a perfect beginner class, and we would gladly encourage others to take it. We learned a lot of valuable information that will be put to use in our herd, in hopes of increasing the value of our cow/calf operation. The way the classes were divided up helped to break the content down so that it was beneficial for all levels of knowledge. We would love to see more classes like this become available in the future!” Jayme & Teagan Collins

For more information about grant funding, please visit the VCIB website at [cattleindustryva.com](http://cattleindustryva.com).