

**Genomic Enhanced EPDs**

**ANGUS THE BUSINESS BREED**

**Press releases**

**GE-EPD update**

On April 9, 2013, the American Hereford Association (AHA) released new genomic-enhanced expected progeny differences (GE-EPDs) based on new correlations updated because of the addition of more than 2,000 animals with 50K genotypes.

**SimGenetics**  
PROFIT THROUGH SCIENCE  
American Simmental Association

**GENESEEEK**  
Genetic Prediction

American Simmental Association Announces Population-specific DNA Profile  
Offering Genomic-enhanced EPDs and Includes Parental Validation

BOZEMAN, MT. – December 4, 2012 – The American Simmental Association (ASA) announces a population-specific DNA profile offering genomic-enhanced expected progeny differences (GE-EPDs) that also includes parental validation. In partnership with GeneSeek®, a Neogen Corporation Company, the ASA GE-EPDs are powered by the GeneSeek Bovine 50K.

Nothing is more dependable for early prediction of genetic potential.

GE EPDs powered by HD 50K for Red Angus.

## GE-EPDs

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- Many positives associated with the evolution of genomics in beef leading up to the topic today.
- Methodology for more accurate discovery and genetic evaluations, continued development of DNA tools, significant grants supporting beef research in genomics and development of valuable DNA resources now being leveraged to enable translational research and implementation.

## Grants (examples)

- Whole Genome Enable Selection
- Integration grant
- Trait related grants:
  - BRD
  - FE
  - Reproduction (2)
- Bioinformatics (BIGS)
- Canadian genotyping and sequencing project
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- NBCEC funding
- Infused large amounts of money into the research enterprise supporting the beef industry of which a significant amount went towards genotyping and now sequencing.
- Supported development for resource population.

## DNA Tools (examples)

- 50 K and HD panels
- Evolution in commercial DNA tests (MBVs)
- Customized panels
- Genotyping by sequencing

## Resource Populations

## Resource Populations 2000 Bulls Project

- Collaboration with Breed Associations initiated in 2007
  - Breed associations provided semen for DNA on influential sires
  - USMARC ran the 50K SNP chip on >2,000 sires



## 2,000 Bull Project: Number of Sires Sampled

	• Angus 402		• Brangus 68
	• Hereford 317		• Beefmaster 64
	• Simmental 253		• Maine-Anjou 59
	• Red Angus 173		• Brahman 53
	• Gelbvieh 136		• Chiangus 47
	• Limousin 131		• Santa Gertrudis 43
	• Charolais 125		• Salers 42
	• Shorthorn 86		• Braunvieh 27
			<hr/> 2026

## Project is now part of the Taylor NIFA FE grant. Weight Trait Project

Demonstration project for DNA technology transfer that involves 7 breeds (Cycle VII breeds), 24 producers that have been collecting DNA for the last five years.

They have provided us with all of their production records.



## Rex Ranch Project

Large commercial ranch projected started in 2007 with the collection of DNA on all replacement animals.

Objective is to evaluate lifetime performance.



## California Commercial Ranch Project

Four ranches on this project (UC Davis and 3 commercial cooperators in Siskiyou Co.)

- Cowley
- Kuck
- Mole-Richardson
- UC Davis

5,000 growth and carcass records on calves.

Approximately 125 bulls, and 2,400 cows per year on project



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**I look forward to learning of the progress and challenges to greater implementation.**