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  - “We need to start emphasizing the positives....”
  - 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
  - NBCEC funding

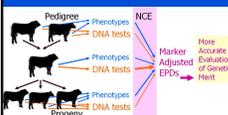
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  - Infused large amounts of money into the research enterprise supporting the beef industry of which a significant amount went towards genotyping and now sequencing.
  - Supported development for resource population.

- ## 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
					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 project 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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- Keeps a healthy focus on phenotypic data collection and on integration of technologies versus competition of technologies.

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