



# AHA's Genetic Evaluation

# Overview

- 1 year, 2 day anniversary
- North American Hereford Genetic Evaluation
  - AHA and CHA
  - Uruguay and Argentina are in the process of converting
- Marker Effects Model (MEM) utilizing BOLT
- Fully Automated Genomic Pipeline
- Weekly Genetic Evaluation Releases (Every Monday)

# Overview

- Implemented Data Pruning Strategy
- Only performance animals born after 2001 are used
  - + 3 generations of pedigree data (GGP)
  - Genetic Evaluation backed by Whole Herd TPR
- Performance Extract – 2.3 million animals
- Over 70,000 Genotypes



# Model Changes

- Moved away from Full Multi-Trait Correlated Model
- Decoupling of Traits in Smaller Cluster Models (9)
  - Better estimation of trait of interest
- Re-Parametrized variance components

# Model Changes

- New trait models are as follows:
  - BW, WW, YW, & MM
  - SC & WW
  - WW, CW, CREA, & SREA
  - BW, CW, CFAT, CMARB, SFAT, SIMF
  - MCW, WW
  - BW, CE, MCE
  - SCF
  - Udder and Teat
  - DMI, WW and YW



# Accuracy Calculation

- Estimated with Markov chain Monte Carlo procedures (MCMC)
  - Take advantage of the computational power of BOLT
  - Utilize Gibbs Sampling vs. approximation
- A more accurate accuracy that's lower??

# Addition of ERT's/Updates to Indices

- Added two new traits
- Sustained Cow Fertility (SCF) and Dry Matter Intake (DMI)
- Updated three \$ Indices with these traits as well other key ERT's that were put in place prior to the release of BOLT
- Developed Commercial Programs around \$ Indices



# National Reference Sire Program (NRSP)

- Tested over 375 sires since the inception
- Exposed over 3,500 females this year
- Will continue to leverage complete Birth to Harvest progeny data and genotypes as well as key female data for genetic evaluation



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