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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